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# The Southern Planter.

DEVOTED TO

PRACTICAL AND PROGRESSIVE AGRICULTURE, HORTICULTURE,  
TRUCKING, LIVE STOCK AND THE FIRESIDE.

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Agriculture is the nursing mother of the Arts.--XENOPHON.

Tillage and pasturage are the two breasts of the State.--SULLY.

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64th Year.

Richmond, March, 1903.

No. 3.

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## Farm Management.

### WORK FOR THE MONTH

Since writing our article on "Work for the Month" for the February issue, weather conditions have been such almost throughout the whole South as to prevent the carrying out of the programme of work therein laid out for February. The frequent rains have kept the land too wet for plowing, and those who failed to make good use of the time in the fall and early winter months to push on the work of breaking land to be cropped this year will now find themselves likely to be behind hand when seeding time is at hand, and will perforce be compelled to try to put four months' work into two. The result will be incomplete preparation of the soil and diminished yields of crops. Year after year we keep on urging the full utilization of the fall and early winter months in the breaking of land in order not only to lessen the pressure of work in the spring, but also that advantage may be had of the ameliorating influence of the winter's frosts on the soil, but with comparatively small results. The farmer is usually a procrastinating individual—very much like the Spaniard who always, when urged to make an immediate effort, replies, "Manyana," "to-morrow," a to-morrow which often never comes. So with the majority of farmers—they put off the plowing of land in the fall and winter months, confident that in the spring there will be ample time to plow and fit the land for the crop. And yet reflection would assure him that probably in a majority of years in the South there is always at least one month, and often

two, when the winter weather and the spring rains are so persistent as to practically compel him to lose at least one month of the time he had confidently reckoned on within which to complete his preparation of the land for the crop. This practice of neglecting the golden opportunity of the fall and early winter months also results even when the spring is fairly genial in largely limiting the amount of work which he can find time to put on the preparation of the soil, and this, as we pointed out in our last issue, is, in our opinion, largely the cause of the small yields which crops make in the South. Where land was broken in the fall and winter, it is now well filled with moisture, not merely on the surface, but in the subsoil, and this, if conserved as it ought to be, will serve to meet all the needs of the crop, even though we should have a dry summer, whilst land yet to plow, though now wet on the surface, is likely to be dry in the subsoil, and will require very careful management to make a crop should the summer be dry. Very much of the rain which falls on unplowed land during the winter is lost to the soil, as it largely runs off the soil into the creeks and ditches, and it is rarely the case in the South that we can afford to waste water in this way if we are to make a full yield from the land.

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As soon as the land is dry enough, let the plows be set to work first in breaking the land intended to be seeded with oats, and then upon the land intended for corn and forage crops. Do not, however, be tempted

to plow until the land is dry enough to work freely and leave the plow in a crumbly condition. Land plowed wet can never be made into a good seed bed, however much labor may be spent on it, whilst the injury done to the productive capacity of the land by the tramping of the horses, especially in the bottom of the furrows, is great, not only affecting the first crop, but many subsequent ones, unless remedied by subsoiling. Plowing, to be effective, should not merely turn the soil over, but should do a great part of the work of breaking that soil into fine particles and leave it in such condition as that the harrow and cultivator can thoroughly and completely disintegrate it and reduce it to a fine loose condition, at least to the depth of 6 inches, and much better if to the depth of 9 inches. We would once again urge the importance of a more perfect preparation of the soil before planting any crop than is customary in the South, or indeed any part of this country. Instead of placing reliance upon the application of commercial or other fertilizer for the making of crops, let the first reliance be upon the perfect preparation of the soil. There is an immense reserve of plant food placed by nature in almost every kind of soil, as analysis proves, much more than sufficient to meet the needs of crops for years if only available. This availability can only be secured by the breaking up of the soil into the smallest particles and subjecting these to the action of water, air and sunlight, and later to the action of the acids developed in the roots of almost all kinds of plants during the process of growth, and which acids have a powerful solvent effect on inert plant food. Only when the soil is thus finely broken can the soil microbes bring to bear upon it the wonderful fertilizing qualities which recent investigation has demonstrated them to possess. Mr. Geo. M. Clark, of Higganum, Conn., probably the most successful hay grower in the country, and who has made over 200,000 lbs. of hay in one year on 16 acres of land, and over 20,000 lbs. of hay on one acre of land, says the secret of his success is perfect preparation of the land and not the fertilizer which he uses. He thus describes his method of fitting his land for a grain and grass crop. He begins on July 1st with the Double Action Cutaway Harrow going over the field twice the first week in half-lap, the second time at right angles to the first. The second and every subsequent week till August 1st he goes over once in half lap each time at right angles to the preceding. He thus harrows five times in July, and in August follows in half-lap with an 8 foot smoothing harrow with leveling board until the surface is true. He then plows the field with a 24 inch Torrent Cutaway plow to a depth of six or seven inches, then trues the surface with the smoothing harrow again, and finally

harrows the field with the Double Acting harrow once a week until September first (say three times), when the field will be in condition for sowing wheat or rye, if desired, or to lie until spring for oats. In this way the land is stirred 43 times before sowing a seed. In the second season, before sowing the grass seeds and after cutting the wheat or oat crop, the field is stirred 32 times, at regular intervals, from July 1st to September 1st, with the same implements as before, thus making a complete stirring of the soil 75 times before the sowing of the grass, which makes so great a yield of hay. Mr. Clark has for years demonstrated that such thorough working of land yields a heavy profit. With hay selling at \$12 per ton he has made a net profit of \$42 per acre on his crop. Whilst it is not possible for a farmer having a large area to put into crops of various kinds to give so much work to each acre, yet there is a great difference between one plowing, one harrowing, and three cultivations, which is about the average of that given to a crop of corn in the South and the foregoing method of Mr. Clark. It would certainly pay to give land here three or four times the preparation usually given to it. Try the experiment.

Oats for grain, forage or hay should be seeded during this month. It is too late to sow Virginia grey winter oats after the 15th of the month with the expectation of their making a heavy crop. Up to that time they may be sown, but they will not usually make anything like so great a yield as when sown in the fall or in January or February. The rust proof oat is about the best variety to sow after the middle of March in the South. None of the Northern spring oats are suitable for Southern climatic conditions, as the weather becomes too warm for them before they have had time to make sufficient root growth to withstand the heat. Land for the oat crop should be deeply plowed and finely broken, and the seed should be well covered, so that the roots may be protected from the heat. The oat is a cold climate crop. Most Southern farmers seed oats on their poorest land, and without any fertilizer. This is a mistake. If oats are worth growing at all they are worth better care than this. Probably in the South their greatest value is as a forage or hay crop, as the grain is not so plump and heavy as Northern grown oats, and therefore not so good feed nor so valuable on the market. If given good land to grow on, or they are helped with 250 to 500 pounds of acid phosphate to the acre, they will make a hay or forage crop of value for stock-feeding, especially for cattle, and can be followed with a cow-pea crop, to be sown in June or July. Sow from a bushel and a half to three bushels to the acre, according to the fertility of the land. Put the heaviest

seeding on the poorest land and decrease the quantity of seed as the land is more fertile. Whilst phosphoric acid has been proved to be the dominant fertilizer required in the production of the oat crop, yet experience has also proved that a nitrogenous fertilizer will materially help a weak growing crop. An application of from 75 to 100 pounds of nitrate of soda to the acre, made just when the crop has fairly started to grow, will generally largely increase the yield, and especially so of the straw, a matter of great importance where the crop is to be used for forage or hay.

Grass and clover seed should be sown this month where not already seeded in the fall, which in the South is undoubtedly the best and most proper time for the crop. In our last issue we wrote fully on this question, and to that issue refer our readers. We want again to emphasize the importance of not seeding grass with a grain crop at any time if the best stand of grass is desired, but certainly with spring seeding nothing but grass and clover should be sown. In the earlier part of this article we have made a quotation from Mr. G. M. Clark as to the way in which he prepares his land for seeding with grass, and thereby secures enormous crops of hay. We refer our readers to this and ask them to follow the directions, certainly to as great an extent as time will allow. Fine and perfect preparation of the land before seeding is absolutely essential to successful grass growing. As a fertilizer for the crop Mr. Clark, after long experimenting, finds that he succeeds best by using all his coarse farm-yard manure for the production of corn and other cultivated crops where the weeds can be killed as they sprout. When seeding with grass he uses only commercial fertilizers made from bone, muriate of potash and nitrate of soda. He applies these ingredients to each crop of grass—that is to say, twice in each year, as he makes two crops of hay each year. In the fall he applies 1000 lbs. of bone meal, 800 lbs. of potash, and 200 lbs. of nitrate of soda per acre. In the spring he applies one third of each of these ingredients. This applies to fall seeding of grass. If seeded in the spring we would give the heavy dressing before sowing the grass seeds, and harrow in, and then in fall, after the hay has been cut, apply the lighter dressing as a top-dressing. Mr. Clark sows only timothy and red top (herds grass) 16 quarts of each per acre. On his very finely prepared land he finds this quantity of seed sufficient, but on less carefully prepared land we would sow twice this quantity. The poorer the preparation of the land and the less fertile the soil the more seed should be used, up to three bushels to the acre. The sowing of timothy and red top alone presupposes that the field seeded is only to be used for mowing for hay. If it is desired also

to secure a pasture after mowing, say two or three years, then it will be well to sow also Orchard grass, Meadow Fescue, Perennial Rye and Virginia Blue grass. Under grazing, the timothy will die out, whilst the other grasses will endure. Be very careful to sow the seeds with regularity. It is well to sow half one way of the field and the other half across. Harrow in the seed with a smoothing harrow, running the harrow both lengthwise and across, and then roll. If after the grass has commenced to grow it looks yellow, or a light green, apply 75 lbs. to 100 lbs. to the acre of nitrate of soda as a top dressing. The quantities of fertilizer used will seem large to Southern farmers, but it should be borne in mind that they are intended to produce a heavy yield of hay. Mr. Clark has made over 23,000 lbs. of cured hay to the acre in two crops in one year. Our own experience has convinced us that it pays to be liberal in the use of bone meal before seeding grass, and we would never apply less than 500 lbs. of this to the acre. We believe that much less potash (probably less than one-third) than Mr. Clark uses will be found sufficient in Virginia, and that probably 150 lbs. of nitrate of soda to the acre in two dressings will suffice.

In the cotton section land should be broken and be got into fine condition for planting as soon as it is sufficiently dry to work. The same remarks as to the importance of perfect preparation of the land before seeding apply to cotton growing as to other crops. The yield of cotton per acre is, on the average, less than half a bale; whilst there is no reason whatever why at least a bale to the acre should not be produced, and on much of the land, properly adapted to cotton, 1½ bales can easily be made. Where land will not, under proper cultivation, and with reasonably heavy fertilization, make a bale to the acre, it should not be planted in cotton until sufficiently improved to make that quantity. There is not a living profit in making half a bale to the acre even at present prices. The cause of the failure to make more than half a bale to the acre is mainly two fold—lack of fertility in the land and lack of preparation of the soil before planting. The lack of fertility is mainly a lack not so much of the mineral fertilizers as of humus (vegetable matter) in the soil. No application of commercial fertilizers alone, however heavy, will correct this. Vegetable matter must be grown, and be put into the soil, and then even a moderate application of fertilizer will produce a paying crop if only that soil, when thus reinforced with life giving matter, is properly prepared before the crop is planted. We would strongly urge that only such land as is not altogether devoid of humus should be planted in cotton, and that other land should be planted in peas to prepare it for cotton next

year. Only by following this practice of growing husks making crops and turning them into the land in the late fall, or feeding part of the crop to stock, and applying the resulting manure to the land and turning down a heavy stubble, can the increased yield be secured. Do not bed up the land intended to be planted unless it is wet land or liable to be flooded. Cotton, like corn, succeeds best with level culture. Plow an inch or two deeper than was plowed last year, and plow all the land, not merely just where the row is to be. After plowing, use a good heavy drag harrow or cultivator, and work the land both lengthwise and across until reduced to a fine seed bed. The fertilizer intended to be given to the crop should be applied during the harrowing and working of the land, and will thus become thoroughly mixed with the soil, and will be much more effective than if applied just previous to planting the seed. If less than 500 lbs. to the acre be applied it may be put in the row, and should be thoroughly mixed with the soil by running a cultivator through it, but we are on principle strongly in favor of broadcast fertilizing. Before planting the seed freshen up the soil by running a cultivator down the row. As to the fertilizer to be used. A series of experiments made in South Carolina demonstrated very positively that it is an easy matter to supply more plant food than the crop can utilize with profit. The maximum quantity of fertilizer that can generally be used to advantage on average land is such an amount as will furnish 50 lbs. of phosphoric acid, 15 lbs. of potash, and 20 lbs. of nitrogen to the acre. A fertilizer made of 1,200 lbs. of acid phosphate, 600 lbs. of cotton seed meal, and 200 lbs. of kainit will supply this need if applied at the rate of 800 lbs. to the acre. If peas have been previously grown on the land as a preparation for the crop and acid phosphate was applied to them both the acid phosphate and the cotton seed meal in the moisture may be reduced or a less quantity be applied per acre.

In laying out the land for crops see that provision is made for growing an abundance of forage crops, such as cow-peas, Soy beans, sorghum, millet (so called Pencillaria, which has been much advertised and recommended, is nothing more than the old cat tail millet), and in Southern Virginia and the States South Teocinte. Do not let the live stock have to depend for their long feed next winter on the blade and corn fodder made in the production of the corn crop. Southern lands will never be improved until more stock feeding crops are produced and either fed or turned under.

Mention the *Planter* to your friends.

### "ALL FLESH IS GRASS."

*Editor Southern Planter :*

Improved stock must have improved forage—palatable, wholesome, nutritious forage, and plenty of it.

Until better and cheaper winter forage plants are found than are now in common use in Alabama, and until better summer pastures are provided than such as our old fields afford, we cannot sell beef, butter and pork in our own markets in competition with Illinois and Kansas.

Our usual sources of winter forage, consisting of cotton seed, blade fodder and corn, are well enough as far as they go, but the trouble is they do not go far enough. In truth, they furnish an altogether inadequate supply, and are far too costly.

There is no denying that a man newly arrived from a stock country, and viewing Alabama from North to South through the windows of a railroad car, would not be favorably impressed by it as a stock farming country. He would naturally ask, What is there to feed stock on? and say, I see no green pastures—nothing but broomsedge and coarse weeds. Neither do I see any meadows of timothy and clover; nor, indeed, anything to take their places in supplying winter forage. Very likely some one would tell him that "here in the sunny South cattle do not need to be fed, or, at least, but very little." And maybe a diminutive fodder stack would be pointed out as the only provision necessary to carry a dozen head of stock through the balmy and beautiful winter of our Southland.

Is it not time that such nonsense was ended? Improved stock are only improved machines for turning forage into meat and butter. For "all flesh is grass," and instead of giving stock only enough to keep them alive, or "enough to do 'em," as the saying is, they ought to be fed to the fall from the time they are born until they are ready for slaughtering.

It will not do for us to blindly copy the practices of stock farmers in other countries. Our conditions differ widely from theirs; and let me say right here that I fully believe our conditions, though different, are fully as favorable as those of the farmers of Illinois or Kansas. Our Alabama has just as grand possibilities as the very best of them. She has wonderful capacities in the stock food line. But like the iron and the coal in these mountains and valleys, they lie hidden, and it will take ingenuity and industry to develop them.

We must provide a bill of fare for our stock for each and every season here. No single grass, for instance, will afford pasture from spring to fall, as the "June grass," or Kentucky blue grass of the North does. I find Red top and Orchard grass the best for spring and fall pasture. I say "spring and fall," because our winter is too cold to keep them in active growth,

and they curl up to take a summer siesta during our hot season. Bermuda has no equal as a hot weather grass. It is a vegetable salamander, and I am sure it is a mystery to me that here in its own home it is not more highly appreciated. It is time we honored our own prophet; for no other grass known to botanists presages so much to the stockman of the South. It is my humble opinion that even the "June grass" of the North cannot compare as stock pasture with our Bermuda. It used to be said in Old Virginia that two months on a wire grass field, as Bermuda was called there, would fatten any run down mule or steer. Dairymen in the North have to supplement their pastures in the heat and drought of even their short summers by soiling with cut up corn or sorghum. But we of the South can do well in our long semi tropical summers if provided with plenty of Bermuda.

For the winter part of our bill of fare in stock food, after experimenting for several years, I have settled on Soy bean hay as a staple general ration for cattle, horses and hogs. As I find it, the Soy bean is the most reliable, the most productive, the most palatable, and, above all, the most nutritious of all hay plants. Neither is it very difficult to cure. It is much less so than field peas, and is in every way a fine superior plant.

In choosing forage plants, preference ought to be given to legumes, because they are not only rich in protein, but yield well on land poor in nitrogen, provided such land can stock them with the necessary parasitic microbe, as is now well known. In other words, the millets, sorghums, and fodder corn, must have nitrogen to produce a heavy yield, and that being the costliest, as well as the most generally lacking element in our Southern soils, the advantage of legumes will be the more apparent.

I have experimented with sand vetch and am greatly pleased with it. I am gradually extending the area of it on my farm. This takes time, as unless the soil be inoculated naturally or artificially, it is not worth while to sow it on common land expecting to obtain either hay, pasture or seed. Notwithstanding the drought of last summer, it grew waist high for me, and I threshed out several bushels of seed far superior in vitality to such as I could buy. As my soil is heavy and moist, a winter pasture is not of much value, but in dryer and warmer soils than mine, sand vetch can be of great service in helping out the winter ration. Doubtless it may be a substitute for orchard grass and red top in soils and situations too dry and warm for them, and thus provide stock food in the interval between hot and cold weather, as those grasses do for me. For such a purpose, I know no plant to compare with sand vetch. But our old friend rye must not be forgotten. The stockman will always find it a valua-

ble assistant in time of need. It does not gather nitrogen from the atmosphere, but it gathers it from the soil, where it otherwise would be leached out by the winter's rain (which is often of just as much importance), and then turns it over to us just when we most need it in the shape of green succulent cattle food in the early spring.

I have tried Essex rape; it has done well; but to my mind it has no advantage over rye. I have also tried Crimson clover. On damp, but not wet land it does fairly well. But it is far less reliable than sand vetch, which, while it stands cold as well as rye, also stands heat as well as corn. Seed of sand vetch plowed under (where it had shattered) in early July never came up until the following September. Then every grain sprouted, seemingly. Better still, where there was any moisture it sprouted, and withstood the terrible drought of last July and August unharmed, and now carpets the ground all over. With such a plant as that, together with Soy beans and Bermuda, there need be no excuse for hungry stock in Alabama. All the work in making and saving them can be done by machinery, while blade fodder, corn and cotton seed are gathered by costly and slow hand labor.

*Moseley, Ala.*

JOSHUA FRANKLIN.

The advice given in the above article is equally as adapted to Virginia and North and South Carolina as to Alabama.—ED.

#### HIGH CULTURE, OR THE INTENSIVE SYSTEM, AS APPLIED TO THE CULTURE OF CORN,

*Editor Southern Planter:*

There must be something radically wrong in the present system of fertilization for corn; or possibly the "wrong" may be in the composition of the fertilizer itself, as usually compounded for this crop. I think it is both. Why so? Because it is so common for one to read in experiment station bulletins and in the writings of some editors of farm papers, that "chemical or commercial fertilizers are not profitable when applied to this crop; that the increase obtained by their use will not repay the actual cost of fertilizer employed."

I suppose this is somewhat dependent upon the value (market price) of the crop when gathered. Throughout the entire South, it would not be going too far were I to say that there is never a single season passes when corn fails to sell as high as 50 cents per bushel, and oftener at 75 cents and \$1 per bushel.

I have oftentimes stated the fact, and now reiterate it, that chemical fertilizers get in their best work (that is, do the most good, give best results, and prove most profitable) in correcting known deficiencies in the soil. Used intelligently, and with this specific

object in view, their liberal use cannot fail to be both beneficial and profitable. If the so-called "complete" fertilizers fail to give a profit, why use a complete fertilizer at all? It is entirely unnecessary for us to purchase the more costly nitrogen when we can raise our own needed supply in the field, right where we want it, and without the trouble and expense of hauling or distributing it, by means of the cow pea, clover or vetch. This is essential to good farming, to intensive and profitable farming, let the main reliance as a cash or money crop be what it may.

Corn needs an abundance of both nitrogen and potash, and where these are lacking, or deficient, a large or remunerative yield of corn cannot be obtained. With a clover sod or cow-pea stubble, or indeed any other good sod to turn under, for the purpose of furnishing humus, retaining moisture, and also of furnishing the needed supply of nitrogen, but little if any more nitrogen will be needed than these will furnish, but where said humus is deficient, stable or lot manure becomes an actual necessity in order that best results may be attained. For best results, said stable manure should be reinforced by both phosphoric acid and potash. It is to be supposed that both clover and cow peas were fertilized with these substances previous to planting, as no really luxuriant growth of either can be obtained where these are deficient, and amount of nitrogen abstracted from the atmosphere is of course entirely dependent on paucity or luxuriance of growth of the manurial crop.

In the absence of a clover sod or cow pea stubble, instead of depending upon a paltry 200 pounds of a low grade (8-2-2) fertilizer, from 800 to 1,000 pounds of a fertilizer containing 2 per cent. nitrogen, 7 per cent. potash, and 6 per cent. available phosphoric acid should be applied per acre. This should be applied broadcast previous to breaking; the ground immediately broken deeply with two horse plow; then brought into fine tilth by a free use of the harrow.

I have found the ordinary high grade "vegetable grower," ready mixed goods, applied at rate of 500 to 600 pounds per acre on our rich bottom lands, to be pre-eminently satisfactory, obtaining a yield of 120 bushels per acre thereby.

The branch, creek or river bottoms are undoubtedly the best corn lands we have in the South. As they are more or less subject to overflow, they should not be broken until spring. I have found May the month for breaking these lands, and also the month for planting on these lands for maximum crop. There is quite a large amount of native fertility in our alluvials that deep preparation and intensive culture will bring out; but where maximum yields are desired, not only must the culture be intensive enough to make the largest possible quantity of this native fertility avail-

able; not only should chemical fertilizers be used to the extent of correcting any excess, or making good known deficiencies in the soil, but when all this has been done, and not before, then the use of these same chemical fertilizers may be satisfactorily and profitably used in feeding the crop. Maximum crop yields actually demand the presence in the soil of an actual excess of plant food, in an easily available form, over and above any and all demands that the growing crop can possibly make upon it. Do not be afraid that if, from any cause beyond your control, you fail to get the full benefit of the manures applied the same season in which the application has been made, that they are irretrievably lost, for they are not, but will give evidence of their presence in the way of increased crops for at least the next five years to come.

Above objection might hold good with a renter or share worker, but not with a land owner. Take the crop yield (255 bushels of corn per acre) of Zechariah Drake, for instance: \$50 worth of stable manure and \$69 worth of commercial fertilizers were applied to the single acre. Four years afterwards, in a personal interview with Mr. Drake, I was assured by that gentleman that "the yield of oats the succeeding season on that acre was 150 bushels; and that it had not yielded less than two bales of cotton any year since; and that without the addition of fertilizing agents of any kind.

Mr. Alfred Rose, of Penn Yan, N. Y., succeeded in obtaining a yield of 213 bushels per acre with but 800 pounds of a high grade corn fertilizer, and costing but \$17.50, but the land of Mr. Rose was extra good, while that of Mr. Drake had previously been so desperately poor as to yield but five bushels of corn per acre, and had enjoyed the rather undesirable cognomen of "starvation's empire."

After Mr. Drake's experience, it would seem that it is needless to get out of heart with any ground simply on account of its poverty. I have myself seen and walked over this premium acre, and have no hesitation in saying that I have never been in a single State in this Union, nor even a single county of any of the States, but that I there found land that was naturally superior to this prize acre. Truly: "There is more in the man than there is in the land."

*Burgess, Miss.*

G. H. TURNER.

#### Wood Ashes and Fertilizer.

Is it proper to mix wood ashes and commercial fertilizer together?

*Dinwiddie Co., Va.*

It is better always to apply the ashes alone first and work in, and then the fertilizer later. Ashes have a tendency to set free the ammonia in the fertilizer.—  
ED.

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## A GREEN CROP ALL SUMMER—CORN AND COW-PEAS.

*Editor Southern Planter :*

If corn be planted in drills 7 feet apart as early in the season as a good stand can be procured (for this climate about the first of April) and from six weeks to two months thereafter cow-peas be drilled midway between the corn rows and both well cultivated until the peas become too large to work, a full crop of corn and very nearly a full crop of peas can be grown.

The following is an extract from Bulletin No. 70, issued in 1901 by the Arkansas Agricultural Experiment Station: "The value of two successive crops of corn without cow-peas sown in them was \$21.10, while the value of the two successive crops of corn, plus the value of a crop of cow-peas sown in the first crop, was \$33.54."

Here is an increase on the aggregate value of both corn crops of 64 per cent., to say nothing of the improvement of the land that resulted from growing the peas, and if peas had been grown in connection with the second crop of corn, the percentage of gain would doubtless have been much greater.

The question here arises, "Is it better to plant the corn in ordinary drills—say 4 to 5 feet apart—and sow the peas broadcast at the last working of the corn, or plant the corn and peas in alternate drills, as afore said?"

Prof. Massey expresses himself in *The Southern Planter* of June, 1901, relative to drills as follows:

"I am putting all my peas in rows this year and am rapidly coming to the conclusion that this is the best plan as a rule." He says nothing here, nor do I find an expression from him anywhere else, relative to growing corn and cow-peas in connection.

When peas are planted alone, the drills, for forage or improvement purposes, may be 3 to 3½ feet apart. For bearing purposes they may be 3 to 6 feet apart, according to the kind of pea grown. In either case they should be well cultivated until the vines become too large.

Drills, in connection with corn, are preferable for several reasons: First. A saving of at least three-fourths of the seed necessary for broadcasting can be effected. An actual test has shown that 12 pounds of seed per acre in drills will produce a larger quantity of forage or shelled peas than a larger quantity, say 18 pounds, will, and it is believed will also produce a larger quantity than one bushel broadcasted. Second. Fertilizer applied to peas in drills, in connection with proper cultivation, will act far better than it will with peas that are broadcasted without cultivation.

When corn is planted, especially in the Southern States, where the season is long, provision should in-

variably be made for cow-peas by adopting the wide row system.

A deep, loose bed of proper width should be provided for the corn by running a suitable narrow plow several times in the drills. A good dressing of stable manure may then be applied in the drills to which may be added 30 pounds of muriate of potash and 50 pounds of acid phosphate for each ton of stable manure, which will correct the excess of nitrogen in the manure; then mix well with the soil before planting. A sufficiency of corn should be used to procure a stand at one planting. When thinned, single stalks may be left in the drills 10 to 12 inches apart. This close distance, however, implies proper fertilizing and thorough cultivation.

Last summer I had corn in 7 feet drills 8½ inches apart, with rows of peas between, that eared well. With 12 inches distance, 100 ears to the bushel, an acre should produce 62 bushels of corn, and with 10 inches distance 74 bushels.

The corn should receive one or more deep cultivations, provided that the roots are not materially broken. A belt of proper width midway between the corn rows may be plowed deep with some suitable narrow plow up to the time the peas are planted.

### FERTILIZER FOR PEAS.

Mix 1600 pounds of acid phosphate with 400 pounds of muriate of potash to make a ton. This mixture will contain 10 per cent. each of potash and phosphoric acid. Apply 600 pounds per acre on a belt about a foot broad midway between the corn rows and mix with the soil, preferably a few weeks before seeding.

From 30 to 40 pounds of nitrate of soda per acre may be added; it will give the young plants a good send off.

In order to utilize the wide spaces, it will be necessary to plant a rank grower. The Red Ripper, Wonderful and Clay peas, in the order named, appear to be among the rankest growers. The past season I grew the Wonderful with excellent results. With single stalks, 3 feet apart in the drill, they covered the ground to a sufficient extent to completely smother the crab grass, and also climbed the corn stalks to a considerable extent. They appeared to yield better than those in adjacent rows of half the distance, and if 4 feet distance had been given, I believe that they would have yielded still better; they were well fertilized. These peas for bearing purposes are usually left much too thick. Six to eight quarts per acre in 7 feet drills will be ample for forage or improvement purposes, while for bearing a far less quantity will be needed. Plant about the 15th of May. From 20,000 to 35,000 pounds of green pea vines can easily be grown per acre. The smaller quantity, 20,000

pounds, will draw from the air and store in the vines about \$15 00 worth of nitrogen. When the vines are turned down, after maturity, said nitrogen will be utilized by the next crop.

Cow pea hay is far too rich in protein to be economically fed alone. Consequently it should be mixed with timothy or some similar hay in equal parts, or the timothy may be mixed with the pea vines in the proportion of 7 to 6.

Shredded corn fodder (the entire plant, less the ears of corn,) may be used in lieu of the timothy.

*Carthage, N. C.*

BRYAN TYSON.

#### GRASSES AND LIVE STOCK HUSBANDRY— BERMUDA GRASS.

*Editor Southern Planter:*

The interest manifested by Southern farmers in questions relating to grasses and live stock farming is indeed very gratifying. There is no question that live stock farming, when properly conducted, is profitable, and will enable the farmer to improve the fertility of his soil. I have recently had occasion to study the amount of commercial fertilizers used in the various States of the Union, and find that in the great live stock growing sections of the country the soil is richer now than it was twenty years ago, while commercial fertilizers are practically unknown to the general farmer. On the other hand, in those parts of the country where live stock are not an important feature of farming, the soil is for the most part in a sadly depleted condition and the commercial fertilizer bill amounts to 5 to 10 per cent. of the total value of the crops produced. The correspondence of this office indicates that the farmers of the South are thoroughly interested in live stock farming, but, like all conservative men, they wish to learn all they can about the subject before making any radical changes in their system of farming. For many years past the writer has taken every opportunity to visit successful farmers wherever they might be found and to learn as much as possible concerning their methods, and he is convinced that more valuable information can be acquired in this manner than in any other. It is a custom in this office, when we learn of a successful farmer whom we cannot visit, to secure as much information from him as possible by correspondence and to use this information for the benefit of other farmers.

From what we have learned in this way concerning results that have been achieved in the Southern States, there seems no question that, on the better class of soils, Bermuda is the best pasture grass so far available. It also seems that in many places burr clover and hairy vetch may be established on Bermuda sod, both of which furnish valuable green feed during the win-

ter. Occasionally we meet a farmer who is afraid of Bermuda because it is somewhat difficult to eradicate. Personally, the writer believes that this fear is not fully justified. It is true that Bermuda is tenacious of life, and this is one reason why it is so valuable; but it is not difficult to eradicate if one will take the trouble to perform the necessary labor. In many places it can easily be eradicated by growing a crop of winter grain, preferably oats, sown very thick, cutting this for hay and following with a thickly sown crop of peas. Two seasons' cropping of this kind has completely eradicated Bermuda in several cases with which the writer is familiar. Fortunately, this method of treatment is not expensive, and yields two good crops a year.

Occasionally the assertion is made that stock do not do well on Bermuda pasture in the summer. I have before me a letter from Mr. J. D. Herring, of West Carroll Parish, Louisiana, an extensive cattle grower, in which there is some valuable information on this point. He says:

"I had enclosed a pasture containing 140 acres, about 100 acres were set to Bermuda and 40 acres woodland; upon this I put 100 head of two year old cattle about the first of April. These cattle had been used to a large range. Up to the 1st to 15th of July they did well. After that date they began to fall off and look bad. About September 1st I took them off the pasture and put them in the cane brakes for the winter. I think they were much stunted in their growth by keeping them on the pasture the last two months. The Bermuda becomes hard and woody in the late summer, and I don't like it for pasture after July 15th unless there is much rain to keep it growing. I had some 10 to 12 milk cows on a pasture last summer that contained 15 acres Bermuda and 40 acres woodland, and they did very well all summer. I advise all farmers to have a Bermuda pasture. It makes good hay, and cattle will do well on Bermuda hay all winter; besides, it is a good hog pasture. I think it feasible to pasture cattle on Bermuda during the spring and summer and winter them on alfalfa, cow pea or Bermuda hay, and finish them for the market on cotton-seed meal and hulls. I think the bad effect of Bermuda in late summer could be overcome by mowing the pasture before the Bermuda goes to seed."

I wish particularly to call attention to the recommendation made by Mr. Herring that in order to prevent Bermuda from becoming hard and wiry, it should be mowed so that stock may have the benefit of the fresh growth that follows the mowing. Where it is practicable to do so, it is probable that there would be an advantage in dividing the pasture into three or four fields, so that stock might graze one of them close and then be turned into another. If the grass got too wiry before the stock had gotten over all of the pasture, the part not yet grazed might be cut for hay. In this way it ought to be possible, at least in

seasons of sufficient rainfall, to provide stock with fresh Bermuda pasture during most of the summer.

W. J. SPILLMAN, *Agrostologist.*

*U. S. Department of Agriculture.*

### THE DIFFERENCE IN RESULTS FROM USING A BALANCED AND AN UNBALANCED FERTILIZER

*Editor Southern Planter :*

The following is the result of a recent test with corn :

Plot 1—No fertilizer.

Plot 2—An unbalanced fertilizer applied in the drill at the rate of 450 lbs. per acre and well mixed with the soil.

Plot 3—The same quantity (450 lbs.) of the unbalanced fertilizer after suitable materials had been added to properly balance it.

The fertilizer for plot 2 contained, as per analysis, ammonia 2 per cent. (equivalent to one and eleven seventeenths per cent. of nitrogen), phosphoric acid 8 per cent., and potash 1 per cent.

The fertilizer for plot 3 was properly balanced for corn by adding to each sack of 200 lbs. of the unbalanced fertilizer, or, at that rate, nitrate of soda 6 lbs. and muriate of potash 30 lbs. (120 lbs of kainit in lieu of the muriate of potash could have been used). Said additions changed the 2 per cent. of ammonia to 2 per cent. of nitrogen, and the 1 per cent. of potash to 7 per cent. of potash. The new fertilizer then contained nitrogen 2 per cent., phosphoric acid 8 per cent., and potash 7 per cent., which is a fairly well balanced fertilizer for corn. There was still an excess of from 1 to 2 per cent. of phosphoric acid, but it did not hurt anything. It would, however, be better to avoid all this trouble by compounding properly at the start.

The three plots received the same treatment, being fairly good.

Plot 1 made little growth, the soil being poor.

Plot 2 largely exceeded the growth of plot 1.

Plot 3 largely exceeded plot 2, producing more than double the corn.

The fertilizer used on plot 2 was manufactured at Wilmington, N. C., and is largely used in this State for corn, cotton and other crops.

The six Southern States east of the Mississippi, commencing with Alabama, use annually about one million five hundred thousand tons of commercial fertilizers, which, at \$20 per ton, amounts to \$30,000,000.

It is now safe to say that by reason of a large proportion of said fertilizers not being properly balanced for the crops to which they are applied the farmers frequently sustain a loss of at least one half of the money invested.

Cotton requires a fertilizer containing nitrogen 3 per cent., phosphoric acid 8 per cent., and potash 3 per cent. (4 per cent. on lighter soil). If a fertilizer is properly compounded for corn, it is not suitable for cotton, nor is a fertilizer that is suitable for cotton suitable for corn. Hence, the necessity for farmers to procure the necessary fertilizer materials and do their own mixing. A saving of 25 and more per cent. can frequently be effected and a better fertilizer produced than the ready mixed goods.

There is not a known crop grown that does not require in the fertilizer more than 1 per cent. of potash, yet many fertilizer brands are on the market having 1 per cent. and even less.

I would, however, emphasize the fact that good results cannot be procured for a series of years, say five to ten, by the application of commercial fertilizers alone, no humus in the meantime being produced. In this case the soil may even become poorer, however abundant the applications of a well balanced fertilizer may have been. Therefore, the rotation should be such that an occasional legume crop, such as clover or cow peas, will be grown and turned down at maturity. Said plants will draw the needed nitrogen from the air, and the rotted vegetable matter will properly increase the supply of humus.

The ranker the growth the larger will be the supply of available nitrogen and humus, hence it usually pays well to fertilize liberally.

If the soil is deficient in the mineral elements of fertility (phosphoric acid and potash), they should be applied direct; they cannot be drawn from the air. For cow peas, the following materials for an acre may be mixed, applied in 3½ feet drills and well mixed with the soil, preferably a few weeks before seeding. Acid phosphate, 285 lbs. and muriate of potash 75 lbs.; 300 lbs. of kainit may be used in lieu of the muriate of potash.

For clover, add 10 lbs. of muriate of potash or 40 lbs. of kainit to the above.

The above dose can be advantageously doubled. I have used for cow peas in drills 1,200 lbs. per acre of a fertilizer, substantially the same as the above, with the best of results. In this case the fertilizer was applied in a furrow on either side of the young plants soon after they came up. When planted in drills and cultivated, one peck of seed per acre will be ample for forage or improvement purposes, thus affecting a saving of three fourths of the seed usually required for broadcasting.

If from 30 to 50 lbs. of nitrate of soda be added to the fertilizer, it will give the young plants a good send off.

*Moore Co., N. C.*

BRYAN TYSON.

Whilst the mentioned proportions of the different

ingredients of the fertilizer used fairly represent the needed requirements of the crops, yet experience has shown that more or less of these ingredients may be needed to secure the best results, from the fact that lands vary so much in their different content of fertilizing material present naturally, and also in the availability of that present. Especially is this the case with the potash in this State. Even in Eastern Virginia, the light sandy lands, usually largely deficient in potash, have been found not to respond profitably to large applications of that mineral. In the Western and Central parts of the State, potash is usually present naturally in sufficient supply for all crops except tobacco. Nothing but actual tests with the land can determine exactly what is the proper quantity to supply. The great need of all lands in the South is vegetable matter. If this be supplied, then the needs in other respects can be easily ascertained. This vegetable matter will largely make available the natural supplies of mineral plant food in the soil, and thus render unnecessary heavy applications of mineral food.—ED.

#### MY EXPERIENCE WITH ARTICHOKEs.

Having read a good deal in *The Southern Planter* and other agricultural journals about the value and healthfulness of artichokes for hogs, I concluded to make a trial of them, hoping to raise pork at a minimum cost. I bought seed and planted at least an acre, got a good stand, and cultivated well, and they made a heavy yield. I turned the hogs into them about the 20th of October, expecting to see them go for the tubers with voracious appetites, but to my surprise and disgust they would not root for them nor eat them when pulled out of the ground. I did not feed them anything else for several days, but they all seemed to have made up their minds to starve rather than eat artichokes. I then fed on corn till 1st of November.

I then put them in a floored pen, feeding them only new corn for ten or twelve days. Thinking they would then enjoy a change of diet, I again gave the artichokes to them. They rooted them around and turned up their noses and seemed to be as much disgusted as myself. So I am done with the artichoke.

Mecklenburg Co., Va.

W. RUSSELL

This is the first time in our long experience that we have ever had a complaint that hogs would not eat artichokes. These hogs must have been very fastidious animals. We think we could have got them to eating them. If a few of the tubers had been sliced up and put in a trough or on a floor and a handful of meal spread over them we believe the hogs would at once have taken to them. We know many people who feed them every year and make cheap and good pork on them. Try them again friend, and just tempt the hogs to taste them. They will find them good eating and will not fail to take to them. These fastidious appetites require to be brought down.—ED.

#### ITALIAN RYE GRASS.

*Editor Southern Planter:*

This is said to have been the first grass cultivated separately for agricultural purposes. It is first mentioned in a book published in England in 1611, and seems to have been about the only grass cultivated for a hundred years afterwards. To those who are not familiar with it, the following description will be better understood than the technical terms of the botanist: The culms (stalks) grow from two to three feet high, and are very full of leaves. The panicle (head) is six inches or more in length, contains from seven to eleven seeds, and bears a striking resemblance to those of couch, or quack grass.

A well informed writer says: "It occupies the same place in England that timothy does with us, and is there esteemed, on the whole, higher than any other species of grass." Its name, Italian rye grass, is derived from the fact that its native habitat, or home, is on the plains of Lombardy, where broad and extensive areas of pasture land are frequently inundated by mountain streams that intersect them. In irrigated meadows, it is undoubtedly superior to any other grass. It thrives well in the moist climate of Great Britain without irrigation, and no doubt would flourish along the rivers in the United States where the land is subject to yearly overflow.

Prof. Phares, of Mississippi, some years since, said: "This year Italian rye grass stands drouth well, and grows most luxuriantly in the Southern States. If not kept well grazed or mowed, however, the leaves cover the ground so deeply and densely that an excess of rain in very hot weather in the extreme South causes it to rot suddenly, destroying even the roots."

If it will flourish well in the South, farmers could afford to take the risk of having it rot on the ground occasionally, as the benefit to the land by shading and rotting like surface manuring would more than compensate for the cost of the seed and labor of seeding. It may be, however, that Prof. Phares was too sanguine about its value in the South.

Prof. T. M. Tracy, of the Mississippi Experiment Station, says, in the Report of the Department of Agriculture for the year 1890: "From five sowings in the field of Italian, English and perennial varieties, we have nothing left except an occasional plant. None of them seem able to stand our summer, and cannot be recommended for the Southern States."

As long ago as 1860, the Rev. C. W. Howard, in a letter printed in the Patent Office Report, said: "The Italian seed was sown last spring; they came up and grew vigorously, but almost entirely perished during the severe drouth of the past summer."

At the Wyoming Experiment Station, out of twenty different kinds of grass seed selected for trial, Prof. Dyce McLaren gives Italian rye grass the second place in the order of excellence.

The Report of the Department of Agriculture for 1870, places it among the best grasses as regards resistance to drouths and power of endurance when subject to the scorching sun and parched soil.

"The grasses," says the Library of Universal Knowledge, "are distributed over all parts of the world. Some are characteristic of the warmest tropical regions and some of the vicinity of perpetual snow; but

they abound most of all, and particularly in their social character, clothing the ground with verdure and forming the chief vegetation of meadows and pastures in the northern temperate zone. There is no kind of soil that is not suitable to some or other of the grasses, and while some are peculiar to dry and sterile soils, others are only found on rich soils with abundant moisture; some grow in marshes, stagnant waters or slow streams; some only on the sea coast. Some grasses are annual and some perennial. The most important fodder grass in Britain is the rye grass."

The *Encyclopædia Britannica* says: "Italian rye grass and red clover are now frequently sown in mixture for soiling, and succeed admirably."

A Kentucky farmer gives the following mixture of grass seeds to be sown for pasturage: Blue grass, 8 lbs.; orchard grass, 4 lbs.; timothy, 4 lbs.; re clover, 6 lbs. And to this, Dr. George Vasey says add Italian rye grass 4 lbs., which, altogether, will make heavy seeding, but heavy seeding is what is needed to make a good pasture. For pasturage, he recommends a variety of grasses, as stock like a variety, and thrive better on it.

There is no question about the excellence of Italian grass in Italy and England, but the testimony concerning its value in this country is conflicting, and "when doctors disagree" there is no way but for farmers to experiment for themselves.

J. W. INGHAM.

Italian rye grass has been very successfully grown on the James River low grounds and also on some other of the river bottom lands of the State. On these lands it makes a crop which can be cut two or three times unless the summer is very dry. We have grown it largely in England on similar lands, and always with great success. It is one of the best grasses for growing under irrigation, and will yield four or five cuttings in the year. It is largely grown on the sewage farms which have been established in England for the disposal of sewage from the large cities where sewage is not allowed to be turned into the rivers unless first purified by some means. The filtration of this sewage, by using it for irrigation purposes on sewage farms, has been found to be one of the best and cheapest methods of complying with the law.—ED.

#### IMPROVING MOUNTAIN LAND.

*Editor Southern Planter:*

I think it is almost impossible for anybody not perfectly familiar with Mr. Reynolds' soil to give the desired information. Mr. Reynolds informs us that his soil is deep and black, and that timothy grows to perfection. This generally indicates that the soil is rich in humus, and it is therefore questionable if blue grass, which makes other demands on the soil than timothy, will make a good sod there.

It is quite true that timothy alone, or even as the prevailing grass in a pasture, is not as desirable for cattle as other grasses are. Timothy is tender when

quite young, but soon gets hard and they hay is entirely too hard for cattle, besides that it does not possess the feeding value of some other grasses. Whether it is advisable to plow the sod up depends upon the denseness of the sod, its being free from obnoxious weeds and its lasting qualities. If the sod is weedy, it should be plowed up, and the best plan will probably be to fallow the soil. In a climate like ours, fallow is generally not given a regular place in the rotation, but if I want to clean a soil quickly and thoroughly and be sure of the success, I prefer it to any other method. It should, however, be taken into consideration that on some soils it is a very difficult matter to get the new sod as dense and lasting as the old sod. If the soil is not weedy, some other method of improving the sod without plowing it up may be resorted to.

Another way of improving the sod is to top dress it with manure or fertilizers and sprinkle small quantities of suitable clover and grasses over it. Horse manure deserves for cattle pastures the preference, but as it can seldom be obtained in sufficient quantities, other manure or commercial fertilizers will have to be substituted. Next to manure stands hard wood ash. These bring out the leguminous crops in a remarkably short time. The phosphates and potash salts will have to be applied early in fall, as it has often been noticed that grass top dressed with these fertilizers is objectionable to cattle. Without manure or fertilizer, I think, it will hardly be possible to bring about a change in the pasturage. The fine growth of the timothy, which at the present time occupies the soil, is pre-eminently due to the cause that the soil supplies the food which the timothy demands, in liberal quantities. If other grasses with different demands on the plant-food of the soil shall take the place of the timothy, or at least to a certain extent, it will be necessary to change the plant food, by applying liberal quantities of the food demanded by those plants. Without this change, I think, it will hardly be possible to obtain the desired effect.

If it will be profitable to make this change on a permanent pasture, only experience can tell. Generally it is not. It not only requires considerable manure or fertilizer to maintain an artificial pasturage, but the other land, set aside for the growing of crops, being continuously cropped, will also require more manure. On most soils which do not produce a natural good sod, it is decidedly more profitable to have crops and pasture in rotation. One prepares the soil for the other. If the crops are well fertilized, there is sufficient available plant food left in the soil to produce a good pasture. If the soil is seeded with a variety of clover and grasses, these pastures will be for three or four years all that can be desired. The grass is also

of a finer texture, sweeter and better than that of a fertilized permanent pasture, and is also better liked by the stock.

But as I have sa'd before, it is a difficult matter to suggest anything without having seen the soil and the sod. There are so many products which have to be taken into consideration in the management of a farm that they often outweigh the profit from a desired change in one of the branches.

*District of Columbia.*

H. WINKELMAN.

#### NITRATE OF SODA AS A FERTILIZER FOR TOBACCO PLANT BEDS.

*Editor Southern Planter :*

As the time is close at hand when the tobacco raiser will have to prepare his plant bed, with your permission, I will give my experience with nitrate of soda as a plant grower. Last spring I prepared and seeded my beds as usual and put about 75 lbs. of regular tobacco fertilizer to the hundred square yards, which is considered a liberal application. Both beds were on a good southern exposure, but the situation was rather dry for the light rains of the latter part of April and the first of May, and my plants came up very scattering, and these few were growing very slowly, and my prospect for a crop of tobacco looked very blue. I had to do something, and that very quick, or miss a crop. I sent to Richmond for a sack of nitrate of soda (200 lbs.), for which I was charged at the rate of \$50 per ton cash. I top dressed my beds with this at the rate of about 10 pounds to the hundred yards, and then put on a light sprinkle of straw to hold the moisture. We had a light rain that night, which dissolved the nitrate, and in a week the plants that came up first and were the size of a quarter when I dressed them with the nitrate, were six inches high, and the darkest green I ever saw. In the meantime the others had come up, and were large enough to plant in half the time it usually takes a plant to grow in, and all of them were of that healthy, robust character that take root and grow off so nicely, as the tobacco raiser likes to see.

Well, I would not have known whether it was the nitrate of soda, the straw or the rain, had I not left out a strip through the middle of each bed with no nitrate of soda on it, but this told the tale. The plants on this strip were not large enough to plant by the first of July, and they were then little yellow, tough things compared to the others growing within a foot of them. In the meantime I had finished planting my crop of 60,000 hills by June 15th, and a week later I think I could have planted as many more out of the same beds, whilst another bed close by, that had a good application of guano and hog-pen manure, had dried up

after the first drawing. I think that the plants where the nitrate of soda was applied, after leaving the ground, without exaggeration, grew at least an inch a day, and this vigorous growth continued in the beds until August, dry or wet.

I think the best time to apply nitrate of soda to plants is about the time they come up, as it acts at once; it is not needed earlier than this. A heavy dew is sufficient to dissolve it. Care should be observed in top dressing with it not to put it on when there is any water on the plants, as it will certainly harm them. I never expect to try to raise plants in the future without it, as it acts more like magic than anything in the way of fertilizer that I have ever tried. I think plants can be produced at least two weeks earlier by the use of it.

*Cumberland Co., Va.*

H. P. BAKER.

#### HUMUS.

*Editor Southern Planter :*

How shall we teach our farmers the necessity for a constant accumulation of humus in the soil? One of the greatest evils we labor under is the constant wasting of humus out of our lands. They are farmed year in and out without any regard to gaining humus. We will have to change our plans entirely or our lands will get so poor they will not pay for the plowing. Land is put in corn year after year, or corn and then oats, and nothing added to help it. Every farm should have so many acres (say ten or twenty) every year sowed in rye early in fall to fallow in the spring for corn, and a like area to be sowed in peas in spring to fallow in fall for wheat, oats or grass. If this plan was followed every year, and some good fertilizer used with every crop, our lands would soon begin to pay a profit for working. Fertilizers on lands devoid of humus are almost useless. Land with plenty of humus in it will stand dry spells so much better, be easier improved and work much easier. All persons renting out lands should stipulate in their contracts that all grain crops grown should be preceded or followed by a humus making crop. Then, if every few years a good dressing of lime could be added on top of a good fallow of vegetable matter, our farms would soon take on new life and the country would look far better than it does now. Some may say peas are too high to sow and fallow. Try corn; I am told by some that it does nearly or quite as well as peas. Many of you have noticed wherever a shock of corn stood late in the field that the next crop grown on the land will show where those shocks stood. Even where your plows come out on the end to turn around the land shows a better growth of vegetable matter.

*Henrico Co., Va.*

COUNTRY.

It is not the corn that improves the land, but the shading of the soil by the shock which promotes nitrification in the soil. Corn will not improve the land like a leguminous crop does. It takes nitrogen from the soil instead of adding it.—ED.

### ENQUIRER'S COLUMN.

Enquiries should be sent to the office of *The Southern Planter* Richmond, Va., not later than the 15th of the month, for replies to appear in the next month's issue of the *Planter*.

#### Fertilizer for Peanuts and Corn.

1. From what source is it best to obtain nitrogen for Spanish peanuts and for corn?

2. From what source is it best to obtain phosphoric acid for each of the above crops?

3. From what source is it best to obtain potash for each of the above crops?

4. Do you think a field on which Spanish peanuts were grown last year, on which barn yard manure and guano was used, would be benefited and the yield of corn increased this year by application of lime? If so, what quantity to the acre should be used?

Please furnish me formulas for the above crops, and what quantity of mixture to the acre should be used.

*Sussex Co., Va.*

GEO. D. GRIZZARD.

1. Cotton seed meal or dried blood are good sources from which to obtain nitrogen for the peanut. It, however, does not call for the application of much nitrogen, as being a legume it can obtain its supply from the atmosphere after it once gets a start. It is, of course, necessary for it to do this that the land should have in it the microbe peculiar to the peanut plant. This, however, is always found more or less abundantly wherever peanuts have been grown in the past few years. We deal with the fertilizer for a corn crop in our reply to No. 4.

2. The phosphoric acid is cheapest and best supplied from acid phosphate.

3. Potash can be had from either kainit or muriate of potash, but we should prefer the muriate, as we do not think the salt in kainit is of any value to the plant.

4. We think it very doubtful if lime applied now would be of any service to the corn crop of this year. If applied in December or January it might have helped it. The action of lime is largely mechanical and takes time to become effective. Directly, it is of little value as plant food, but indirectly it helps much in correcting acidity in the soil and in liberating potash and phosphoric acid. For these effects it must have time, as it acts slowly. We have no confidence in advising the use of any commercial fertilizer on the corn crop. A critical examination of many experiments conducted in many corn States justifies us in saying that rarely has the application of commercial fertilizer been profitable on the corn crop. It often results in increasing the yield, but rarely sufficiently so to pay for the fertilizer. If used we would apply only acid phosphate—say 300 lbs. to the acre. The land you refer to will, no doubt, have sufficient nitrogen stored in it by the peanut crop to meet the needs of a corn crop. Potash has rarely been found necessary in

this State for corn, or, indeed, for any crop except tobacco and Irish potatoes. For the peanuts mix:

80 lbs. acid phosphate,  
300 lbs. cotton seed meal,  
50 lbs. muriate of potash,

and apply this quantity per acre. You, of course, know that the peanut requires lime for its successful growth and the perfection of the nuts. About 25 bushels of lime per acre should be applied every three years.—ED.

#### Improving Land with Peas and Crimson Clover.

I am a subscriber to your valuable journal, and have read with great interest therein, as well as in other agricultural journals, what has been said and encouraged along the line of "green manuring" and the cultivation of nitrogen producing plants, with a view to raising, with the least possible cost, impoverished soils to the highest state of cultivation.

I have a plot of from six to eight acres of land—light grey soil, fairly red subsoil, land level, no gaults, but thin—very responsive to fertilization. I desire to prepare this piece of land for corn for the year 1904, and it has occurred to me that the proper course to pursue will be to sow it to peas this coming spring and either mow the vines or turn them under and follow with Crimson clover, to be turned under during the spring of 1904, and then plant to corn.

1. Will this be practical? If so,

2. Will it be proper to mow the peas and feed to stock, or plow them under?

3. Should the peas be sown broadcast, or should they be drilled?

4. Should it be proper to drill peas, should the fertilizer be drilled or should it be broadcasted?

5. If broadcasted, what number of pounds of fertilizer should I sow to the acre, and kind?

6. If broadcasted, what number of bushels of peas should be sown?

7. Should it be proper to follow the peas with clover, how should the seed be applied, and what number of pounds to the acre?

8. What kind, and what number pounds of fertilizer should there be used in connection with the sowing of clover?

*Nottoway Co., Va.*

W. M. WHITE.

1. Yes; entirely so, and most proper.

2. As to whether the peas should be cut and fed to stock depends on the condition of the land. If almost completely devoid of humus or vegetable matter, we would say let the vines become nearly ripe and then plow the whole crop down; but if the land is not so poor as to call for all this vegetable matter, then cut the crop, leaving a tall stubble, and plow this down.

3. On such a piece of land as you describe we would sow broadcast. If the land was in better condition we would drill them.

4. Sow the fertilizer broadcast.

5. Apply 300 or 400 lbs. of acid phosphate and 50 lbs. of muriate of potash per acre.

6. A bushel or a bushel and a half of peas will be

sufficient broadcast. If drilled, two pecks or less will suffice.

7. Yes; follow the peas with Crimson clover. After plowing the peas or stubble down harrow the land, then sow 12 lbs. of the clover seed per acre and cover with a smoothing harrow or a bush harrow.

8. We would give the clover 250 lbs. per acre of acid phosphate, sown broadcast, after the land was plowed and before harrowing.—ED

#### Hogs Pasturing in Corn Field.

Can you, or any subscriber, give experience with regard to turning hogs on corn, as described on page 89 of *Planter* for February. I intend growing some acres of soja beans for this purpose. Would half corn and half beans make a better pasture? I fancy hogs would eat corn first and likely waste considerable.

Amherst Co., Va.

THOMAS HOWELL.

We have had no personal experience in hogging down a crop of corn in the way suggested. Shall be glad to hear from those who have. We have a subscriber who grows corn and Soy beans together, and turns his hogs into the field after the beans have podded and begin to ripen. Before doing so, he feeds the hogs Soy beans pulled from the field for a week or ten days. After they have acquired a liking for them, he says they may be safely turned into the field and will not trouble the corn until the beans are eaten. Corn and beans grown together make an excellent hog pasture. The two crops make a balanced ration. The one is rich in protein, the other in carbohydrates.—ED

#### Renewing Pasture.

We have a blue grass meadow, which we have recently obtained, and which has been pastured excessively. The blue grass is very thin over a good portion of it, and weeds have sprung up in such places. Would it be better to plow it and sow to cow peas, cut them for hay, then turn under the stubble, and seed with a mixture of grass seed suitable for a permanent pasture? If so, what seeds had best be sown or would it be better to disk it out and sow to grass this spring?

Loudoun Co., Va.

W. M. M.

We would advise that the field be plowed up and deeply and thoroughly worked, and then be planted in cow peas. We would help these peas to make a heavy crop in order to smother all weeds by giving them 200 or 300 lbs. of acid phosphate per acre. We would cut the crop for hay and then plow down the stubble, say in September. Work the soil very fine, and fertilize with bone meal, potash and nitrogen and seed. In our article, "Work for the Month," in this and the last issue, will be found full information as to the varieties of grass to sow. A meadow which has been run so long as this one, and which is badly infested with weeds, can never be made a satisfactory sod except by starting completely afresh.—ED.

#### Stump Pullers—Sweet Potato Slips—Tomato Fertilizer.

1. I see advertised in the *Planter* four different kinds of stump pullers. I would like to know if they do the work all right, and the one which is the best. I have about 15 acres to clear of pine, about 12 or 15 inches across the stump. Would they be the right thing to use in clearing it?

2. I would like to know if there is a machine to transplant sweet potato sprouts—run the row, distribute the fertilizer, list the land and set the plant all at one time; if there is, where can it be bought and what is the price?

3. I would like to know how to mix the chemicals to make the proper fertilizer for tomatoes. I have not been growing tomatoes, and don't know what to use.

Aecomac Co., Va.

T. D. MARTIN.

1. We have excellent testimonials as to the effectiveness of the different stump pullers advertised in our columns, and we know many who are using them. One man prefers one make, and another the others. Send for information to the advertisers.

2. The McSherry Manufacturing Company, of Middleton, Ohio, advertised a machine for this purpose in our columns last year and will do so, we believe, again this year, probably next month.

3. The following ingredients will make a good tomato fertilizer:

200 lbs. nitrate of soda.

700 lbs. cotton seed meal.

840 lbs. acid phosphate (13 per cent.).

260 lbs. muriate of potash.

2000 lbs.

Apply from 300 to 500 lbs. to the acre.—ED.

#### Peas for Hogs.

Will you kindly tell me what is the best pea to sow to raise peas to turn hogs on in the fall to fatten them? How many hogs could I run to the acre? Will it injure or improve a piece of land to put it in peas year after year, and eat them off with hogs? Would I raise a pretty fair crop of peas without fertilizer on clay land that will produce about two or three barrels of corn to the acre?

Albemarle Co., Va.

J. L. DRYDEN.

Either Black Clay or Whippoorwill peas make the best hog pasture for your section. You would not find that the peas would continue to produce a good crop grown year after year unless helped every year with acid phosphate and potash. Peas get their nitrogen from the atmosphere, but are large consumers of phosphoric acid and potash, which, if not present in available form in the land in abundance, must be supplied or the land will soon be impoverished.

You will not be likely to make much of a crop of peas on such land as you describe without the application of 200 or 300 lbs. of acid phosphate.—ED.



### Cow-Peas and Corn as a Fodder Crop—Crimson Clover—Sulphur for Stock.

Last June I sowed five acres of cow peas and corn with drill for hay. When the fodder was matured I cut the crop with a wheat harvester, making small, loose bundles. I shocked it in the same way as wheat, putting four to six bundles to the shock. It cured out nicely and was ready to put in bnlk in time for seeding the land to wheat. It made an excellent balanced ration, and was easily and cheaply handled. The corn stalks did not attain sufficient size to make shredding necessary for feeding in the barn.

Should any of your readers try this they might find it necessary in case of warm, wet weather during curing to cut the bands on the bundles to prevent moulding inside. In this event I would suggest rebinding in larger bundles for convenience in handling. I had no trouble about this.

1. So well pleased was I with the experiment that I shall increase my acreage next season if you will help me over an obstacle. The fodder on very fertile soil will grow too high to cut with harvester unless sown very thick, in which case it will crowd out the peas. Do you know of any plant of good feeding value that will overcome this difficulty?

2. What do you know of the feeding value of Crimson clover hay? Is there any danger in feeding it to stock? Will the crop produce second growth like red clover when first growth is cut?

3. Is there any danger in feeding flowers of sulphur to stock carrying their young?

*Culpeper Co., Va.*

A. G. PARR.

1. Many of our subscribers use sorghum with the peas instead of corn, and find that it makes a finer and shorter stalk and nicer feed. Possibly one of the millets, either German or Cat Tail (*Pencilaria*) would make even still finer and shorter stalks, and they both make good feed, and would, we think, mature along with the peas. We would like a report on this if tried.

2. Crimson clover makes excellent green feed cut when in bloom. It also makes a nice hay if cut when in bloom or just when coming into bloom. If not cut until the seed forms it is dangerous to feed to horses, as the hulls of the seed mat into balls in the stomach and cause stoppage of the bowels. We have had balls as large as an orange taken from the bowels of horses which they killed. We have, however, never heard of the hay injuring cattle in this way. It will not make a second growth.

3. We have never heard of any injury from sulphur. It should not be fed in cold weather when animals are exposed to the weather, as its action is largely on the skin and makes the animals sensitive to changes of temperature.—ED.

### Cow-Peas and Corn.

Can you, or any of your correspondents, give me any information as to the efficacy of Kaffir corn or sorghum in serving to hold up cow pea vines when mixed with the peas when sowing with drill? If so,

then which is best, Kaffir corn or sorghum, and the proper quantity of either to sow with the peas per acre in order that the growth of the corn or sorghum may not grow so high as to prevent their harvesting with binder,

*Vance Co., N. C.*

J. P. TAYLOR.

In our October, 1902, issue we replied to a very similar enquiry to this one supplementing what we said in our July issue on the same subject. We have many subscribers who have for years adopted the practice of growing peas and corn and peas and sorghum or Kaffir corn together, and are well pleased with the results, especially when used for filling the silo. Personally, we prefer to mix cow-peas and sorghum, as making a better and richer feed than peas and corn, though probably the corn would make the heavier crop, and if intended to be made into ensilage would be quite as cleanly eaten up. Kaffir corn would do equally as well as sorghum or corn as a supporting crop for the peas, but does not make as rich feed. The advantage it possesses over sorghum and corn is that it withstands drouth better. Experiments made at the Delaware Station seemed to demonstrate that the mixing of the peas with corn did not result in increasing the yield so much, but that it resulted in making a better balanced ration for stock without materially increasing the cost, the only increase in cost being the cost of the pea seed, say 50 cents to \$1 per acre. We refer the enquirer to our July and October, 1902, issues for fuller information.—ED.

### State Grange—Marl—Mulching Potatoes.

Let me express to you briefly my hearty appreciation of the *Southern Planter*. It is exceedingly helpful to me. Also permit me to propound these queries:

1. Is there a State Grange in Virginia?

2. How is marl best used, and for what crops?

3. Is it well ordinarily to mulch Irish potatoes, and if so, how would saw dust do for a mulch? I have near my place—within a mile—quantities of saw dust, which can be had for the hauling.

*James City Co., Va.*

CHAS. H. GROSVENOR.

1. There was a State Grange in Virginia, but we believe it is now moribund. We have heard nothing of it for several years. The Grange never made headway in the South.

2. Marl may be applied in heavy dressing to light or loam land with great advantage. The percentage of lime and phosphoric acid is, however, so low in comparison to the weight of the whole that it will not pay to haul it far.

3. The mulching of Irish potatoes is not usually of material advantage, as the vines themselves serve as a good mulch. Saw dust is of no value except as a means for lightening heavy land, and it is even for that purpose of doubtful utility.—ED.

**Renewing a Pasture—Preparing Land for Peas**

Kindly give me the following information :

How can permanent pastures be renewed without plowing, etc.? What would be the result of running over a pasture, early in the spring, with a disc harrow, sowing grass seed, and harrowing or rolling it in? I have top dressed a pasture that needs renovation with manure, but the grass has run out, and I wish to know the most practical way of getting seeds into the ground without plowing the land.

Can light land be successfully prepared for cowpeas by using a disc harrow instead of plowing?

*Fauquier Co., Va.*

H. C. G.

In this issue will be found a reply to a similar question from a subscriber in Loudoun county, Va. Where a pasture or a meadow is only failing in places, it may often be successfully improved by harrowing in the spring and sowing grass seeds and top-dressing with manure. But where the grass has run out and weeds have taken possession, nothing but plowing up and finely preparing and reseeding will secure a good result.

Yes; we have known many good crops of peas made without plowing by the use of the disc.—ED.

**Diseased Hogs.**

Will you be kind enough to tell me through the *Planter* what is the matter with my hogs and give me a remedy. They will eat only enough to keep them alive, sometimes only a mouthful, and sometimes an ear of corn. They eat very heartily of dirt. I keep them in a close pen until they get restless, then turn them in a large lot without any change for the better. They have a cough. I have 20 head, and this is their condition. I feed on hard corn, soaked corn, ground peas and collards.

*Pamlico Co., N. C.*

E. A. HOUGH.

Your hogs are no doubt badly infested with worms. Stop off the corn feed, and let them fast a day, then give them some slop made of mill feed and bran half and half. In this give one tablespoonful of turpentine for each hog. After this, give in the next feed a half a pint of raw linseed oil for each hog. After this has purged them, then give mill feed, bran and corn meal in a slop. If they still do not appear to be improving, repeat the turpentine in a week or ten days. Give a handful of bone meal for each hog once a week. Feed all the green food possible, and let them have a range.—ED.

**Plants Destroyed by Moles or Mice.**

We have hundreds of yuccas in this place that are being destroyed by moles (?) or field mice (?)—eaten at the roots. With dogs and chickens around, I am unwilling to use poison. Can you suggest any remedy in your valuable paper?

*Charlottesville, Va.*

E. W. H.

Traps might lessen the trouble, but poison would be much more effective.—ED.

**Crimson Clover—Rape.**

Will Crimson clover make a good hog pasture? Also, will rape make a good hog pasture for the summer? Will rape do well on low land?

*Dinwiddie Co., Va.*

SUBSCRIBER.

Crimson clover will make a good pasture up to the end of May, when it begins to ripen and gets hard and dry. Rape makes a splendid hog pasture in the fall and in spring, but cannot stand the hot weather of summer. If sown now, it will make a pasture up to June, and should then be plowed up and sown with cow peas, or cow peas and sorghum, to make hay or pasture. Sow rape again in August or September for fall and winter grazing. Cow peas or Soy beans make the best summer pasture for hogs.—ED.

**Ginseng.**

Will you please tell me of the standing of the Commercial Ginseng Co., Crozet, Va.? How do you grow ginseng?

R. H. NORRIS.

*Lancaster Co., Va.*

We believe the Commercial Ginseng Co., Crozet, Va., to be perfectly reliable. We know nothing of ginseng growing except from what we have read about it. We are not at all favorably impressed with the crop. We doubt much whether it will be found generally a profitable one. In any event, it takes five years to realize the profit, if there be one. The Pennsylvania Experiment Station has just issued a bulletin on the subject, giving results of experiments made there. Write Director of Experiment Station, State College, Penn., for copy of this.—ED.

**Silo—Storing Cut Fodder.**

I wish to feed ensilage the coming winter. Can I make one silo do, or shall I have to have more than one?

I wish the most convenient plan for storing cut fodder.

SUBSCRIBER.

*Louisa Co., Va.*

One silo will be all you will need for ten cows. Later in the year we shall write fully on the question, giving full information as to construction and capacity of silos. If you will refer to our issue for July, 1902, you will find an article on the subject which will probably give you all the information you need.

Cut fodder should be stored in a bay of the barn or under a shed boarded up in front.—ED.

**Kaffir Corn.**

Will you please say what you think of Kaffir corn as a forage crop and for seed?

*Dinwiddie Co., Va.*

R. DEWSBURY.

We have frequently advised the growing of Kaffir corn in the South. Whilst not quite so good feed as sorghum, it will do better than either corn or sorghum in a drouth.—ED.

**Stump Killer—Disease in Hog—Breeds of Hogs.**

1. Please tell me some simple and cheap way to kill stumps that will not die, such as gum and poplar.

2. I had a litter of pigs farrowed April 26th last year, and when they were about six weeks old one of them became affected very peculiarly. He could not walk or run in a straight line, but would go around in a circle, and had frequent spells when it could not walk at all, especially when it became excited. It made a very peculiar loud and coarse noise in squealing or grunting, which it did almost continually. Its head was twisted a little to the right, and in running around a circle it would always go to the left. After about a month it began to get better and became very thrifty, but its head did not get straight, and it continued to make the same peculiar noise until I killed it a month ago. I thought it must have gotten a lick on its head which affected its brain, but when I killed it I examined it carefully and could find nothing wrong with the brain.

Upon examination of the lungs I found the bronchial tubes full of little worms not larger than spool cotton and about an inch long. Will you or some of your readers tell me whether these worms caused the trouble, and if not, what did cause it, and give me a remedy.

3. If it will not take too much of your space will you please give briefly the merits and demerits of Berkshire and Poland China and O. I. C. hogs?

Campbell Co., Va.

L. C. A.

1. This query seems on first reading it to be an excellent example of an Irish bull, but we realize what our friend means. He has stumps which will persist in sending up sprouts. We know no means of killing these stumps except either pulling them out or blowing them to pieces with dynamite. There have been a number of methods recommended for killing such stumps, such as boring holes in them and filling with kerosene or saltpeter and other things, but we have no faith in them. A friend of ours who has cleared a large piece of land of such stumps, says dynamite is the best and cheapest thing to use.

2. The worms, we believe, caused the trouble. You should give the hogs a dose of turpentine now and again to kill these parasites.

3. All these breeds are good. One man has a fancy for one and another a fancy for the other. We think in a corn country like the West the Poland China is the hog to keep. He never tires of this diet, and consumes an enormous quantity. Where corn is cheap and far from market this is the animal wanted. The Berkshire is more a grazing hog and better adapted for the South, where corn is high in price and other feeds, like peas, are plentiful, or should be. The O. I. C. is a good hog, but of too large a type for Southern markets. Its color also (white) is against him for the South. A black hog is the best for a hot climate. White hogs must have plenty of shade or the skin will burn and blister in the hot sun.—Ed.

**Tobacco-Growing.**

I never see any method of plowing and preparing the land for tobacco in your columns to destroy the great "pest." we have—viz., the "cut" worm and "wire" worm. We so often fail in making a good crop on account of not getting a stand on stubble land. Some say plow early in the fall, re-plow in the winter, while others say wait until just before planting time and plow while everything is green. I would ask for advice as to the best and cheapest way to raise the greatest number of pounds per acre, regardless of color. I grow 10 acres of tobacco, and the average weight is 6,000 to 7,500 lbs. I want 10,000 on a ten acre lot.

Pittsylvania Co., Va.

J. W. GILES.

We usually give each year in the spring our views on the best way to make a tobacco crop, and we will do so in next month's issue. Winter plowing and replowing is of great service in getting rid of cut and wire worms, as it brings them to the surface, where the cold kills them and birds eat them. Where a piece of land is infested with these pests it should never be planted in a crop until an effort has been made to destroy them. The land should be plowed and harrowed and all green plants buried. Then bushes of green clover or cabbage leaves dipped in a solution of Paris green should be dropped at short intervals over the field. The worms will come out and eat these and be poisoned; or balls made up of bran and mill feed, mixed with Paris Green, should be dropped over the field. These will poison the worms, as they are fond of the feed. With persistence in this work, before planting the crop a stand can be secured.

We will try to help you to make 10,000 pounds to the 10 acres, but cannot say that you can certainly do so. The first requisite is better preparation of the land before planting. Begin *at once* this work. See our last issue for remarks on preparation, and also this one. The next requisite is more abundant fertilization. In Pennsylvania and New England tobacco growers often apply 1,000 pounds of high grade fertilizer to the acre.—Ed.

**China Tree—Corn Breeding.**

Please tell me whether or not the "China tree" will last if used for fence posts.

I have two varieties of twin corn—one very tall and large, the other very low and small; and I wish to breed a corn that will twin and be of good size, and yet not so tall. Please state how it should be done.

Mecklenburg Co., Va.

C. L. RUSSELL.

We do not know the "China tree" by that name, and therefore cannot advise you. Can you give us the botanical name? If so, we can help you.

If the two varieties of corn you have are planted near to each other they will cross pollinate, and then by selection of seed from stalks of the type you want you may in a few years establish a corn meeting your requirements and of fixed type.—Ed.

### Butter Will Not Come—Grass for Pasture— Sorghum.

I have a cow from whose milk we have not been able to get any butter for some time. The milk seems to be all right; it sours all right, but as soon as you begin to churn it begins to foam; the more you churn it the worse it gets. The application of warm or cold water has no effect whatever. Is it because of a certain stage of pregnancy of the cow? Please give the cause and a remedy.

What is the best grass to sow for a permanent pasture, and what the best time to sow, and how to sow it?

Do you consider sorghum a profitable crop for the average farmer to raise?

*Scottsville, Va.*

S. E. BEALE.

Why butter cannot be got from the milk is not always easy to account for. Sometimes it arises from the temperature at which it is churned. It may be too hot or it may be too cold, but in your case this does not seem to be the cause, as you say neither warming nor cooling affects it. Sometimes it arises from the manner of feeding the cow, but more frequently it arises from a condition of health, brought about by pregnancy or from the cow having been very long calven. We would try varying the temperature at which the milk is churned. If the cow is advanced in pregnancy let her go dry, and when she calves again her milk will probably be all right again. We know of no positive remedy for the trouble.

See our last issue as to grasses for a permanent pasture.

We think highly of sorghum as a forage crop, and every farmer should grow it.—ED.

### Watermelons.

I would like instructions as to the best mode of growing watermelons. The land I propose putting in melons was in peas last year, and the vines were left on the land. How should I proceed? The land lies gently to the south.

*Botetourt Co., Va.*

J. W. SMILEY.

We will give full instructions on this subject in a later issue. Meanwhile plow the pea-vines down and get the land into good condition for planting.—ED.

### Wood Ashes for Irish Potatoes.

In your next issue, will you tell how to use wood ashes on Irish potatoes.

*Alexandria Co., Va.*

C. R. HOFF.

Either sow broadcast on the land if you have sufficient to cover the field, or, if in less quantity, sow in the rows and mix with the soil by running a cultivator through before planting the sets. They only provide potash for the crop. Phosphoric acid and nitrogen should be supplied also. See our article on Work for the Month in Garden Department for a complete potato fertilizer.—ED.

### Alfalfa.

I have three acres of good red land on which I wish to sow alfalfa this spring. Please inform me what time to sow it; and does it suit this climate best to sow it in the spring or fall?

H. R. MAY.

Sow the alfalfa in the fall—say August or September. Spend this spring and summer in preparing the land for the crop. It requires the land to be deeply broken, finely cultivated and made rich. When the land is in fine condition—say in June—apply 300 or 400 lbs of acid phosphate and 50 lbs. of muriate of potash to the acre. Then seed with cow peas a bushel or a bushel and a half to the acre. This should make a heavy crop and smother all weeds. Cut for hay in August, and then prepare the surface soil finely with a disc harrow, and work in 500 lbs. of bone meal to the acre. Sow 15 to 20 lbs. of alfalfa seed to the acre and cover with smoothing harrow, and roll.—ED.

### Crimson Clover in Cow-Peas and Kaffir Corn.

Will you be so kind as to tell me in the *Planter* how it would do to seed Crimson clover with cow peas and kaffir corn, as I expect to mow the peas or feed and not turn under?

X. Y. Z.

*Lynchburg, Va.*

We have known Crimson clover to be successfully sown in cow-peas and corn. Much, depends, however, on the thickness of the cow-pea crop. If very heavy, the Crimson clover is apt to be smothered out. Sow the clover about July or August.—ED.

### Beans for Name.

Enclosed find beans. Please give me name of them, and what they are good for.

H. T. NUCKOLS.

*Buckingham Co., Va.*

We cannot identify the beans. They look like a large variety of Pole or Lima beans, but may be the seed of some other legume, or possibly of some wild plant. If we had seen them in England, we should have said that they were White Broad beans, but this bean does not grow here.—ED.

### Cow-Pea and Sorghum Ensilage.

Will you kindly advise me in the next issue of your journal whether or not cow-peas and sorghum, grown together and put in silo together, will make an ensilage that will keep as well as corn ensilage?

*Princess Anne Co., Va.*

BURTE C. HANIES.

Yes.—ED.

### Lump Jaw.

I have a nice Jersey heifer about three years old which has lump jaw. Will you please tell me what is the best treatment?

SUBSCRIBER.

In this issue you will find a remedy for this disease advertised by a well-known reliable firm. The address of the maker is Fleming Bros., 22 Union Stock Yards, Chicago.—ED.

## Trucking, Garden and Orchard.

### WORK FOR THE MONTH.

The month of February has been so unfavorable for work in the garden and truck field that little of the work suggested for that month can possibly have been done. This means that two months' work will have to be crowded into one, and the planting of many crops will have to be delayed. As soon as the land is dry enough to haul on, get out manure and have it spread and plowed in and set the harrow to work fitting the land for the crops. Both manure and commercial fertilizer are better applied some time before the planting of the crops. They become better fitted to supply the needs of the crops, and by frequent working of the soil become better assimilated with it and their plant food more available. In supplying manure and fertilizers, do not economize on the quantity or quality. To succeed in growing fine vegetables, there must be a very abundant supply of available food, so as to force the growth. Unless vegetables are grown quickly they are not tender and succulent, and hence will not command the best price or be acceptable on the table.

Irish potatoes and English peas should be planted as soon as the land can be got into good order.

Irish potatoes require plenty of available plant food, and this is best supplied by commercial fertilizers, as farm-yard manure is very apt to induce scab. In planting the crop, be careful not to plant on land where scabby potatoes were grown last year, as the spores of the disease will have infected the land and the crop will be sure to become infested with the disease. Also be careful to see that seed is free from scab, or the same trouble will arise. If there is any indication of scab on the sets, they should be soaked in corrosive sublimate solution (2 ounces of sublimate to 16 ounces of water) for an hour before being planted. A good fertilizer for Irish potatoes can be made up of 300 lbs. of nitrate of soda, 600 lbs. cotton seed meal or fish scrap, 800 lbs. of acid phosphate, and 300 lbs. of muriate of potash; or one of the special potato fertilizers put up by manufacturers can be used. Apply at the rate of 500 to 1,500 lbs. to the acre. If not more than 500 lbs. is used, this may be put in the row and be well mixed with the soil before planting the sets. If more than 500 lbs. is used, apply broadcast and harrow in. Cut the sets so as to have two eyes at least on each piece, and plant as soon as cut. Plant 15 inches apart in the row and the rows two feet six inches apart. Cover with six inches of soil to be raked down to four inches before the plants come through.

English peas do not require the soil to be overrich, or they will run too much to vine. A piece of land manured for potatoes last year makes an excellent place for peas. If the land is not rich enough, use acid phosphate at the rate of 300 lbs. and 50 lbs. of muriate of potash to the acre, and after the peas have commenced to grow freely, give a light top dressing of nitrate of soda, say 50 lbs. to the acre, when the plants are dry. Sow in broad rows three feet apart.

Kale, spinach and salad crops, like lettuce and radishes, may be sown in the latter part of the month.

Fall planted cabbage should be encouraged to grow by cultivating the land as soon as dry enough, and after they have started a top dressing of nitrate of soda will greatly help them. A test of the use of nitrate of soda on cabbage made in North Carolina gave the following results: "When no nitrate of soda was used there was a yield of but 910 prime heads of cabbage per acre, showing that the ground itself was 'poor.' When 300 lbs. of the nitrate was applied per acre on the same sort of land in two equal dressings, the number of prime heads obtained was 3,260. When the same amount was applied in three equal dressings, the yield of prime heads per acre was 5,390. On the plot which had received 400 lbs. of nitrate of soda per acre in two equal dressings, the yield was 4,160 prime heads per acre, and when the same amount was applied in three equal dressings, 7,580 prime heads were obtained per acre." Harden off cabbage plants raised in frames during the winter and set out as soon as the weather is mild and the ground fit.

In this issue will be found instructions for making a hot bed and raising plants therein. This should have attention at once.

Strawberries should be cultivated as soon as the ground is dry enough to encourage growth, and if not looking vigorous and healthy in a week after cultivating, give a top dressing made up of 100 lbs. of nitrate of soda, 50 lbs. of muriate of potash, and 250 lbs. of acid phosphate per acre, and work in with the cultivator. Apply the dressing when the plants are dry.

The pruning of all fruit trees and vines should be completed as soon as possible before the sap begins to be active.

When corresponding with advertisers, kindly mention the *Southern Planter*.

SPRAY CALENDAR FOR 1903.

COPPER SULFATE SOLUTION.

Copper Sulfate (Bluestone).....1 pound  
Water..... 15 gallons  
Dissolve the copper sulfate in a bucket of hot water, as it dissolves more quickly in hot water; and dilute to the desired quantity. Use wooden or earthen vessels for copper sulfate solution. This solution is to be used on dormant plants, before the leaves have expanded.

BORDEAUX MIXTURE.

Copper Sulfate.....4 pounds.....  
Unslaked Lime.....6 pounds.....  
Water.....40 gallons.....  
Dissolve the copper sulfate as mentioned above, slake the lime in a bucket of water and dilute to several gallons of water and strain through a course cloth to free the mixture of the small lumps. They interfere with the free flow of the mixture through the spray nozzles. Mix the two solutions together and add water to make 40 gallons. Use this for rots, molds, mildews and all fungus diseases. For potato blight add two pounds more of copper sulfate.  
A combined fungicide and insecticide for biting insects may be made by adding 4 ounces of either Paris Green or London Purple to the above.

AMMONIACAL COPPER CARBONATE SOLUTION.

Copper Carbonate.....6 ounces  
Ammonia.....About 3 pints  
Water.....50 gallons

Dissolve the copper carbonate in ammonia in a closed wooden or earthen vessel and add to it the required quantity of water when ready to apply. As ammonia varies in strength, some care is necessary to use no more than is needed to dissolve the copper carbonate. This preparation is used for the same purpose as Bordeaux, but is intended to be used only when fruit is nearly grown, as Bordeaux sometimes affects the skin of ripening fruit.

KEROSENE EMULSION.

Hard Soap.....½ pound  
Boiling Water..... 1 gallon  
Kerosene.....2 gallons

Use "soft water" (preferably cistern water.) Dissolve the soap in the boiling water; add the kerosene and churn violently until the mixture becomes like buttermilk—not less than five or ten minutes. Dilute with water ten to fifteen times before using.  
For sucking insects. For scale insects use strong emulsion. For plant lice, mealy bugs, red spider, etc., the weaker solution may be used. Soft bodied insects like the cabbage worm may be destroyed with this solution.  
Special machines are now on the market that mix the water and kerosene directly, and at most any proportion desired, and is recommended wherever scale insects are to be destroyed. When buds are dormant use a mixture of kerosene one part, water three parts.

PARIS GREEN.

Paris Green.....1 pound  
Water.....175 to 200 gallons  
When this mixture is used by itself add one pound of quick lime to prevent it injuring the foliage. See under Bordeaux mixture.  
Paris Green is sometimes mixed with flour and dusted over the plants when dew is on, in proportion of one pound of poison to ten pounds of flour.

LONDON PURPLE.

Use in the same way and in the same proportions as Paris Green, but use more lime to neutralize its caustic properties. It is best not to use this on the peach at all.

PERSIAN INSECT POWDER.

Fresh Powder.....1 ounce  
Water.....2 gallons

Spray on plants for soft bodied insects. The powder is frequently dusted on plants while the dew is on. The material is not poisonous to man, hence can be used in dwelling house to kill house flies and mosquitoes. For such cases, first close all doors and windows and dust the room well with the powder (usually at night and leave it so for several hours. It is a good idea to burn a spoonful or two on hot embers so that the fumes may fill the room. Be sure that the powder is fresh, because when old it often fails to kill.

PLANT.	DISEASE.	What to Apply.	First Application.	Second Application.	Third Application.	Fourth Application.	Fifth Application.
APPLE.....	{ Bitter Rot.	Ammoniacal Copper Carbonate.	First appearance of rot.	14 days later.	14 days later.	Repeat as necessary.	Repeat as necessary.
	{ Scab.	Bordeaux Mixture.	When buds swell.	Just before blossoms open.	After blossoms have fallen.	8 to 10 days later.	Repeat if necessary.
BEAN.....	{ Codling Moth.	Paris Green.	Just after fall of blossoms.	3 to 10 days later.	Destroy all windfalls, and pick off wormy fruit.		
	{ Anthracnose.	Bordeaux Mixture.	When plants are 2 to 3 inches high.	10 to 14 days later.	Repeat if needed.		
BLACKBERRY..... DEWBERRY.....	{ Rust.	Copper Sulfate.	Before buds open.	Bordeaux after blossoms have fallen.	Repeat as needed.		
	{ Cabbage Worm. { Horn-leguin Bug.	Persian Insect Powder or Paris Green.	When worms appear.	Repeat as needed.	Paris Green should not be applied after heads have started.		
CABBAGE.....	{ Melon Aphis. { Beetles.	Hand pick them; also destroy all plants on which first few lice appear; spray under side of leaves when first leaves appear.	When first few lice appear; spray under side of leaves when first leaves appear.	Repeat in 10 days.			

GRAPE.....	{ Anthracois. Black Rot. Downy and Powdery Mildews. Leaf Folder. Fruit Rot. Canker Worm. Curculio. San Jose Scale. Blight.	{ Copper Sulfate and Bordeaux Mixture. Bordeaux Mixture. Paris Green. Copper Sulfate. Weak Paris Green. Paris Green. See note under Kerose Emulsion. Promptly remove and burn all diseased limbs.	{ Copper Sulfate before buds open. Before buds open. Before blossoming. First appearance. Before buds swell. First appearance. Before blossoming. Kerose Emulsion.	{ Bordeaux before blossoming. When buds are fully open. After fruit has set. It is advisable to hand pick and burn folded leaves to prevent second brood. Bordeaux when buds are partially opened. Repeat as needed. When fruit has set. Apply when trees are dormant.	{ Just after fruit has set 10 to 14 days later. Repeat as needed. After fruit has set. 10 to 14 days later. pick and burn folded leaves to prevent second brood. Repeat 2d when fruit sets. Tie loose cotton around trunk of tree and apply Emulsion to it. Gather and destroy all windfalls every few days inches below affected parts.	{ Repeat if necessary.
PEACH.....	{ Fruit Rot. Shothole Fungus. Curculio.	{ Same as for Peach. Bordeaux Mixture. Same as for Peach.	{ When leaves appear. 10 to 14 days later. Also by repeatedly jar-ring the Curculio off the tree onto sheets and destroy.	{ Repeat if necessary.	{ Repeat if necessary.	
PEAR.....	{ Blight.	{ Strong Bord. Mixture. Paris Green.	{ When plants are 6 to 10 to 14 days later. inches high. When plants are 6 inches high.	{ Repeat as needed.		
PLUM.....	{ Blight.	{ Colorado Beetle.	{ Grow slips from clean healthy potatoes. To get clean potatoes, grow from vine cuttings.	{ Repeat as needed.		
POTATO, IRISH.....	{ Black Rot. Rust and Mildews. Blight.	{ Bordeaux Mixture. Bordeaux Mixture. Bordeaux Mixture.	{ When disease appears before blossoming. When disease first appears. 10 to 14 days later. When fruit is set. 10 to 14 days later.	{ After fruit has been gathered, if very bad mow off old foliage and spray new foliage. Repeat as needed. Thin out and destroy diseas'd pl'nts in bed Repeat if needed.		
POTATO, SWEET...						
STRAWBERRY.....						
TOMATO.....						

The efficiency of spraying will depend upon the time and thoroughness of the applications. Spraying for diseases must be in the nature of prevention and not as a cure. All sources of infection, such as diseased wood, diseased leaves and diseased fruit, should be removed and destroyed.

Keep this Calendar for reference during the year. You may need to refer to it.

Montgomery Co., Va.

R. H. PRICE.

NOTES ON VARIETIES OF APPLES AT THE  
AGRICULTURAL EXPERIMENT STATION,  
BLACKSBURG, VA.

[EXCERPT FROM BULLETIN 130.]

[Continued from February number, 1903.]

*Editor Southern Planter:*

*Albemarle Pippin.*—While this name is not recognized in the standard lists, as a variety, it seems to us quite clear that the type of tree, and in certain characteristics the fruit, have departed sufficiently from the old Newtown Pippin as grown in the North, to at least warrant position as a subvariety. The trees, certainly, show considerable differentiation, and there is some slight difference in regard to fruiting habit and in size and shape of the fruits, as grown upon the Experiment Station grounds here.

It is a vigorous grower, forming a strong, upright, moderately spreading head, thus far, making long wood growth, very much branched. Trunk 26 inches in circumference at base, and also averaging same at head. Thus far, this variety has not blighted here to notice, and maintains a very healthy appearance.

The trees bloomed in 1895, six years after planting, and have set a few fruits annually, since 1895, but there has not been enough at any time to mention as a crop. The general character of the fruit is so well known that it does not need particular description, but it is interesting to note that on this soil, which is distinctly not suited to Pippins, the variety becomes rather more elongate than ordinarily, and shows the ridges around the eye, characteristic of Oregon Pippins, but the fruits are not so large. The fruit shows a strong tendency to scab, and is also attacked by bitter rot. In 1901, eight well grown trees yielded 13½ bushels of fruit, of which 6½ bushels might have been reckoned as approaching near to first class fruit.

Experiments are under way to determine whether we can make this variety yield good commercial fruit on heavy clay soil. In a previous Bulletin, No. 98, of the Station series, I have discussed the soils to which this variety is adapted. It is so well known that this tree is a shy bearer until it reaches a good age, that further notes in regard to it are hardly necessary.

*Lawver* (Delaware Red Winter).—A fairly well known variety of Missouri origin. Tree only fairly vigorous, forms a round, spreading top of good form. Trunk measures in circumference at base, 26 inches, and at head, 22 inches. The tree is fairly healthy and free from blight here; but the fruit has been more or less subject to bitter rot at this place.

The first bloom was noted in 1894, a few fruits were produced in 1895, and in 1897 the tree bore very well, furnishing fine specimens, free from disease; in 1899 the trees bore a fair crop, and also in 1901. This variety cannot be commended especially for its behavior here, but in soil adapted to Pippins and Winesaps, I have known it to do remarkably well, and it is worthy of trial in a small way in such situations.

*Winesap.*—One of the very best known varieties of red apples grown in America; of New Jersey origin, and generally disseminated over the Eastern United States. The tree, on proper soil, is a vigorous grower, but unless pruned carefully to a central stem, the head becomes very procumbent, giving it an ugly

form. It is quite free from blight, and the foliage not particularly subject to fungous diseases. At this time the tree measures here, 25 inches in circumference at base and 23 at head.

The first bloom was noted in 1893, and the first fruit in 1895; in 1897, a light crop was borne, and in 1899, a crop averaging three bushels per tree; in 1901, the crop averaged six bushels per tree; but on this soil the fruit is very small, poorly colored and badly attacked by the common apple scab; bitter rot has not been noted on the fruit, though it stands adjacent to Ben Davis, which is badly attacked. The character and quality of fruit are too well known to need description. As a red apple of market grade, it has no superior on those soils which produce fine, clean fruit of good size. It, however, is illy adapted to the heavy clay soils or moist situations.

*Arkansas* (Mammoth Black Twig).—This variety has but recently become generally disseminated, and is not yet known as a commercial sort in the markets to any extent. It is said to have originated in Arkansas, and few apples have been more discussed recently than it. The tree is a strong, vigorous grower, entirely healthy, free from blight and fungous disease; trunk measures 28 inches in circumference at base, 25 at head. This tree is said to be a seedling of Winesap, and in some respects reminds one of the Winesap in appearance of wood, yet its growth habit is distinctly different and better than the Winesap.

This variety showed the first bloom in 1894, five years after planting, and bore a few fruits in 1895, also in 1897, but showed up better in 1899; in 1901, it bore a very heavy crop, twelve bushels of very fair fruit being picked from one tree, of which 90 per cent. graded first class. The size and color, however, were not up to the standard of this variety in better fruit soils than ours. The fruit is roundish, oblate, regular, much larger than Winesap, and of a dull reddish color, nothing like so pretty as Winesap. The quality is also below Winesap, but distinctly better than York Imperial. It promises to be a good keeper in this latitude. The fruit has been thus far entirely free from scab and bitter rot, except on one occasion it showed some slight attack of the latter. This variety is mentioned as a promising cosmopolitan apple on all of our good fruit soils, and it will probably be far less attacked by blight than York Imperial.

*Gano.*—A supposed seedling of Ben Davis, disseminated from Tennessee, and by many thought to too closely resemble Ben Davis to warrant separate variety position. The true Gano is, however, distinct from Ben Davis in character of tree, and also to a less extent in character of fruit, and has distinct claims as a variety. At this place it is a strong grower, forming an upright, slightly spreading head, with well developed wood. The trunk is 31 inches in circumference at base and 28 inches at head.

This variety bloomed first in 1893, and produced a fair crop for the size of the trees in 1895 and a heavy crop in 1897; in 1899, the crop was injured by bitter rot, and only about three or four bushels picked per tree; in 1901, a crop of 8½ bushels per tree was picked, which was quite free from disease except slight attack of scab. The fruit is round, ovate, larger than Ben Davis, more distinctly washed with red, and quite brighter in appearance. The quality is almost or quite identical with Ben Davis; some-



times one thinks there is a slight difference in favor of Gano, but it is very slight indeed. This variety as a filler for an early bearer is, in our estimation, quite superior to Ben Davis, but it is quite true that in many cases Ben Davis is sold for Gano, and the opposite may also be true.

*Via.*—A little known variety of ——— origin. Though it appears to be an old variety, it has gained very little notice, and is rarely found in cultivation; here it has shown some remarkable qualities. The tree is a fairly good grower, not large, forming a well rounded spreading head. The trunk measures 23 inches in circumference at base and 21 at head. It is quite free from blight and fungous diseases.

First bloom was noted in 1893 and the trees bore heavily in 1895, six years after planting. Full crops were borne in 1897 and 1899, the latter year three bushels per tree. In 1901, the trees bore six bushels each, which for their size is a very heavy crop. About 90 per cent. of this crop was firsts. In the off years, there is ordinarily a light crop produced. The fruit is roundish, oblate, a dull red in color, of fine appearance. The quality is medium to good, and the season is early winter. This fruit ought to cold store well, and thus become a very profitable sort because of its great productiveness. The size of the tree and its early bearing habit, renders it valuable as a filler; and this, coupled with its freedom from disease both in fruit and tree, leads us to commend it for this purpose. In the warmer parts of Virginia, it will prove a fall apple, and prompt cold storage will be necessary to carry it into winter.

Dec. 20, 1902.

WM. B. ALWOOD,  
*Horticulturist.*

[TO BE CONTINUED.]

### GARDEN AND ORCHARD NOTES.

*Editor Southern Planter:*

The farmer should have a hot bed to start early garden plants in. Commence making one now. Select a location with good drainage and sloping towards the south. If the location have some protection from the cold north winds, it is much more desirable.

A bed nine feet long and six feet wide will usually be ample for ordinary purposes. In such a bed enough tomato seed can be germinated for two acres. But to carry this many plants through, a cold frame is also necessary, into which the young plants may be transplanted when about one and a half inches high.

For the hot bed, excavate the ground to a depth of about three feet, and throw the dirt on the north side of the bed for protection against cold north winds. Plank up the sides of the bed and make the north side at least six inches higher than the south side, so that water will run off the glass readily.

Place cross pieces of 2 x 4 inch material at intervals of three feet to make the bed more substantial, and also for the sash to meet over. Good stobs of 2 x 4 inch material should be driven into the ground even with the side walls of the bed, and to which the plank

should be nailed. If all wooden parts are given a good coat of paint before they are put in place, they will last much longer.

The bed is now ready for the heating material. This should be good, fresh stable manure. Fill the bed up to eighteen inches with it. Now, to start fermentation evenly, tramp the material down and make it moist, but not too wet. Fork it over once or twice at intervals and re tramp.

When the temperature comes down to about 95 degrees, fill in with six inches of very rich loam soil. Rotted sods mixed with about one half good wood's earth make a good hot bed soil. The soil should be run through a coarse sieve before putting it in place. The sash should now be put on for several days to give the weed seed time to germinate, and also to keep out water from drenching rains. Hot bed sash can usually be purchased for about \$2 50 apiece. The bed is now ready to sow. Take a stick as long as the width of the bed and press it into the soil, sow the seeds in the depression and cover them lightly. Sprinkle some fine sand over the rows to keep the soil from baking above the seeds.

The surface of the soil should be kept moist, but not too wet. Take one part sulphur and ten parts slaked lime, mix well, then make the soil appear nearly white with it to prevent fungous diseases from injuring the young plants. Give the bed good ventilation during fair weather. It is a good rule to give enough ventilation during the day to keep moisture from settling on the under side of the glass. However, if the weather is very cold, great care must be exercised in ventilating. The most critical time is when the young tender plants are coming through. How to manage a hot bed correctly must be learned from experience.

The young plants must be kept thinned out and given one or more transplantings to keep them from spindling up too much. This sentence does not apply to sweet potato beds, since we want such plants to be about six inches high.

The tubers for sweet potato plants should be selected with the greatest care. No disease of any kind should appear on them, since disease producing spores will get onto the plants and may seriously affect the crop. I have frequently been successful in preventing all diseases, except soft rot, from injuring my sweet potato crops by selecting clean tubers for the hot bed. Spores of soft rot fungous appear in the atmosphere, and frequently do serious damage to the crop when carelessly harvested.

I may treat this subject more exhaustively at the time of harvest. Plant a good crop of this most excellent vegetable. Those who may desire an exhaustive treatise upon nearly all phases of sweet potato growing and storing, are referred to my book upon the subject, as space will not permit a full discussion here.

R. H. PRICE.

Montgomery Co. Va.

## WORK IN THE STRAWBERRY PATCH.

*Editor Southern Planter :*

The great planting season is now at hand at the South, trending northward as the ground thaws. For fully three-fourths of the planting of berry plants in this country is done in late winter and early spring. For many reasons it should be disposed of as early as practicable. Done now it competes little with the pressing work to come later. It can be done better while there is no rush, then in a climate that admits of it the winter is the safest season to transplant all fruit trees and berry plants. They are then in a dormant state and it is as hard not to get a stand as to get one later on when the sun gets hot and parches the ground hard.

For field culture of strawberries set plants in rows three feet apart. The distance apart in the row depends on whether the stool system or the matted row system is to be followed. For nearly all varieties the stool or hill system is the simplest, most profitable and in the long run the cheapest. For hills we set plants fifteen to eighteen inches apart in the row, according as the variety is a rank grower or not. For thin matted rows, the only matted row at all advisable, plant two feet apart.

The quantity of manure allowable will also depend entirely on how it is applied. If broadcasted and thoroughly mingled with the soil an almost unlimited quantity can be used. If to be applied in the drill, judgment must be used not to overdo the thing and bring too much manure in immediate contact with the plant roots.

We have often broadcasted one hundred loads of stable manure an acre, or in lieu of this applied in the same way two tons of cotton-seed meal. Both of these manures being highly nitrogenous and tending to greatly stimulate plant growth at the expense of fruit, it is always best to apply the following fall as a top dressing a liberal quantity of potash and phosphoric acid; the first in the form of sulphate of potash and the latter in the form of acid phosphate or dissolved bone.

Where manuring is to be confined to the drill, 500 to 700 pounds cotton-seed meal to the acre, evenly sown and mixed with the soil by running a cultivator, harrow or plow lightly down the furrow is best. Lacking the cotton-seed meal, any fertilizer rich in ammonia will answer. What is desired is to promote a steady, vigorous plant growth. The fruit producing properties of manure, potash and phosphoric acid, should be applied the following fall, winter or early spring, as a top-dressing.

More depends on the proper setting of a strawberry plant, or any kind of plant or tree than most people

can be led to believe. If the roots of the strawberry plant are very long, it is best, though not essential, to trim them back to about four inches. The holes should be opened broad and deep enough to admit of the roots being spread fan-shaped, and the earth should be pressed firmly around them. The proper depth to set a plant or tree of any kind is the depth that nature set them. Observe and discover this when you dig them up.

In a garden bed strawberry plants can be set in rows fifteen inches apart with the plants fifteen inches apart in the row. But between each series of three rows there must be left an alley or walk two feet wide. All runners must, of course, be kept closely clipped from plants set this way, and, indeed, from all plants grown in the stool or hill system.

Dewberry plants should be set six feet apart. A good plan is to run the rows six feet apart and then cross them at right angles with rows the same distance apart. Right in the check, where the cross comes, the plant can be set, spreading out the roots well. Raspberries, blackberries, and grape-vines can all be set this way. Plants or vines set this way can be plowed both ways, and hoe work almost entirely dispensed with in cultivating the crop.

A good way to apply manure or fertilizer to plants set this way is to drill it in the open furrow on the four sides of the plant and cover with earth. About the same manure can be used on the dewberries, blackberries and grapes as on the strawberries.

*Kittrell, N. C.*

O. W. BLACKNALL.

## SPRAYING FRUIT TREES AND VEGETABLE CROPS.

In this issue will be found a Spray Calendar giving instructions for the treatment of trees and vegetables infested with disease or insect pests, and also for the preparation of the fungicides and insecticides required. In our advertising columns will be found the advertisements of numerous makers of spray pumps.

## SAN JOSE SCALE.

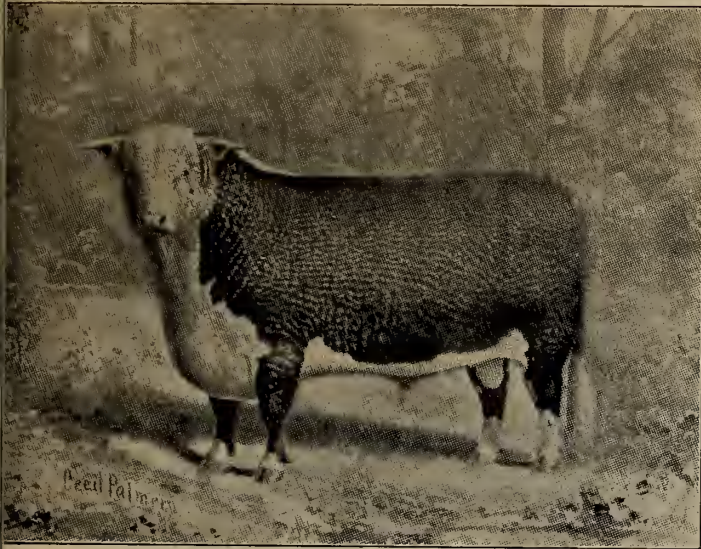
The Virginia Experiment Station (Blacksburg, Va.) has prepared and is now issuing a bulletin on the best treatment for destroying this pernicious and deadly enemy of apple, pear, plum and peach trees. If you have not received a copy, write for one at once, as infested trees should receive the first treatment before the buds begin to push.

## PECAN NUTS.

Mr. Pendleton, who wrote on this subject in our January issue, asks us to say that he has neither trees nor nuts for sale. He has received many enquiries for same.

## Live Stock and Dairy.

HEREFOEDS AT ANNEFIELD, CLARKE CO., VA.



PRINCE RUPERT.

Prince Rupert, No. 79539, sire Beau Donald, 58996, by Bean Brummel, 51817, out of Donna, 33735, dam Sallie Morton, No. 44785, sire Roscoe, 16509, dam Loyala 3d, 17683, first attracted attention when a yearling by winning first premiums over all beef breeds at several Missouri fairs. In 1901 as an aged bull, he won first premium at the big Lexington (Ky.) Fair, and the same year won sweepstakes over all aged bulls at the Royal Show of America at Kansas City. In 1902, he started again at Lexington, winning second in his class and first at the head of his herd, at Lawrenceburg, Ky. He won over all beef breeds first in class and first at the head of his herd. At the Ohio State Fair, he won first in class first at head of herd, also at the head of his herd he won sweepstakes over all beef breeds. At the West Virginia State Fair he won first in class and first at the head of his herd, and at the same place, with the assistance of his family, the Beau and Belle Donalds, won the get of a sire which was the largest cash Hereford premium paid in America in 1902. We congratulate Mr. E. G. Butler on having secured so fine a specimen of the Hereford breed to head his herd.

### Wood Ashes for Grass Land.

Will you tell me in your next issue the best way to apply ashes to grass as a top dressing?  
*Alexandria Co., Va.* C. R. HOFF.

Sow broadcast by hand.—ED.

HEREFORDS AT CASTALIA, ALBEMARLE COUNTY, VA.

*Editor Southern Planter :*

I am glad to say that my present lot of calves and yearlings are the best I ever had, and in the best condition. It is worth a visit to Castalia to see them, and no buyer can afford to overlook this opportunity to buy cattle at home which are as good as can be found anywhere at a distance, and at prices which are extremely low for value received.

I have shipped Hereford bulls from the Castalia herd to over a dozen States, but Virginia leads them all in the number purchased; and I look for a still better demand here, as farmers begin to realize the real value of good cattle to make the farm pay, and especially Hereford cattle, which are the best adapted of all breeds for the South.

My recent visit to Herefordshire, England, confirmed the opinion formed before I decided on Herefords, that the climate and soil conditions of Herefordshire are more like those of Virginia than any other part of England; and thus it is only natural that the Hereford should thrive well on Virginia pastures when transferred from his native heath.

So it is that Imported Salisbury 76059 (19083), the chief stock sire at Castalia, found in the salubrious climate of Albemarle a home so much like that of his birthplace, that he had a rare opportunity to thrive steadily, and his calves all show remarkable development and hardy, thrifty condition.

My visit to Mr. John Price, of Court House, Pembroke, Herefordshire, was worth the journey across the sea. Mr. Price will be remembered as the breeder of Salisbury, and a more genial, hospitable and cultivated host it would be difficult to find. Mr. Price is one of the few great breeders of to day, and the cattle from his herd of the choicest "White Faces" have been sought after by the best breeders of America. To give a history of Mr. Price's fifty years' experience in breeding Herefords, would be to largely give the history of Hereford cattle in England for that period.

Words are inadequate to picture the beauty of Herefordshire with its park-like farms, its winding and picturesque River Wye, its rich pastures and rolling meadow lands, and, above all, the herds of fine Hereford cattle grazing in nearly every field.

We have much to learn from the Old Country—much of intensive and less of extensive farming. The fields there are so clean that one can ride for days without seeing "a stick or a stone;" and the neatness of the hedges and fence rows and barn yards, and the smooth stone roads in every direction, show a high

state of cultivation and activity which makes Virginia—and, indeed, all of this New World—seem new in fact; but give us time. Give us the same time that it has taken to produce that state of systematic development and culture, and this fair Virginia will blossom like a garden, and surely we shall not be far behind. In fact, Mr. Price said that we have as good cattle in the United States as they have in England. We ought to have. Have we not been buying the best Herefords in England for the past half century? Salisbury is one of them; “and there are others.”

There is another point I wish to impress, and that is the regard for trees manifested in England. Nearly every field has a dozen fine old trees dotted around in such a manner as to afford good shade for the cattle at all times of day, and also to form an artistic landscape feature. The trees are not allowed to grow along the fences, which are always clean—the grass growing to the very edge of the hedges or continuing under the fences. The effect of such care over a large area of country is very beautiful, and an example which we may well profit by.

The new barn at Castalia is almost completed, and will be a great improvement in the facility of feeding and handling the cattle. It is 58 by 110 feet and 43 feet to the ridge, well lighted, and built in the modern style of two-inch plank frame—not a heavy piece of timber being in the barn. The passages behind the cattle are 10 feet wide for a manure spreader to go through every morning, thus keeping the barn clean and putting the manure where it will do the most good with the least waste; also forming a wide lane for the calves to exercise in in stormy weather. There are many other features in this barn which are worth studying, and visitors will find a good opportunity to see the cattle comfortable in all kinds of weather.

I am glad to see more and more advertisements of Hereford cattle in the columns of the *Planter*. Keep up the good work. The West, always eager to take hold of a good thing, was not slow to recognize the merits of the Hereford for feeding purposes, and “the peerless grazing breed” have found their way into every section where good cattle are raised. The field of opportunity in Virginia, where pure bred bulls of the right type and breeding are so much needed, is very great, and with such bulls already here, there is no excuse for cattlemen to breed or feed “scrubs.” There is always a demand for good beef.

*Albemarle Co., Va.*

MURRAY BOOCKOCK.

## CONFINING COWS CONTINUOUSLY DURING WINTER.

*Editor Southern Planter :*

I am well aware that some exceedingly able, well-educated dairymen have for several years practiced keeping their cows closely and continuously confined in their stables four or five months during the winter season. They assert that the animals have done well; that no injurious consequences have been observable, and recommend the practice to others. They claim that it is much less trouble, and that the cows give more milk under this arrangement.

This would seem to settle the matter and leave no ground for argument, but nature's laws cannot be infringed without sooner or later incurring the penalty. Some diseases are very insidious in their approach—stealthily, silently and secretly creeping upon the animal's system, making no sign until their deadly fangs are fastened firmly upon the victim's vitals. When tuberculosis or consumption shows itself, it is generally too firmly seated to be removed by medical skill, and the only cure is slaughter and the fertilizer manufactory.

Tuberculosis and pleuro pneumonia are contagious diseases, but there can be no doubt whatever that they break out spontaneously, without previous contact with infected animals, under conditions favorable for their germination. If this were not so, where did the first case come from? Did the Lord create one infected animal to inoculate others and keep the scourge in the world? Pleuro-pneumonia broke out in the herd of N. C. Elsbree, of Bradford county, Pa., and the cattle had not been in contact with any other cattle for years.

Animals which were created for an active life, as well as human beings, must have regular exercise, or their health will fail, if not break down altogether. This fact in regard to the human family is established beyond all controversy. Nobody, that I am aware of, ever disputed it. All the doctors, from the earliest ages down to the present time, have agreed that regular exercise of the body was necessary to the preservation of good health. Prof. F. D. Chaumont says: “A man of sedentary occupation ought to take exercise of a physical kind, varied from 50 to 100 foot tons per diem.” Prof. Charles S. Royse says: “We may give the digestive apparatus the best material for the formation of blood; we may furnish the lungs with the purest air for vitalizing the blood; we may secure the proper amount of sleep under the most favorable circumstances; we may so clothe the body as to afford it the best possible protection; but if we fail to take the proper amount of exercise, there cannot be a harmonious development of the physical man.”

Heart is a hope-place, and home is a heart-place, and she sadly mistaketh who would exchange the happiness of home for anything less than Heaven.

The *Library of Universal Knowledge* says: "Exercise is an important element of hygiene. To preserve all the functions of the body in healthy action, it is necessary to secure their due and regular action or exercise." Dr. Dunn says: "Everything that tends to lower the health and vigor of the system, increases the susceptibility to disease." Inaction will certainly lower the health and vigor of the system. There can be no question that human beings must take regular exercise to preserve good health; and reasoning from analogy, cows must also. The analogy is perfect so far as regards the means of locomotion. Cows have good legs, and can run as fast and travel as far in a day as the average man. In their wild state they take a great deal of exercise, and are travelling half the time. No valid reason can be given why cows should not have exercise as well as mankind. Even clams and oysters, not provided with legs, manage to crawl about and exercise their bodies in the mud. They tell us that cows get exercise enough in lying down and getting up, and stepping back and forth in their stalls. They might, with equal propriety, say that a man could get sufficient exercise in turning over in bed.

The convicts in the Eastern penitentiary of Pennsylvania are taken out into the yard every day (about twenty at a time), and made to run around in a circle like circus horses. The convicts love it as well as children love to play, and they know the exercise is for the benefit of their health.

To retain our present strength and increase it, we must regularly use what we have. Man, horse or ox will lose much strength if they do not work or take exercise for four or five months. Oarsmen and pugilists go into training for weeks before their contests come off in order to develop the strength of their bodies and the staying power of their lungs. Of equal importance to exercise for the preservation of health, is pure fresh air. Dr. Gunn says: "Pure air may be considered the prime necessity of life." In New England, statistics show that agriculturists who pass most of their days out of doors, live to an average of sixty four years, while the average attained by persons who have indoor employment does not exceed forty one. Pure air is perhaps of equal importance to wholesome food. Does it appear reasonable that the air in a stable where from ten to forty cows are confined constantly day and night, can possibly be kept as pure as the air of out of doors? No building on earth can be ventilated so well as the free winds of heaven ventilate the barn yard and the fields. Every person knows that on entering the stable in the morning, after the wind has changed to the south and it is raining, that he encounters a vitiated atmosphere.

Human ingenuity has never yet been able to devise a means of ventilation whereby the air in congress

ional halls, parliament houses, churches and theatres can be kept as pure and wholesome as that on the outside. To talk about stables being perfectly ventilated with the dung and the urine, the breath of numerous animals, and the effluvium of their bodies present, is perfectly preposterous.

Fifty years ago, when farmer's cows were wintered in the barn yard, we heard nothing about tuberculous and pleuro pneumonia, and even now it is mostly found in rich men's stables, where they keep their high priced cows, and have stopped every crack and crevice where fresh air could enter, except the tubes they call ventilators.

Sunlight, for the promotion of full health, is almost as necessary as pure air. In many hospitals, rooms are provided where patients can take a sun bath. That is the best that can be done until the patient is able to walk out of doors. It is not the sunshine that is reflected, refracted and intercepted by a few windows in the stable that invigorates the cows, but the bright, piercing rays that dart down unobstructed from the luminous surface of the King of Day, full of healthful magnetism.

J. W. INGHAM.

*Bradford Co., Pa.*

## BACON, AND A "BACON BREED"

*Editor Southern Planter:*

A gentleman who is a recognized national authority, in a published statistical estimate of the meat supply of the world, has the following among his conclusions:

"The world's population is getting far and away ahead of the available meat supply. The human race has eaten the live stock of the world to a standstill. In the progress of man and of animal life, the multiplication of the former has so outstripped the latter that the decennial ratio of the two has increased to an alarming extent in the last fifty years. We have entered upon a period of permanently high meat prices in this country."

This condition of affairs should put our Southern farmers to thinking. There is opportunity presented here that, if improved, will bring many thousands of dollars into the pockets of our people. It is true that in many sections of the South our farmers cannot compete with the natural grass producing regions in the production of beef. But there is no section of the world that is better adapted to the production of the highest class of pork or the finest quality of bacon. This is proven by the fact that Virginia hams have, for a hundred years, commanded the highest market prices.

To produce the highest quality of meat, the hog needs a variety of food. An exclusive corn diet tends to produce lard meat, which cannot be converted

into that quality of bacon that is demanded by the class of consumers who are willing to pay the highest prices. An exclusive corn diet also tends to sterility, and this has done much to destroy the vitality and breeding qualities of the best known breeds of this country.

There is no country on earth where such a variety of the best hog feed can be grown as right here in Virginia, and in our Southern States. Field peas, Soja beans, oats, corn, rape, sorghum, Kaffir corn and peanuts, all grow to perfection here, and afford a bill of fare that is unsurpassed for the production of the highest type of the bacon hog. Besides the best facilities for growing the greatest variety of forage and feeds, we have a very decided advantage over the North and West in our milder climate, which is another important factor in the economical production of pork, as no domestic animal suffers more from cold than the hog.

There is also as much in the breed as in the feed. A bacon hog must possess the characteristic, or quality, of producing bacon, instead of lard, as much so as the dairy cow must have the tendency to produce milk or butter fat, instead of beef, or *vice versa*. If we wish to produce the highest quality of family bacon, that will command the highest market prices, we must grow a type of hog that will produce it.

In our travels, in recent years, through portions of the Dominion of Canada, in search of St. Lambert Jerseys, our attention has been called to the improved large Yorkshires, as possessing more of the qualities of the ideal "bacon breed" than any other with which we are acquainted, and, though we have been great admirers of the Poland China and Berkshires for a quarter of a century, we have abandoned them in favor of the large Yorkshires.

This breed is not so well known in the South as other breeds, and, for the benefit of your readers, we append a few extracts, giving the opinion of well-known authorities on their merits as a profitable bacon breed.

Prof. John A. Craig, Professor of Animal Husbandry at the Iowa Experiment Station, made a test of various breeds lately. Writing in reference to this, he remarks:

"We took all of our experiment hogs into Chicago, and I followed them right through the slaughter tests there. In our results, I find that the Yorkshire has given the greatest gains on the least feed."

Hon. Richard Gibson, an influential breeder of Canada, in the *Breeders' Gazette*, writing about "The Improved Yorkshires," says:

"To them we Canadians owe our present standing in the English markets, where we have ousted the Danish and Irish bacon from the second place, and sent them down to third and fourth rank. Some peo-

ple will tell you, 'Oh, it is Canada peas;' others say, 'Oh, it is dairy slop.'" Again it is claimed, "They feed no corn in Canada," but none are right. We feed corn in Canada, and lots of it. I have the reputation of sending the best hogs to our buyer. He never asks to see them, because he knows exactly what he will get, but, nevertheless, I feed lots of corn, because I can grow it. Here is the rub. One may shove all the peas he chooses into a Poland China or Cheshire, and he will have fat meat. Just the same, I can feed corn to Yorkshires and get lots of lean. It is all in the breed. Can one by feeding a Holstein increase butter fat up to that yielded by a Jersey? It is the breed. Neither by high feeding can a Jersey be made to produce the yield of milk of the Holstein, or put on flesh like a Shorthorn, but she can make richer butter than either. Again, it is the breed. It is the same with swine. When you want good bacon, you must get a bacon breed. Your folks want bacon now, and as the trade develops all intelligent farmers will want bacon breeds and the Improved Yorkshire, which has done so much for us, will be popular with you."

Roanoke Co., Va.

A. M. BOWMAN.

### BILTMORE BERKSHIRE SALE.

*Editor Southern Planter:*

I enclose with this priced catalogue of our Third Annual Brood Sow Sale of Berkshires just held which I feel will be to your interest to devote a little more than the usual space to on account of the unparalleled average secured (\$221 90) at the sale on account of the high quality of the offering and the large number of prominent breeders attending, as you will see, from nearly every State.

Although the Farms held mail bids, probably averaging nearly \$100.00, only five of these secured animals, and of these three were unlimited. The other 56 head were sold to breeders right in the ring, and who made these bids as the result of the quality of the animals before their eyes.

Col. Bailey, the auctioneer, knocked down the whole 61 head at an average of 2½ minutes to the animal.

Probably the sensation of the sale was the boar, Manor Faithful, who, notwithstanding the fact that he was sold first of all at a time when the bidding seldom commences at an auction, went for \$615 to the Filston Farms, the contending bidder being Mr. J. M. Overton, of Nashville, Tenn. There was not another boar found in England combining so much quality and size without any serious defect, with probably one exception, and he could not be guaranteed a breeder. The sow, Manor Corydon Duchess, was most unfortunately lame, owing to a felon, but in spite of this she sold for \$505, Filston Farms again being the fortunate buyer, and many present thought she would have reached \$1,000 had it not been for this temporary lameness.

One of the most gratifying features of this sale was

that these high prices were made by contending breeders of such high reputation and so widely scattered that it is impossible to impute any intention of forcing prices up so as to boom the breed. They simply represent the demand now before the breeders for an extra good individual that will, in addition, form a desirable outcross for the home bred animals

There were over 65 buyers present, but of this number only 19 secured animals.

The gavel with which Col. Bailey knocked down the sale was presented to him by the Farms, and he has promised to use it until this record is broken, which the Farms think will be a long time ahead.

Very low special rates were secured at the Kenilworth Inn, probably one of the most sumptuous winter resort hotels in the South, and where transactions between the breeders were very active after dinner during the days preceding and after the sale. The whole herd of Berkshires was inspected with much interest both before and after the sale, and some of the offers were so tempting that several sales were made at what would have been considered a long price a few months ago.

The sow, Her Majesty, did not bring what was expected by the Management, especially considering the very fine litter that she has raised since her importation.

At the completion of the sale a sealed envelope containing an offer of the Biltmore Farms of six animals of \$50 each in cash, if the buyer would leave them and call their bid off, was opened by the auctioneer, but in each instance was promptly refused. Three of these animals, one of which Manor Faithful, went to Filston Farms and the other three were purchased by Mr. Guy C. Barton, of Nebraska, whose representative also refused the offer.

Such prominent breeders were present, as Mr. N. H. Gentry, Sedalia, Mo.; F. E. McEldowney, Portland, Ore., and H. C. Taylor, Orfordville, Wis., representing the Ladd Estate; J. E. Dodge, from Hood Farm, Lowell, Mass.; W. J. Lovejoy, Roscoe, Ill.; W. R. Harvey, Sibley, Ill.; J. G. Yeager, Shelbyville, Ky.; W. F. Lillard, Lawrenceburg, Ky.; J. M. Overton, Nashville, Tenn.; G. A. Swartwout, Filston Farms, Glencoe, Md.; J. K. Honeywell, Lincoln, Neb.; Lorring Brown, of Belmont Farms, Smyrna, Ga.; James Gibson, Jr., New York City; W. H. Carpenter, New Middleton, Tenn.; J. W. Akin, Cartersville, Ga.; W. B. Griffin, Paris, K.; W. J. Milner, Cartersville, Ga.; William Edwards, Jr., Plymouth, Fla.; T. H. Baltzell, of Indiana; H. W. Fugate, of Fugate's Hill, Va.; M. K. Munson, of Ridge Farm, Vinemont, Ala.; Brent Van Swearingen, Simeon, Va.; J. L. Ellis, Baldock, S. C.; M. O. Dowd, Lowell, N. C.; W. B. Beaty and brother, Mt. Holly, N. C.; A. P. Walker, Rushville,

Ind.; Jas. T. Anderson, Marietta, Ga.; Geo. T. Montgomery, Marietta, Ga.; H. Roquemore, Mansfield, Ga.; G. M. Middleton, Shelbyville, Ky.; L. Letterle, Harrod's Creek, Ky.; T. B. Carney, Murfreesboro, Tenn.; A. H. Tipton, Greenville, Tenn.; Dorr Clark, Fredericksburg, Va.; W. I. Johns, Baldock, S. C.; H. T. Pancoast, of the Forest Home Farm, Purcellville, Va.; W. H. Hicklin, Greenville, S. C.; T. J. White, of South Carolina; B. Harris, Pendleton, S. C.; F. T. Meacham, Morganton, N. C.; S. L. Trogdon, Greensboro, N. C., and others.

*Biltmore, N. C.*

GEO. F. WESTON.

It is very gratifying to us to see that at last Southern hog breeders are realizing the truth of what we have been so long telling them, that the secret of success in hog breeding, as in all live-stock breeding, is good foundation stock, and that it will always pay to buy the best, even though the price be a long one. We congratulate Biltmore Farms on the record made.—ED.

### THE BROOD SOW.

*Editor Southern Planter:*

As my article on the hog in the November *Planter* is causing a little comment, I will explain my plan of handling the sow and litter.

I will say, in the first place, I have no special breed, but a good cross of Berkshire and Poland China.

I raise three litters one year and two the next from my sows. I arrange the pen so that the little pigs can creep through the fence, and I teach them to eat while on the mother. I begin taking them off two and three per week until I have all off by the time they are four weeks old, taking off the largest first.

I withhold all slop food a day or two before I begin taking off the last pigs, so that when all are off the sow's milk will have ceased, and she will always come in use within a week if in good condition, but never have her fat. If fat, stop all milk foods a week before weaning, feeding the pigs plentifully away from the sow. This method gives the pigs a good start, without check, when separated from the mother.

With good feed, I sell them from five to seven months old with big interest on my money invested.

*Goochland Co., Va.*

N. S. WATKINS.

### Hog Pasture,

I want to go into the hog-raising business. Will alfalfa, German clover or sapling clover make a good hog pasture?

*Dinwiddie Co., Va.*

SUBSCRIBER.

Either German (Crimson) clover or sapling clover will make a good hog pasture. Alfalfa ought not to be pastured. It will not stand grazing. Cow peas or cow peas and sorghum or Soy beans will make you the best hog pasture for summer. Rape for the fall, artichokes for winter, and clover for the spring.—ED.

# The Poultry Yard.

## EGG-LAYING COMPETITION OF BREEDS.

These competitions are very popular in England, but have been little followed in this country. The last winter one was conducted in New South Wales, and the results are published in detail in the *Agricultural Gazette*. The competition arose out of a controversy between two breeders regarding the merit of Silver Wyandots and Buff Orpingtons. The minister of agriculture became interested, and it was finally decided to open the contest to all breeders who should contribute six pullets each of any one breed. The government put up yards 57 x 17 feet and pens 6 x 5½ feet for each flock of six birds. The fowls were in charge of the poultry expert at the Hawkesbury Agricultural College.

Prizes were given for the greatest total number of eggs laid by each pen and for the greatest aggregate weight of eggs. A record was kept of the market value of the eggs, total quantities of food consumed, and the average cost per hen. The first prize of \$50 for total number of eggs, and of \$15 for greatest aggregate weight, was awarded to a pen of Black Orpingtons.

There were 41 pens entered, which makes it the largest competition of its kind ever conducted. All but one pen paid for its food. The average value of the eggs was \$1.54 per hen, and cost of food 66 cents, leaving a profit of 88 cents each. The first pen of Black Orpingtons gave a profit of \$2.18. The following table shows the average results of the various breeds, also the record in detail of those pens which laid a total of 400 eggs or more during the six winter months, April to September being winter in New South Wales :

### AVERAGE RESULTS OF THE VARIOUS BREEDS.

No. and Breed.	Total Eggs.	Av. per Pen.
6 Imperials.....	426	\$71 00
24 Silver Wyandots.....	1 681	70 04
48 Black Orpingtons.....	3 127	65 14
30 Buff Orpingtons.....	1,949	64 96
18 Buff Wyandots.....	1,145	63 61
30 White Leghorns..	1,746	58 50
12 Anconas.....	672	56 00
6 Golden Wyandots.....	317	52 83
6 "Birrilees".....	317	52 83
18 White Wyandots.....	848	47 11
6 White Orpingtons.....	273	45 50
12 Buff Leghorns.....	493	41 08
12 Andalusians.....	464	38 66
18 Minorcas.....	589	32 72
246 Hens.....	14,047	57 10

Now is the time to plan for the coming season ; eggs and poultry of all kinds have been in good demand ; this is sure to continue, and all should profit by these conditions.

No one kind of poultry has been so scarce and high in price as turkeys. The stock in storage has been so reduced as to insure good prices another season.

Prepare for this in time, and guard against the greatest of all danger in growing turkeys—inbreeding.

Make full preparation for growing early pullets. Begin now to plan for this. Get the incubators and brooders in shape for spring work. Try them ahead of time and see if they work right. You may save a lot of eggs by so doing. Be sure they are in good working order before putting in the eggs.

When brooders are properly made and run, they will do good work; but each is as important as the other. After the maker has done his part, you must do yours. It is quite as important for the brooder to be run right as it is absolutely necessary that the incubator be properly managed ; look out for this.

Strong, vigorous stock is the proper kind to use for breeding ; this holds good in fowls as in all kinds of stock. The same rule holds good throughout nature. If we hope for the best results, we must make use of the best means to gain the desired end, whether after better crops—fruit, vegetables or live stock—the principle of production is the same. Good quality is not to be gained through the use of inferiority.

## COST OF PRODUCING A BROILER.

One of the most successful broiler raisers in this country markets his chicks at 1½ to 2 pounds weight, at an average cost to raise of 25 cents each. He is able to market a broiler chick for every two eggs put in his incubators (including infertiles), and his carefully kept estimate of cost, extending over several years, is as follows :

Two eggs.....	5 cents.
Labor.....	7 "
Feed.....	8 "
Picking.....	5 "
<b>Total.....</b>	<b>25</b>

At the price he paid the farmers for eggs his average cost is not quite two cents an egg, as the price paid for picking is one to two cents above the market price for picking broilers, his estimate of the total cost is a liberal one. He said : "I would rather pay that price and have the chicks carefully picked, each man picking 50 or 60 a day, than have a picker earn the same amount of money by hurriedly picking 100 a day. It is quite easy for a picker to 'skimp' his work, and the broilers would be a cheaper looking lot in consequence, shrinking the price perhaps four or five cents a pound." In other words, quality pays in broilers as well as in other things, and the fact that this man's broilers frequently bring him five cents a pound above the highest market quotations, approves the policy of paying the picker a good enough price to insure having the chicks carefully picked.

Broilers bring the highest prices in April. At this season of the year they bring 40 to 50 cents a pound, which price gradually scales down to 20 cents or a little less in August. Later in the year the price again advances, the advance being most rapid in February and March.



## The Horse.

### NOTES.

Prominent among the stallions in the stud of the Hon. William C. Whitney at La Belle Farm, Lexington, Ky., is Ballyhoo Bey, winner of the Futurity in 1890. Ballyhoo Bey is a brown horse, foaled 1898 by Kingston, dam Ballyhoo, Duke of Magenta; second dam Baby, by imported Strachino; third dam Ecliptic, by imported Eclipse; fourth dam the ever famous mare Nina, by Boston. Baby and Ecliptic, the second and third dams of Ballyhoo Bey, were bred in the former noted Bullfield Stud, Hanover county, Va., while Nina passed most of her life there. A great fountain head of speed and race horse quality was this great daughter of Boston. Another of Nina's descendants now prominently before the public is The Commoner, who heads the famous Belle Meade Stud, Nashville, Tenn. He was sired by Hanover, dam Margerine, by Algerine. Algerine was got by Abd El Kader, formerly a member of the Bluefield Stud, out of Nina. He was foaled 1873, and his full sister, Algeria, came in 1875, while the dam was barren in 1874 and 1876, and September 19, 1879, the great daughter of Boston succumbed to the weight of years at the age of 31, and was interred on the hill side overlooking the training track.

Mr. W. R. McComb, of the Union Stock Yards, this city, has sold to Trainer George R. Richmond, who has charge of the Deep Run Hunt Club stables and track, the bay filly, one year old, by Orphanwood, dam Vida B. Wilkes, by Brignoli Wilkes, second dam Vida B., by Almont M., and third dam Mary Bell, the dam of Urbana Belle, 2:20½, and Rex, 2:22½. Both the sire and dam of this filly—who, by the way, is quite promising—are the property of Mr. McComb, who also owns Joyful Maiden, 2:19½; Medinawood, both by King Nutwood, and others as well bred and speedy, too. Orphanwood, who is large, handsome of King Nutwood and Young Mollie, by Baron Luff, 2:27, will be kept in the stud this season at the McComb Farm, Fishersville, Va., and the bay stallion will doubtless be well patronized by breeders in that section.

In Burlingame, 2:18½, trotting, the splendid son of Gny Wilkes, and Ed. Kearney, thoroughbred son of Tom Ochiltree, Mr. Robert Tait, of Spring Garden Farm, near Cool Well P. O., in Amherst county, Va., offers the services of a grand pair of stallions, and breeders in that section can make no mistake in patronizing such horses, especially those who own good mares. Burlingame is of fine size, bred in the richest lines, and his get take after him, which shows his potency as a sire. Ed. Kearney is one of the finest looking thoroughbred stallions to be seen, while he is grandly bred, and will sire not only race horses from thoroughbred mares, but grand hunters, jumpers and cross country horses from general purpose mares. The fees of both Burlingame and Ed. Kearney are moderate, and intending breeders should write for extended pedigrees and other desirable information concerning them.

The International Stock Food Company of Minneapolis, Minn., whose advertisement appears in the *Southern Planter*, offers an article of prime merit and one that has borne the test in their stock food, which is sold at a price that enables three feeds to be had for one cent. It has the largest sale of any similar preparation in the world. Mr. M. W. Savage, the head of the concern, is also proprietor of the International Stock Food Farm, home of the famous pacer, Dan Patch, 1:59½; the great trotter and sire, Directum, 2:05½, and Roy Wilkes, 2:06½, also famous as a sire. Last season Dan Patch was timed in 1:59½ at Readville, Mass., and during the coming one is more than likely to pace a faster mile than has ever been seen done by any harness horse. Not only are the stallions at this establishment great, but the brood mare band is one of the choicest in the country as well.

The stockholders of the Peninsular Fair Association, Tasley, Va., met recently and elected the following officers: Judge John W. G. Blackstone, president; N. W. Nock, vice president; Thomas S. Hopkins, secretary and treasurer. The executive committee is made up of W. H. Parker, G. W. Kilman, T. H. Melson, J. H. Ayers, W. T. Wright, H. O. Finney, John W. G. Blackstone, John R. Hickman, and G. F. Parker. The Sixth Annual Fair of the Association will begin August 4th and continue four days. The Tasley Fair marks the beginning of the Maryland and Virginia circuit of fairs and race meetings, which will be followed by that at Pocomoke City, Md., thirty-five miles distant on the N. Y. P. and N. R. R. Four stakes of \$500, two each for trotters and pacers, will be included in the speed programme of each association.

Wealth, 2:17½, the fine, big son of Gambetta Wilkes and Magnolia, by Norfolk, who heads the Chapman Stud at Gordonsville, Va., is just six years old, and has probably never served more than half a dozen all told in his life; yet from one of these, served when he was three years old, there is a two-year old owned by M. E. Doyle, of Lynchburg, Va., who is described as a great prospect for speed and is entered in something like \$50,000 worth of stakes. The dam of Mr. Doyle's precocious youngster was sired a son of Belmont. Wealth will make a short season in the stud and then be placed in training, when good judges predict a record of better than 2:10 for the handsome brown son of Gambetta Wilkes before snow flies this fall. Col. W. H. Chapman, the owner of Wealth, is in a position to accord him good advantages, hence the horse will be sent to Joe Rea, of Danville, Ky., in whose masterly hands Wealth will be trained and raced this season.

Recent winners at New Orleans include Cogswell, black horse, 7, by Jim Gray, dam Leola, by Eolus, second dam Vigiline, by Vigil. Cogswell was bred in the Ellerslie Stud of A. D. Payne, Charlottesville, Va.

BROAD ROCK.

Mention the *Southern Planter* to your friends.

## Miscellaneous.

### BROWNLAW'S GOOD ROADS BILL.

#### A Practical and Conservative Measure.

A representative of the press called upon Hon. W. P. Brownlow, member of Congress from Tennessee, and asked him whether his bill, recently introduced in Congress, and providing for national aid to road improvement, could not properly be condemned as a paternalistic and impracticable scheme, pleasing to visionaries, but regarded by conservative men as designed to loot the treasury and to complicate the functions of the national government.

"The answer to that question," said Col. Brownlow, "may be found in the bill itself, and in the editorials and articles appearing in the leading newspapers, agricultural and scientific journals of the country."

"I am afraid," he continued pleasantly, "that like some others, you are talking about my bill before you have read it, for it is not proposed to build roads at government expense alone. The general policy, as stated in the bill, shall be to bring about, so far as may be, a uniform system of taxation for road purposes, and a uniform method of construction, repair and maintenance throughout the United States, and to co operate with any State, or civil division thereof, in the actual construction of permanent highways."

If you see anything paternalistic and impracticable in that, you differ from the best editors of the most conservative journals in the country. It has been said that a just cause will raise up friends to fight its own battles. This is certainly the case with my bill, for even the editor of the *Washington Post*, who claims to be against it, says:

"The *Post* is surprised at the amount of favor, or rather lack of disfavor, with which it has been received by the press. Even the Democratic papers, some of them prominent, and in all respects reputable, have discussed it without a word of condemnation."

In dealing with the question of paternalism; the editor of the *Manufacturers' Record*, which journal represents important industrial, railroad and financial interests, says:

"Many objections will be made to this bill of Mr. Brownlow's. Some of these objections will come from honest men—men who were taught a different theory of government from that which exists to day. The greatest objections, however, will come from two classes—first, those who affect to regard it as paternalism in the government, and those who belong to a class of politicians who, to be consistent, must be unprogressive; who sit in darkness on the dry branches of a dead era and brood over the past, and hoot at those who prefer to live among the green branches of prosperity and influence. Such politicians as these consider prejudices as an evidence of wisdom and patriotism. They vent their indignation against all who do not sing the lugubrious song of their infinite pessimism."

The objection raised because of the so called paternalism in this bill is puerile, inconsistent and irrational. It is pure demagoguery. The regulation of public affairs by the government is not paternalism. The building of postoffices, the carrying of the mails,

the collection of the revenues, the regulation of commerce and the building of highways, are all objects in which every class is interested. These things do not enter into the private life of a citizen. Should the General Government prescribe "what we shall eat, or what we shall drink, or wherewithal we shall be clothed," it would be paternalistic in character. It would indeed be an enervating paternalism, destroying individuality and repressing energy. The government, in aiding to build roads, would stimulate industrial activity, while it would, at the same time, arouse the highest ambition in the citizen, command his loyalty and insure an ardent patriotism.

To illustrate that my bill is regarded as practicable by conservative men, I quote the following from *Colman's Rural World*, which represents the farmer of the great Middle West, and which is edited by Hon. Norman J. Colman, the first Secretary of the U. S. Department of Agriculture:

"The feeling is growing that some sort of systemized effort is necessary involving a broader scope than has heretofore been generally accorded. That the effective solution of the good roads problem is too great a task for merely local effort, is shown by the futile results. The business for constructing highways is a job the average farmer should not be expected to tackle. He has his hands full managing one business already that requires all of his thought and most of his time. It has been suggested that co operation of National, State and local interests is logical, practicable and essential. The logic of State co operation is shown by the fact that the benefits accruing from the establishment of public highways extend far beyond their locality. Whatever the unit of organization, whether State, county, township or road district, there is no doubt that concerted action is necessary, and that all who share in the benefits should divide the costs.

"The invoking of National aid in building roads is so expansive a topic that it would fill all the pages of the *Rural World* and then run over. We have but to say at this time that the most rational thing we have seen in this connection is the bill introduced in the present Congress by Hon. Walter P. Brownlow, of Tennessee. The fundamental principles of the bill are sound and equitable. It provides for the establishment of a bureau of public roads in the Department of Agriculture. This we have long advocated as being the first step in the preliminary educational work which must precede actual business of organization and construction.

"The Brownlow bill provides that the director of this bureau may co operate with any State or county, and that one half of the expense of road construction shall be paid by the United States Government only when the work actually progresses through local effort and only when the road districts have raised the other half required.

The constitutional provision is ample justification, and the rural free delivery system demands National aid. The tremendous growth of rural routes, and the unanimity of opinion on their value in bringing about the revolution in country life, encourage the belief that the government will give this matter the serious consideration that it deserves."

THE  
**Southern Planter**

PUBLISHED BY  
**THE SOUTHERN PLANTER PUBLISHING CO'Y,**  
RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,  
Editor and General Manager.

B. MORGAN SHEPHERD,  
BUSINESS MANAGER.

TERMS FOR ADVERTISING.  
Rate card furnished on application.

TERMS OF SUBSCRIPTION.

The Southern Planter is mailed to subscribers in the United States and Canada at 50¢ per annum; all foreign countries and the City of Richmond, 75c.

Remittances should be made direct to this office, either by Registered Letter or Money Order, which will be at our risk. When made otherwise we cannot be responsible.

We invite Farmers to write us on any agricultural topic. We are always pleased to receive practical articles. Criticism of Articles, Suggestions How to Improve THE PLANTER, Descriptions of New Grains, Roots, or Vegetables not generally known, Particulars of Experiments Tried, or Improved Methods of Cultivation are each and all welcome. Contributions sent us must not be furnished other papers until after they have appeared in our columns. Rejected matter will be returned on receipt of postage.

Address— THE SOUTHERN PLANTER,  
RICHMOND, VA.

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PUBLISHER'S NOTES.

Patronize Our Advertisers.

In this issue of the *Planter* will be found advertisements from all the old reliable houses with which farmers in the South have been doing business in the past, and also offers of goods from scores of others who have never previously patronized our columns. We are most anxious to make this advertising pay our patrons, and therefore appeal to every reader of the *Planter* to read the advertisements as well as the body of the journal. To do this will be a liberal education in itself, and it will bring home to every farmer what an enormous business is done with farmers. When you require anything on the farm just turn to the advertising columns of the *Planter* and it is ten to one that you will there find it offered. Patronize these men. They are reliable men or their advertisements would not be found in the *Planter*. We will see that no one who deals with our advertisers is fleeced or faked. When you write to any advertiser always say you saw the advertisement in the *Planter*. This helps us to make the journal more helpful to each farmer, as it ensures us the patronage of the advertisers. We could not afford to issue *The Planter* for 50 cents per year without a liberal support from advertisers.

WITH OUR ADVERTISERS.

Dr. Cecil French wants all kinds of live wild birds and animals. He has an ad. elsewhere in this issue.

Messrs. Heatwole & Suter are offering some nice Scotch-topped Shorthorn cattle. Look up their ad.

Dr. R. K. Gregory, a well-known physician, has something very complimentary to say in another column regarding the Keeley Institute at Greensboro, N. C.

The Rife Engine Co. of New York resumes its advertising with this number. The Rife Hydraulic Ram is well known to numbers of our readers, and to those who have not investigated its merits, we beg to suggest that they get a catalogue at once.

The Call-Watt Co. is advertising Agricultural Implements and Machinery in this number.

WOOD'S "TRADE MARK"  
**Farm Seeds**

are the best that can be obtained—free from weed seeds and impurities and of strong germinating qualities. It is very important if you desire to secure good stands and good crops to purchase the highest grade seeds obtainable. This you can always do by purchasing "Wood's Trade Mark Brand" of Farm Seeds.

**Wood's New Seed Book for 1903**  
mailed on request tells all about

- Vegetable and Flower Seeds,
- Grass and Clover Seeds,
- Seed Potatoes, Seed Oats,
- Tobacco, Seed Corn,
- Cow Peas, Soja, Velvet and
- Navy Beans, Sorghums,
- Broom Corn, Kaffir Corn,
- Peanuts, Millet Seed, etc.

Write for Seed Book and prices of any Farm Seeds required,

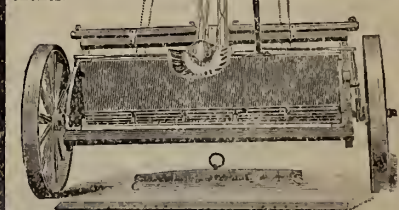
**T. W. WOOD & SONS,**  
Seedsman, Richmond, Va.

**Sows or Drills**

Stevens  
**Fertilizer**  
**Sower**

Sows broadcast  
or drills 200 to  
4000 lbs per acre.  
Spreads to width  
of 5 feet and 10  
inches.

All Commercial  
Fertilizers  
in all conditions  
handled  
equally well.  
Work is uniform. Machine  
is low and  
easy to load.



**Broad Tired Wheels Make Light Draft**  
and avoid rutting fields. Shafts or tongue for one or two horses. Quick adjustment for drilling or broadcasting. Fast or slow spreading. Soon makes cost in saving fertilizer. Free circ. and testimonials.

**Belcher & Taylor A. T. Co.,**  
Box 25  
Chicopee Falls, Mass.

Don't Monkey with anything but the "PEERLESS,"



If it is clean, unbroken peas you want. The "PEERLESS" is easy to operate, light to handle, strong and durable, elegantly finished. It will clean peas to perfection, also millet, sorghum seed and velvet beans. J. E. Sanders's latest improved, fully guaranteed. We pay freights. Write to-day for prices, address,

**PEERLESS PEA HULLER CO.,** Box V, Dalton, Ga

A new advertiser in this issue is the S. Freeman & Sons Mfg. Co. They have a splendid windmill, in which our subscribers should become interested.

The Aetna Life Insurance Co. publishes its annual statement in another column. If our readers will take the trouble to compare this statement with the one published last March, they will find that this well known old company is getting its share of life insurance.

Currie Bros., of Milwaukee, are advertising clover seed, which it is claimed will make 42 tons to the acre. In this section, if we can make as many tons as are represented by the first figure above, we think we are doing well. This, however, is Egyptian clover, which it is claimed yields 42 tons to three cuttings. It might be well to investigate this new grass.

The Belcher & Taylor Agricultural Tool Co. has two ads. in this number. We invite the attention of our readers to both of them.

Mr. Henry Blosser is advertising Short-horns again with us this season.

Mr. A. M. D. Holloway, Philadelphia, has an ad. of the Hardie Spray Pumps in this number. He is the Eastern representative of this concern, as well as the Lansing Tubular Silo, which will also be found advertised in this issue.

We have a new advertiser of fencing in this issue in the person of the International Fence and Fireproofing Co. Look up the card among the fence ads.

The Meadowvale Farm of Lutherville, Md., is also a new comer in this issue. There are two ads. of this firm—one offering live stock and the other poultry. It is worth while to look up these ads.

Some nice Line-bred Plymouth Rocks are offered by E. F. Somers.

The American Stock Food Co. offers to send a trial package of its food under conditions mentioned in its ad.

The B. B. Fence Co. of Racine, Wis., is after the trade of the farmers of this section.

A public sale of Thoroughbred Stock at Hagerstown, Md., is booked for March 12th. Mr. H. L. Strite, manager of the

CITY OF TOLEDO, } ss.  
LUCAS COUNTY,

FRANK J. CHENEY makes oath that he is the senior partner of the firm of F. J. CHENEY & Co., doing business in the city of Toledo, county and State aforesaid, and that said firm will pay the sum of ONE HUNDRED DOLLARS for each and every case of CATARRH that cannot be cured by the use of HALL'S CATARRH CURE. FRANK J. CHENEY.

Sworn to before me and subscribed in my presence this 6th day of December, A. D. 1886.

SEAL.

A. W. GLEASON,  
Notary Public.

Hall's Catarrh Cure is taken internally, and acts directly on the blood and mucous surfaces of the system. Send for testimonials, free.

F. J. CHENEY & CO., Toledo, O.

Sold by druggists, 75c.

Hall's Family Pills are the best.

FOR MAN OR BEAST—YAGER'S LINIMENT IS JUST RIGHT.

**YAGER'S**  
**CREAM**  
Applying to RHEUMATIC JOINTS  
TRADE MARK  
Applying to SPRAIN  
**CHOROFORM**  
**LINIMENT**  
FOR  
**MAN OR BEAST**  
**POPULAR**  
FOR ITS SOOTHING & EFFECT  
**QUICK HEALING POWERS.**  
IN THE TREATMENT OF DISEASES REQUIRING  
AN EFFICACIOUS EXTERNAL REMEDY.

**BEWARE OF IMITATIONS.**

PREPARED ONLY BY  
**GILBERT BROS. & CO**  
SOLE PROPRIETORS  
**BALTIMORE, M. D.**  
U. S. A.  
REGISTERED U. S. PATENT OFFICE

WHEN YOU GET YAGER'S FOR 25 Cts., WHY TAKE A SUBSTITUTE?

EXACT SIZE OF BOTTLE.

**TAKE NO SUBSTITUTE.**

sale, has a half-page ad. elsewhere in this number. Our information is that some splendid stock in the shape of Shorthorns and Berkshires is going to be offered. We feel satisfied that any of our readers who can attend the sale will find it profitable to do so. For further particulars, look up the ad. and address Mr. Strite

Some nicely-bred Red Polled cattle are offered by W. S. Foster, Blacksburg, Va. Look up his ad. for further particulars.

Yager's Liniment, for man and beast, is advertised as usual in this number. Nearly all the drug and country stores have it in stock.

Notice the change in the ad. of the Forest Home Farm in this issue.

The International Stock Food Co. has a full-page ad. elsewhere in this issue. They are offering a large cash sum for an article, for which any farmer or student of an agricultural college can compete. Look up the ad. and enter the competition.

The well-known house of the A. B. Farquhar Co. has a couple of ads. in this issue, to which we invite the attention of our readers.

The Castalia Herefords are in nice shape this spring, as evidenced by a letter from Mr. Boocock and a half page ad. of them in this number.

The Electric Wheel Co. of Quincy, Ill., has two ads. in this number, to which we ask the attention of our readers.

"How to Grow Melons" is the title of a pamphlet, which B. W. Stone & Co., Thomasville, Ga., will mail free.

Yager's Sarsaparilla with Celery is offered in third of a page space in this issue. The makers furnish splendid testimonials as to its value.

Fleming Bros., Chemists, 22 Union Yards, Chicago, are advertising their well-known remedies with us. Look up the ad. and send for interesting free catalogue treating the various diseases of horses and cattle.

The Bowmont Farms advise us that they are having numerous inquiries for large Yorkshire hogs.

The Pasteur Vacine Co. is advertising its well-known Black Legine in another column.

Look up the ad. of the Ames Plow Co. They are offering a lot of useful and valuable tools for market gardeners.

Herefords and Do. sets are offered by H. Armstrong.

Sprayers are advertised by the F. B. Smith Mfg. Co., Buffalo, N. Y.

Farm Bells, Spraying outfits and Farm Machinery are offered by Eclipse Hardware and Mfg. Co., Shiloh, Va.

Hurraw & Son have a Sprayer about which they would like to tell our readers.

R. W. Haw, Jr., of Centralia, Va., is offering some nice Brown Leghorns. Get his prices.

J. M. Hughes sends us a good recommendation as to fair dealing with his customers. He has two ads. elsewhere in this issue.

The splendid Hackney stallion "Cismont" is making the season at Keswick.

FOUNDED  
1802.

GOLD MEDALS:  
Paris, 1900. Pan-American, 1901.

# Thorburn's Seeds

For over a hundred years have been universally recognized as the standard of excellence. They received the GOLD MEDALS (the highest award) both at the Paris Exposition of 1900 and at the Pan-American, 1901.

## Our Catalogue

—the 102d successive annual edition—contains a more complete assortment and fuller cultural directions than any other seed annual published. It is beautifully illustrated, not with highly colored exaggerations, but with the finest half-tones from life photographs. It contains 128 large size pages, and in addition 16 full page half-tone plates, and is in every respect and without exception the most complete, most reliable, and most beautiful of American Garden Annuals. We will mail it free on receipt of 10 cents in stamps, which amount may be deducted from your first seed order.

## Market Gardeners

are invited to send for our special price-list of high-class vegetable seeds for truckers and large market growers. It contains all sorts of approved merit.

**J. M. THORBURN & CO.,**  
36 Cortlandt Street, NEW YORK.



## The Tomato

never has been produced that can equal in flavor and fine form our

### NEW CENTURY TOMATO.

Bred and trained for years, this tomato is extra large and heavy, hardy, early, free from blight, and will not crack nor scald. Pronounced by growers remarkably solid, full fleshed and free from seed. The right size and color to bring the price on the market, it pleases the eye and brings most money. Ships and keeps unusually well. 800 bus. per acre is the record for this tomato and the seed is all controlled by us. Write to-day for our new illustrated catalogue, showing our New Leader Cabbage, Dark Fortune Cucumber, Ruby King Radish, Rocky Ford Cantaloupe, Alaska Peas, Valentine Beans, Gradus Peas, and all of our big line of garden and field seeds. It is free. Write now.

J. BOLGIANO & SON, Dept. P 7, Baltimore, Md.

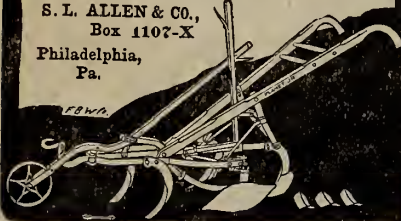


When corresponding with Advertisers, always mention  
The Southern Planter.

**Planet Jr.**  
The No. 8  
"Planet Jr."  
**Horse Hoe and Cultivator**

is without doubt the best, best known and most largely used one horse cultivator in the world. There is not a civilized country on the globe in which it is not known and used. This could not be so if it did not possess true merit and worth. It has a large number of attachments which make it readily adaptable to all uses and nearly all crops. Note the two levers. The one standing upright is for regulating the width. It changes the width of the tool for wide or narrow rows. The other lever operates the wheel and depth regulator simultaneously to a nicety. It is made of the very best material throughout and with reasonable care will last indefinitely. It is a great favorite with potato growers, truck farmers and general farmers. It is but one of our fifty seeding and cultivating implements, including plain and combined Seed Sowers, Wheel Hoes, Hand Cultivators, Walking Cultivators and One and Two-horse Riding cultivators, Special Sugar Beet Tools, etc. Our new 1903 catalogue is fine. It contains over 100 illustrations with full descriptions and prices. It costs you nothing and will make you money. Write for it at once.

S. L. ALLEN & CO.,  
Box 1107-X  
Philadelphia, Pa.



**GET A GOOD WIND MILL**

Don't buy a poor wind mill. Don't pay a double price. Send direct to our factory for catalogue of the

**Freeman Steel Wind Mills**

and four post angle steel towers. A complete line of pumping and power mills of the highest grade at extremely low prices. We can save you money on a good article.

S. Freeman & Sons Mfg. Co.,  
110 Hamilton St., Racine, Wis.

A complete line of Feed and Ensilage Cutters, Corn Shellers, Wood Saws, etc., at low prices.



**Wagon World-Awheel.**

Half a million of these steel wheels have been sent out on our own wagons and to fit other wagons. It is the wheel that determines the life of any wagon, and this is the longest lived wheel made. Do you want a low down Handy Wagon to use about the place? We will fit out your old wagon with Electric Wheels of any size and any shape tire, straight or staggered spokes. No cracked hubs, no loose spokes, no rotten felloes, no resetting. Write for the big new catalogue. It's free.

Electric Wheel Co., Box 146 Quincy, Ills.



Fee, \$10, with the usual return privilege or \$15 to insure. There is a half-page ad. of Mr. Linden Kohl, the owner, elsewhere in this number.

The F. S. Peck Co. have an interesting offer for poultrymen in another column.


**MAGAZINES.**

The frontispiece of the March Century, a half-tone reproduction of the William M. Chase portrait by John S. Sargent, possesses unusual interest. This picture of a noted American artist, the work of a fellow-painter equally distinguished, holds high rank among the best examples of American portraiture, and, it is hoped, will find permanent place in the Metropolitan Museum of Art in New York City, a testimonial to Mr. Chase, "on account of his unceasing devotion to American students and American art." Other illustrations of more than ordinary interest in the March Century are Ernest Blumenschein's eighteen drawings of typical characters and scenes vivifying Ray Stannard Baker's "The Great Northwest," G. W. Peters' strong sketches for Jacob A. Riis' "In the Gateway of Nations," W. L. Jacobs' sympathetic picturing of "The Passing of Elkanah Ritter" and Fanny Y. Cory's dainty conceptions for Madison Cawein's "There are Fairies."

Ray Stannard Baker's series of articles on "The Great Southwest," published last year in the Century, won favor that means a welcome for the new series on "The Great Northwest," whose beginning is the leading article in the March Century. To many readers the story of the Northwest's march of events, which in the last eight years have moved "with a rapidity which must always remain a world's wonder," will have the charm, aside from its picturesque telling, of land and life as novel and unfamiliar as if from another world. The illustrations, from drawings by Ernest Blumenschein, add much to the interest and value of the narrative. Jacob A. Riis' "In the Gateway of Nations," contains authoritative information touching phases of life little known to most Americans, and leaves the reader with a kindly feeling for these humble pilgrims from the Old World to the New. Allied in interest is the article immediately following, Gustave Michaud's "What Shall We Be?" a discussion of the coming race in America, illustrated from photographs furnished by the author. Our native stock, Mr. Michaud says, is becoming a small minority, and the nature, extent and probable influence of the human current flowing from the Old World to the New are matters of vital importance. Mr. Michaud's figures and inferences are followed by comments thereon by Franklin H. Giddings, Professor of Sociology at Columbia University. George Buchanan Fife's "The So-Called Tobacco Trust," another of the Century's notable series on the great business combinations of the day, is very readable.

St. Nicholas this month not only tempts its young friends to read, but sets them to thinking about their books and gives them some helpful hints on how to read for the best results. The editor of the

**THE IMPROVED SCREW STUMP PULLER**  
Write for Prices.



Chamberlin Mfg. Co., Olean, N. Y., U. S. A.

**STUMP PULLERS**



All Sizes and Prices. Catalogue Free.

**MOHLAND & COMPANY,**  
BURLINGTON, IOWA.

**HERCULES STUMP PULLER**



Clears an acre of heavy timber land each day. Clears all stumps in a circle of 150 ft. without moving or changing machine. Strongest, most rapid working and best made.

Hercules Mfg. Co., 413 17th St., Centerville, Iowa

**BOSTROM'S IMPROVED CENTRAL LEVEL**  
Pat'd 1902. WITH AND WITHOUT TELESCOPE

Is no MAKESHIFT, but the best one made for Trenching, Ditching and Drainage. Price \$5 and \$10, including Tripod and Rod. Send for descriptive circulars and Treatise on Trenching, etc., Free.

Bostrom, Brady Mfg. Co.,  
81½ W. Alabama St., Atlanta, Ga.



**WATER RAISES ITSELF**  
to any height, any distance by the force of the natural stream with the

**RIFE HYDRAULIC ENGINE.**

Best for farms, country residences and irrigation. Pumps 30 ft. high for every foot offal. Sold on 30 days trial.

RIFE ENGINE COMPANY,  
126 Liberty St., New York.



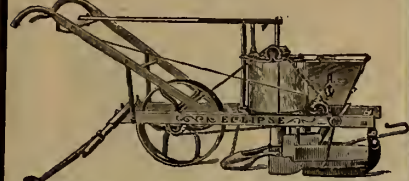
**LATEST** (Newton's Patent.)  
**DEHORNER**  
Every Dehorner Guaranteed

**IMPROVED THOUSANDS IN USE.**  
Ask your hardware dealer for them or write  
**G. H. BROWN MFG. CO., DECATUR, ILL.**



# Corn Planting

and fertilizing go hand in hand. You can plant in hills, drills or checks and put in the ground all commercial or home made fertilizers in any condition, as wet, lumpy, etc. with



## THE ECLIPSE

**Corn Planter and Fertilizer Distributor, With Improved Row Marker.**

Adapted as well to Peas, Beans, Beets, etc. Hills 6 to 45 inches apart. Distributes 50 to 450 lbs. fertilizer per acre. Wide and easy adjustment. Light draft, weight 150 lbs. Easy to handle, a model for accuracy and durability. Investigate our Eclipse Two Row Two Horse Planter. Agents wanted in new territory. Write for circulars and terms.  
**BELCHER & TAYLOR A. T. CO.,**  
Box 25, Chicopee Falls, Mass.

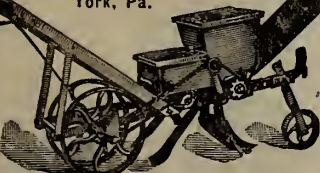
# Profitable Planting

always results where a Keystone Corn Planter is used. Drops the kernels in hill or drills any distance apart and sows any kind of pulverized fertilizer with utmost satisfaction. Works well in any kind of soil. Does not crack the grain and plants beans, peas, etc. Frame is steel, making a durable machine which is a pleasure to use. You'll never regret the purchase of a

## Farquhar Keystone Corn Planter

A. B. FARQUHAR CO., Ltd.,  
York, Pa.

Send for free illustrated catalogue of farm implements and machinery.



# DAISY Corn Planter

Agents wanted. Write for Catalog and special terms.

Durable, Accurate, Efficient.



A single row corn planter, made with or without fertilizer attachment. Has either double or concave single wheel. Has 4 rings or dropping dies. Dropping and fertilizer feed regulated by link chain belt. 5 chain wheels for dropping corn. Drops 1 grain from 11 to 19 inches or 2 grains from 22 to 38 inches apart. 3 extra feed wheels for fertilizer attachment drills 20 to 50 lbs fertilizer per acre. Ground wheel in front can be raised or lowered for deep or shallow planting. Extra rings can be applied for dropping or drilling peas, beans, ensilage corn, etc. Write for Catalogue  
**HENCH & DROMGOLD, York, Pa.**

# Cream SEPARATORS

All about them and other things for the dairy and creamery. A. H. REID, Philadelphia.

Books and Reading department invites the girls and boys to send in lists of the book friends they have made since 1903 began, to tell whether they like or dislike "Water Babies," Lamb's "Tales from Shakespeare," and "Alice in Wonderland," with reasons for their judgment, and to write, illustrating if they wish, accounts of their favorite place for reading, prizes being promised for the best work. The classification of books as "spectacles," "kaleidoscope" and "microscope" books, and the suggestions on how to read and test worth-while books should be of great help to thoughtful girls and boys.

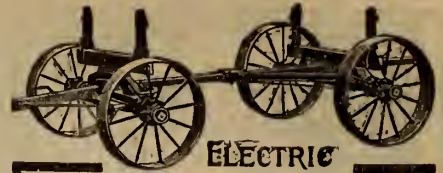
The March Lippincott's Magazine contains a new novel by the author of "Fruit Out of Season" This, Mary Moss' latest story, is called "Julian Meldohla," and Lippincott's is again so fortunate as to secure it. It is a story of society, yet having a curious element not met with in the usual society novel. It is handled with the characteristic breeziness and refreshing vigor that was a strong feature in Miss Moss' earlier work, and critics predict for her a future of no ordinary kind.

There are nine short stories in the March Lippincott's of pleasing variety and by many names well known in magazines: Cy Warman's animal stories are as popular as are those of the "rail road." This, entitled "The Fidelity of a Dog" is strictly good. "Told After Dinner," by Ella Middleton Tybout, may "come home" to some Senator or Member of Congress at Washington. Phoebe Lyde calls her story "Tiberius the Truant," after a pet lamb, "Tiberius." A peculiarly powerful tale by Clara Elizabeth Ward is called "The Regeneration of Mary Mather." It threatens a tragedy but ends happily. "The Other Side of Boss," by Jerome Case Bull, is a spirited story of a Western logging camp. "Piscator and the Peri," a young fisherman's love story, is by Henry Wysham Lanier, who is, by the way, a son of the gifted poet, Sidney Lanier. He possesses the family talent in a marked degree. The stock exchange is the scene of a remarkably good story called "The Bull in Lamb-Skin," by Edward Childs Carpenter. A story of the mines of Clinton Dangerfield, called "The Wheel of Fortune," is a happy illustration of the best man winning with a woman's timely aid. The March number closes with an extract entitled "Ten Minutes," by A. H. Shirres.

In a paper by Mrs. Sara Yoke Stevenson in the March Lippincott's Magazine some present day abuses are lightly pointed out, interspersed with anecdotes. The title is "Intellectual Communism." Eben E. Rexford gives sound advice to cities as well as villages in his article entitled "Rural and Village Improvement Societies."

## THE FENCE QUESTION.

The increased number of inquiries we are receiving of late in regard to the best and most economical means, evidences the fact that the question of fencing is one of the most important matters in the minds of the farmers to-day, and that



## Handy Farm Wagons

make the work easier for both the man and team. The tires being wide they do not cut into the ground; the labor of loading is reduced many times, because of the short lift. They are equipped with our famous Electric Steel Wheels, either straight or stagger spokes. Wheels any height from 24 to 60 inches. White hickory axles, steel hounds. Guaranteed to carry 4000 lbs. Why not get started right by putting in one of these wagons. We make our steel wheels to fit any wagon. Write for the catalog. It is free.  
**ELECTRIC WHEEL CO., BOX 146, QUINCY, ILL.**

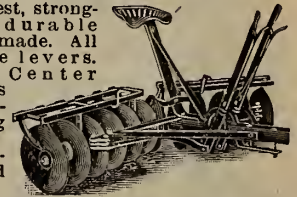
## FARMER BOYS

You can make good money selling our Economy Buggies and Harness to your neighbors. We beat the world on quality and price and pay liberal commissions. Write at once for catalogue and agency plan. A cracker-jack Top Buggy \$40 for.....  
**Economy Buggy Co., Box J Cincinnati, Ohio.**



## OUR LOW HITCH DISC HARROW

Best, simplest, strongest and most durable Disc Harrow made. All steel. Double levers. Low hitch. Center draft. All sizes. With or without seeding attachments. Write for circulars and prices



TOLEDO PLOW CO., Toledo, Ohio

## Roderick Lean FARM Implements.

Made by experienced workmen of special material. Acknowledged by farmers superior to all others.

### Sold on Their Merits.

Spike Tooth Harrows. Spring Tooth Harrows. Disc Harrows. Land Rollers. Hand Carts.

Write for catalogue.

**RODERICK LEAN MFG. COMPANY, Mansfield, Ohio.**



## Corn Planting

must be well and carefully done, as the future crop depends upon it. For all purposes, in any soil, on all kinds of ground nothing equals the



## SPANGLER CORN PLANTER.

It saves time, labor, money and insures the crop. You know when it is working, you can see the corn on its way to the ground. Made with or without fertilizer attachment. New device for sowing peas, beans, ensilage, corn, etc. We also make the famous Spangler Low-Down Grain and Fertilizer Drill. Write for catalog and etc.  
**SPANGLER MANUFACTURING CO., 501 Q 9th St., York, Pa.**

**WE PAY \$26 A WEEK** And expenses to men with rigs to introduce Poultry Compound.  
**INTERNATIONAL M'FG. CO., Parsons, Kan.**



**IF WE DID NOT KNOW OUR SPRAYER AND SPRAYING MIXTURE**

the Best ever devised, we would not buy expensive space to tell you about them.

WRITE TO-DAY and we will send you a Book showing the benefits derived by the use of our Mixtures and Spraying Outfits.

**Lenox Sprayer & Chemical Co., Inc.**  
Dept. 11 **PITTSFIELD, MASS.**

**Get the Best**



A Good Spray Pump earns big profits and lasts for years.

**THE ECLIPSE**

is a good pump. As practical fruit growers were using the common sprayers in our own orchards—found their defects and then invented The Eclipse. Its success practically forced us into manufacturing on a large scale. You take no chances. We have done all the experimenting.

Large fully illustrated Catalogue and Treatise on Spraying—FREE.

**MORRILL & MORLEY, Benton Harbor, Mich.**

**A BIG CROP OF FRUIT**  
and dollars in your pockets if you spray your trees and vines with the wonderful

**HARDIE SPRAY PUMPS**

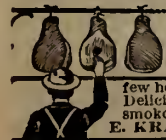


They put the Spray on with such force that tree and vine is covered with a spray as fine as fog and it stays there. Each part of their machine is fitted so accurately that there is no friction. That's why they work so easy. Our catalogue tells the whole story. It is FREE, a postal card will bring it.

A. M. HOLLOWAY Eastern Agent  
Builders Exchange, Philadelphia

**SPRAY PUMPS**

SAVE MONEY BY BUYING ONE OF OURS. They will do as much work, being all brass are lighter to handle and are more durable, will generate a higher pressure thereby making them the easiest pumps to operate on the market. Write for catalog and get treatise on spraying free. Agents wanted. Mention this paper. J. F. Gaylor, Successor to P. C. Lewis Manufacturing Company, Catskill, N. C.



**Krausers' Liquid Extract of Smoke**

Smokes meat perfectly in a few hours. Made from lucky wood. Delicious flavor. Cleaner, cheaper. No smokehouse needed. Send for circular. E. KRAUSER & BRO., Milton, Pa.

more thought is being given to it each year. There is nothing a farmer can so foolishly waste money on, or that offers a greater field of economy, than the item of Fencing. A cheap fence in quality, as well as in price, is not economy, but a good and strictly up-to-date fence in every particular at a reasonably low price is true economy. In this day and age of improvement the ordinary fence is not good enough for the the progressive farmer. It takes something more than the ordinary, and the fencing made by the Coiled Spring Fence Company, Winchester, Ind., it is claimed, fills all these requirements. All of the line wires are of high-carbon coiled spring wire, making it self-regulating in every particular. It is sold to the farmer at wholesale price, and is within reach of all. It is, as advertised, bull-strong and chicken-tight, and sold at a price below many of the styles of fence now on the market. The Coiled Spring Fence Company, Winchester, Ind., whose advertisement you will find elsewhere in this issue, will take pleasure in sending any one catalogue and full particulars regarding this Fencing for the asking.

**PROF. BLAIR ON SPRAY OUTFITS.**

In his address before the Apple Growers Congress, at its first meeting in St. Louis in November last, Prof. Blair made these sensible statements in regard to spraying outfits:

"I would say we must be careful about the apparatus we use in spraying. Just any old pump and any kind of nozzle will not do. We must have the best apparatus obtainable, and must use a pump of great power, to produce the mist-like spray which is so necessary. As commercial growers, we must consider the advisability of using more powerful pumps than many of us have been using. And, too, we must pay more attention to getting the mixture properly made. These are the details of spraying to which I would call especial attention."

The Field Force Pump Company, of Elmira, N. Y., claim for their sprayers magnificent power, which, with their excellent nozzles, make the finest, most mist-like spray, covering all sides and every part of leaf, fruit and flower. Their automatic agitators keep the mixture thoroughly stirred, preventing spoiling foliage with too much poison. The automatic brushes used on their agitators prevents the clogging of the pump or nozzles.

**IN 1845 AND NOW.**

The inside front cover of the Deering "Golden Era" catalogue for 1903 contains a story without words. A section of the Chicago River as it was in 1845 is pictured. It shows an Indian wigwam, Indians in canoes and upon the banks of the river; there are no signs of civilization.

On the same page is shown the river at the same point, as it is to-day, full of ships and lined with docks. The banks contain the great Deering works, 85 acres of buildings and a veritable hive of industry. A marvelous change and one that has taken place in less than fifty years.

**SPRAYER**  
THROWS A STREAM 60 FT. OR MORE.

IT is beyond question the most perfect and effective SPRAYER and FIRE EXTINGUISHER ever invented, and supplies a universal want. In variety of service, simplicity of construction and ease of operation, it has no equal. Ask for catalogue and price, which costs you nothing. AGENTS WANTED,  
**F. B. SMITH MFG. CO.**  
333 MAIN ST. BUFFALO, N.Y.

**A Kant-Klog SPRAYER**

We want to send into every town and county a sample of our new **FREE** self-operating Kant-Klog Sprayer. No farmer, fruit or vegetable grower can afford to be without one. They increase crops both in quantity and quality, and double your yearly profit.

**TO AGENTS:** \$20.00 A DAY is what one new agent made. Another has sold and delivered 660 machines and has 100 more sold for later delivery. With the complete detailed instructions we send our agents any man of ordinary ability can do as well. For further information address,

**Rochester Spray Pump Co., 21 East Av. Rochester, N. Y.**

**SPRAY PUMPS**



Save your fruit and make money. The Daisy is 15 yrs. old and 200,000 in use. Has every improvement—rubber hose, perfect nozzles and valves. No 1, tin \$1.60; No. 2, iron, \$2; No. 5, brass, \$4. We pay express. Agents wanted. Catalogue free.

**HURRAW & SON, Box 2, Wilmot, Ohio.**

**FREE**



From anxiety over wash day, are all who use a **DILLEY QUEEN WASH-ER**. We guarantee it to be the best. A trial machine sent at factory price. Agents wanted for exclusive territory. Write for catalogue with full description. We will surely please you.

**LYONS WASHING MACHINE CO., Lyons, Mich.**

**The WEBER 14 H. P. Gasoline Engines** for running grinders, shredders, cutters, threshers, etc. Free catalogue gives all sizes. Weber Gas & Gasoline Engine Co., Box 122 Kansas City, Mo.

Safe-colling main bearing

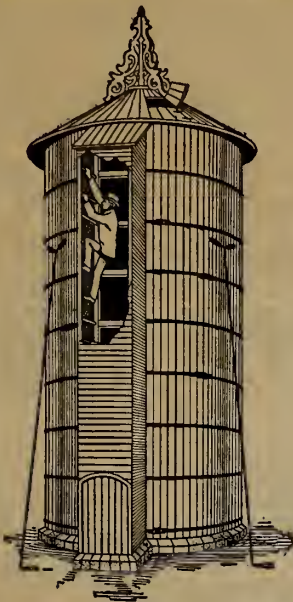
Mention the Southern Planter when writing advertisers.



**THE "LANSING" PERFECT TUBULAR SILO**

IS THE BEST SILO MADE.

Continuous Doorway. Have no other.



Insist on having the Lansing, IT WILL SAVE YOUR ENTIRE CROP.

**A. M. D. HOLLOWAY,**

Builders' Exchange, Phila., Pa., U. S. A.

Write for Catalogue and price.

**YOU OUGHT TO KNOW BETTER**

About the B. B. Stays. They make a cheap strong fence with barb or coil wire. Easily handled as nails, self locking, can't slip, and no machine necessary. They are made of heavy, hard wire, and won't witt down. Try a basketful to stiffen the old fencing (barb or woven wire), and you will use nothing else to build new fence. We sell coil wire too. **The B. B. FENCE CO.,** 14th and Clark Sts., Racine, Wis.



**WIRE FENCE**

Heavy lateral wires, heavy hard steel stays, coiled spring wire, Sure Grip lock. In strength, appearance, and durability, the Hard Steel cannot be excelled. Write for catalogue and prices. **THE HARD STEEL WIRE FENCE CO.,** Cuyahoga Falls, Ohio



**Genuine Spiral Spring Wire FENCES AND GATES**

If your dealer does not have our goods in stock you can buy direct at Manufacturers' Price. Write for Catalogue and secure agency.

**INTERNATIONAL FENCE AND F. CO.** Columbus, Ohio.



**Calves Fenced**

With Page Fence never grow into breachy cattle. **PAGE WOVEN WIRE FENCE CO., ADRIAN, MICH.**

**THE CHIEF CONSTRUCTIVE FORCE IN AGRICULTURE.**

Two generations ago our grandfathers harvested their wheat and oat crops with the McCormick Reaper; and little did they dream that the crude machine they used then would be the forerunner of such marvellous advancement in the methods of harvesting grain as has been developed in recent years. To-day more than two and one-half million agriculturists harvest their crops with McCormick machines. Since 1831, the year in which the first successful reaper was constructed in a blacksmith shop at Steele's Tavern, Va., the McCormick has been one of the chief constructive forces in developing the agricultural resources of the world. For more than three-score years, the McCormick has represented the highest attainment in the manufacture of harvesting machines, and this name has become a household word throughout the world. "A Model Machine" is the title of a new book which has just come from the press. It is an interesting publication, and should be in the hands of every one who needs or operates a harvesting machine. When writing, please mention the *Southern Planter*, and ask for a 1903 McCormick Calendar, if you have not received one, which will be sent, together with the book, without charge. Address the nearest McCormick agent.

**THE ÆTNA LIFE.**

The Ætna Life Insurance Company of Hartford, Conn., publishes in another column its fifty-third annual statement. This shows that the business done in 1902 was one of noteworthy growth in every direction, and the resulting big figures put the Ætna Life as the leader among the great life insurance companies of New England.

The total premium income for the year was the large sum of \$10,224,260, and the total payments to policy holders was the sum of \$6,368,099.

The detailed statement of the company shows that the investments of the Ætna are conservatively and wisely made, and the abundant strength of the company is recognized by all familiar with financial matters. Its president, in fact, as well as in name, is Ex-Governor Morgan G. Bulkeley, who has given its affairs his closest attention. When he became its head twenty years ago its assets were about \$25,000,000. To-day they are about \$63,500,000. Under his management the Ætna has developed into its present great proportions, and it stands a proof of his and his associates' large business and executive ability.

**THE ACME HARROW.**

Mr. Duane H. Nash, of Millington, N. J., the maker of this well known harrow, desires us to call attention to the unusually favorable conditions under which this harrow is sold. It is sent to any farmer who will order it, and he will be allowed ample time to try it on any kind of ground under any conditions.

As Mr. Nash has distributing points throughout the country, there will be no delay in getting a harrow promptly. Look up his advertisement in this issue.

**On the Sowing Depends the Growing.**

Both depend upon the drill. The Improved Low-Down Pennsylvania Force Feed Fertilizer Grain Drill

Sows any kind of grain in any quantity—any kind of grass seed or fertilizer in any condition, because it's force feed in fact as well as name. Easy on the man—it's low down. Easy on the horse—it's light draft. Send for free illustrated catalogue of farm implements and machinery.

**A. B. Farquhar Co., Ltd.** York, Pa.



**Announcement**

We have obtained the Court's decree against two additional manufacturers who have been infringing our patent. The rule of law is: "The maker, seller or user of an infringing device are all liable in damages to the owner of the patent infringed." The Janesville Machine Co. and the Keystone Farm Machine Co. are the only firms licensed to use a *flat tooth* covered by our patent, and we finally warn sellers and users of all other makes. So admirably have the 60,000 "Hallock" Weeders done the work for which they were designed, that one maker after another sought to copy it. However, by the various Courts' decisions, these makers are compelled to abandon the manufacture of a Weeder having flat teeth, and they are now experimenting with other shapes; but it is the flat tooth that made the "Hallock" Weeder famous, and in view of the manner in which our patent has been sustained, it is dangerous to use an infringing tooth. Write for descriptive circulars and prices.

**HALLOCK WEEDER & CULTIVATOR CO.,** Box 839 York, Pa.

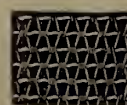


**LAWN FENCE**

Many designs. Cheap in wood. 32 page Catalogue free. Special Prices to Generators and Churches. Address **COILED SPRING FENCE CO.,** Box Q, Winchester, Ind.



**HIGH-CARBON COILED SPRING STEEL WIRE FENCE.** INDIANA STEEL & WIRE CO. BOX 584, MUNCIE, INDIANA.



**FENCE! STRONGEST MADE.**

Built strong. Chicken-tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. **COILED SPRING FENCE CO.,** Box 53 Winchester, Indiana, U. S. A.



**WE'LL PAY THE FREIGHT** and send 4 Huggy Wheels, Steel Tire on, - \$7.25 With Rubber Tires, \$15.00. 1 mfg. wheels 3/4 to 4 in. tread. Top Buggies, \$28.75; Harness, \$3.60. Write for catalogue. Learn how to buy vehicles and parts direct. Wagon Umbrella FREE. **W. V. BOOE, Cincinnati, O.**

Salzer's Rape gives Rich, green food at 25c a ton

**BUY NORTHERN GROWN SEEDS**

**FARM SEEDS**

SALZER'S SEEDS NEVER FAIL!

**1,000,000 Customers**

Proudest record of any seedsman on earth, and yet we are reaching out for more. We desire, by July 1st, 300,000 more and hence this unprecedented offer.

**\$10.00 for 10c.**

We will mail upon receipt of 10c. in stamps our great catalogue, worth \$100.00 to any wide awake farmer or gardener together with many farm seed samples, Teosinte, Beardless Barley, Bromus, Rape, etc., etc., positively worth \$100.00 to get a start with, upon receipt of but 10c. in stamps.

Please send this adv. with 10c. to Salzer.

SPELTZ—What is it! Catalog tells.

**JOHN A. SALZER SEED CO., CROSSVILLE, TENN.**

**GRIFFITH & TURNER SEEDS**

**For Every Climate.**

That is our business. We grow and sell you what has been developed and is adapted to your particular section. North, South, East and West.

**GRIFFITH & TURNER'S TESTED SEEDS**

do not depend on deceptive methods to sell them. A dollar's worth of seed for every dollar, of plump, fresh, live seeds that make crops. We carry a complete line of Farm, Garden, Poultry and Dairy Supplies. Write for large new catalog No. 10, free. Handsomer than ever, contains much information. Every Farmer and Gardener should have it.

**GRIFFITH & TURNER COMPANY,**  
205 N. Paca Street, Baltimore, Maryland.

**SEEDS.**

SEED POTATOES,  
GARDEN SEED,  
FIELD SEED.

**DIGGS & BEADLES, Seedsmen,**  
1711 E. Franklin St.,  
RICHMOND, - VIRGINIA.  
Send for Catalogue.

**FIVE-EAR CORN**

I have been planting this corn for 4 or 5 years, and never expect to plant any other kind. On ordinary land it makes from 25 to 30 bushels per acre. On 1 1/2 acres last year I gathered over 70 bushels. It is a firm, white corn, and keeps well; ears under medium size. Averages about three ears to the stalk, some stalks having as many as five and six ears. Every farmer ought to plant it. Send 15 cents in stamps for a start—enough to make you two or three bushels. Will send one peck by express, collect, for 75 cents.

**W. M. HOBBY, - Sylvania, Ga.**

**GINSENG SEED**

We offer for sale a limited quantity of fresh seed, which we guarantee to be first quality, \$10 per 1,000. Address  
**COMMERCIAL GINSENG CO., Crozet, Va.**

**THIRTY-SIX YEARS OF CONTINUOUS SUCCESS.**

Just think what that means. Thirty-six long years in business, each year more successful than the previous one, with never a backward movement, always growing larger, ever increasing in popular favor. How many that were doing business thirty-six years ago are even in existence to-day? Very, very few. In this age of development and fierce competition, a concern must do business right, treat its customers right and sell what is right, to even hold its own, much less advance. To do otherwise means that the concern of to-day is likely to be out of the running to-morrow. The graveyard of business failures is full to overflowing. But thirty-six years of continuous success and still growing. Think of it! How has it been accomplished? In just one way. By selling absolutely pure whiskey, direct from our own distillery to the consumer, saving him the enormous profits of the dealers, and carrying out to the letter every statement or offer we make, thereby creating a confidence with our over a quarter of a million satisfied customers that cannot be broken. Read our offer elsewhere in this journal. The Hayner Distilling Co.

**"THIRTY YEARS SELLING DIRECT."**

This is the headline with which our friends the Elkhart Carriage and Harness Manufacturing Co. of Elkhart, Ind., announces their readiness for this season's campaign. To have been continuously in business for so long a time and all that time to have been selling direct to the consumer, is in itself noteworthy and speaks louder than anything else of the high quality of their goods and their honorable and liberal methods in dealing with their customers. The Elkhart people make every vehicle and harness they sell, and sell only to the consumer. Their catalogue is illustrated with large photographic views of the latest styles, and will be sent free to any reader of this journal. Write to-day and address as above.

**MARCH ON!**

The artistic hanging calendar of the Champion Harvesters begins with the spring month and carries one clear through to the next spring. It shows a handsome farm team refreshing themselves at the watering trough, and is in brilliant colors and handsome enough to please every one. This art calendar is offered free to all of our readers who will send their name on a postal to Champion Division, International Harvester Co. of America, Chicago, and make request for same. We know this is an opportunity of which many will take advantage.

**1,000,000 CUSTOMERS.**

The J. A. Salzer Seed Company, of La Crosse, Wis., claim to have this vast number of patrons. When you come to think of it, there must be a "why." An inspection of their new catalogue might throw some light on the subject. Send for it, and refer to their advertisements and see what tempting offers they make.

**42 TONS CLOVER To the Acre.**

*Egyptian Clover—Direct from the Nile Valley.*

Imported by us into the United States for the first time. Ready to cut 48 days after sowing. First cutting 14 tons, second cutting 15 tons, third, 13 tons of green forage per acre, all in one season. The Dept. of Agriculture at Washington publishes a special bulletin endorsing it. The supply of seed is limited. Write at once if interested. Price per lb. 30c; 10 lbs, \$2.50; 100 lbs, \$20.00.

**LARGE ILLUSTRATED CATALOG** describing this wonderful Clover and a thousand other things of great value to the Farmer or Gardener, mailed free. Write now.

**CURRIE BROS.** Seedsmen, Dept. 71, MILWAUKEE, WIS.

**APPLE TREES**

▲ ▲ ▲ ▲

The Bonaville Nurseries will have some exceptionally fine apple trees for orchard this year. White Saps, Paragon (M. B. Twigg), York Imperial (J. F. Winter), Albemarle Pippin, etc.

We did not have a complaint last season. Every tree is perfect and guaranteed, taken from the nursery block the day it is shipped, carefully packed.

Our prices are the lowest.

**CHAS. F. HACKETT, Manager,**  
Greenwood, Va.

**Georgia Melon Seed.**

**"HOW TO GROW MELONS,"**  
**FREE.**

Write for prices of Select Pure Melon Seed.

**B. W. STONE & CO., Thomasville, Ga.**  
Mention THE SOUTHERN PLANTER.

**Strawberry Plants**

We grow them on virgin soil, consequently they are free from disease and true to name. Leading varieties, \$1.65 per 1,000 and up. Every one says we have the finest plant-bed they ever saw. 25 acres in plants. Circular free.

**JOHN LIGHTFOOT, - Sherman Heights, Tenn.**

**MONEY IN STRAWBERRIES**

IF YOU GET GOOD PLANTS. One of my customers the past season sold \$600.00 worth of Strawberries from one acre. I sold him the plants for \$20. You can do the same if you buy the best—and that's the kind I have.

Catalog! **H. LIGHTFOOT, Chattanooga, Tenn.**

**LATE SEED IRISH POTATOES**  
—FOR SALE.—

1902 was another good year for the **CLAREMONT PEACHBLOW POTATOES.**

A late variety, has been grown here for 10 yrs, or more, and never failed to make a crop when planted July first, yields from 150 to 250 bus. to the acre. See description in last May issue of this paper. Price, \$3.50 per bbl., f. o. b. here, as long as stock lasts.

**J. M. HUGHES, Claremont, Surry County, Va.**

Mention the *Southern Planter* when corresponding with advertisers.

**ELMWOOD NURSERIES.**

**ASPARAGUS**

100,000 2-yr.-old Asparagus roots, 5 varieties. A special rate of \$3.50 per 1000 for 2 mos. for BARR'S, PALMETTO, CONOVER.

**APPLES**

A large general assortment, including WINESAPS and YORK IMPERIALS.

**Splendid Assortment of Ornamental, Shade and Fruit Trees.**

**EGGS** from B. P. Rocks, Light Brahmas, Brown Leg-horns at \$1 00 per 13.

WRITE FOR OUR CATALOGUE

**J. B. WATKINS & BRO., Hallsboro, Va.**

**WINESAPS**

I have for sale several blocks of the finest two-year old Winesaps Apple trees ever grown in the State. The trees are well branched and measure from five to eight feet in height. Trees are dug from the nursery the day they are shipped.

8c. each for the finest in lots under 100.  
7c. " " " " " over 100.  
6 to 7c. wholesale.

**CHAS. F. HACKETT, Manager,**  
Bonavista Nurseries,  
Albemarle County, Greenwood, Va.

**ONION SEED.**

We are large growers of Onion Seed, and can quote attractive prices. Write us when you are ready to buy. Established 1876.

**SCHILDER BROS., - Chillicothe, O.**

**SEED CORN.**

Improved Golden Dent. Ears measuring from 10 to 14 inches in length. Price, \$1.00 per bushel.

J. F. DURRETTE, Birdwood, Albemarle Co., Va.

**SEED CORN.**

300 bushels of Albemarle Prolific Corn, \$1.00 per bus. at d-pot.

L. B. JOHNSON, - Red Hill, Albemarle Co., Va.

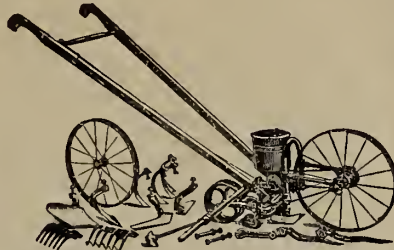
**MARK YOUR STOCK.**  
Use the

**KENTUCKY ALUMINUM EAR LABEL.**

Made by F. H. JACKSON & Co., Winchester, Ky. Write to them for free samples.

**POPULARITY OF THE "IRON AGE" FARM IMPLEMENTS.**

The fact that "Iron Age" Farm and Garden Implements are built of good materials, on sound mechanical principles, and that they contain all the latest improvements, is what has made them famous from one end of the country to the other. So great has been the demand for these products, that the manufacturers found the greatest difficulty the past season in supplying it. And foreseeing, for the season just opening, an even greater call upon their resources, these have been greatly enlarged, both plant, machinery and stock of raw materials, and they are now able to meet any demands that may be made upon them.



No. 6 Iron Age Combined Double and Single Wheel Hoe Hill and Drill Seeder.

The manufacturers of the Iron Age tools have just issued an enlarged catalogue, showing more completely than any previous one, their full line. Old friends among farm and garden implements are there found, but to the number are added many new and interesting members of the family, which must still further extend the fame and sale of the "Iron Age" tools.

Any one interested should obtain a copy of this Iron Age Book for 1903 by writing to the Bateman Mfg. Co., Box 167, Grenloch, N. J.

**A LONG RIDE.**

"Old Salt" was interested in the first railroad that was built in the State—a very crude line, forty miles in length.

After it had been operated for years the company was sued for damages. Old Salt was called as a witness for the defence. Counsel asked a question during his examination of Salt which seemed to the judge to make it proper for plaintiff's counsel to go into the general reputation of the road. He asked if it were not true that numerous accidents had happened on the line.

"N-n-never knew but wu-wu wu-one," was the answer.

"And what was that, Mr. Williams? Explain the character of it in full, please."

"A mi-mi-mi-middle aged gi-gi-gi girl got on the t-t-t-train at P-p-p-Pontiac, and d-d-d-died of old age before she got to De-de de-Detroit."—HENRY M. WILTSE, in Lippincott's Magazine for March.

Poet—That fool editor said I would never write well until I had a great sorrow, but I showed him.

Wife—Showed him what?

Poet—Our wedding certificate.

To make cows pay, use Sharples Cream Separators. Book "Business Dairying" & Cat. 305 free. W. Chester, Pa.

A Chain  
is no stronger than its  
weakest link. A fertilizer  
deficient in  
**POTASH**  
is just as dangerous as a  
chain with a cracked link.

Our money winning books are  
needed by every man who owns  
a field and a plow, and who  
desires to get the most out of them.  
They are free. Send postal card.  
**GERMAN KALI WORKS,**  
93 Nassau St.,  
New York

**SAN JOSE SCALE** and other insects can be controlled by using  
**Good's Caustic Potash Whale Oil Soap, No. 3.**

It also prevents Curl Leaf. Endorsed by entomologists. This soap is a fertilizer as well as insecticide. 50 lb. kegs, \$2.50; 100 lb. kegs, \$4.50. Half barrels, 270 lbs., at 3 1/2c. per lb.; barrels, 425 lbs., at 3 1/4c. Large quantities, special rates. Send for circular.

**JAMES GOOD,**  
939-41 N. Front St., PHILADELPHIA, PA.

**FRAZER**  
**Axle Grease** Best in the world.  
Its wearing qualities are unsurpassed, actually outlasting 3 bxs. any other brand. Not affected by heat. Get the genuine.  
FOR SALE BY ALL DEALERS.

**AGRICULTURAL and BUILDERS' LIME**

Send for Circulars and Price-List.  
**FELLSWORTH LIME WORKS**  
REEVES CATT, Agent,  
Bodley, Augusta County, Va.

**S. B. ADKINS & CO.**

4 and 6 Governor Street,  
**RICHMOND, VA.**  
**EXPERT BOOKBINDERS**  
and Commercial Printers.

Life and Accident Insurance.

**53<sup>d</sup> ANNUAL STATEMENT.**  
(Condensed.)

**Aetna Life  
Insurance Company,**  
HARTFORD, CONN.

MORGAN G. BULKELEY, President.

Assets, Jan. 1, 1903, -	\$63,493,545.73
Premium receipts in 1902, -	10,224,260.93
Interest receipts in 1902, -	2,592,539.16
Total receipts in 1902, -	12,816,800.09
Payment to Policy Holders in 1902, -	6,368,099.76
Legal Reserve, on Policies, and all claims, -	55,879,111.68
Special Reserve in addition to Reserve above given, -	2,113,933.00
Guarantee Fund in excess of Requirements b Company's Standard, -	5,500,501.05
Guarantee Fund in excess of Legal Requirements, -	7,694,434.05
Life Insurance issued and revived in 1902, -	30,489,838.00
Life Insurance in force Jan. 1, 1903, -	213,762,977.00
Accident Insurance in force Jan. 1, 1903, -	199,550,204.00

Paid Policy holders since organization,  
\$132,383,973.96.

MEIGS & HEISSE, Mgrs.,  
Herald Building, Baltimore, Md  
W. W. HARDWICKE,  
General Agent for Eastern and Central Virginia,  
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AN OPEN LETTER FROM DR. GREGORY.

GREENSBORO, N. C., Jan. 1, 1903.

COL. W. H. OSBORN, President  
The Keeley Institute, Greensboro, N. C.:

Dear Colonel,—I send you this letter to congratulate you on the success of your work with The Keeley Institute.

Like all other good and grand discoveries and inventions in the healing art, *The Keeley Treatment*, now so well known and successfully used, met with bitter opposition, but it has lived and flourished, proving that "Truth is mighty and will prevail."

Eleven years ago, October, 1891, The Keeley Institute was opened in Greensboro, N. C., under your management. Being a practicing physician of the city, and having the pleasure of the acquaintance of the gentlemanly officers of the Institute, and feeling the greatest interest in the practical testing of the discovery of Dr. Keeley, I watched with close care the results; and I unhesitatingly say, that from my personal knowledge and personal observation of the Keeley Treatment, in cases in which it is indicated, that it is the best and most successful plan of cure now known. Facts prove the truth and value of it.

Year after year the good work and success have rewarded your efforts. Business has steadily increased. The year just ended shows a registration of 207 patients with a total of 3,500 since the Institute was opened. Over 100 men from Greensboro and Guilford county have been cured and returned to their families and homes, and patients have been received from nearly every State in the Union. It would be a great pleasure if I could tell of the joyful and glad hearts this Institute has made, but I know that words cannot express the gratitude that the many wives, mothers, children, and friends have felt at the restoration of their loved ones. In my own heart I rejoice with you and ask God's blessings on The Keeley Institute and its officers.

In the management of the Institute every auxiliary is used. The officers know that the patient is diseased from drink or drugs, or both, and the co operation of the patient must be had in his treatment. He is a sick man, and must be treated as such under the direction and guidance of that skilled resident physician—Dr. B. B. Williams.

The Institute is an ideal home, the splendid residence of Gov. Morehead, with all to make it attractive and every comfort and convenience which modern invention has brought out. In connection with the Institute and for its use is a magnificent farm with its fine Jersey cattle, poultry, etc., to supply the Institute with the necessaries and luxuries to build up the broken-down man.

It is a wise and essential requirement that the patient must reside in the Institute while undergoing treatment, where all necessary influences can be brought to bear upon him and under the kind and watchful care of its officers.

Now, in conclusion, I congratulate you again, and assure that I feel the deepest interest in the Institute and its continued success and prosperity, and will always

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SCRATCH!  
SCRATCH!**

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take pleasure in doing anything in my power to direct in the future, as I have done in the past, the poor unfortunates to *The Keeley Institute, Greensboro, N. C.*

With my highest regards and best wishes for your continued success in the future. I am very truly yours,

R. K. GREGORY, M. D., *Greensboro, N. C.*

### A MIDNIGHT MISHAP.

Uncle Ned returned from his 'possum-hunt about midnight, bringing with him a fine, fat 'possum. He built a glowing fire, dressed the 'possum, pared and split the sweet potatoes, and pretty soon he had the "possum an' 'taters" in the oven. While the meal was cooking Uncle Ned amused himself with his favorite old banjo. When the 'possum had been brown and crisp, he took it out of the oven and sat it on the hearth to give it time to cool. Mentally congratulating himself upon the glorious repast he thought soon to enjoy, he sat silently for a while in the old arm-chair, but presently was snugly wrapped in the arms of "tired nature's sweet restorer—balmly sleep."

It happened that two young fellows who were pretty well acquainted with Uncle Ned's habits had been stealthily watching about the house, waiting this particular chance. As soon as they were convinced that the old man was safe in the arms of Morpheus, they crept into the house and hurriedly helped themselves to Uncle Ned's supper, including even the coffee and bread. When they finished the hasty meal, by way of attempting to cover up their tracks they smeared Uncle Ned's hands and mouth with the 'possum gravy and then beat a retreat.

After a time Uncle Ned aroused from his peaceful slumber. It is needless to say that he had dreamed about his supper. At once he dived down to inspect the viands, when, lo and behold, the hearth was empty! Uncle Ned steadied himself and studied awhile.

"Well," said he finally, "I must 'a' et dat 'possum; I must 'a' et dat 'possum in my sleep!"

He looked at his hands. They were greasy. He smelt his hands. As he did so he said:

"Dat smells lak 'possum grease! I sho must 'a' et dat 'possum."

He discovered grease on his lips. Out went his tongue.

"Dat tas'es lak 'possum grease," he said. He got up. He looked about the room.

There was no sign of intruders. He rubbed his stomach. He resumed his seat, and, giving up all for lost, he said:

"Well, ef I did eat dat 'possum, it sets light on my appertite dan any 'possum I eveh et befo'."—SILAS XAVIER FLOYD, in the *March Lippincott's*.

One day the mate of a trading schooner, overhauling the log, found that the captain had written in it, "Mate drunk today." The mate expostulated with the captain, saying, "What is the use of putting that down?" The captain said: "It happened. Why shouldn't I write it down?" The next day the mate wrote the log, in which afterward the captain found the record, "Captain sober to-day."

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## JESTS OF SENATORS.

INCIDENTS OF THE LIGHTER SIDE OF LIFE IN THE SENATE.

John C. Calhoun, when Vice President, did not believe that, as the presiding officer of the Senate, he had any right to call Senators to order for words spoken in debate. John Randolph of Roanoke abused this license by opening a speech with the words: "Mr. Speaker—I mean Mr. President of the Senate, and would-be President of the United States—which God, in his infinite mercy, avert," and then launching into one of his characteristic tirades.

Calhoun's name recalls nullification. When this heresy was at its most rampant stage, the Northern Senators depended largely upon John Holmes, of Maine, as champion of their side of the chamber, on account of his ready wit. John Tyler tried to badger him one day by asking what had become of that political firm once mentioned by Randolph as "James Madison, Felix Grundy, John Holmes and the devil."

"The partnership," answered Mr. Holmes, promptly, "has been legally dissolved. The senior member is dead; the second has gone into retirement: the third now addresses you; and the last has gone over to the nullifiers, and is electioneering among the honorable Senator's constituents."

Clay and Webster were not habitual humorists, but both had the gift of entertaining as well as enthralling their audiences. Clay ran most to illustrative anecdote. While he was in the House, a prominent politician deserted the Whig party in the hope of starting a general revolt. To his dismay, he found himself quite alone, and then bent all his energies to getting back into good standing. The incident reminded Clay of a story. Said he:

"A stage-coach took aboard a passenger who insisted upon riding with the driver, and who diligently drew upon the contents of a bottle carried in his great-coat pocket. When his potatoes at last overcame him, he fell off. The coach stopped long enough for some charitable travelers to alight and pull the poor fellow out of the mud.

"Ha!" he exclaimed, as he looked down at his tattered garments, 'we had quite a [hic] turnover, didn't we?'"

"Oh, no," answered one of his rescuers, 'there was no turnover. You only fell off.'"

"I say," he persisted, 'there was a [hic] turnover, and I leave it to the company.'"

"Every one joined in assuring him that the coach had not upset.

"Well," he remarked ruefully, as he tried to climb back to his former perch, 'if I'd known that [hic] I wouldn't have got off.'"

On a certain afternoon, the Senate clock got a fit of striking in the midst of one of Webster's most effective speeches. After it had struck fourteen or fifteen, Webster held up one finger. "Mr. President," said he, "the clock is out of order. I have the floor.—Leupp's *Humors of Congress*, in *March Century*,

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Gifted with inventive faculty and great mechanical ability, his technical education and service in the engineering branch of the United States Navy have given him both theoretical and practical knowledge which have immensely forwarded Mr. Westinghouse in his career. Amongst the benefits he has conferred on the world, I may mention the utilization of natural gas. Conveying the gas by pipes from its natural wells to wide areas of use is due almost entirely to his personal and unremitting efforts. His inventions (and especially that of the air brake) have brought him a large and well merited fortune, and it is said that his various factories in this country and in England, France, and Russia represent a substantial, productive investment of probably one hundred million dollars.

The inventor of the type writer was W. M. Jenne, of Ilvin, N. Y., who was a mechanic working by the day when he started on his invention. He is now a wealthy man—is superintendent of a type writer manufactory. C. L. Sholes is also entitled to part of the credit of the development of the writing machines of the present day. He began as a mechanic, but died rich, and a universally known type-writer of the day was, to a great extent, his creation. It is remarkable how many patents have been granted, of late years, to mechanics and other persons working for day wages. For instance, Mergenthaler, who invented the linotype machine, and received millions for it, was an expert mechanic, engaged in making telescopes and other scientific apparatus. His contrivance is now in use, all over the civilized world, the mechanical compositor having taken the place of the human type-setter in nearly every great printing establishment.

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My best pen of Silvers will be headed this season with a fine cock direct from Mr. J. T. Orr, out of his famous laying strain of Silver-Laced Wyandottes. EGGS at \$1.00 per setting of 15 at Express Office, Salisbury, N. C.

Mrs. JOHN D. A. FISHER,

R. F. D. No. 3, Salisbury, N. C.

**White Leghorns.**

EGG RECORD, 2,213 eggs in one year from eighteen hens.

Eggs, \$2 per 15; \$5 per 60.

Write for circular to-day.

C. G. M. FINK, 1409 W. Leigh St., Richmond, Va.

invented the coaster brake which bears his name, and which has made him a wealthy man.

Hugh Cook of Dayton, Ohio, was a worker for wages when he made the invention on which the most efficient cash register in the market is based, from the proceeds of which he receives about \$25,000 annually.

F. A. Flanagan had a little jewelry store in Washington City, when his fortune took a rise by his devising a method of cleaning oil wells by dropping an electric stove down into them. Prior to this invention, when oil wells became choked with paraffin, they were cleaned by exploding nitroglycerine cartridges, which were both costly and dangerous. The electric stove process is safe and cheap, and has made the inventor rich.

I have heard that the inventor of the safety-pin made a fortune by this invention, but I do not know "what's his name or where's his home," or any authentic details about him.

The Americans have shown more invention than any other nation in regard to the daily wants and conveniences of life. Edison alone has taken out 750 patents, numbers of them applications of electricity to common daily needs. But we must not forget nor fail to acknowledge our debt to the great inventors of other nations, notably the Scotch, English, German, French and Italian. To Scotland is due (in the person of James Watt) the invention of the modern condensed steam engine, with the incalculably great results that followed in this invention. It was Hargraves, an English carpenter, who, in 1767, invented the spinning jenny which gave means of spinning twenty or thirty threads with no more labor than had been employed on a single one. This was followed by Arkwright's still more important invention of the spinning frame which it is interesting to connect with the subsequent invention of the cotton gin in America. The two gave an enormous impetus to the cultivation and manufacture of cotton, and like the two wings of a bird, caused commerce to soar aloft, where formerly it had crept.

To Germany, in the person of Gutenberg, we owe the invention of printing, an obligation so vast, so overwhelming that all words fail in making an adequate acknowledgment of it.

To Italy is due, in the person of Galileo, the invention of the telescope, with all its valuable offshoots, as for instance, spectacles for the use of old persons, or others suffering from weak or imperfect vision. Nor did the great inventors of Italy become extinct with Galileo, for it is an Italian of the present day, Marconi, who has successfully established the system of wireless telegraphy. But it was primarily Morse's invention of the telegraph which has paved the way to Marconi's invention, and all others along that line.

To France, in the person of Daguerre, is due the invention which paved the way to modern photography with all its wonders and beauties. I remember the pale, shadowy pictures called "Daguerotypes" in my childhood, and afterwards succeeded by a better style of pic-

**..HOLLYBROOK FARM .**  
**EGGS FOR SETTING**

**From Thoroughbred Poultry.**

In our poultry yards we have the following thoroughbred poultry, all first-class stock, originally started from the best stock in this country, and carefully cross-mated so as to give strong and vigorous stock and the best laying strains of the different breeds that it is possible to obtain:

**BARRED P. ROCK.** \$1.00 per sitting.

**BLACK LANGSHAN.** \$1.00 per sitting.

**BUFF PLYMOUTH ROCK.** \$1.50 sitting.

**LIGHT BRAHMAS.** \$1.50 per sitting.

**SILVER LACED WYANDOTTE.** Price, \$1.50 per sitting.

**WHITE WYANOTTE.** \$1.50 per sitting.

In addition to careful breeding, we pay special attention to the handling and packing of our Eggs, so as to ensure good fertility and a good hatch.

We have also for sale a few first-class young cockerels of **BUFF PLYMOUTH ROCKS,** **SILVER LACED WYANDOTTES** and **LIGHT BRAHMAS.**

Price, \$1.50 and \$2 each, crated for shipment.

**HENRY W. WOOD,**

P. O. Box 330. Hollybrook Farm, RICHMOND, VA.

**LEGHORN POULTRY YARDS**



Have for sale a limited number of Single Comb Brown and White Leghorn Pullets and Roosters. Best layers known. Prize-winning stock. Price, \$1.00 to \$1.50 each. Eggs in season at \$1.00 for 16; \$5.00 per 100. Satisfaction guaranteed. Address

A. T. MATTHEWS, Box 36, Parksley, Va.

**BROWN LEGHORNS**

(Single Comb.)

Eggs from prize winners and good layers \$1.50 per sitting. Reduction on larger lots.

**WHITE PLYMOUTH ROCKS**  
**R. W. HAW, Jr., - Centralia, Va.**

**PLYMOUTH ROCK EGGS**  
**FOR BROILERS.**

The undersigned can furnish them in limited quantities at \$2.50 for 100.  
F. O. B. at Claremont, Va.

J. M. HUGHES, Claremont, Surry Co., Va.



**PECK'S EGG-FOOD.**  
**FEED FOR 50 HENS FOR 60 DAYS \$1.00 PREPAID.**  
 It is the cheapest food on earth. It pays others, and will pay you. It makes the poultry business interesting, BECAUSE it produces results—WE SUGGEST a trial order. Our Booklet and Egg-Record—F. E.  
 THE FRED S. PECK CO.,  
 211 W. Mitchell St., Petoskey, Mich.

**WANTED!**  
 ALL KINDS OF  
**LIVE WILD BIRDS AND ANIMALS.**  
 I pay \$5 a piece for WILD TURKEYS.  
 WHITE SQUIRRELS WANTED.  
**CECIL FRENCH,**  
 718 Twelfth St. N. W., Washington, D. C.

**"HAWKINS"**  
 Barred, Buff and White P. Rocks, Light Brahmans, White Wyandottes, Buff Cochins, Partridge Cochins, Black Langshan, Black Minorca, S. C. Brown Leghorns and S. C. White Leghorns. Stock for sale cheap. Prize winner eggs, \$1 for 15. A hatch of 5, or order duplicated at half price.  
**OAKLAND POULTRY FARM, Ruffin, N. C.**  
 Box 5. C. J. Warriner, Manager.

**32 Varieties Best Poultry**  
 FINE ILLUSTRATED CATALOG for stamp, if you mention this paper. All poultry keepers should have it. **JNO. E. HEATWOLE,** Harrisonburg, Virginia.

**BLACK MINORCAS.**  
 These fowls are noted for their prolific laying and non-setting qualities, and are very highly bred.  
 Eggs, \$1.50 per setting of thirteen.  
**WINSTON & BRANCH,**  
 2024 Floyd Avenue, Richmond, Va.

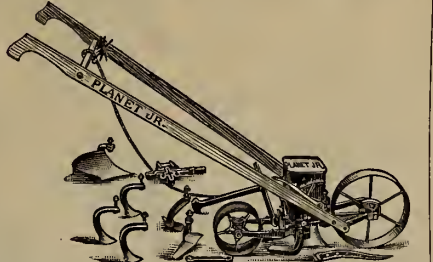
**Black Langshans.**  
 Fine stock and free range. Only breed kept. Splendid winter layers. A few birds for sale.  
 Cocks, \$2.50; Hens, \$1.50; Eggs, \$1.50, per 15. Satisfaction guaranteed.  
**A. W. JOHNSON,** Parksley, Va.

**White and Barred Rock COCKERELS**  
 Single bird, \$1.00; trio, \$2.50. Eggs for hatching, 75 cts. for setting of 15. **JERSEY BULL,** No. 54171. **J. B. JOHNSON,** MANASSAS, VA.  
 Clover Hill Farm.

**BARRED and BUFF PLYMOUTH ROCKS**  
 Cockerels, \$1.00 each.  
 Buff eggs, \$1.50 per sitting; Barred, \$1.00.  
**FRED NUSSEY,** - Summit, Spotsylvania Co., Va.

ture called ambrotypes. But imperfect as were the daguerreotypes, they were headed in the right direction, and without the invention (or discovery) that lies at their basis—namely, that the sun can be utilized as a picture-taker, modern photography could not have come into existence.

**THE PLANET JR. NO. 4 DRILL.**  
 The little hand implement shown here-with, Planet Jr. Combined Drill, etc., is probably a familiar sight to most of our readers. This Planet Jr. No. 4 is a most serviceable all around tool. The thing that distinguishes it especially is its comprehensiveness. By means of its attachments, the purchase of a single tool gives you the service of four—seeder, hoe, cultivator and plow—every one suited to its own particular work. Though for years it has been considered a splendid tool, it has received valuable improvements for



1903. For every purpose short of the large operations where a Planet Jr. tool-horse tool might profitably be substituted, this is a good tool to buy. Converting it from one tool to another is the work of a minute. Its perfect work, its special adaptation to the thing which needs to be done, and its easy running put a premium on good cultivation. It will be found advertised elsewhere. Descriptive catalogue and free information by the manufacturers, S. L. Allen & Co., Philadelphia.

**AN OBJECT LESSON.**  
 A few weeks ago, *Southern Education Notes* published a list of counties in the South in which more than 20 per cent. of the native white men are illiterate. About one of those counties in Virginia a man who has traveled much in the South, and knows the people, writes as follows:  
 "Perhaps my experience in travelling in that county twenty-five years ago may be of interest. A few years before I went into the county, the people discovered that a good deal of the white poor soil was especially adapted to the raising of a very fine grade of tobacco. Farmers who had scarcely eked out an existence before this discovery were now sometimes able to realize as much as \$500 or \$600 from the sale of a single acre of fancy wrappers. But the great tide of prosperity in the growing of this tobacco came and passed away without benefitting very largely the people of the county. I never saw so much drunkenness and debauchery in my life. One day I went to as many as three houses in the course of my travels in which I found men too drunk to attend to business. They got big prices for

**BARRED PLYMOUTH ROCK COCKERELS.**  
 We have ten cockerels which we could have sold readily at \$2.50 each, but the late cold snap slightly frosted their combs, not enough to make them sick, but still enough to detract from their appearance, we will sell for \$1 each, if ordered at once. They can be returned if not satisfactory, and we will refund the dollar. Eggs, \$1 for 15; Incubator eggs, \$3 per hundred. No C. O. D. shipments to any one. **SUNNYSIDE POULTRY FARM,** Christiansburg, Va.  
 Reference: **Bank of Christlansburg.**

**The Racket Poultry Farms,**  
**A. S. JOHNSON, Man., Parksley, Va.**  
 Breeder of High-class Land and Water Fowls.  
**BLACK LANGSHANS, RHODE ISLAND REDS, S. C. BROWN LEGHORNS, TOULOUSE GREESE, PEKIN DUCKS and BELGIAN HARES.**  
 Geese eggs, 25cts. each. Langshans, Rhode Island Reds, \$1.25 sitting, others, \$1.00. Our birds are bred from winners at largest shows, and have the range of three farms. Satisfactory guarantee.

**BARRED PLYMOUTH ROCKS**  
**A SPECIALTY.**  
 Line bred for twelve years; beautifully barred, large and healthy, farm-raised birds for sale all seasons.  
 Eggs, \$1 per sitting 15, two sittings, \$1.50.  
 Cockerels, \$1 to \$2; Pullets, \$1.  
**E. F. SOMMERS, Somerset, Orange County, Va.**

**WHITE WYANDOTTES and BUFF P. ROCKS.**  
 Beautiful birds, and grand layers.  
 Cockerels, \$1.50 each.  
 Eggs, \$1 per 13; \$5 per 100.  
**EDGEMONT POULTRY YARDS, Liberty Mills, Va.**

**S. C. BROWN LEGHORNS**  
 Long bred for fine plumage, strong vitality and laying qualities. One sitting of 16 eggs, 75 cts.; two sittings of 32 eggs, \$1.25; per 100 eggs, \$3.50. ADDRESS  
**J. N. HANGER,** - Lasley, Va.

**Barred Plymouth Rocks**  
**—EXCLUSIVELY—**  
 Strong, healthy, vigorous, farm-raised stock; bred for laying; 75 cts. per setting.  
**WM. B. LEWIS, Irby, Nottoway Co., Va.**

**PIT GAMES**  
 Red Horses, Eggs, \$1.50 per sitting (15).  
 Also a few RED HORSE and IRISH RED Cocks for sale at reasonable prices.  
**A. S. CRAVEN,** - Greenwood, Va.

**PIT GAMES.**  
**BLACK DEVILS and RED HORSES.**  
 These Cocks won 90 per ct. of battles fought in 1901 and 1902, and have never lost a battle when gameness and cutting qualities could win. Eggs, \$2 per sitting and stock for sale.  
**THOS. W. JARMAN, Yancey Mills, Va.**

**WANTED**  
 50 Fine BROWN LEGHORN Hens and 1 Cockerel to be delivered to Burkeville, Va. **E. M. SANDYS,** 16 Eighth Street, Pilsburg, Pa.  
**S. G. B. LEGHORN ROOSTERS OR HENS,** 75 cts. each; Eggs, 75 cts. for 15.  
**MRS. A. W. DAVIS,** - BLANTON, VA.

# SHORTHORNS

## SPECIAL OFFERING FOR 30 DAYS.

Owing to the scarcity of feed, I will offer 20 Cows and Heifers, and 14 Young Bulls for immediate sale, at prices ranging from \$75 to \$150 each.

Parties desiring to purchase should not miss an opportunity to see these cattle.

This offering consists of popular American and Scotch families. All animals either Recorded or will be Recorded in purchaser's name, and a certified copy of registration furnished with each animal.

D. M. KIPPS,  
Success, Warren Co., Va.,

## ELLERSLIE FARM

Thoroughbred Horses  
AND SHORTHORN CATTLE,  
Pure Southdown Sheep  
and Berkshire Pigs.

FOR SALE. R. J. HANCOCK & SON,  
CHARLOTTESVILLE, VA.

COOK'S CREEK HERD,



Scotch-Topped  
Shorthorns

Herd Headed by Governor Tyler, 158548  
Young Bulls and Heifers for sale. Inspection  
and correspondence invited.

HEATWOLE & SUTER, Dale Enterprise, Va.

EAST RIVER SIDE

## SHORTHORNS FOR SALE.

One choice Red Bull, old enough  
for service.

ADDRESS

JAMES F. CLEMMER, - Summerdean, Va.

## VIRGINIA VALLEY HERD

Of Registered Shorthorn Cattle.  
Choice young bull, cows, and heifers bred.  
Also Poland-China Hogs and Barred  
Plymouth Rock Chickens.

PRICES REASONABLE.

HENRY BLOSSER, HARRISONBURG, VA

## FOR SALE

Fine, Thoroughbred JERSEY BULL CALF,  
6 months old.

I have the finest seed corn in this section.  
C. N. STACY, - Amelia C. H., Va.

S. C. W. LEGHORNS. Pure stock. Bred to  
lay. Eggs, \$1 per 20.  
IDEAL POULTRY YARDS, Kopp, Va.

their tobacco, handled a good deal of money, knew no higher sense of enjoyment than to spend it for whiskey, and all the evils which follow in the trail of its use came to them.

"Later it was discovered that certain lands in Kentucky would grow the same tobacco equally as well and better. The price of tobacco went down and the greatest opportunity that the people of that county ever had to become wealthy passed away. Not more than one man in twenty was permanently benefitted by tobacco culture, and a great many were seriously damaged." The writer adds: "Permanent prosperity is impossible in any illiterate community. We may strike oil, find coal, iron and gold, but the people who live where such wealth is stored will not be benefitted unless they are sufficiently educated to take advantage of the opportunity to improve such natural resources and make them a means of permanent social betterment."

## A BRIGHT THOUGHT.

She was a fair young thing from Boston with an inquiring mind, and having run the blunt old sealing captain into the farthest corner of the Labrador coasting steamer and cut off from him all means of retreat, she begged of him to tell her of his perilous vocation.

"But, Captain," she asked, "how is it you catch so very many dear, little, tiny seals?"

"Well, you see," replied the Captain in his husky voice, hesitating as he hunted for a word other than "females" which he thought objectionable, "you see, the ladies pup on the ice."—CAROLINE LOCKHART (SUZETTE), in *March Lippincott's*.

## IMPROVED POLAND-CHINAS FOR VIRGINIA.

Mr. J. B. Gray reports the demand for Poland-Chinas unprecedented, and in order to fill orders has made the following additions to his herd of Poland-Chinas from the leading breeders of Ohio: Two sows by Penfrede Perfreter, and two sows by Ohio Black Chief, 52101, and two sows in pig by Big Ideal, 53426, and a young boar by J. H. Big Chief, 46085, out of Beat Sunshine. The breeder of this boar says that he is the best all-over pig that he has ever seen or raised, and Mr. G. says that it is impossible to conceive of a more perfect spine in a Poland-China pig.

## VALUABLE CATALOGUE.

We have looked over the catalogue we have just received from Morrill & Morley, of Benton Harbor, Mich., makers of the Eclipse Spray Pumps and our advertisers. From cover to cover it is full of valuable matter, compiled from years of practical experience and representing tests that have cost the makers thousands of dollars. Any of our readers who are using spray machinery will find it to their interest to write for a copy of the above catalogue and to give it careful study. Write direct to the makers, Morrill & Morley, Benton Harbor, Mich., and mention this paper when writing.

## RED POLLED CATTLE FOR SALE.

One purebred registered bull, three-year-old. Price, \$125.  
One purebred registered cow, four-year-old, due to calve in April. Price, \$150.  
One pure-bred registered heifer, two year-old, due to calve in June. Price, \$125.  
Price on the lot, \$350., f. o. b. cars Christiansburg, Va.

Will keep cattle until April 15th, for buyer. These cattle are all purebred and registered in American Red Polled Cattle Club Herd Book, and are all in fine, healthy condition.

WM. S. FOSTER, Blacksburg, Va.

## MEADOWVALE FARM

OFFERS FOR SALE SOME CHOICE

JERSEY and GUERNSEY CATTLE,  
BERKSHIRE SWINE, WHITE WY-  
ANDOTTES, BARRED PLYMOUTH  
ROCKS and WHITE LEGHORNS.

The cattle offered consist of Young Cows, Yearling Heifers, Heifer and Bull Calves and Bulls old enough for service. Berkshires of all ages and both sexes. The poultry is all fine breeding stock and healthy.

Meadowvale Farm has won in the past three years over 600 First and Special Prizes at the Leading Fairs and Expositions; including, New York, Boston, Philadelphia, Hagerstown, Pan-American and Charleston. For Description, Pedigree and Prices, address

LEWIS E. BENEDICT, Prop., Lutherville, Md.

## V. P. I. Farm Bulletin

Splendid ANGUS BULL for sale.  
1 year old in April.

We are now booking orders for  
DORSET RAM LAMBS. No more  
BERKSHIRE PIGS now.

D. O. NOURSE, Prof. of Agr.  
Blacksburg, Va.

## FOR SALE ANGORA GOATS.

Registered and Graded. "One to carload lots." Pairs, \$10.00; trios, \$17.00.  
Write for carload prices.



JEREMY IMPROVEMENT CO., - Saxe, Va.

# \$100 CASH PRIZE FOR ANY STUDENT OF AN AGRICULTURAL COLLEGE OR FARMER



We hereby offer \$100 in cash for the best article to be written on breeding and raising Hogs. Describe ten sows that you would select for breeding. Describe boar that you would select for a cross with these sows. Describe how and what kind of grain, grains or mill stuffs you would feed sows until pigs were farrowed. Tell how many pigs you would expect from the ten sows and describe how and what you would feed sows after pigs were farrowed. State when you would commence feeding pigs and what you would use. State when you would wean pigs and what kind of feed you would give them from that time until they were six months old and what you would expect to make them weigh at the expiration of six months. State why you would expect such results from your care and kind of feed used. Describe kind of pens and yards you would use for each condition. Our aim is to have you write an article describing in a practical way just how you would raise hogs to obtain the best results. The breed of hogs selected will Not be considered in the decision. The use of "INTERNATIONAL STOCK FOOD" will Not be considered in the decision. The decision will be published in every leading Farm Paper in the United States and Canada. Mail your article to The American Swineherd, Chicago, Ill., on or before May 10th, 1903. The judges will be J. W. Baynes, editor and proprietor of American Swineherd, Prof. Thomas Shaw of The Farmer, St. Paul, Minn., and Henry Wallace, editor of Wallace's Farmer, Des Moines, Iowa. These gentlemen are

well known throughout the entire country and the decision will be rendered in May, 1903. The winning article is to be our property and will be circulated throughout the world and will attract universal attention of all swine raisers. Who will win the \$100 Cash and the Honor and at the same time write an article that will be of great practical value to every stockman? Try for it. You may be the winner. All articles must be mailed to The American Swineherd, Chicago, Ill., on or before May 10th, 1903. Mark your envelope "International Stock Food" Offer.

"INTERNATIONAL STOCK FOOD" FEEDS FOR ONE CENT is Prepared from Roots, Herbs, Seeds and Barks and Won the Highest Medal at Paris Exposition in 1900 as a High-Class vegetable, medicinal preparation to be fed to stock in small amounts as an addition to the regular feed. It is a Great Aid in Growing or Fattening stock because it increases the appetite and Aids Digestion and Assimilation so that each animal obtains more nutrition from the grain eaten. We positively guarantee that its use will make you extra money over the usual Plan of Growing and Fattening stock. "International Stock Food" can be fed in safety to Horses, Cattle, Sheep, Goats, Hogs, Colts, Calves, Lambs or Pigs. It is Absolutely Harmless even if taken into the Human System. You insist on eating medicinal ingredients with your Own food at every meal. Salt is a stomach tonic and worm medicine, Pepper is a powerful stimulating tonic, Mustard is a remedy for dyspepsia, Vinegar is a diuretic. You eat these medicinal ingredients almost with every mouthful of your food, and it is proven that these condiments promote health and strength for people and improve their digestion. "International Stock Food" contains pure vegetable medicinal ingredients that are just as safe and as necessary an addition to the regular feed of your stock if you desire to keep them in the best possible condition. "International Stock Food" is endorsed by Every High Class Farm Paper. It purifies the blood, stimulates and permanently strengthens the entire system so that disease is prevented or cured. "International Stock Food" is sold on a "Spot Cash Guarantee" by Fifty Thousand Dealers throughout the World. Your Money will be Promptly Refunded in Any case of failure. It will make your Pigs or Hogs grow Amazingly and has the largest sale in the World for curing or preventing Hog Disease. Beware of the many Cheap and inferior imitations! No Chemist can separate all the Different powdered Roots, Herbs, Barks and Seeds that we use. Any One claiming to do so Must be an Ignoramus or Falsifier.

## A \$3000.00 STOCK BOOK FREE

IT CONTAINS 183 LARGE ENGRAVINGS OF HORSES, CATTLE, SHEEP, POULTRY, ETC.

The Cover of this Book is a Beautiful Live Stock Picture Printed in Six Brilliant Colors. Book is 6 1/2 by 9 1/2. See engraving for greatly reduced design of cover. It cost us \$3000 to have our Artists and Engravers make these life Engravings. This Book contains a Finely Illustrated Veterinary Department that will Save You Hundreds of Dollars. It describes common Diseases, and tells how to treat them. It also gives Description, History and Illustrations of the Different Breeds of Horses, Cattle, Sheep, Goats, Hogs and Poultry. It contains testimonials, and Life Engravings of many very noted Animals. The Editor of This Paper Will Tell You That You Ought to Have This Book in Your Library For Reference.



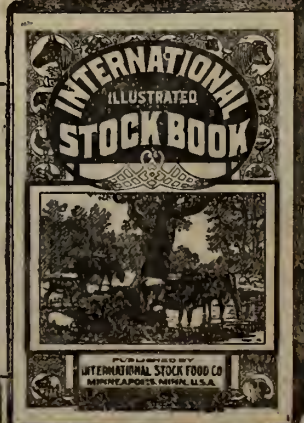
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## JERSEY HERD

IN AMERICA. FOUNDED 1882.

BULL CALVES, and for the first time, Heifers bred to Imported Golden Peter, and Heifer Calves and a few aged Cows.

BERKSHIRES, all ages, sired by Imported Storm King, or Imported Esau 2nd, Size, good shape and large litters.

Visitors welcome. Address for Book of The Farm, or prices

FILSTON FARM, GLENCOE, MD.

### Swift Creek Stock and Dairy Farm



Has for sale a large number of nice young registered A. J. C. C.

### JERSEY BULLS AND HEIFERS.

None better bred in the South. Combining closely the most noted and up-to-date blood in America. Bulls 10 to 12 months old, \$25.00. Heifers, same age, \$35.00. POLAND-CHINA PIGS, \$5.00 each. Send check and get what you want.

T. P. BRASWELL, Prop., Battleboro, N. C.

## Hackney Stallion FOR SALE.

Only 4 yrs. old, and is a prize winner. Send for particulars.

I also have some very fine purebred S. L. WYANDOTTE COCKERELS.

Eggs in season at \$1 per sitting of 16.

Dr. H. H. LEE, - Lexington, Va.

## Woodland Farm DORSETS

Of 16 rams, 9 to 14 mos. old, we now have on hand, 4 are not quite good enough to head any herd in the United States. The best ram Harding could find in England now heads our flock. Are buying a few ewes; none to sell, but are booking orders for October dropped ewe lambs.

WOODLAND FARM, Mechanicsburg, O.  
(J. E. Wing, Willis O. Wing, Chas. B. Wing.)

## DORSETS AND HEREFORDS

H. ARMSTRONG, - Lantz Mills, Va.

### FOR SALE.

### 3 Reg. HEREFORD BULLS

From 6 mos. to 3 yrs. old.

### 8 REG. HEIFERS

From 6 to 18 mos. old. At reasonable prices.  
HAYFIELDS STOCK FARM, Cockeysville, Md.

### HAWKSLEY STOCK FARM.

## Large ENGLISH BERKSHIRES B. P. ROCKS FOWLS,

Eggs from same, \$1 per 13.

J. T. OLIVER, Allen's Level, Va.

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Bulletin 69. Part 4. Foods and Food Control.

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Virginia (Hampton Nature Study Bureau), Hampton, Va. Care and Management of Horses.

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In want of a PIANO will find it to their interest to write to us. We assure them there is such a thing as buying an honestly-made instrument at a moderate price.

We make CASH and TIME SALES, and are willing to take part payment in Stock and Farm Products.

Write and state your wishes.

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STAUNTON, VA.

## COLLIE PUPS!

By prize-winning imported sires and trained dams. Eligible. Fit for bench, ranch or farm. Price, \$10, either sex. Also a book on the care and training of the Collie for all practical uses. Price, 50c. Copy of book free to purchaser of Collie.

Stock Farm, "MAPLEMONT," Albany, Ver.

## FOR SALE.

Large English Berkshire Hogs, Barred Plymouth Rock Chickens

BEN. BOLT, 60747, 430 lbs. as a yearling at head of herd. EGGS IN SEASON.

JOHN P. FOSTER, Nocreek, Ohio Co., Ky.

## ANGUS BULL CALVES

Registered and unrecorded. Stock first-class, and breeding the best.

## SHROPSHIRE SHEEP

First-class yearling rams, and ewes of all ages. Several FINE FARMS for sale.

WARREN RICE, - Winchester, Va.

## 150 Jacks, Jennets & Mules 150



Best assortment I ever owned. Can suit you exactly. Write for description and prices.

Also will sell two Percheron stallions at close figures.

BAKER'S JACK FARM, Lawrence, Indiana.

## FINE JACKS.

Mules are equal to Gold Dollars, from "youth to old age." Several nice ones and 2 very fine Jennets for sale. Buy Jack now and get him ready for spring. Write your wants to

L. L. THOMAS,

722 W. Campbell Ave., - Roanoke, Va.



## JACKS and JENNETS FOR SALE.

Enclose 2 cent stamp for new catalogue.

W. E. KNIGHT & CO.,  
R. F. D. 5. Nashville, Tenn.



## NELSON AND THE COXSWAIN.

Just before the Battle of Trafalgar a mail was sent from the English fleet to England, and word was passed that it might be the last chance to write before the expected engagement. The letters had been collected from the ships, the letter-bags were on the vessel which was to take them, and she had got some distance on her way, under full sail, when Lord Nelson saw a midshipman approach and speak to Pasco, the signal officer. Then Nelson showed the side of his nature which so often won the sailors' hearts.

Pasco uttered an exclamation of disgust and stamped his foot in evident vexation. The admiral called him and asked what was the matter.

"Nothing which need trouble your lordship," was the reply.

"You are not the man to lose your temper for nothing," rejoined Nelson. "What was it?"

"Well, if you must know, my lord, I will tell you. You see that coxswain?" pointing to one of the most active of the petty officers. "We have not a better man on the Victory, and the message which put me out was this: I was told that he was so busy receiving and getting off his mail-bags that he forgot to put his own letter to his wife into one of them; and he has just discovered it in his pocket."

"Hoist a signal to bring her back!" was Nelson's instant command. "Who knows that he may not fall in action tomorrow? His letter shall go with the rest."

The despatch-vessel was brought back for that alone. Captain Mahan tells this story on the authority of the son of Lieutenant Pasco, who used to say that the sailors idolized Nelson. Evidently it was with reason.

## HE GAVE THE REASON.

Uncle Silas, an inveterate horse dealer, was one day called upon by an amateur in search of "something fast."

"There," said Uncle S., pointing to an animal in a meadow below the house, "there, sir, is a mare yonder who would trot her mile in three minutes were it not for one thing."

"Indeed!" said the amateur.

"Yes," continued Uncle S.; "she was four years old last spring, is in good condition, looks well and is a first rate mare, and she could go a mile in three minutes were it not for one thing!"

"That mare," resumed Uncle S., "is in every way a good mare; she trots square and fair, and yet there is one thing only why she can't go a mile in three minutes."

"What in the name of thunder is it, then?" cried the amateur, impatiently.

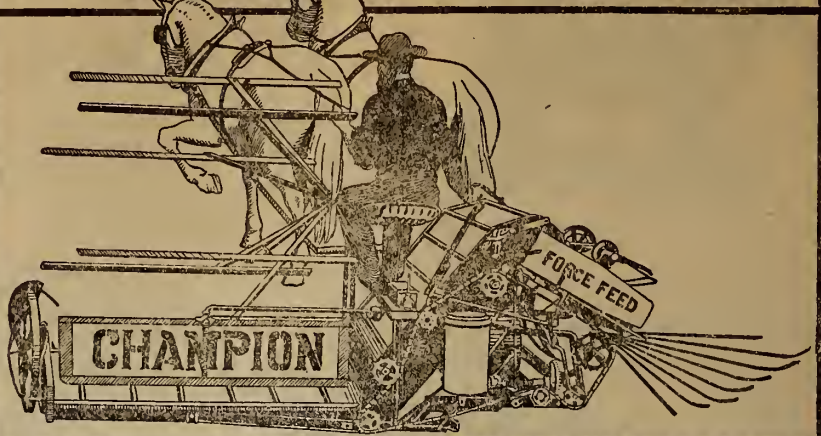
"The distance is too great for the time," was the old man's reply.

"I don't care for looks or riches," she said. "The man I marry must be a hero."

"You are right," my child, said the father, "he must."

**A NEAT BINDER** for your back numbers can be had for 25 cents. Address the Business Office.

## NONE AHEAD



**T**HERE is no binder ahead of the Champion for strength and durability, besides it has valuable improvements which greatly increase its capacity for handling difficult conditions of grain, and are useful in the usual and ordinary conditions. The most important is the **force feed** elevator which delivers the grain positively but gently to the packing arms where it is made into bundles, and choking in the elevator and waste of grain are prevented. Next is the **eccentric power-giving wheel** on the binding attachment which gives the needle an increase in power of 162.3 per cent over the common wheel, and permits the Champion to bind large and tight bundles in the heaviest grain without jerk or strain on the machine or on the team. Write for catalog describing these and other practical improvements on the Champion binder, also on the **Champion mowers** and **Champion hay rakes**. Handsome colored calendar sent free also if requested.

**CHAMPION DIVISION, INTERNATIONAL HARVESTER COMPANY OF AMERICA, CHICAGO.**

## \* GLEN ALLEN HERD OF \*

## ..ABERDEEN-ANGUS CATTLE..

Headed by ALLENHURST KING IV 47199,

Assisted by VICTOR G., No. 37693.

I am now offering for sale a few choice young bulls of serviceable age, at a bargain. Any one wanting bulls from prize-winning families at a moderate price, will save time and money by calling on or addressing

**GLEN ALLEN STOCK FARM, W. P. ALLEN, Prop., Walnut Hill, Va.**

## SUNNY HOME HERD OF

## ABERDEEN-ANGUS CATTLE.

**BARON ROSEBOY** (The great son of the world-famous

**GAY BLACKBIRD**) in service.

Nearly all the leading families of the breed represented by females sired by the most famous bulls of the age. We challenge comparison on both as to individual excellence and pedigree. Another car of grand cows just arrived, personally selected from one of the best herds in central Illinois. The tops out of one hundred head. Six animals of the same family and strain as **ROSEGAY** (for two years the champion of America), others equally good. All young stuff of weaning age sold; am booking orders for future delivery.

Write your wants; we are bound to please you.

**A. L. FRENCH, PROPRIETOR, FITZGERALD, N. O.**  
Rockingham Co., 24 miles south-west of Danville, Va., on D. & W. Ry.

When corresponding with Advertisers, always say that you saw their advertisement in *The Southern Planter*.

The Review of Reviews for March opens with an editorial tribute to the late Dr. J. L. M. Curry, the veteran leader of the movement for popular education in the South. In the same magazine, Mr. George Perry Morris reviews the long public career of the late ex-Senator Henry L. Dawes, of Massachusetts, the steadfast friend of the American Indian. "The Sultan of Morocco and his Present Troubles" is the subject of an article by Dr. Talcott Williams which embodies full and accurate information regarding political and social conditions in Morocco; Mr. Walter Willman describes the workings of the United States Steel Corporation's great profit-sharing and stock-distributing plans; there is a character sketch of the Hon. George B. Cortelyou, the first Secretary of the Department of Commerce and Labor, by Mr. H. B. F. Macfarland; Dr. J. M. Buckley describes the methods by which the Methodist Episcopal Church has raised its "Twenty-Million-Dollar Fund," to celebrate the opening of the twentieth century; Mr. Wintthrop L. Marvin sketches the recent remarkable progress of Germany as a ship-building nation; "The Lumber Industry of the Pacific Coast" is described by Alvin Hovey-King; Mr. Thomas C. Martin gives the latest information as to "Long Distance Power-Transmission in Canada"; and the work of the first federal Parliament of Australia is reviewed by the Hon. Hugh H. Lusk. Other important topics of the day are editorially treated in "The Progress of the World."

The Cosmopolitan Magazine for March contains a number of noteworthy articles. "The Police System of Europe," by Avery D. Andrews, formerly Police Commissioner of New York, embodies many of the results of the investigations of the author on his recent official visit to Europe, where he went to study the police systems of the leading countries. It is capably illustrated. "The Selection of a Home," by Clarence A. Martin, Professor Architecture at Cornell University, is the first of twelve articles on the general subject of "How to Administer a Household." Louise Parks Richards contributes an interesting personal sketch of the great painter, Von Lenbach. Two other character sketches deal with James Brooks Dill, the prominent corporation lawyer, and Edward Henry Harriman, the Western Railroad Czar. Elbert Hubbard, in article on "A Gladiatorial Renaissance," makes out a strong case against football as it is played to day, and Tom Masson discusses how many men a girl should be engaged to before she marries. "The Woman of Fifty," by Mrs. Wilson Woodrow, deals with the victory of modern woman over her hereditary enemy, Time. Other articles are: "The Young Napoleon," by Field-marshal Viscount Wolsley. K. P.; "Man-kind in the Making," by H. G. Wells; "Insurance as a Profession," by Charles F. Thwing, LL. D., President of the Western Reserve University; and "Beauty in the Modern Chorus." The March Cosmopolitan also contains four complete stories in addition to Henry Seton Merri-man's new novel, "Barlasch of the Guard."

**IRON AGE**

For over two generations the Iron Age implements have been helping farmers to do better. Every year in that time we have been making these labor savers better than before. To-day they are successful beyond question; durable beyond comparison; economical beyond doubt.

Improved Robbins Potato Planter

No. 6. Iron Age Double and Single Wheel Hoe, Hill and Drill Seeder.

No. 60. Iron Age Pivot Wheel Cultivator.

Write to-day for a free copy of the new Iron Age Book, full of facts that will save you money, time and strength all through the year.

**BATEMAN MFG. CO., Box 167, Grenloch, N. J.**

POPULAR GOODS—POPULAR PRICES.

**Matthews' New Universal** (Improved) **HAND SEEDERS AND CULTIVATORS.**

Suitable for every class of work.

STANDARDS OF AMERICA.

**STAR PATTERN BILLINGS Planter and Fertilizer**

Is the latest, and it drops at twelve different distances.

For CORN, BEANS, PEAS and BEET SEED.

If you want them, we furnish Marker and Trip Attachment for rowing both ways.

**New Universal Wheel Plows.** THREE STYLES.

The best made. Light and strong.

**AMES PLOW CO., 56 MARKET ST., BOSTON, MASS.**

For Sale by GRIFFITH & TURNER CO., Baltimore, Md.

**JERSEY CATTLE**

Bred from high-testing St. Lambert Cows.

**LARGE YORKSHIRE HOGS.**

The BACON BREED now leading all other breeds for making high-priced bacon.

**INDIAN GAMES**—The king of table fowls.

**WHITE WYANDOTTES**—The best general-purpose fowl.

**WHITE LEGHORNS**—All sold out.

Address

**BOWMONT FARMS, SALEM, VA.**

**SIR JOHN BULL and UNGLE SAM**

Have become so famous that I found a multiplication of their progeny necessary to the filling of orders; hence I have added a large



number of purest-bred **Imported and American Sows**, no akin to my old herd, and most of them now in farrow to **Imported Berkshire Boars** of a new strain.

**HUNTING DOGS and PUPS FOR SALE.**

**A DURHAM BULL CALF**, a picture, cheap. Write for particulars.

**THOS. S. WHITE, Fassifern Stock Farm, Lexington, Va.**

When corresponding with advertisers, always mention  
The Southern Planter.

## BOOKS.

**HOME FLORICULTURE.** A Practical Guide to the Treatment of Flowering and Ornamental Plants in the House and Garden. By Eben E. Rexford. Illustrated, 5 x 7 inches, 300 pages, cloth. Orange Juud Company, New York. Price postpaid, \$1.

This fascinating book is written by one of the most experienced amateur floriculturists and most pleasing writers in this country. His intimate knowledge of the wants of the people has convinced him what is wanted in this direction is not scientific text-books, but plain, practical, easily understood information, which will enable those who love flowers to grow them successfully. It has been written from the author's life long personal experience among flowers, and not from theory. Every detail in the principles and practice of plant growth and management is concisely, clearly and minutely explained, and yet there is not an unnecessary line in the book.

It treats on the soil for plants in pots, potting, watering plants, insects and how to fight them, care of house plants during summer, fertilizers, diseases of plants, winter precautions, dormant plants, appliances for the amateur's use, small greenhouses. Very complete lists and descriptions of plants best adapted to window culture are given, also of the best outdoor annuals, hardy perennials, shrubs, and plants for various purposes. The closing chapter, entitled "After Thoughts," forms a unique and pleasing combination of floricultural odds and ends, without which the book would have been deprived of one of its most instructive and attractive features. Over 70 excellent illustrations add considerably to the artistic appearance of the book.

We can supply the book at the published price.


## PAMPHLETS, &amp;c.

**The Menace of Arid Lands.** An Address delivered at the Farmers' National Congress at Macon, Ga., by Gilbert M. Tucker Editor of the *Country Gentleman*. Mr. Tucker takes up strong ground in opposition to the irrigation work which it is hoped to put upon the back of "Uncle Sam." He thinks it would be well to let this alone until the farmers of the East have had a period of prosperity long enough to enable them to show what Eastern lands can be made to produce. No objection whatever to the owners of arid lands doing all they can to make their lands productive at their own expense. This is what the Eastern farmer has to do.

Report of the A. O. U. Committee on the Protection of North American Birds, and of the National Committee of Audubon Societies. The good work done by these Societies deserves every support from farmers. The birds are his true friends and ought to be protected by him in every way possible.

We tender thanks to Senator Martin for copy of the Congressional Directory, 2nd session 57th Congress.

# A TRIUMPH



## IN MACHINE MANUFACTURE

IS THE McCORMICK  
BINDER . . .

During 1902 more McCormick machines were sold than in any previous year, a fact which attests the wide-spread popularity of the world-renowned machine. The seventy-two years success of the McCormick has made this name a household word throughout the world.

The McCormick is the machine to buy for 1903.

Write for beautiful McCormick calendar and copy of 1903 book entitled "A MODEL MACHINE."

**W. K. BACHE, Gen. Agt. for McCormick Machine,**  
RICHMOND. - VIRGINIA.

## Reg. HOLSTEIN-FRIESIAN

CATTLE of the Netherland, De Kol, Clothilde, Pietertje and Artis families. Heavy milkers and rich in butter fat. Stock of all ages for sale.

**Reg. BERKSHIRES** From noted strains, Imported Headlight, Lord Highclere and Sunrise.

### DORSET SHEEP.

**B. PLYMOUTH ROCK CHICKENS,** Fifteen Cockerels for sale.

N. and W. and Southern R. R.

T. O. SANDY, Burkeville, Va.

## "THE OAKS" SHORTHORNS FOR SALE

2 Reg. Bull Calves; 2 Reg. Cows; 1 three-year-old Reg. Bull (immune) raised south of Petersburg, Va. All right in every particular.

**B. B. BUCHANAN, Bedford City, Va.**



## BILTMORE FARMS, - BILTMORE, N. C.

### Headquarters for GOLDEN LAD JERSEYS,

Also get of TREVARTH and GEN. MARIGOLD. ❀ ❀ ❀

**GOLDEN LAD'S SUCCESSOR**, First and sweepstakes over all at the Pan-American Exposition, the champion JERSEY BULL OF AMERICA, and out of Golden Ora, our great prize-winning cow, both born and developed on these Farms, is among our service bulls.

Biltmore Jerseys are a combination of large and persistent milking qualities with an individuality that wins in the show ring.

**SPECIALTY.** Write for descriptive circular of the best lot of young bull calves ever offered, both for breeding and individuality. They are by noted sires and out of large and tested selected dams. Many of these calves are fit to show and win in any company.



### BILTMORE POULTRY YARDS.



**SPECIALTY.** Write for descriptive circular of eggs from our prize-winning pens. Over 50 yards to select from, made up of the winners at the leading shows for the last two seasons. If you want winners you must breed from winners.

Headquarters for the best IMPORTED ENGLISH BERKSHIRES.

APPLY TO **BILTMORE FARMS, BILTMORE, N. C.**

The most popular Machine in use for Peanut Picking and Grain Threshing are the

## HEEBNER'S, LITTLE GIANT AND PENNSYLVANIA

Machines, and they have splendid improvements for 1903. They are built in first-class manner, and are strong and durable. The price is within the reach of all. We guarantee them to do the work satisfactorily. We will mail catalogue and testimonials, and quote prices on application.

RUBBER, LEATHER  
and  
GANDY BELTING.

FRICK'S "ECLIPSE"  
ENGINES and BOILERS.

ERIE ENGINES and BOILERS.

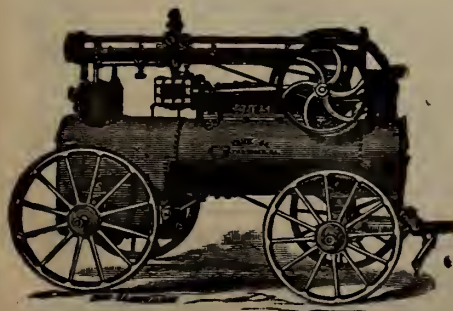
THE CELEBRATED  
"CHASE" SAW MILLS  
and

"DE LOACH" MACHINERY.

"LITTLE  
SAMSON"  
Automatic  
Engine.



This cut shows our 5 and 7 h.-p. "Little Samsom" Vertical Automatic Engine, for running threshers, peanut pickers, cutting feed, sawing wood, etc. Larger sizes also furnished.



**STRATTON & BRAGG CO., 20-22 N. Sycamore St., Petersburg, Va.**

## PRICES FOR CANNING CROPS.

At a recent meeting of the Farmers' Produce Association of Central New York at Oneida, the following schedule of prices for products grown for canning factories was adopted:

Evergreen sweet corn, 65c. per 100 lbs.; Country Gentleman and Crosby corn, 80c.; tomatoes, \$10 per ton; beets, \$15 and \$18; peas, \$2.25 per 100 lbs.; cucumbers, \$12 per ton. It was also agreed that in cases where members of the Association deliver peas at the factory, and do not take away the vines, the operators of the factory shall pay the farmer for the vines at the rate of \$3 for each acre the farmer has devoted to the culture of peas. This schedule, in the form of an agreement, is to be circulated among the farmers of the adjoining towns for their signatures.

Canners are now making contracts with the farmers in our county for growing peas. The seed supply is short, and the growers must pay \$4 per bushel for the seed. The price to be paid for picked peas is 70 cents per bushel for "viner" peas, 2½ cents per pound shelled peas, weighed as they come from the vines. It is not quite time for making contracts for tomato-growing. The canners claim that \$8 per ton will be their limit, but it will not be surprising if the price will be \$9 per ton around this place. At this amount per ton, another year of good yields will leave the farmers in fine financial condition.—W. G. Dawson, Dorchester county, Md., President Peninsula Horticultural Society.

## HYMNS UP TO DATE.

An old gentleman of eighty-two, whose occasionally cynical speeches are always tinged with good humor, was asked his opinion of modern church music.

"It's all very fine," he said dryly, "and I like to hear it; but there's one thing I've noticed. It may be just chance, but I've noticed it a good many times.

"When I was a boy, the people went to two services a day, and sometimes three, and they sat on hard seats with straight backs, and sang with all their hearts—

"My God, the spring of all my joys."

"Now the congregation lean comfortably back in softly cushioned pews and listen to the choir singing—

"Art thou weary, art thou languid."

I may be mistaken, but it comes home to me, every now and then, that hymnology is changing to suit the times.

"She used to say she'd never marry a man who wasn't as beautiful as a Greek god. What is her husband like?"

"Well, he's left-handed, cross-eyed, stammers, and has a 'game' leg. He may be a Greek god turned inside out, though."

Stranger (meeting old friend in New York).—How de do? Still living in New York, eh?

Gothamite (who has just had half a dozen narrow escapes from vehicles, subway explosions and dead wires).—Y-e-s—still living.

# MAUD MULLER

*raked hay  
in the  
old fashioned  
way.*



## DEERING IDEAL RAKES AND MOWERS

*are used nowadays  
by up to date farmers.*

DEERING DIVISION  
INTERNATIONAL HARVESTER CO.  
OF AMERICA  
CHICAGO, U.S.A.

# CISMONT DORSETS..

CISMONT STOCK FARM offers well-developed young Dorsets of the best blood of England and America.

Prices reasonable.

G. S. LINDENKOHL, Keswick, Albemarle Co., Va.

# THERE'S A HEN ON

All the time, doing her duty and making you easy money, when you install The Hawkeye Incubator. Made in sizes to suit your needs, from 60 eggs to 200, all of the finest and most approved construction and guaranteed in every particular. Our little price includes everything needed. We send our incubators on **30 DAYS' FREE TRIAL**. Send for free illustrated catalogue describing fully all sizes of Hawkeye Incubators and Brooders, mentioning this paper, or send 10c and we will send you catalogue and a leading poultry paper for one year.

HAWKEYE INCUBATOR CO., Box 49, Newton, Iowa.



## INCUBATORS ON 30 DAYS' TRIAL. THE WORLD'S BEST STANDARD HATCHER.



Thousands of these incubators are in successful operation in the United States, Canada, South Africa, New Zealand, Sweden, England, Holland, and Germany. These machines operate to perfection and always bring off a large brood of strong, healthy chicks. Catalogue with full particulars free for the asking. THE STANDARD F. C. INCUBATOR CO., Dept. 5, Rochester, N. Y., U. S. A.





\$18.50

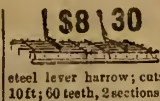
for this team harness, cut from oak-tanned leather, traces 1 1/2 in. 18 ft. lines: Hook & Turret pads. 98 styles to pick from. \$21.00. Double, \$10.00 to \$15.00.



\$18.60

for this 12-16 all steel disc harrow; has genuine Ladow bumpers. Dust proof oil tubes.

The Most Perfect Made. We have other style discs for \$15.25. We save you about 1-3 in price.



\$8 1/30

steel lever harrow; cuts 10 ft.; 60 teeth, 2 sections.



Steel Beam Cultivator, plain, with 5 shovels.



\$8

Mathews New Model garden drill, large size with 11 tools.

\$4.75 for the Comas drill, same principle as above. If you want a garden tool, write us.



\$28.75

Calumet check row planter with automatic reel and 80 rods wire. Never m. es, drops in hills and d. ills. We challenge the world with this planter. Will ship on trial.



\$9.95

for this 2 horse cultivator. Re-tails at \$15 to \$18.

\$15.95 for riding cultivator. Seven styles, 25 combinations. Most Wonderful Cultivator Bargains ever offered. Also Plows.



\$10.50

One-Horse Corn, Bean and Garden Seeder. Drops in hills and drills 12 acres a day.

80c Crank Seeder, sows wheat, oats and grass seed 4 to 10 acres an hour. Five other styles. Send for catalogue.

Send for Our Catalogue

It has 432 pages, size 9x11 inches. Postage is 15c, but if you will cut this ad out and send it to us we will mail the catalog FREE.

MARVIN SMITH CO., 55-57-59 N. Jefferson St., CHICAGO, ILL.

A distinguished lawyer and politician was travelling on a train when an Irish woman came into the car with a basket, bundle, etc. She paid her fare, but the conductor passed by the lawyer without collecting anything. The good woman thereupon said to the lawyer, "An' faith an' why is it that the conductor takes the money of a poor woman an' don't ask ye, who seem to be a rich man, for anything?" The lawyer, who had a pass, replied, "My dear madam, I'm travelling on my beauty." The woman looked at him for a moment, and then quickly answered, "An' is that so? Then ye must be very near yer journey's end."

A Scotchman in London noticed a bald-headed druggist standing at his shop door, and inquired if he had any hair restorer.

"Yes, sir," said the druggist; "step in side, please. There's an article I can recommend. Testimonials from great men who have used it. It makes the hair grow in twenty-four hours."

"Aweel," said the Scot, "ye can gie the top o' yer head a bit rub wi' it; and I'll look back the morn, and see if ye're telling the truth."

The druggist returned the bottle to the shelf, and kicked the errand boy for laughing.

In an Iowa court, recently, a lawyer arguing his case became very earnest. Then he paused a moment and said: "I see Your Honor shakes your head as to that statement, but I desire to re-affirm what I have remarked." The court retorted: "I have not intimated how I shall construe your evidence or what my decision shall be. Your remarks are uncalled for." "You shook your head," was the reply. "That may be true," retorted the court. "There was a fly on my ear, and I reserve the right to remove it any manner I see fit. Proceed with your argument."

"Excuse me, but I am in a hurry. "What do you want?" he was asked. "A job." "Do you? Well," snorted the man of business, "why are you in such a hurry?" "Got to hurry," replied the boy. "Left school yesterday to go to work, and haven't struck anything yet. I can't waste time. If you've got nothing for me to do, say so, and I'll look elsewhere. The only place I can stop long is where they pay me for it." "When can you come?" asked the surprised merchant. "Don't have to come," he was told. "I'm here now, and would have been to work before this if you had said so."

# ANNEFIELD HEREFORDS,

"PRINCE RUPERT," No. 79539.

Winner Sweepstakes at Kansas City, 1901. Herd rich in "Anxiety" blood.

## BERKSHIRE HOGS

FINEST STRAINS OF BLOOD.

INSPECTION INVITED

CORRESPONDENCE SOLICITED.

EDWARD G. BUTLER, - "Annefield Farms," Briggs, Clarke Co., Va.

## BACON HALL FARM.

# HEREFORD REGISTERED CATTLE

"TOP" BREEDING, CALVES NOT AKIN.

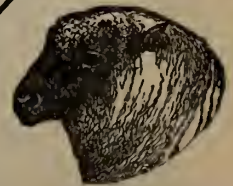
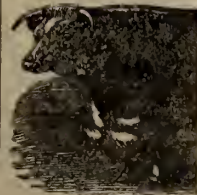
MOTTO—Satisfaction or no Sale.

E. M. GILLET & SON, - Glencoe, Maryland.

**C. C. Taliaferro,**  
NASONS,  
VA.  
1902

"MOUNT SHARON"  
REGISTERED HEREFORD CATTLE  
REGISTERED SHROPSHIRE SHEEP  
REGISTERED POLAND-CHINA PIGS.

NOW OFFERS FOR SALE



**HEREFORD CATTLE.**—Calves, entitled to registration, \$75 to \$100. Grade Calves by "Sir Edward" \$25 to \$40.

**SHROPSHIRE SHEEP.**—Bucks, one year old and over, \$15 to \$20. Buck Lambs, July delivery, \$10. and \$12. Ewe Lambs, July delivery, \$8. and \$10.

**POLAND-CHINA HOGS.**—Pigs, six weeks old, \$5. Pigs, two or three months old, \$7.50. Pigs, five months and over, \$15 to \$20.

**M. BRONZE TURKEYS.**—Toms, \$4. Hens, \$3. Eggs, per sitting of 12, when in season, \$4.

**MUSCOVY DUCKS.**—Pure White Drakes, \$1.25. Pure White Ducks, \$1. Pairs, \$2.25; trios, \$3. **BARRED PLYMOUTH ROCKS.**

**ROUEN GEESE.**—Ganders, \$2.50. Geese, \$2.50. Eggs, per sitting, \$3.00

WILLIAM L. Jr., No. 21058, half brother of Axtell, will serve a limited number of mares for \$25 the season. Mares boarded at lowest figures per month.

**WHOLESALE PRICE ON AGRICULTURAL CHEMICALS AND FERTILIZERS.**

The demand continues strong for the leading ammoniates, without, however, any special feature. Nitrates are firm and business is of moderate proportions, while inquiry from the Western farmers is expected to develop before long. Prices for potash salts have been fixed for the year, and will remain unchanged until the first of March next, when the customary enhancements take place.

**AMMONIATES.**

Nitrate of soda, spot, per 100 lbs.	\$ 2 05
Cotton-seed meal, per ton, c. i. f. N. Y.	28 00
Sulph. ammonia, spot	3 15
Dried blood, New York, low grade.	2 65
Dried blood, Western, high grade, fine ground	2 75
Fish scrap, at New York	10
Tankage, per unit	10

**PHOSPHATES.**

Acid phosphate, per unit	60
Bone black, spot, per ton	17 00
Ground bone, per ton	23 50
S. C. phosphate rock, ground, per 2,000 lbs.	5 50
S. C. phosphate rock, f. o. b. Ashley River, 2,400 lbs, dried	3 50
Florida high grade phos. rock, f. o. b. Fernandina, per ton	7 00
Tennessee phosphate, f. o. b. Mt. Pleasant, domestic	3 60
Double manure salt (48 a 49 per cent. less than 2½ per cent. chlorine), per lb., shipment	1 09
Basis 48 per cent.	
High grade manure salt (90 a 93 per cent. sulphate potash), shipment	2 08
Basis 90 per cent.	
Manure salt, in bulk, 20 per cent. per unit, O. P.	64

**POTASH.**

Kainit, future shipment, per ton	9 05
Keiseret, future shipment, per ton	7 35
Mur. potash, 80 p. c., future shipment	1 80
—N. Y. Jour. of Commerce, Feb. 17, 1903. [Only highest prices quoted.—S. P.]	

**SUREHOLD TRUSSES.**

Mr. Alex. Speirs, Westbrook, Maine, has testimonials from cured patients in every State in the Union and in Canada who have used his Surehold Trusses and the medicine he recommends with permanent beneficial results. He asks an opportunity of sending to every sufferer from hernia and kindred ills his free information for their benefit.

There is some pleasure in coming upon an anecdote in which the barber does not have the last word. Judge relates this dialogue: "Hair's very thin, sir." "It was thinner than that thirty years ago." "Indeed, sir! You surprise me. Why, you don't look more than thirty now, sir!" "Thirty yesterday!"

"Why do you insist upon my pet bulldog riding in the baggage car?" asked the indignant matron.

"Because he has a grip, ma'am," chuckled the porter."

# POLAND-CHINA BOARS

THE KIND THAT GETS BIG.

Send your check and we will send you as good a pig as money will buy anywhere, sired by a son of "Proud Perfection." We pay the expressage. No guesswork what the cost will be. If you don't like the pig, give it a good feed, send it Back, exprssage prepaid, and we will return your check.

We are careful in selecting animals and would not sell a poor one at ANY PRICE, for it would spoil our trade. PRICES:—2 months old, \$10; 3 months old, \$11; 4 months old, \$12. No more sows or sow pigs for sale.

**BULLFIELD FARMS, - Doswell, Virginia.**

# LARGE ENGLISH BERKSHIRES

IMPORTED IN 1902.

OUR HERD IS CHOICE, BUT NOT LARGE.

Would you like your boy to get interested in Stock-raising and Farming? Then why not buy a pair of CHOICE BERKSHIRE PIGS and give him a start. WRITE

**FOREST HOME FARM, - Purcellville, Va**

# EGGS for HATCHING

From Fowls of High Merit, Fresh, and a Good Hatch Guaranteed of the following varieties:—

**PLYMOUTH ROCKS, BROWN LEGHORNS, WHITE LEGHORNS and PEKIN DUCKS at \$1.00 per sitting of 15. BRONZE TURKEY Eggs, \$3 per doz.**

Jersey and Gu-rnsey Cattle and Berkshire Pigs. Four handsome Great Danes and three Fox Terrier Puppies.

**M. B. ROWE & CO., FREDERICKSBURG, VA.**

**EASTERN SHORE POULTRY FARM.**

**S. C. WHITE, BROWN and BUFF LEGHORNS.**

THE EGG MACHINES OF POULTRYDOM.

The record at such shows as Washington, D. C., Philadelphia and New York proves the quality of my stock is second to none. I always breed my winners.

Correspondece cheerfully answered.

**A. C. VAN DEMAN, LEGHORN SPECIALIST, PARKSLEY, VA.**



## OLIVE'S PRIDE.

The GREATEST OF ALL NEW STRAWBERRIES It contains more points of excellence than any other variety introduced in recent years. WRITE FOR FREE CATALOGUE; it tells you all about this grand variety and forty other varieties of choice stock free from all diseases. Second crop Seed Potatoes, etc.

**J. W. HALL, MARION STATION, MD.**

**1,000,000**

## STRAWBERRY PLANTS

100 Varieties. If you wish the best and earliest, you must plant them. Thompson's Parliest, Mark, Mrs. Mark Hanna Howell and Aroma will prolong the season from 5 to 6 weeks. 200,000 Early Jersey, Wakefield Cabbage and Lettuce Plants ready to plant any time. Hardy Chrysanthemums, Dahlias, Tobacco Dust, etc. Address Originator, MARK T. THOMPSON, Rio Vista, Va.



**Buy a PLANO and get  
LASTING SATISFACTION**

For five years past you have not seen our advertisement in this paper—we've been "cram full" of business; had no need for more. Our factories have been growing, but the satisfying quality of our machines remains the same—a quality that's hard to match at any price.

The Plano Binder holds the world's record for accurate tying; is the only harvester with a Fly Wheel, Lever Driven Binder, Friction Clutch Reel, etc.

The Jones Vertical Mower, though one of the simplest mowers made, shows many valuable features found in no other. Its Lifting Lever brings the bar straight up to pass a tree or stump.

The Plano Husker and Shredder and Corn Binder are among the latest triumphs of farm implement construction; get double profit from the corn crop.

The Plano catalogue tells more about them—it's free.

**PLANO DIVISION**  
International Harvester Co. of America, Chicago, Ills.









### CATALOGUES.

How to Make Money with Poultry and Incubators, Complete Catalogue Cyphers Incubator Company, Buffalo, N. Y. This is one of the finest catalogues we have ever seen gotten out by any Incubator Co. It reflects the highest credit on the Co.

Peter Henderson & Co., Courtland St., N. Y. Everything for Garden. Price 20 cents. Like everything else gotten out by this Co., this catalogue is a credit to the firm. Their old standing has given them a reputation of which they are jealous.

Weber Gasoline Engines and Hoists, Kansas City, Mo. This firm has adapted the gasoline engine to all kinds of work, and makes it a success.

W. F. Allen, Salisbury, Md. Strawberry Catalogue. Mr. Allen is an old grower with an established reputation.

Jno. W. Hall, Marion Station, Md. Mr. Hall makes a specialty of strawberries and second-crop potatoes for seed. He has built up a trade in these and means to keep it if quality and price are counted.

Morrell & Morley, Benton Harbor, Mich. Eclipse Spray Pumps and Spraying Apparatus. Makers of some of the best pumps and sprayers in use.

Field Force Pump Co., Elmira, N. Y. Spraying Pumps, Well Pumps, Force Pumps, Nozzles, etc. A reliable house.

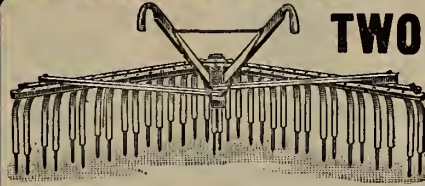
Wm. Cooper & Nephew, Illinois St., Chicago. Makers of Cooper's world-known Sheep Dip.

Hammond's Slug Sho'. Benj. Hammond, Fishkill on Hudson, N. Y. Insecticides and Fungicides.

Diggs & Beadles Inc., 1711 Franklin St., Richmond, Seedsmen. A very neatly gotten-up catalogue.

Mention the *Southern Planter* when corresponding with advertisers.

## TWO CROP ESSENTIALS



are cultivation and keeping down weeds. More important than deep cultivation is keeping the surface stirred, breaking the crust due to rains, and allowing the light, air, moisture and warmth to penetrate quickly to the roots of the growing plant. For doing just these things the ideal implement is the

## KEYSTONE Adjustable Weeder and Shallow Cultivator.

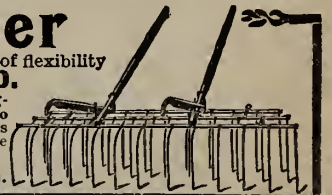
It kills the weeds at first showing, the top soil is pulverized and kept mellow, the plant roots are not disturbed and the moist soil is not brought up to dry in the sun. Adjustable in width. Narrows to 30 inches, widens to 7½ feet. Strong, runs steady, no cumbersome shafts. Furnished either with round teeth or with flat to suit different soils, as we are licensed by the Hallock Weeder Company to use their famous flat teeth. Weeder booklet mailed free. We also make 10 styles Corn Planters, 12 styles Cultivators, 20 styles Corn Shellers, hand and power, Harrows, Field Rollers, Feed Cutters, etc. Write for catalogue C.

KEYSTONE FARM MACHINE CO., 1554 N. Beaver St., York, Pa.

## A Perfect Weeder

in all soils, under all conditions. The all important feature of flexibility of teeth is near perfection in the **YORK IMPROVED**. Made of square spring steel with round points, and set staggered in strong but flexible angle steel frame. Wide clearance, no clogging, teeth too strong to break. Multiplies producing qualities of soil and does not whip or bruise growing plant. Adjustable handles and shafts. Write for free descriptive circular.

Spangler Manufacturing Co., 501 Queen Street, York, Pa.



## SPRAYING IS EASY

and you have an outfit always ready at a moment's notice for a small or large job in the

### GARFIELD KNAPSACK SPRAYER.

Best sprayer made for nine-tenths of all work, as Cotton, Tobacco, Potatoes, Cardons, Shrubbery, etc. Easily carried and worked, simple and durable. Copper tank concealed to fit back, and all brass pump. Nothing to corrode. We also make the Empire King and Orchard Monarch, mounted sprayers for large operations, and others for all purposes. Fully described in free catalog. Write for it. FIELD FORCE PUMP CO., 223 Eleventh St., Elmira, N. Y.



## HOLSTEINS THAT PAY.

Purchasers are offered selections from our herd, both male and female; our cows are of the leading strains, including De Kols, Pauline Pauls, Mechthildes, Hengervelds, Nether ands, Aggies, etc., etc. They are all well bred and milking from 40 to 65 lbs. per day. Herd headed by Ury ALWINA Count Paul De Kol and DeKol 29 Butter Boy 3rd No. 2.

THOS. FASSITT & SONS, Ury Stock Farm, Sylmar, Md.

If the two young people of whom "Answers" tells this story were not reconciled by their own absurdity, they at least furnished amusement for others.

They had been engaged, but had quarreled, and were too proud to make up. Both were anxious to have people believe that they had entirely forgotten each other.

He called at her home one day to see her father—on business, of course. She answered the door-bell.

Said he: "Ah, Miss Jepkin, I believe. Is your father in?"

"No, sir," she replied, "father is not in at present. Do you wish to see him personally?"

"I do," he answered, feeling that she was yielding, "on very particular personal business," and he turned proudly to go away.

"I beg your pardon," she cried after him, as he reached the lowest step, "but who shall I say called?"

The little daughter of the house sat down beside the minister, and began to draw on her slate. "What are you doing?" asked the clergyman. "I am making your picture," said the child. She worked away earnestly, then stopped, compared her work with the original, and shook her head. "I don't like it much," she said. "Taint a great deal like you. I guess I'll put a tail to it, and call it a dog."

The pamphlet, "Stassfurt Industry," just published, contains an interesting description of the famous potash mines in Germany, from which all the potash imported into this country and used for manuring is derived. The chapter about the use of potash in agriculture as one of the important ingredients of a complete fertilizer, adds largely to the value of the book, and among the many fine illustrations, those showing the experiments at Southern Pines, N. C., are of particular interest to practical farmers. Copies of this pamphlet can be had free by writing to the German Kali Works, 93 Nassau St., N. Y., and mentioning the *Southern Planter*.

The Morewood Poultry Farm sends us its annual catalogue. It is descriptive of their prize-winning Plymouth Rock White Wyandottes, Black Minorcas and Partridge Cochins. This catalogue is nicely gotten up and will be sent free to all applicants.

A county curate in England who was newly married called on a great lady of the village, and, as he presented his wife, introduced her with the flippant and horribly ill bred quotation, "A poor thing, madam, but mine own." The lady, looking at the curate severely, replied: "Your wife ought to have introduced you as 'A poorer thing, but mine owner.'"

"These aren't the kind of biscuits my mother used to make," he said. "Oh, George" she faltered, on the verge of tears. "Well, they're not," he repeated, emphatically. "They're enough sight better." And then the sun came out again.

## LONG'S WHITE TARTAR OAT

The Ideal Oat for the American Farmer.

Remarkably early, of robust and vigorous constitution. Immense yielder. Described and illustrated in our Catalogue of this season. 75c. per peck; \$2.00 per bush, of 32 lbs.; 10 bush., \$1.85 per bush.; 50 bush., \$1.75 per bush.; 100 bush., \$1.65 per bush.

Our AMERICAN FARMERS' MANUAL for 1903, a book of 44 pages (85 illustrations) devoted entirely to Grass and other Seeds for the Farm, mailed free on application to those who state where they saw this advertisement. Correspondence invited.

PETER HENDERSON & CO., —35 & 37— CORTLANDT ST., NEW YORK.



— AMALGAM —

## STEEL BELLS

(WARRANTED)

15 in., 40 lbs., \$1.48; 17 in., 50 lbs., \$1.88; 19 in., 75 lbs., \$2.48.

F. O. B. Shiloh, Richmond or New York.

Southern agents for "Eclipse" Orchard Spray Pumps, made by Morrill & Morley, Benton Harbor, Mich.; Cat. free. We pay freight on same. Frick Co.'s Engines, Threshers, Saw Mills, etc., easy payments. Cat. free. Gas and Gasoline Engines. Canning Machinery, Buggles, Surreys, Wagons, etc. Original "Dandy" Belting, 7 in., 4 ply, per ft., 20c.; 8 in., 22c.; 10 in., 28c. Disston Saws and Joints and holders. Orders from this point wholesale to consumers.

ECLIPSE HARDWARE and M'F'G CO., Box R, Shiloh, Va.

# BLACK=LEG=INE

Pasteur Blackleg Vaccine ready for use. EAHG DOSE SEPARATE.

Single Blacklegine (for common stock): 10 dose box, \$1.50; 20 dose box, \$2.50; 50 dose box, \$6.00. Double Blacklegine (for choice stock) \$2.00 for 10 doses, first lymph and second lymph inclusive. Blacklegine Outfit for applying Blacklegine, 50 cents.

## Pasteur Vaccine Co.,

CHICAGO - NEW YORK - FT. WORTH - SAN FRANCISCO.

## RICH HARVESTS

WILL BE REAPED BY

## SPRAYING NOW.

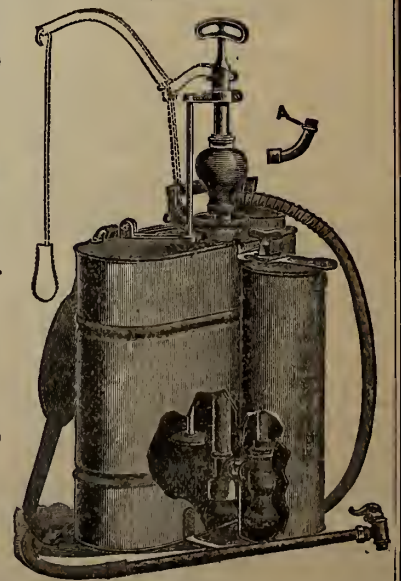
All kinds and sizes of SPRAY PUMPS.

Write for new catalogues and price-lists.

Our pumps are used by the Virginia and North Carolina Agricultural Departments.

SYDNOR PUMP AND WELL CO., Inc.,  
Box 946, RICHMOND, VIRGINIA.

GASOLINE ENGINES, WIND MILLS,  
RAMS, TANKS.  
WATER SUPPLY CONTRACTORS.  
ARTESIAN WELL DRILLERS.



The Weed Kerosene Sprayer, with detachable kerosene tank, a bucket, knap sack and kerosene sprayer all in one.

# Hackney Stallion Cismont,

A. H. S. B. 399.

## IN THE STUD AT CISMONT FARM,

One and a half miles from Keswick, Va., on the C. & O. Railroad.

Telephone Connection with CHARLOTTESVILLE and RICHMOND, VA.

For approved mares, \$10.00 the season with return privilege, or \$15.00 to insure.

G. S. LINDENKOHL, Owner, Keswick, Albemarle Co., Va.

# IMPERIAL FRUIT AND POULTRY FARM

Is now booking orders for Eggs from the best strains and careful matings of

**Barred Buff and White Plymouth Rocks,  
Silver-Laced and White Wyandottes,  
S. C. B. Leghorns and Mammoth Pekin Ducks,**

**AT \$1.00 PER SITTING.**

### **EGGS FROM BLACK DEVIL PIT GAMES,**

Never known to run. The grittiest of all games. **\$2 per Sitting.** We give 15 Chicken and 13 Duck Eggs for sitting.

**Offer Fifty Barrels White French or Jerusalem Artichokes at \$2.50 per 3 bus. bbl.**

The cheapest of all hog feeds. I raised 500 bushels on one acre of only fair land. Order at once. Write name and address plainly. Remember, the express is no more on 2 or 3 sittings than on one. Refer to Augusta National Bank and former patrons. Satisfaction guaranteed or money refunded.

**P. H. HEYDENREICH, = Staunton, Va.**

HUMORS OF TRAVEL.

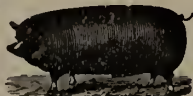
I love the cheerful Western liar. He has more humor in him than the Eastern liar. He is at his best when talking to the tenderfoot. John Gould and I sat together on a Minnesota train; John resembles a deacon in the church and I carry a meek and subdued countenance. The big burly man in the seat in front turning to us announced that he was from the Black Hills. We expressed our wonder. "That's a bad country out there," he went on. "You go into a butcher shop and the best cuts are eight cents; that is because the meat is all 'rusted.' The men go out at night and shoot a steer and bring in his meat, leaving the hide where it lay. You see the brand is on the hide and they don't dare take that. A man can swear to the hide but not to the meat."

"How are the cattle thriving out there?" I asked. "Fine. There have been no storms to amount to anything. If you want to know about bad storms in Dakota you can find all about them in the Eastern papers; you don't find them anywhere else. Yes, it is a fine cattle country, but after all it takes nearly four acres to support a steer a year." I expressed wonder and suggested that I had supposed that nearly forty acres would be required. "Yes, along the bluffs the land has all slid off into the river and left the rock bare. There it takes a good deal of country. I asked if there were many Texas cattle in his country. "No, none at all. You see the Texas cattle have the tuberculosis so bad that the Government had to shoot more than 150 at one time and since then they have not allowed them to come in. Texas cattle have tuberculosis, and in Texas it is very bad. I am breeding the black Angus Galloway Aberdeens; they are fine cattle and very hardy. The Government agents kill a good many cattle to keep from losing their jobs. You see if they did not pretend to find some sick stock there would be no use for them and they might lose their jobs. You would laugh to see how they inspect horses for the cavalry. They will throw out three or four from each bunch, but that fellow will just put them into some other man's bunch and next time they will be passed all right and some others thrown out. In that way the Government agents keep their jobs."

This is a sample of his talk. When I quietly told him that I had been a rancher myself and had traveled over every range State except Arizona, he drew in his horns and began to talk of mining operations, concerning which he had similar wonders to relate, such as finding wealth untold in digging a hotel cellar and blowing away all surrounding buildings with dynamite to get at the masses of ore. John Gould and I are having plenty of fun out here.

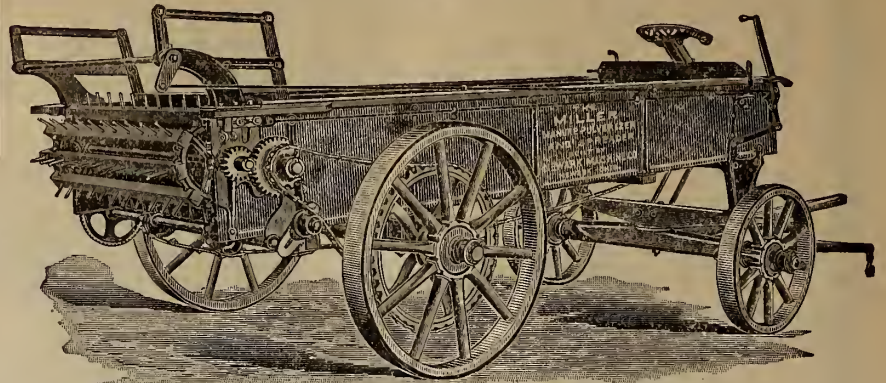
JOSEPH E. WING.

Registered P. Chinas Berkshire, C. Whites. Fine large strains. All ages, mated not akin, 8 week. pigs. Bred sows. Service boars and Poultry. Write for prices and free circular. P. F. HAMILTON, Cochranville, Chester Co., Pa.



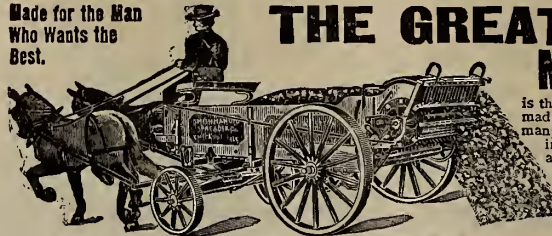
The Miller MANURE SPREADER and PULVERIZER

Is a machine every farmer should have. It will SAVE YOU its cost in a short while. IT MAKES FRIENDS WHEREVER SOLD.



Agents wanted. Write for catalogue. THE NEWARK MACHINE CO., - Newark, Ohio. Mention the SOUTHERN PLANTER when you write.

Made for the Man Who Wants the Best.



THE GREAT WESTERN Manure Spreader

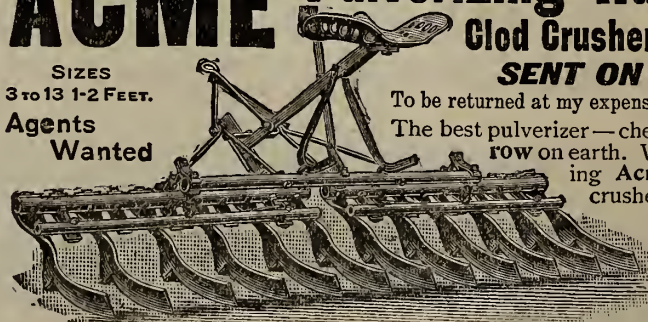
is the only Spreader made that has an ENDLESS APRON and many advantages which it possesses. It's always in place and ready to receive the load without any turning back either by hand or complicated, easily broken machinery. The front and rear axles are of same length which, with the

Broad Tires Prevents Rutting of fields, meadows, etc. and makes

LIGHT DRAFT. SPREADS ALL KINDS OF MANURE, wet, dry, frozen, light, chaffy, packed or caked. hulls, etc. Can be changed instantly to spread thick or thin while the machine is in motion—8 to 25 loads per acre. Spreads lime, plaster, wood ashes, cotton-seed and Has the only successful END GATE and BEATER AND HOOD PROTECTOR IN USE. Made of best material in every way and sold under a POSITIVE GUARANTEE as to quality, capacity and durability. All parts breaking within one year will be replaced without charge. Write for free Illustrated and Descriptive Catalogue—the best and most complete spreader catalog ever published. SMITH MANURE SPREADER CO., 59 N. JEFFERSON STREET, CHICAGO, ILL.

ACME Pulverizing Harrow Glod Crusher and Leveler SENT ON TRIAL

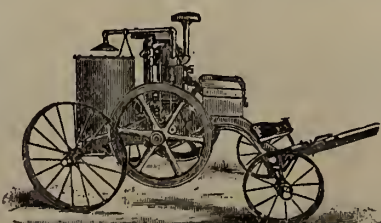
SIZES 3 to 13 1-2 FEET. Agents Wanted



To be returned at my expense if not satisfactory. The best pulverizer—cheapest Riding Harrow on earth. We also make walking Acmes. The Acme crushes, cuts, pulverizes, turns and levels all soils for all purposes. Made entirely of cast steel and wrought iron—indestructible.

Catalog and Booklet, "An Ideal Harrow," by Henry Stewart, mailed free. I deliver free on board at New York, Chicago, Columbus, Louisville, Kansas City, Minneapolis, San Francisco, etc. Address DUANE H. NASH, SOLE MANUFACTURER - MILLINGTON, NEW JERSEY. PLEASE MENTION THIS PAPER.

RUMSEY-WILLIAMS COMPANY



GASOLINE ENGINES and GRAIN THRESHERS. ST. JOHNSVILLE, NEW YORK.



**LET THERE BE FREE BUYING COMPETITION.**

The United States Circuit Court says that all of the big packers and the little ones too, for that matter, engaged in buying live stock at Chicago, must quit their secret methods employed to hold down prices. This is as it should be. The injunction of the Court against the so-called beef trust, if obeyed, must mean a broader market for farmers' shipments of meat animals to this great packing and distributing centre. The arraignment against the long-time actions of the cattle-buyers is concise, far reaching and just.

The Court finds a clear case of combination. It finds that the defendants are engaged in an unlawful conspiracy under the Sherman act, this being manifested in various ways: That the big packers of live stock direct their buyers at the yards to refrain from bidding against each other; that they not infrequently bid higher prices for a few days in order to induce large shipments from the country, subsequently depressing the market to a point much below the normal level; that they have secret agreements about fixing the prices of meats and the quantities to be shipped, and that they use harmful methods in restricting trade, requiring their agents throughout the United States to impose uniform cartage and delivery, thus increasing to dealers and consumers the cost of meat; and, finally, that unjust agreements are made with the transportation companies for rebates and other discriminative rates.

This condition of affairs, succinctly described by the Federal Court, has long been so understood by common agreement in trade circles. But if the national law, framed to regulate trusts, means anything, it should be enforced. The great packing interests of the country have done much in the last twenty years to solve the question of economical distribution of meat animals, and are given proper credit for this. It does not follow, however, that they can be permitted to crush out all competitive bidding in what should be a free and open live stock market at Chicago, at Missouri river points, or elsewhere.

Gilhooley—Oi jist bought me a bottle of hair restorer.

Mulcahey—But your hair ain't falling out.

Gilhooley—That's jist it! If Oi shtar usin' it now, Oi won't git bald when me hair does fall out.

Offended Mother—Now, Bobby, don't let me speak to you again!

Bobby (helplessly)—How can I prevent you, mamma?

**Ayrshires, Berkshires and Oxford-Downs.**

Ayrshire calves of both sexes, Berkshire pigs and boar, and 2 Oxford-Down Rams For Sale. MELROSE CASTLE FARM, ENOS H. HESS, Manager, Casanova, Va.

**FOR SALE Aberdeen-Angus Cattle**

Choice breeding. Registered bulls ready for service. Address A. D. PARR, care A. G. PARR, Jeffersonton, Va.

**Split Hickory Buggy Bargains**

Sold direct to user from factory at factory prices, sent anywhere on 30 DAYS' FREE TRIAL and guaranteed for two years. Our 1903 catalogue is now ready and contains hundreds of exclusive styles of vehicles and harness of every description. It is free and you should send for it before buying a vehicle or harness. We manufacture every vehicle we offer for sale. If you get a Split Hickory you are sure of getting something that will please you and a bargain. Remember you can only buy a Split Hickory of us direct as we do not sell jobbers or dealers.

This is our **SPLIT HICKORY HUMMER**

Has 30 oz. full rubber top, split hickory wheels, best steel axles & springs, finely finished, neat, strong and substantial, the best value ever offered at the price. Sold on 30 days' free trial and if it don't prove itself a bargain and if you don't consider you have saved \$15.00 send it back.



**\$35 \$40**

Our **SPLIT HICKORY WINNER**

It not only wins trade for us, but praise from every user. Has genuine leather quarter top, spring cushion and back, boot, carpet, double



braced shafts, in fact everything complete and up-to-date. Is roomy, comfortable, easy riding and light running. Everyone shipped on trial, no questions asked if not satisfactory; just send it back if it isn't \$20.00 cheaper than equal quality at retail.

And here is our **SPLIT HICKORY SPECIAL**

the buggy that won such favor in every state in the union last year. Impossible to give description here. Has 100 points of merit. Nothing like it ever offered vehicle buyers before. We only ask a comparison with a \$65.00 buggy at retail and if, in your judgment, it isn't better don't keep it. Costs you nothing for the trial.



**\$47.50**



This is our **Split Hickory "FASHION" extension top SURREY**

Roomy, comfortable, strong and substantial. Equal to surreys that retail for from \$100 to \$125. shipped on 30 days' free trial and guaranteed two years.

Write at once for our free catalogue of vehicles and harness; a penny spent for a postal pay save you \$25.00. Remember there is only one place to get Split Hickory Vehicles and that is at our factory. We have no agents.

**ELKHART CARRIAGE MFG. CO.,**

Station 41, Cincinnati, Ohio.

**30 YEARS SELLING DIRECT**



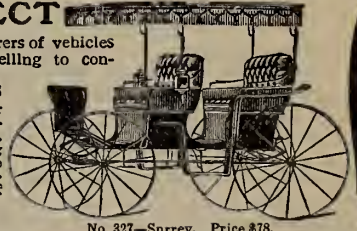
No. 644—Top Buggy; with 3/4 in. Kelly Rubber Tires. \$52.50. As good as sells for \$35 more.

We are the largest manufacturers of vehicles and harness in the world selling to consumers exclusively.

**WE HAVE NO AGENTS**

but ship anywhere for examination, guaranteeing safe delivery. You are out nothing if not satisfied. We make 195 styles of vehicles and 65 styles of harness.

Visitors are always welcome at our factory.



No. 337—Surrey. Price \$78. As good as sells for \$50 more.

**ELKHART CARRIAGE & HARNESS MFG., Co. Elkhart, Ind.**

**DEAL DIRECT WITH THE FACTORY**

Don't pay retail price for carriages or harness. Write for our catalogue and learn about our system of selling direct from factory to customer. Two profits are saved to you. Satisfaction is guaranteed, or you can return the purchase and we will pay freight charges both ways. We have the largest assortment of buggies, surreys, phaetons, carriages, and other high grade vehicles, as well as harness, horse rugs and other horse accessories, in America. Write for the catalogue to-day.

**THE COLUMBUS CARRIAGE & HARNESS COMPANY,** Factory and General Office, COLUMBUS, O. Western Office and Distributing House, ST. LOUIS, MO. } Write to nearest office.



245 Styles Vehicles and Harness



**CUT THIS AD OUT**

and send to us and we will mail you Free our 1903 special vehicle and harness catalogue. It has always been the most complete book printed, and for 1903 it is more complete than ever. It is the standard from which others figure—we lead, and others follow. Top Buggies 27.80. The greatest buggy offer ever made at \$41.70 Top Buggies with guaranteed rubber tires at \$45.00. 45 styles to select from. Surreys with canopy and extension tops, \$16.75 to \$112. Phaetons, Driving Wagons, Spring Wagons, etc. 145 styles vehicles, 98 styles harness to select from.

**WE GUARANTEE** every vehicle for 2 years and guarantee safe delivery. We will ship you any vehicle without any money with order. Don't buy until you get our catalog and see our wonderful offers.

**MARVIN SMITH CO.,** 55-57-59 North Jefferson Street, Chicago, Illinois.

When you write to an advertiser, always say you saw the advertisement in THE SOUTHERN PLANTER.

### THE SAN JOSE SCALE PROPOSITION.

By R. S. EMORY, KENT COUNTY, MD.

You could not begin the new year with a proposition that is of greater interest to fruit-growers than the eradication of the San Jose scale. It is of interest to every horticulturist in this country, and most people who expect to grow fruit in the future must consider the scale in a very careful way in planning their orchards. The insect is now becoming so generally disseminated, one can scarcely find an orchard of any very great extent that is exempt from it. I know of several peach orchards, now dead from the attacks of this pest, as a result of carelessness or indifference on the part of the owner, who did not consider the matter in a serious light. When these trees should have been in their prime and yielding good returns, it was necessary to dig them up and burn them. We have to grow the trees before we can get the fruit, and in many cases the pests get beyond our control unless we keep a close watch on the creatures all the time.

I know of one peach orchard five years old from which about 5,000 baskets of fine fruit were picked and sold in 1901, while not a peach was gathered last year. The scale was so bad the trees were torn out and destroyed. Another orchard six years old had over 2,000 baskets picked from it last year and is now nearly dead, and will have to be taken up in the spring. These are illustrations of what this pest can do in a short time, if it is not taken in hand. In my own case, I am satisfied that we shall be obliged to practice different methods of fruit-growing, if we retain control of our orchards. Hereafter I shall practice more intensive culture, plant my trees nearer together head them near the ground and give more careful attention to larger area containing a larger number of trees than formerly.

As a pioneer in the use of the whale oil soap method, I still believe that this material can be used to good advantage in most cases. But in all my practical experience nothing has been so effective as the gas treatment. In peach orchards I shall hereafter depend on the use of hydrocyanic acid gas until the trees are five or six years old, or even longer, if I can handle the apparatus conveniently. My plan would be to fumigate the young trees the second, fourth and sixth year after they were planted, thus making three fumigations. When properly handled, nothing has been so satisfactory as the gas treatment on my place.

I am now constructing a series of small box tents, which were designed by Prof

OUR FIVE TOOTH CULTIVATORS ARE . . . UNEQUALED

All steel. Single and double levers. Furnished with front and rear wheels. Seven tooth extensions. Spring Teeth attachments. Cultivator sweeps. Reversible and adjustable Horse Hoe Celery Hillers. Best in the world. All kinds of other agricultural implements. We can save you money. Write us for catalogue and prices.

THE TOLEDO PLOW CO., Divis. S., Toledo, O.

## Your money back if you are not satisfied

DO YOU SUPPOSE that a company with a capital of \$500,000.00, paid in full, and the proud reputation of 36 years of continuous success, would make such an offer and not carry it out to the letter?

DO YOU SUPPOSE we would jeopardize our standing with the public and our chances of still greater success by failing to fulfil any promise we make?

DO YOU SUPPOSE we would make such an offer if we did not have the utmost confidence in the satisfying quality of our goods?

WE KNOW we can please you and save you money, for HAYNER WHISKEY goes direct from our distillery to you, with all its original richness and flavor, carrying a UNITED STATES REGISTERED DISTILLER'S GUARANTEE of PURITY and AGE and saving you the big profits of the dealers. That's why it's best for medicinal purposes. That's why it's preferred for other uses. That's why we are regularly supplying over a quarter of a million satisfied customers. That's why YOU should try it.

Direct from our distillery to **YOU**  
Saves Dealers' Profits! Prevents Adulteration!

# HAYNER WHISKEY

PURE SEVEN-YEAR-OLD RYE

4 FULL QUARTS \$3.20 EXPRESS PREPAID

We will send you FOUR FULL QUARTS of HAYNER'S SEVEN-YEAR-OLD RYE for \$3.20, and we will pay the express charges. When you receive the whiskey, try it and if you don't find it all right and as good as you ever drank or can buy from any body else at any price, then send it back at our expense and your \$3.20 will be returned to you by next mail. How could an offer be fairer? We take all the risk and stand all the expense, if the goods do not please you. Won't you let us send you a trial order? We ship in a plain sealed case; no marks to show what's inside.

Orders for Ariz., Cal., Col., Idaho, Mont., Nev., N. Mex., Ore., Utah, Wash. or Wyo., must be on the basis of 4 Quarts for \$4.00 by Express Prepaid or 20 Quarts for \$16.00 by Freight Prepaid.

Write our nearest office and do it NOW.

**THE HAYNER DISTILLING COMPANY**

ATLANTA, GA. DAYTON, OHIO ST. LOUIS, MO. ST. PAUL, MINN.  
156 DISTILLERY, TROY, O. ESTABLISHED 1866.



CHARTERED 1870.

## Merchants National Bank

OF RICHMOND, VA.

Designated Depository of the United States, City of Richmond and Commonwealth of Virginia.  
Being the Largest Depository for Banks between Baltimore and New Orleans, this Bank offers superior facilities for direct and quick collections.

Capital Stock, \$200,000.00  
Surplus and Profits, \$600,000.00

JNO. P. BRANCH,

President.

JNO. K. BRANCH,

Vice-President.

JOHN F. GLENN,

Cashier.

DIRECTORS.—John P. Branch, B. B. Munford, Chas. S. Stringfellow, Thos. B. Scott, B. W. Branch, Fred. W. Scott, Jas. H. Dooley, Jno. K. Branch, A. S. Buford, R. C. Morton, Andrew Pizzini, Jr., J. P. George, Alex. Hamilton, Sam'l. T. Morgan.

Johnson, in his book on "Fumigation Methods," as the "Emory Fumigator." With a sufficient number of these small box fumigators, I have proved by actual experience that I can keep the pest in check and secure crops of fruit at a smaller expense than when I resort to spraying. When the trees get beyond the height where I can fumigate them readily I will resort to spraying.

**THE OLD-TIME PEDLER.**

"Don't the pedlers come through any more, daughter?" I've been here for a whole summer and fall, and not one have I seen. When your father and I lived on the farm, they used to drive up twice or three times a week when the weather was good."

The question was asked by an aged woman whose home is now in a neighboring city, but whose summers are spent with her daughter and son-in-law on the old homestead, whose red brick and cobble-stone front stands hospitably smiling upon the level stretches of the great ridge road just as it has stood and smiled forty-eight years. The reply to the old woman's query was that of late years the pedlers had begun to drop off with their visits, until at last they came so seldom that the little children did not know what the red wagons signified.

The vehicles were built all along the same general line, like barges or steam tugs. The length was about ten feet, the height eight. The box was oblong, and in front an elevation arose over the forewheels for the seat, which sometimes was protected by a huge sun umbrella. Sometimes two, but generally one horse hauled the outfit, and a weary time he had of it, too, with his oat bag slung under his poor old neck and his hide worn bare from the constant shifting of the thills. The red body of the wagon on both sides was planted with scores of little white knobs. This opened up the treasure house within, and each marked the location of a tiny door. Within, the wagons were compact and complete "general stores." One could buy anything under the sun small enough to be carried—cloth, tinware, iron utensils, straw and felt hats for men and women, boots and shoes, ready made suits—but these came later—canned goods, patent medicines, dried fish, tobacco—generally on the sly—needles, pins, threads, yarn, matches, and stuck up in front or looped underneath, brooms of all sizes and qualities. Often a snow-shovel and a trio of scoops and spades were laid carefully on the roof. Up in front, under the driver's seat, was a jug of molasses and prepared honey, or some delicacy for the kitchen or table.

**THE REPUTATION OF OUR ROLLERS IS WORLD WIDE.**

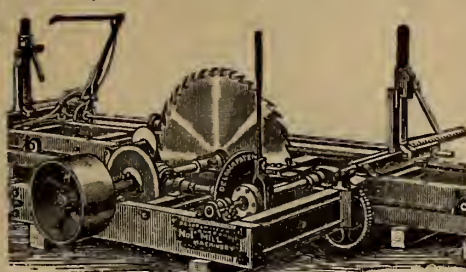


Strongest, most durable and easiest running rollers made. Self-oiling hubs. Revolving shafts. Wood, iron and steel rollers. Steel and wood frames. Cheapest and best rollers made. We make over 40 different styles and kinds of rollers and can suit you no matter what kind of roller you may want. All kinds of other agricultural implements. Write for catalogue and prices.

THE TOLEDO PLOW CO., Divs. S, Toledo, O.

**The DeLOACH SAW MILLS ARE SURE WINNERS.**

Eight sizes, from Farmers' 4 h p up to 200-h. p. If interested, write for large illustrated catalogue of DeLoach Patent Saw Mills to suit any power from 4 to 200-h. p; Shingle Mills, Planers, Edgers, Trimmers, Stave and Lath Mills, Bolters, Corn and Buhr Mills, Water Wheels, etc. To introduce our **New Farmers' Saw Mill**, fitted with DeLoach Patent Variable Friction Feed, we make this special offer:



We will deliver on cars at factory our **No. 0 Pony Farmers' Saw Mill**, with Duplex Dogs, Improved Head Blocks and Ratchet Set Works, complete as shown in cut, except it has Carriage made in two 4-foot sections, with Rope Drive instead of Rack and Pinion, without Saw or Belt, for **\$115.00 Spot Cash!**  
 With 36" Solid Saw, \$127.50; 40", \$132.50; 44", \$140.00; 48", \$150.00  
 With 36" Inserted Saw, \$147.50; 40" \$152.50; 44", \$160.00; 48", \$170.00.  
 Best Rubber Belting, 4-ply, 6", 20 cents per foot; 8", 30 cents per foot, net.  
**No discount from these prices.**

**Our Warranty:** This mill is warranted to be made in a workman-like manner of first class material throughout, and to give perfect satisfaction if operated according to our printed instructions, which are so simple that a boy can understand them. **Any one with ordinary intelligence can set and operate** without the assistance of an experienced sawyer; will easily cut 2,000 to 2,500 feet of first class board lumber per day with only 4-h. p.; 3,000 ft. with 6-h. p.; 4,000 ft. with 8-h. p.; is adapted to any kind or size power up to 15-h. p.

DeLOACH MILL MANUFACTURING CO., Box 600, ATLANTA, GEORGIA, U. S. A.  
 The DeLoach is the only mill made that is shipped to all parts of the world. Over 10,000 in use.

CAPITAL \$50,000

**BANK OF MANCHESTER  
 MANCHESTER, VA.**

A. D. SHOTWELL, Pres., CLARENCE VADEN, Vice-Pres., S. R. BRAME, Cashier.

**DIRECTORS** { A. D. SHOTWELL, R. C. BROADDUS, S. R. BRAME, E. H. WELLS,  
 CLARENCE VADEN, W. J. CARTER, KENNETH SMITH, R. A. BOWEN.

A general Banking business transacted. Every facility extended consistent with sound banking. Interest paid on time deposits. We solicit your business.

ASSETS, \$900,000.

**Virginia Fire and Marine  
 Insurance Company, of Richmond, Va.**

**Insures Against Fire and Lightning.**

ALL DESCRIPTIONS OF PROPERTY IN COUNTRY AND TOWN, PRIVATE OR PUBLIC, INSURED AT FAIR RATES, ON ACCOMMODATING TERMS.

AGENCIES IN EVERY TOWN AND COUNTY.

WM. H. PALMER, PRESIDENT. W. H. M'CARTHY, SECRETARY.

\* VIRGINIA DIVISION. \*

**Farmers Mutual Benefit Association.**

A Fire Insurance Association, chartered by the State for the farmers of Virginia, under an amended and well protected plan.

Insures in counties surrounding and accessible to Richmond, against Fire and Lightning, only country property—no stores or unsafe risks. Policy holders amply secured—all legitimate losses paid. Average cost per year less than other plans, and a great saving to farmers. Amount of property now insured, \$330,000, and increasing yearly. Estimated security in real and other estate, \$750,000.

For further information, address, **CHAS. N. FRIEND, General Agent, CHESTER, VIRGINIA.**

MENTION THIS JOURNAL.

When corresponding with advertisers, say you saw their advertisement in the Southern Planter.

The jewelry which the pedler carried he kept close to his person with great show of caution, and the more brassy it was the more closely he pretended to guard it.

Does any one who reads through this list of invaluable appurtenances to the happy home wonder that the pedler's advent was welcomed by all departments of the house fifteen or twenty miles from the nearest store, and perhaps fifty or one hundred from the nearest city? When the cloud of dust would arise over the brow of the hill on a June afternoon, up would go the cry, "Jim the pedler's coming, Ma, Run and get Henry, and tell him to have the rags ready."

Then, when the pedler had arrived, would begin a game of win and lose such as has been played since the days of the flood wherever one man had what another man had not, but thought he needed. Little money changed hands in this trade. It was barter, primeval, barbaric barter, except that the things traded for bore the mark of the machine instead of the flint. The medium of exchange was generally rags, "paper rags," as they were known. This included rubber boots, copper and brass junk and lead pipe. In those days paper was made from rags, and the wood-pulp process was still dim in the future. Good rags, no matter of what wool or consistency, had a distinct market value, and the pedlers, recognizing this, depended on the farmers' wives to hoard the supply. In exchange, he gave them the commodities mentioned, making, of course, a comfortable profit



## How are Your Eyes?

We are the largest optical establishment South, and give proper adjustment of SPECTACLES and EYE GLASSES. Complete manufacturing plant on the premises. Mail us the pieces and we will from them duplicate your Glasses. Glasses by mail our specialty.

### Our PHOTO DEPARTMENT

is also complete with CAMERAS, KODAKS and PHOTO SUPPLIES. Developing and printing finely executed.

Our line of GRAPHOPHONES, with latest records, OPERA GLASSES, FIELD GLASSES, Incubator and Dairy THERMOMETERS, etc., etc., is also complete. Lowest charges in all cases.

THE S. GALESKI OPTICAL CO., 9th and Main Sts., Richmond, Va.

## RURAL BOOKS OF EVERY DESCRIPTION

AT LOWEST PRICES.

SOUTHERN PLANTER, - Richmond, Virginia.

# CASTALIA REGIS. HEREFORD CATTLE

HERD OF . . .

## CHIEF STOCK SIRES:

**Imported SALISBURY 76059** (19083) bred by John Price, Court House, Pembridge, Herefordshire, England. Sired by Boniface (9600), the sire of the First Prize winner at both the Smithfield and Birmingham Fat Stock Shows (England) in 1897. The sire of Boniface is The Grove 3d 2490. Snowfall (v. 24, p. 555) the dam of Salisbury is in the herd of His Majesty King Edward VII. The sire of Snowball is the great breeding bull Pioneer (14025) by Monarch 20001, the winner of the First Prize at the Royal Show at York, in 1883. Monarch is by Lord Wilton 4057 and is generally considered one of the best of Lord Wilton's sons.

AND

**LARS Jr. 85297**, bred by Thomas Clark, Beecher, Ill. Sired by Lars (50734), a winner at the Four-year-old at all principal Fairs; also headed the herd winning Grand Sweepstakes at the great Live Stock Show of America; at Madison Square Garden, New York, 1895. The dam of Lars Jr. is Judy 55711, one of the best breeding cows in the Castalia Herd, by Peerless Wilton 12774, the well known sire of prize winners; and the dam of Judy is Jessie 3d, by Sir Richard 2d, the English prize winner and producer of show animals.

**FOR SALE** A very choice lot of BULL CALVES and YEARLING BULLS by above sires; also a few COWS IN CALF, or with calf at foot.

All of the cows at Castalia are well bred, being by such good sires as Wild Tom, Earl of Shadeland 22d, Beau Real, etc. Visitors met at station when notice is given in advance. The prices are right; it will pay intending buyers to see these cattle.

MURRAY BOOCOCK, Owner, Castalia, Keswick, Albemarle County, Va.

out of the transaction. Good rags brought, twenty years ago, from a cent and a half to two cents and a half a pound. The pedler was fair; that is, if he was not exactly fair, he was as fair as he could be, and both sides parted satisfied, the housewife with her new granite iron tea-kettle and he with his huge ragbag bulging out a little further than it did two miles down the road. The ragbag was an index of the state of trade. When the wagon started out it hung limply behind, like a punctured balloon. It was a huge affair, made of coarse burlap, blackened and stained by time and use. Sometimes huge squares of new burlap stood out in startling contrast against the old face of the bag, in spots where holes had been patched with coarse twine. Into this grimy receptacle the matted rags were hurled with a short, stout, iron hook like an elephant goad.

The capacity of these great bags was amazing, and on homeward trips they would protrude with mastodontic fatness from the rear of the red wagons as far as the length of the vehicle itself, and the poor horse would tug and sweat at his increasing burden as the camels did under the soaked sponges in the fable. The rags were weighed on drop scales attached to the rear of the wagon, and of course the honesty of the spring within the brass and iron case had an important effect upon the fairness of the barter. At times doubts would surge up in the shrewd housewife's mind, especially when the pedler's scales indicated a weight three or four pounds lighter than her own had

**—FOR SALE.—**  
**BEAGLES and ENGLISH HARRIERS**  
 Well broken to hunt. Also Barred Plymouth Eggs, \$1 per sitting. Apply to  
**R. E. CREE, - CROZET, VA.**

**.. FOR SALE ..**  
**8 PUREBRED SHORTHORN BULL CALVES,**  
 Dropped last spring; will weigh about 500 lbs. In nice order. For further information address,  
**WOODS & FISHBURNE, Executors of Warner Woods' Estate, Charlottesville, Va.**

**PATENT YOUR IDEAS**  
 \$100,000 offered for one invention; \$8,500 for another. Book "How to Obtain a Patent" and "What to Invent" sent free. Send rough sketch for free report as to patentability. We advertise your patent for sale at our expense.  
**CHANDLER & CHANDLER, Patent Attorneys**  
 972, F Street, Washington, D.C.

Mention the *Southern Planter* in writing



# Japan Plums

And all other desirable standard and new varieties of PLUMS, APPLE, PEACH, PEAR and ORNAMENTAL TREES, SHRUBS, ROSES, Etc.

**HEADQUARTERS FOR TENNESSEE PROLIFIC STRAWBERRY.**

The Most Reliable Variety Ever grown in the South.

Three hundred and fifty acres under cultivation. Write us if you contemplate planting. Catalogue free. AGENTS WANTED. WRITE FOR TERMS.

**W. T. HOOD & CO.,**  
 OLD DOMINION NURSERY. RICHMOND, VA.

# GREAT COMBINATION SALE

SHORTHORN CATTLE and BERKSHIRE HOGS,

On the Fairground at Hagerstown, Md., March 12, 1903.

**50 REGISTERED SHORTHORNS,**

Including Cows, Heifers and young Bulls; 15 high grade Shorthorns by registered sires, including Cows, Heifers and young bulls.

**30 REG. BERKSHIRE HOGS,**

Including Sows, younger Sows not bred down to pigs and young boars. Also one imported

**CLEVELAND BAY STALLION.**

**TERMS.**—6 months credit on sums exceeding \$25 by giving approved notes. For catalogue giving description and pedigree of each animal, write to manager of sale.

**H. L. STRITE, Leitersburg, Md.**

**ON MARCH 11th,** F. W. Mish will have a large sale of REGISTERED STOCK near Hagerstown, consisting of Percheron horses, Aberdeen-Angus and Dutch Belted Cattle, Poland-China and Berkshire Hogs, Oxford and Shropshire Sheep. For sale list write to

**F. W. MISH, Hagerstown, Md.**

registered. But the sight of a polished gray granite iron surface peeking craftily out from the shelf behind the half-opened door of the wagon would prove too strong, and her lips would remain silent when her heart was filled with distrust. Rags were not destroyed in those days, but were hoarded up in flour sacks in the cellar from fall until summer, for they were legal tender bank notes of the pedler's realm. But those primitive times have passed to return no more. The suburban trolley car has done its clearing work, and the wood-pulp process has completed the change. The red wagons stand falling to pieces in forgotten sheds, and the bags have rotted away. The pedler's reign is over.—*N. Y. Tribune.*

#### HER PART IN THE PLAY.

"I was coming along New Jersey Avenue the other day," said Senator Dubois, quoted by the New York "World," "and I saw two little boys playing horse, as I thought. One boy was in a small cart, and the other boy was drawing him. Trailing along behind the cart came a most disconsolate-looking little girl, a sister of one of the little boys." I stopped the boys, whom I knew, and said to one of them, "Tommy, what are you playing?"

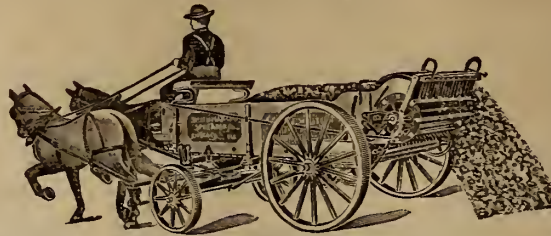
"We're playing automobile" replied Tommy.

"I asked, 'why don't you let sister play, too?'"

"She is playing," said Tommy. "She's the gasoline smell."

#### THE GREAT WESTERN MANURE SPREADER.

The Marvin Smith Co. of Chicago has been advertising this well known machine in our last few issues. They have just gotten out a nice catalogue giving full particulars, and we hope many of our readers will apply for it. It will be sent free.



We are showing herewith a small cut of this Spreader that our readers may have some idea as to its construction. It has a great many improvements this season, in addition to other special features. Its Endless Apron enables it to be always ready to take on a load. The combined Hood and End Gate serves the dual purpose of keeping manure from the Beater during the process of loading or in starting. It acts as a hood and shield while spreading. You had better send to-day and get a catalogue.

## Rural Books!

Every farmer should have these books on his library table.

They are invaluable.

**Feeds and Feeding. Henry, - - - \$2 00**

**Fertility of the Land. Roberts, - - - 1 25**

**Crop Growing and Crop Feeding. Massey, 1 00**

**All Cloth Bound, Post Paid.**

Let us order your magazines and other literature for you.

We can furnish almost any periodical and save you money.

Get our prices.

THE SOUTHERN PLANTER, Richmond, Va.

# PLANTERS

CARDWELL'S, EUREKA and CENTENNIAL FERTILIZER ATTACHMENT are the best, therefore they are the cheapest.

They Plant..

**CORN,  
BEANS,  
ENSILAGE  
CROPS.**



And Distribute

**FERTILIZER**

any distance apart,  
and any quantity.

We make THRESHERS, HORSE POWERS, PEANUT MACHINERY, STRAW CUTTERS WELL FIXURES, and all Implements formerly made by H. M. SMITH & CO. and J. W. CARDWELL & CO.

THE CARDWELL MACHINE CO., - Richmond, Va.

# Farm Implements and Machinery.

## CASH PRICES FOR MARCH, 1903.

ADDRESS **ASHTON STARKE,**  
**RICHMOND, VIRGINIA.**

### DISC HARROWS (complete with Whiffletrees).

8 disc—16 inch .....	16 50
10 disc—16 inch .....	17 75
12 disc—16 inch .....	19 50

### All Steel Lever Spike Tooth:

2 section, 50 teeth .....	10 00
2 section, 60 teeth .....	11 00
Spring-Tooth Harrow, 18 teeth .....	12 50

### PLOWS.

1 horse Syracuse Chilled .....	3 50
Light 2 horse Syracuse Chilled .....	6 50
Regular 2 horse Syracuse Chilled .....	6 75
No. 11 Imperial Chilled, R. H .....	7 50
No. 10 Oliver Chilled, L. H .....	5 25
No. 13 Oliver Chilled, R. & L .....	5 50
No. 10 South Bend, R. H .....	5 25
No. 15 South Bend, R. & L .....	5 75
No. 7 Farmer's Friend .....	2 75
No. 8 Farmer's Friend .....	2 85

### CORN SHELLERS.

Shenandoah Valley .....	5 50
"Favorite," Giant, Milwaukee, Right Hand ..	4 75
"Star," Right Hand .....	5 00
Left Hand Shellers .....	4 50

### GENUINE MALTA SHOVEL PLOWS.

Double Shovel Plow .....	2 25
"    "    No. 2 .....	2 00
"    "    No. 3 .....	1 75
Single Shovel Plow, Genuine .....	1 70

### FIELD ROLLERS.

All Steel, 30 inches diameter, 3 sections, 6 ft...	25 00
--	-------

### CULTIVATORS.

5 tooth Steel Frame .....	1 75
Cultivator and Harrow, 14 teeth .....	2 50
Disc Cultivator on wheels, pivot frame .....	28 00
Walking Wheel Cultivator .....	15 00
Combined Riding and Walking Cultivator .....	24 50

### FEED CUTTERS.

Smith's Lever Cutters .....	2 75
1 blade Revolving Cutter .....	9 00
Hand and Power Catter, with pulley .....	15 00
Bark Mill, for horse sweep .....	25 00

### CORN PLANTERS.

Single row, with fertilizer .....	18 00
Single row, without fertilizer .....	10 50
Double row, with fertilizer .....	38 50
Double row, without fertilizer .....	28 00

### WEEDER.

Keystone Expanding .....	8 00
--------------------------	------

### WHEAT DRILLS.

Bickford & Huffmann Disc Drill, with Fertilizer and Grass Seeder .....	66 50
Hand Corn Planters .....	75

And so we might continue through our almost limitless stock.

Whenever or whatever you need in our line, write to

**ASHTON STARKE, - Richmond, Va.**

# Our Clubbing List.

The following list of papers and periodicals are the most popular ones in this section. We can SAVE YOU MONEY on whatever journal you wish.

DAILIES.	PRICE ALONE.	WITH PLANTER.
Times-Dispatch, Richmond, Va.....	\$ 5 00	\$ 5 00
The Post, Washington, D. C.....	6 00	6 00
The Sun, Baltimore, Md.....	3 00	3 40
News-Leader, Richmond, Va.....	3 00	3 00
TRI-WEEKLY.		
The World (thrice-a-week), N. Y.....	1 00	1 25
WEEKLIES.		
Harper's Weekly .....	4 00	4 00
" Bazaar.....	1 00	1 40
Montgomery Advertiser.....	1 00	1 00
Nashville American.....	50	75
The Baltimore Sun.....	1 00	1 35
Breeder's Gazette .....	2 00	1 75
Hoard's Dairyman.....	1 00	1 35
Country Gentleman.....	1 50	1 75
Times-Dispatch, Richmond, Va.....	1 00	1 25
Religious Herald, Richmond, Va....	2 00	2 25
Central Presbyterian, " " .....	2 00	2 50
Christian Advocate, " " .....	1 50	1 75
Turf, Field and Farm.....	4 00	4 00
Spirit of the Times.....	4 00	4 00
Horseman.....	3 00	3 00
SEMI-MONTHLIES.		
Wool Markets and Sheep.....	50	75
Dairy and Creamery.....	50	75
Commercial Poultry.....	50	75
All three.....	1 50	1 15
MONTHLIES.		
North American Review.....	5 00	5 00
The Century Magazine.....	4 00	4 25
St. Nicholas " .....	3 00	3 25
Lippincott's " .....	2 50	2 50
Harper's " .....	4 00	4 00
Forum " .....	3 00	3 25
Scribner's " .....	3 00	3 25
Frank Leslie's " .....	1 00	1 35
Cosmopolitan " .....	1 00	1 35
Everybody's " .....	1 00	1 35
Munsey " .....	1 00	1 35
Strand " .....	1 25	1 65
McClure's " .....	1 00	1 35
Argosy " .....	1 00	1 35
Review of Reviews.....	2 50	2 75
Leisure Hours.....	1 00	1 25
Blooded Stock.....	50	60

Where you desire to subscribe to two or more of the publications named, you can arrive at the net subscription price by deducting 50 cents from "our price with the *Planter*." If you desire to subscribe to any other publications not listed here, write us and we will cheerfully quote clubbing or net subscription rates.

Subscribers whose time does not expire until later can take advantage of our club rates, and have their subscription advanced one year from date of expiration of their subscription to either the *Planter* or any of the other publications mentioned.

Don't hesitate to write us for any information desired; we will cheerfully answer any correspondence.

We furnish no sample copies of other periodicals.

# Seed House of the South.

- RED CLOVER
- MAHMOH CLOVER
- CRIMSON CLOVER
- WHITE CLOVER
- LUCERNE CLOVER
- ALSYKE CLOVER
- BOKHARA CLOVER
- JAPAN CLOVER
- BUR CLOVER



- TIMOTHY.
- ORCHARD GRASS.
- RED TOP or HERDS GRASS.
- KENTUCKY BLUE GRASS.
- RANDALL GRASS.
- TALL MEADOW OAT GRASS.
- JOHNSON GRASS.
- GERMAN MILLET.
- BUCKWHEAT.
- OATS and CANE SEED.

"Whatsoever One Soweth, That Shall He Reap."

We sell strictly reliable FIELD AND GARDEN SEEDS of every variety at Lowest Market rates, included in which are RAGLAND'S PEDIGREE TOBACCO SEEDS.

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## Our Own Brands of Fertilizers

For Tobacco, Corn, Wheat, Potatoes, &c.

Pure Raw-Bone Meal, Nova Scotia and Virginia Plaster and Fertilizing Materials generally.

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We make a specialty of handling dealers' orders.

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- Apples, Nectarines, Pecans, Ornamental and
- Pears, Cherry, Chestnuts, Shade Trees,
- Peach, Quinces, Walnuts, Evergreens,
- Plum, Almonds, Small Fruits, Roses, Etc.
- Apricots,

CALIFORNIA PRIVET, for Hedging.

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in Richmond, the BEST MARKET for all grades of Tobacco. It is the home of sun and air cured Tobacco and headquarters for flue-cured and shipping types. Here are located the head offices and stemmeries of all the large corporations, Regie representatives and the largest number of independent factories and buyers in the United States.

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Has the largest lighted space, insuring equal attention to every pile. Ample accommodations in every way for all our customers.

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Has just received  
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**STOVES, RANGES, FURNACES,  
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SHOULD HAVE AS MANY COMFORTS AND CONVENIENCES AS THE GENTLEMAN IN THE CITY.

With a **WIND MILL** or **CASOLINE ENGINE** farm work can be made easy and at a small cost.

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PUT WATER IN YOUR OWN HOUSE.**

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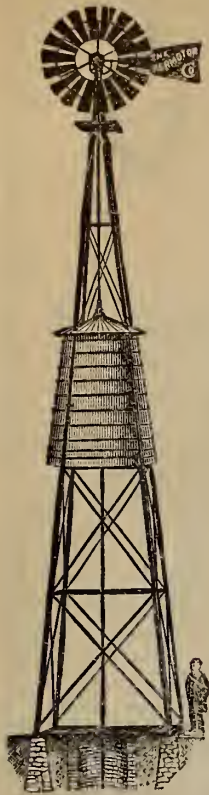
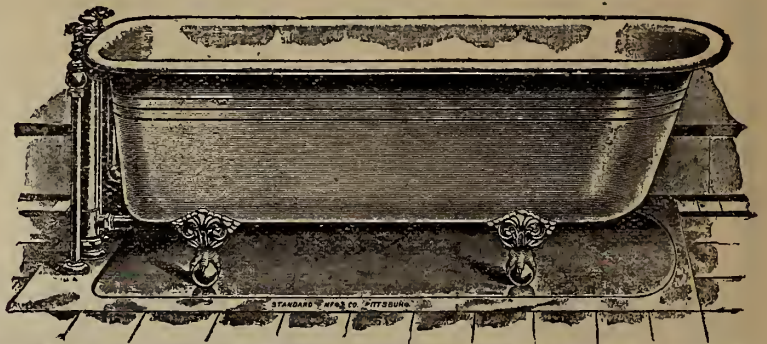
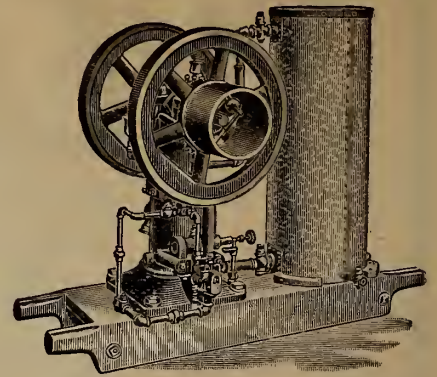
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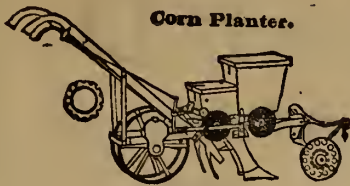
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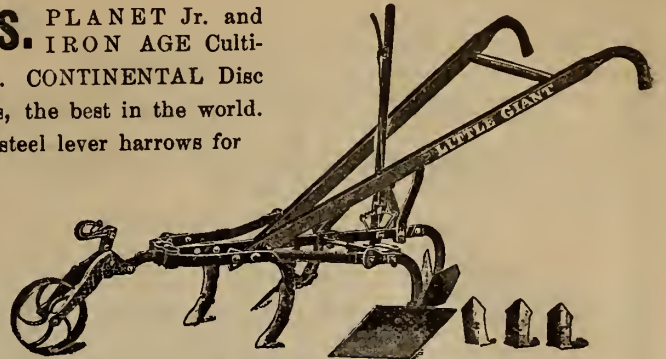
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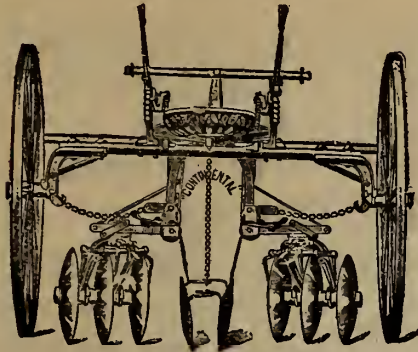
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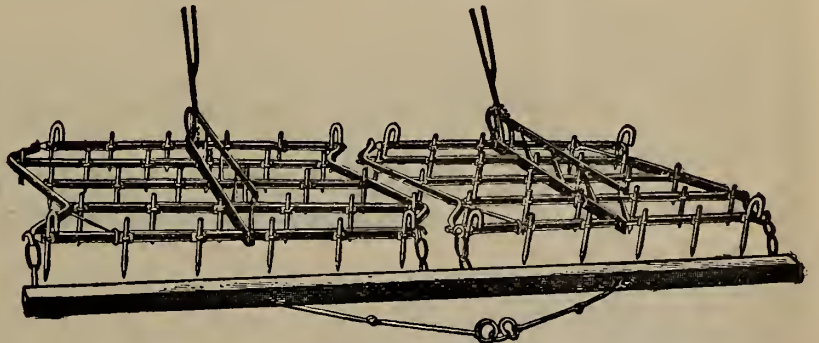
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Single or Double Disc.



DISC HARROWS—All Sizes.



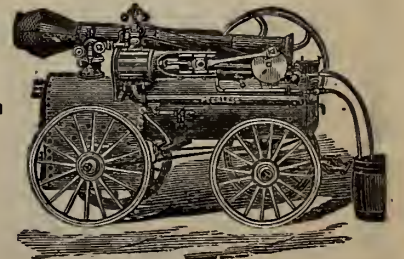
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General agency for the Columbus Buggy Co., Columbus, Ohio. A. Wrenn & Sons, Norfolk, Va., and other celebrated makers of vehicles. All grades in stock.

Harness, Robes and Whips. Pittsburg Perfect Wire Fencing, welded by electricity. Circular for the asking, Correspondence solicited.



**THE WATT PLOW CO.,** 1452 E. FRANKLIN and 1404 E. MAIN STREET, **Richmond, Va.**

## JUST FOR FUN.

Auntie (finding Jackie sobbing in a corner): "Why, Jackie, what has happened to make you feel so badly this morning?"

Jackie: M—ma m—issed some jelly.

Auntie: Ho, ho! I see. And her suspicion fell upon you, eh?

Jackie: No, auntie: it was her slipper.

New Boarder (at winter resort).—Do you call this bleak, forsaken place crowded? I thought that you advertised that there was a perfect host here every winter?

Landlord (blandly).—Yes, indeed; I am the perfect host, and my wife is a perfect hostess.

## A TOAST.

A Toast to those who come to grace,  
This day our board,  
And, with the cheer of smiling face,  
to share our hoard!

They are our friends, and friends are sent—

O plan benign!—

To be the home's best ornament,  
Heav'n spare me mine!

And may our larder e'er contain  
Of meat and drink

Enough to forge for friendship's chain  
Another link! —*Columbus Dispatch.*

A Neat BINDER for your back numbers can be had for 25 cents. Address the Business Office.

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AIR LINE RAILWAY

OFFERS  
PROFITABLE  
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# LEE'S PREPARED AGRICULTURAL LIME

**For COTTON** When used on land with a fair amount of vegetation or with COMPOST (which is better) the crops are as good as from any Fertilizer. It prevents RUST and SHEDDING and keeps the plants green much longer in dry weather.

**PEANUTS** With the same conditions as above, it is a COMPLETE FERTILIZER for this CROP. Our customers say it is equal to the BEST FERTILIZERS ON THE MARKET.

**DARK HEAVY TOBACCO** Haul out your farm pen scrapings, plow under and broadcast 500 to 600 lbs. per acre (the earlier the better), and you will get a heavy crop of Tobacco and a fine crop of Wheat and Clover or other grass, and by proper rotation will have a rich lot for any crop.

**BRIGHT TOBACCO** Our customers say that 200 lbs. per acre in the drill with other Fertilizer will prevent the Tobacco from FIRING and giving it a GOOD BODY and increase its value \$20 per acre. For Wheat, Oats, Clover and other grass it is exceptionally good.

It prevents RUST, SCAB and SMUT in WHEAT and all say it is the best thing for clover they ever used. Fruit Growers will find a WONDERFUL IMPROVEMENT by its use on their Orchards and Vineyards.

## Our EXCELSIOR TOBACCO FERTILIZER

Has been tested for six years and has proved equal to and in some cases superior to the high-grade ammoniated goods on the market. We put in no useless filler and the farmer gets the 2000 lbs. to the ton of valuable fertilizer for the crops and THE LAND. Hence they say their succeeding crops are much better than from other fertilizers

**Our SPECIAL CORN FERTILIZER** For land where there is not an abundance of vegetation is equal to any.

General agents for **BLACK DEATH BUG KILLER** for destroying Potato Bugs, Tobacco Worms, and all insects injurious to vegetation; and Sifters and Insecticide distributors for applying it.

**PLAIN SHELL LIME**

Constantly on hand at lowest prices.

**No. 1 WOOD-BURNT LIME**

In car lots at lowest market price from kilns.

WRITE FOR CIRCULARS.

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A. C. SINTON, President.

J. J. SUTTON, Secretary.

# THE WATT PLOW CO.,

## MACHINERY, FARM IMPLEMENTS, VEHICLES

### and HARNESS.

1452 Franklin Street, 1404 East Main Street, RICHMOND, VIRGINIA.

#### TO OUR FRIENDS AND PATRONS:—

We have just contracted for a large supply, during the entire season, of a standard fertilizer, adapted to all the crops raised in Virginia, and we are prepared to supply our customers direct from our warehouse, corner Fifteenth and Franklin Sts., at the lowest possible prices and upon favorable terms. We call special attention to the "OWL" Brand Guano, prepared especially for Trucks, Tobacco, Corn, Etc.



Correspondence solicited, and we will cheerfully quote prices and furnish analyses upon application.

THE WATT PLOW CO., Richmond, Va.

## THE TRAP HAS BEEN SET, BUT THE FARMERS "ARE ON TO IT."

### IN 1903

## THEY ARE GOING TO BUY THE WALTER A. WOOD MACHINES.



### WHY?

Because it is the Best Machine Made.

Because it Belongs to no Combination.

Because its Repairs Cost Less.

The Wood Binders, Reapers, Steel Hay Rakes, Tedders, Corn Harvesters, Knife Grinders the world knows and the world endorses.

SEND FOR SPECIAL CATALOGUE.

## WALTER A. WOOD MOWING and REAPING MACHINE CO., Richmond, Va.

## NO TROUBLE TO HELP SEARCH.

A woman stopped at a cloth-counter in one of the large department-stores recently, and asked to be shown some dress-patterns suitable for early autumn wear. The salesman began on the lowest row of shelved compartments, and pulled out and opened box after box until the counter on either side of him was piled as high as his head with goods. Three times he climbed a ladder to the upper rows and staggered down under a weight of boxes of patterns until, when the woman took a survey of the shelves, but two patterns remained unopened. Then she said, very sweetly, "I don't think I'll buy any today. I'm sorry to have troubled you, but you see I only came in to look for a friend."

"No trouble whatever, madam," he replied, politely. "Indeed, if you think your friend is in either of the remaining two boxes, I don't mind opening them too."—*Philadelphia Times.*

## WHAT HE WAS DOING.

Mother—"You naughty boy! You've been fighting."

Little son—"No, mother."

Mother—"How did your clothes get torn and your face get scratched?"

Little son—"I was trying to keep a naughty boy from hurting a good little boy."

Mother—"That was noble. Who was the good little boy?"

Little son—"Me."—*Pittsburg Bulletin.*

# The Chesapeake & Ohio Railway

EXTENDING FROM CINCINNATI AND LOUISVILLE, AND

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THE BIG FOUR SYSTEM, from Chicago, St. Louis, Peoria, Indianapolis, Sandusky and Cleveland;

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THE CINCINNATI, HAMILTON & DAYTON, from Detroit, Toledo, Lima and Dayton—

FORMS THE MOST DIRECT And from Five to Twelve Hours the Quickest ROUTE.

To STAUNTON, LYNCHBURG, CHARLOTTESVILLE,

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And Principal Virginia Points.

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J. T. CUNN, Manager.

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## FEED HER PROPERLY.

I mean buy your supplies right. You should lay aside a few Gold Pieces yourself, you might ask how it can be done—easy, dead easy—stop paying high, country prices. The mail comes to your home six times a week, I can get a letter from you every day.

## GET MY PRICES, I WILL BE GLAD TO MAIL YOU OR YOUR FRIENDS MY PRICES EVERY NIGHT.

The railroads almost pass your house. Uncle Sam spends millions yearly to give you mail and railroad accommodations. You need not come to town, let Uncle Sam do your shopping. He can knock the spots out of you in buying—just try him. No matter how small your order I will be glad to have it and ship promptly. Here is what your groceries will cost you

### JUST ONE-HALF WHAT YOU ARE NOW PAYING.

Arbuckle's Green Coffee.....	9½	Cotton-Seed Meal, Nothing Finer.		Gibson's Fine Old Rye Whiskey; fit for a king, get a quart.....	75
Granulated Sugar.....	4½	510 Tons Cotton-Seed Hulls—an excellent Winter Food, Cheap and Nutritious, per hundred.....	50	O'Grady's Pure Malt. Try a bottle of Malt for that hacking cough. It is a sure cure. It is good for dyspepsia. Indigestion it cures at sight. Warms the inner man; makes new rich blood, and stimulates the whole system. It has saved many and many a man and his family. 75 a quart. The price is insignificant compared to the benefit it will do you.	
Best Family Flour.....	4 25	This is as good as Coarse Meal for stock.		Country Cured Bacon Sides.....	19½
Byrd Island—have no other.		60,000 lbs. Rock Salt for Stock—try a bag, keep it in the Trough, improves Stock very much, \$1.00 for 100 lbs.		100,000 bushels finest Oats.....	40½
10,000 lbs. Nice Family Pork.....	9	Chalmer's Gelatine, 3 for.....	25	60,000 bushels fine Corn.....	56
7 Boxes Axle Grease.....	25	Seedless Raisins in Packages.....	9	Water-ground Corn Meal, made of the finest White Corn, and ground by one of the finest mills in Virginia. Bushel.....	72
800 Bbls. White Oil.....	12	Cleaned Currants, per lb.....	8	I have everything that is required by a farmer from a 1,000 acre farm to a mouse trap. Write for my price list that will give you more information than a gossiping woman.	
1,000 Bushels Seed Rye.....	68	New Citron for Fruit Cake.....	12	Clover Seed, prime Crimson Clover Seed.....	2 80
500 Tons Fine Timothy Hay, hundred.....	75	Home Made Mince Meat.....	8	Choice Crimson New-Crop Clover Seed.....	4 25
300 Tons Choice Clover Hay, hundred.....	70	100,000 lbs. New Mixed Nuts.....	11	Fine Winter Turf Oats (seed).....	75
10 Large Cakes Fancy Soap.....	25	Virginia Hams, Choicest of Meat. I have a Nice Lot of Hams Made in Smithfield, Va.....	14	Prime Winter Seed Oats.....	60
Crystal Washing Soda, Light, Smooth, and Durable, makes Washing Easy.....	30	Fine Sweet Cider, per gallon.....	20		
Washing Powders, 8 for.....	25	Home-Made Black Berry Brandy, 5 years old and nice.			
Fine Gun Powder Tea.....	40	Family Tonic, quart.....	20		
Ben Mocha and Java Coffee Roasted	18	Northampton Apple Brandy, 6 years old—pure—Apple Juice—nothing finer made—gallon.....	2		
Large Fat Mackerel in Nice Buckets or Kits, about 15 lbs.....	1 25	Clemmer's Fine Old Mountain Rye Whiskey, double distilled, sweet and wholesome, quart.....	40		
New River Herrings, 750 fish in the barrel, Large and Fat.....	5 50	Juniper Gin, sure cure for bladder and kidney troubles; relieves the cutting, stinging ache in your back, quart.....	45		
New Cut Herrings, barrel.....	5 50				
Finest Cream Cheese.....	15				
Baker's Chocolate—2 Cakes.....	25				
New Table Raisins—6 Lbs.....	60				
Fine French Candy.....	8				
Pure Lard.....	9½				
610 Tons Pure City Made Shipstuff, hundred.....	1 00				

I have an immense stock of NEW YEARS' GOODS, CAKES, CANDIES. FRUITS of all kinds, and I will ship any quantity required.

**D. O'SULLIVAN, Eighteenth and Main Sts., Richmond, Va.**

## NO WONDER THE CHILD OBJECTED

A New York Professor had a wife and family, but, professor-like, his thoughts were mostly with his books. One evening his wife returned home from late afternoon visits to find the house strangely quiet. Nowhere were the children to be seen. She demanded of the man of books what he had done with the youngsters. The Professor explained that they had become rather noisy, and so, without calling the maid, he had stuffed them into bed.

"I hope they haven't given you much trouble," Mrs. Professor said.

"Oh, no," said the Professor. "With the exception of the one in the cot over there, perhaps. He objected a good deal to my undressing him and putting him to bed."

Mrs. Professor went to inspect the cot. "Why," she cried, "that's little Freddie Jones from next door."—*The World's Events.*

"I suppose," said the physician, smiling and trying to appear witty, while feeling the pulse of a lady patient, "I suppose you consider me an old humbug?"

"Why, doctor," replied the lady. "I had no idea you could ascertain a woman's thoughts by merely feeling her pulse."

A NEAT BINDER for your back numbers can be had for 25 cents. Address the Business Office.

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We sell the BEST Seeds for this section. Our long experience and study of the farmer's needs and the climatic and soil conditions enables us to make this statement.

Have you seen our NEW SEED BOOK for 1903? If not, send for a copy to-day. It is well worth your while to do so.

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CORN PLANTERS with and without Fertilizer Attachment.

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FARM AND FREIGHT WAGONS, all sizes.

BUGGIES, SURREYS, DAYTON WAGONS, ROAD CARTS.

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WRITE FOR PRICES.



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An amusing story is told of the editor of a go-ahead London evening newspaper who in the eternal rushing to press to get ahead of the opposition was constantly impressing upon his reporters the necessity for condensing all news.

A terrific boiler explosion had taken place on board a big ship lying at Portsmouth.

"Get down there as hard as you can," he said to one of his men. "If you catch the eleven-forty from London Bridge you'll be there soon after two, and can just wire us something for the fifth edition; but boil it down."

And the reporter went. Soon after three o'clock that afternoon they got a wire from him:

"Terrific explosion. Man-o'-war. Boiler empty. Engineer full. Funeral to-morrow."—*London Tit-Bits.*

**KNEW HIS BUSINESS.**

If I were the mayor," remarked the stranger who had attended a meeting of the city council, "I wouldn't permit the aldermen to waste so much time in useless wrangling over trivial matters."

"The mayor knows what he is about," replied the citizen. "When they're wrangling they're not doing any mischief."—*Chicago Tribune.*

"Of course, John is a thoroughly English name."

"Oh! I don't know."

"O, but it is. The 'h,' you'll notice, isn't sounded at all."

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OPIUM, WHISKEY AND ALL  
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**THE BEST OF SANATORIUM FACILITIES  
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If you are addicted to these habits you can be cured and restored to your former health and vigor without pain or the loss of an hour from your business at a moderate cost. The medicine builds up your health, restores your nervous system to its normal condition; you feel like a different person from the beginning of treatment, **LEAVING OFF THE OPIATES AFTER THE FIRST DOSE.** You will soon be convinced and fully satisfied in your own mind that you will be cured.

Mr. T. M. Brown, of DeQueen, Ark., says: "Over seven years ago I was cured of the opium habit by your medicine, and have continued in the very best of health since."

Dr. W. M. Tunstall, of Lovingson, Va., says: "I am glad to say that I firmly believe that I am entirely and permanently cured of the Drink Habit, as I

have never even so much as wanted a drink in any form since I took your eradicator, now eighteen months ago. It was the best Dollars I ever invested."

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When 40 per-cent. of the eggs used brings chicks to maturity, they are called safe hatches by a large and successful poultryman, who runs several incubators and keeps a record of hatches and broods.

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THE FINE HACKNEY STALLION

❖ **HEIDRIK** ❖

Bay horse, foaled 1898; 16 hands high. This horse has great natural action, and is capable of getting the highest class harness horses.

FEE, \$10 00 the Season or \$15 00 to Insure.

Address **C. F. & J. BUTTON, Walker's Ford, Va.**

**Stallions at Spring Garden**

The Property of Mr. **ROBERT TAIT.**

Burlingame, 26235, record 2:18½, bay horse, by Guy Wilkes, 2:15½, dam the famous brood mare Sable, by The Moor. This horse is richly bred, a prize winner at the New York Horse Show, and sires grand looking colts. Fee, \$25 the season.

Ed. Kearney, chestnut horse, by Tom Ochiltree, dam Medusa, by Sensation. A grand looking specimen of the thoroughbred, and will sire not only race horses, but hunters and jumpers of the highest class. Fee, \$10 the season.

Address **SPRING GARDEN FARM, Coolwell P. O., Va.**

1903. **IN THE STUD** 1903.  
**WEALTH, 29579.**

RACE RECORD, 2:17¼, Pacing.

Timed separately in 2:08 in a race at Indiana State Fair, 1902.

Bay horse, foaled 1897; 16 hands high, weight, 1,200 lbs. Sired by Gambetta Wilkes, 2:19½, dam Magnolia, by Norfolk, 3670. Wealth is grand individually and in appearance.

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**GREAT STAKES, 25521.**

RACE RECORD, 2:20, Trotting.

Bay horse, by Billy Thornhill, 2:24, dam Sweetstakes, by Sweep Stakes, 298. Great Stakes has sired Captain, 2:16½; Foxhall, 2:19½, and four others in the list.

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..BY..

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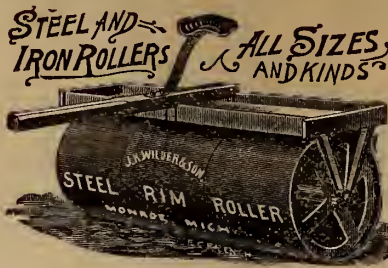
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**Steel and Iron Rollers** ALL SIZES AND KINDS  
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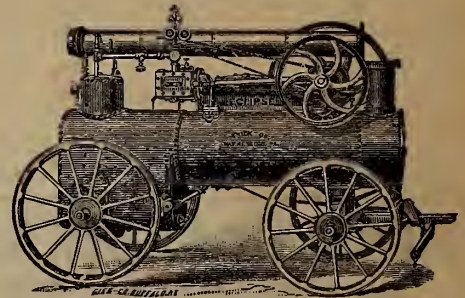
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19. S.B.

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Three sizes.

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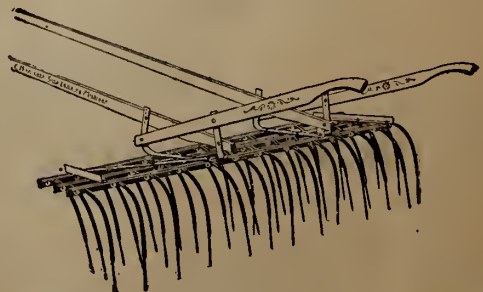
**One and Two Hole.**

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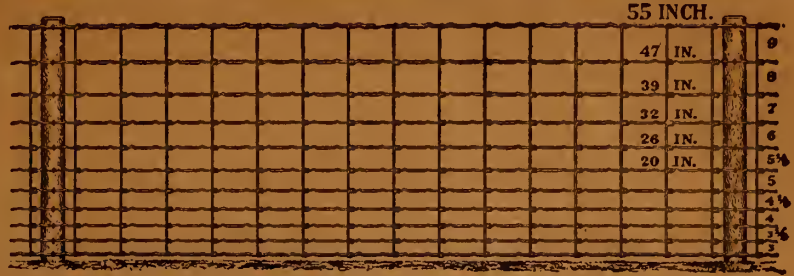
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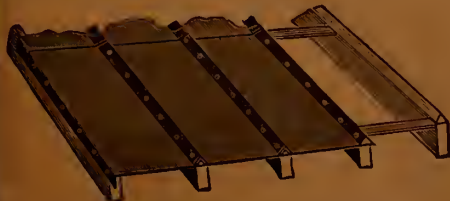
If you want the latest improved drill, and one that will do the most thorough work, see catalogues of these before buying elsewhere.

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Has no equal for grinding shelled grain, corn and cob into excellent feed. The Horse-Power is very useful for running other machinery as well. A full line of mills for horse and steam power.

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