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# Southern Planter

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DEVOTED TO

### Practical and Progressive Agriculture, Horticulture, Trucking, Live Stock and the Fireside.

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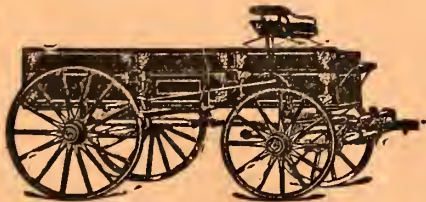
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# The Southern Planter.

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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65th Year.

Richmond, April, 1904.

No. 4.

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## Farm Management.

### WORK FOR THE MONTH.

The long, severe winter which we have had has at length broken, and we are having at last something like normal spring weather, though the winds are still cold and night frosts are not yet a thing of the past. The land is still very cold from the abnormal coolness of the weather for the past six months, and fall planted crops have not yet made much sign of growth. This, however, cannot long continue, as the sun is now acquiring much power and is exercising its beneficent influence over a twelve hour day. The absence of the normal rainfall which has continued for six months and even longer in many sections of the South, causes the land to be ill supplied with the necessary moisture required to perfect the growth of the summer crops, and unless we have good spring rains is going to exercise the good judgment of farmers in the matter of cultivation to conserve all the moisture possible during the summer months. Whilst this absence of moisture in the soil is fraught with danger to the subsequent growth of crops, yet at present it is a great help to farmers, as it will permit of the breaking of land, much of which work usually done in the late fall and winter months had to be left undone at that time in consequence of frost in the land. A few days ago we had a gentleman in the office from middle Virginia, who is the owner of a large farm, who stated that he had noted as a fact unparalleled in his observation in this State, that a piece of land with a northern exposure on his place had been hard

frozen from the second week in November to the second week in March. In the face of conditions like these but little of our usual winter work has been practicable, and now a late spring is going to crowd the work of preparing the seed bed for the crops into a very short space of time if they are to be planted at the best time for their success. We would urge upon every farmer the importance of not losing a moment of time in getting and keeping the teams at work. They have had a long rest and should be in good shape for working from sun up to sun down. Keep them to this schedule as long as weather permits. It is too late to turn more than a very little of the subsoil on to the surface, as it cannot receive the necessary aeration to make available the plant food in it, but it is not too late to use the subsoil plow after the turning plow and thus to make it possible for the roots to work their way downward and utilize the moisture which a deep soil will conserve as it falls on the land. In this issue will be found an article from Dr. Fisher, of Richmond county, Va., in which he describes how he made nearly 100 bushels of corn to the acre in an unfavorable season. In that article he lays great stress on the value of subsoiling, and incidentally explains the implement he used as a subsoiler and which is already in the hands of most farmers. Where this is not the case, and no subsoil plow is at hand, use a single tooth cultivator to break the subsoil. As the land is broken run a harrow over it the same day, if possible, and thus make a partial mulch to

conserve the moisture until time can be found to fit it for planting. Should dry weather continue it will be found of great service to run over land intended to be plowed and planted with a disc or cutaway harrow. This will prevent baking of the surface and keep the land in a condition to be plowed and worked much longer than if nothing is done. Almost every year we have complaints that some land gets too hard to plow before it can be reached. This hardness can be deferred to a much later period by the use of the disc, cutaway or even a heavy drag harrow. With the hot season so near upon us it will be necessary to avail ones self of every device which will permit of continuous working in the land if a normal acreage of crops is to be planted.

The seeding of the spring oat crop has been much delayed, and there are yet many farmers who have not got a seed sowed. To these we would say abandon the crop for this year except in the mountain sections of the western parts of this and the adjoining coast States. In the middle and coast sections much better returns can be got from the land in the way of feed for stock by planting forage crops after the corn crop has been planted than can be got from an oat crop seeded now and time will thus be got to break and fit land and plant corn, cotton, and tobacco crops in due season. Spring oats, except in the mountain sections of the South, are at best an uncertain crop, and it is folly to sacrifice time in seeding such a crop after March, when a crop like corn, which is practically a certainty, should be going into the ground.

The work of preparing the land for the corn crop should be that to which undivided attention should first be given. The most important thing in the work of growing corn is the fitting of the seed bed, and until this matter receives more attention at the hands of Southern farmers we shall never see such yields as our lands are capable of making. Every day we are in receipt of letters from farmers asking what fertilizer to use and what quantity to apply per acre to make a maximum crop of corn. We are of opinion, and this opinion is based on practical knowledge of growing crops, and on a close consideration of hundreds of experiments made in the different corn States, that not the quality or quantity of fertilizer used, but the degree of preparedness of the land planted is the basis of success in corn production. We doubt much whether without perfect preparation of the land before the crop is plant-

ed the use of any kind or quantity of fertilizer will have much influence on the yield produced. With good preparation we know that the application of a complete fertilizer will have some influence on the quantity produced, but in very few of the experiments made has it been found profitable to apply fertilizer to the corn crop. The increased yield secured has rarely paid for the fertilizer applied. There is, however, no reason whatever why a better yield than 20 bushels to the acre, which is about the average in this State, should not be made without the use of a pound of fertilizer directly on the crop. The land should be filled with vegetable matter (humus) derived from crops of peas, soy beans, vetches and crimson clover, and to secure heavy crops of these acid phosphate should be applied, and a dressing of lime be given after the crop or the stubble has been plowed down. When the land has been filled with vegetable matter it becomes capable of holding moisture, and will not bake or crust over, and then if plowed deeply in the fall or winter and worked into a fine mellow seed bed in the spring there is no reason why from 50 to 75 bushels, and even 100 bushels, of corn to the acre may not be produced without any further application of fertilizer. The heaviest corn crops have always been produced on deeply broken and finely worked soil, and not on the land where reliance has been placed solely on the fertilizer applied. What we would most strongly urge is that no effort be spared to secure a deep and finely broken seed bed before a grain of corn is planted, and that only land in at least a fair state of fertility be prepared for the crop. It is folly to plant corn on land so poor that it cannot at best be expected to make more than 10 to 15 bushels to the acre. There can be no profit in such farming. Select land that has been in sod, if no land which has grown peas is available, and on this sod put all the coarse farm yard manure that can be secured. Corn is a plant with a vigorous root system, and one capable of utilizing plant food in a much coarser form than many other crops. It forages widely for its support if only the soil be finely enough broken to allow the roots to penetrate it. Of course, in thus advising we have reference to the uplands of the South. On the river low grounds all that is needed is deep and perfect breaking of the soil. They are rich enough in plant food to supply the needs of a heavy crop. Do not endeavor to plant a larger area of crops than can have good and constant cultivation during growth. Better plant ten acres in a well prepared seed bed and give



it frequent cultivation during growth than twenty acres on a poorly fitted bed and only the ability to work it twice or three times during growth. The small area will make the most corn and make it at less cost. The depth to which the soil is broken will have a great bearing upon the distance apart of the corn rows and plants. No great yield of corn can by any possibility be made where the rows are four feet apart and the plants three feet apart in the row. There cannot be sufficient plants grown on an acre planted in this way to make a great yield, and yet this is the best that can be done if the roots of the plants cannot get down into the soil. Give them *cubic space* enough in which to forage—that is, *depth* as well as surface measure, and then you can easily double the number of stalks on the acre, and thus get the prime requisite for a big yield. Land that will not make corn planted in rows three feet six inches apart, and the plants eighteen inches apart in the rows, is not good enough to plant in corn with profit. Our climatic conditions are especially suited to the corn crop, and if we only do our duty to the land there is no reason whatever why the average yield should not be 50 bushels to the acre on upland and 100 bushels to the acre on the low grounds.

Whilst as we have said we have no great faith in the use of commercial fertilizer in the production of the corn crop, yet as we have so many enquiries on the subject, we feel compelled to say something as to what plant food the crop calls for, and how it may be supplied. A crop of 30 bushels of corn to the acre removes from the soil 40 pounds of nitrogen, 41 pounds of potash, and 13 pounds of phosphoric acid. This would seem to point to the necessity for using a fertilizer rich in nitrogen and potash, and yet the results of experiment go to show that many of the best crops have been raised without the use of heavy percentages of either of these foods. It is becoming more certain every year that corn is like the legumes, itself a nitrogen gathering crop, and that in some way not yet discovered it can secure nitrogen from the atmosphere. It makes its growth during the season of the year when nitrification is most active in the soil, and doubtless this fact enables it to dispense largely with any artificial supply. The power of the crop to forage for food enables it to secure potash from sources unavailable to other crops, if only there be a sufficient supply of phosphoric acid available. Indeed, an examination of the experiments made in the various States goes

to establish the fact that the amount of phosphoric acid supplied to the crop is the dominant factor in securing a good yield. We believe that the use of 300 to 500 pounds to the acre of acid phosphate is probably the fertilizer most likely to secure an increased yield of corn on average upland in the South, especially when applied on sod land or on land which has grown peas. On the thin, sandy lands of the eastern sections, cotton seed meal and some potash, say 50 pounds of muriate to the acre, ought also to be applied. Where more than 200 pounds to the acre of any fertilizer is applied we would advise it to be sown broadcast and be worked into the soil. If less than that quantity be used, and we very much doubt whether any appreciable benefit whatever can be derived from less, we would apply it in the drill and mix well with the soil before planting the seed.

In our last issue we gave some advice as to the planting and fertilizing of the cotton crop, and refer our readers to that number. The importance of deep and perfect breaking of the land for cotton is just as great as for the corn crop. In no other way can moisture be conserved for the crop, and the necessary plant food be secured from the soil.

The land intended to be planted in tobacco should be plowed and worked in the intervals between preparing for and planting the corn and cotton crops. Tobacco is a plant with a comparatively small root system, and hence the importance of perfect preparation of the soil so that the delicate rootlets can make their way through it and secure the food necessary to their growth. Analysis of tobacco plants grown in different sections of the South go to show a great variation in the content of the constituents of plant food, and therefore make it difficult to advise as to the quantity of each element to be applied. The fact seems to be that tobacco has the power to appropriate varying quantities of the three elements of plant food as they are found in the soil in accordance with its requirements on the particular soil on which it is grown. Major Ragland, one of the most experienced tobacco growers in the South, conducted a large series of experiments and found that he got the best results from the use of 160 pounds of dried blood to supply the nitrogen, 120 pounds of sulphate of potash to supply the potash, and 114 pounds of acid phosphate to supply the phosphoric acid to the acre. In the cotton sections, where light tobacco is grown, cotton seed meal is largely used to supply

the nitrogen, and apparently with good results. The exactions of light tobacco for nitrogen are not so great as the dark, heavy shipping types, and hence cotton seed meal meets the need of this type when used liberally. For the heavy types of tobacco, we think the formula used by Major Ragland, which gives a percentage of  $4\frac{1}{2}$  of nitrogen,  $15\frac{1}{2}$  of potash, and  $3\frac{1}{2}$  of phosphoric acid, a most desirable one. Such high percentages of potash and nitrogen cannot be got in the usual mixed fertilizers, and must be home mixed. Where cotton seed meal is used as a source of nitrogen it will be well to use with it some nitrate of soda, as the nitrogen in the cotton seed meal is not immediately available, but requires time to decay, and then begins to supply the nitrogen slowly and continuously. With 800 pounds of cotton seed meal we would use 100 pounds of nitrate of soda. This will give the plants a good start. The most important element in a tobacco fertilizer is the potash, and this should be supplied by sulphate of potash only as any other form of potash salts injures the burning quality of the tobacco. The least important element is phosphoric acid. When used in excess this has the effect of making a coarse type of tobacco. Many old growers of tobacco say that they have never yet been able to get a mixture of tobacco fertilizer which would give such results as the old-time Peruvian guano gave. For years it has been impossible to get Peruvian guano, but this year it is again in the reach of those who would like to use it. Messrs. Mortimer & Co., of New York, are importing it, and it can be had from them and their agents.

Whilst it is yet early to plant forage crops, May being the best time, yet for those who are likely to require early feed for stock, we would suggest the fine preparation of a piece of land and the seeding of an acre or two of Cat tail millet (called Pencillaria in some of the catalogues). This grows quickly, and makes a heavy crop of good green forage to follow crimson clover and rye. Sow one bushel of seed to the acre broadcast and harrow in, and if the ground is dry enough, roll and then lightly reharrow to prevent caking of the surface soil.

#### DRAINING WITH POLES.

In our last issue we replied to a query on this subject. Noting this, Mr. Thomas, of Smithfield, Va., the curer of the celebrated "Smithfield Hams," writes us that they find in Eastern Virginia that pine poles make a good blind ditch, when properly

cut and laid. He says the poles should be straight and sawed with a cross-cut saw, and be put in the ground the same day they are cut, if possible. Use three poles, one on each side and one on top. They cover with pine straw, but wheat or oat straw will do as well, and then put in the soil. Put in in this way the ditch is good for twenty or thirty years. Where the subsoil is a good clay, after the ditch has been opened to the clay they sometimes take a spade which has been narrowed by cutting off a piece on each side so as to make it V shaped, and with this dig out a trench in the clay at the bottom of the ditch, and then place one pine pole on the top of this trench as a cover and fill up the ditch with straw, and soil as above mentioned. This, he says, makes a very permanent and effective drain—where conditions are suitable.

#### VALUE OF LIME AS AN IMPROVER OF LAND.

*Editor Southern Planter:*

I have been reading in your valuable paper for several months many articles on the benefits to be derived from the use of lime on our Virginia soils and as I have been an extensive user of lime for some twelve or thirteen years I think it probable my experience may be of benefit to some of your many subscribers.

I have learned, after long experience, that vegetation is a force that must be brought about by the union of certain elements in the soil, and just as the soil lacks one or the other of these elements so will it lack the power to grow and develop abundant crops.

As the steam engine requires the two elements, fire and water, to generate the powerful force, steam, to create great energy, so does the soil require the two important elements, alkali and acid, for just as these are well balanced in the soil will it be either rich or poor.

My experience is that all the lands east of the Blue Ridge, from which a large portion of the potash has been exhausted by the continuous growth of tobacco, can be made to double their yield of wheat, oats and corn by a proper application of one ton of lime per acre.

On my red soil I find that after it has been treated as above stated from two to three years, I can make double the amount of wheat without the use of fertilizer, that I could before with from two to three hundred pounds per acre of acid phosphate.

Lime is slow to act but especially so if applied in



the spring. It should, to get the best and quickest results, be applied in the fall and always on lands that need not be turned for from two to four years. It is always best to seed your land to grass after liming. In my 12 years experience I have never once missed a stand of grass on land that had been limed.

My system of applying it is the one that has been practised in Pennsylvania for probably 50 years. After my field is plowed I take a single shovel plow and lay off the land 13 yards wide each way. This leaves it in squares of 13x13 yards. It will be found that 30 of these squares make an acre. If you will weigh a ton of lime, then measure it, you will find you will have 30 bushels. This is at least true with partially slaked lime such as I use.

When I begin hauling from the car I have two bushel boxes, one for each wagon. Each wagon takes a row of squares and in the middle of each square we put one bushel, until we have gone over the entire field. I let these piles lay exposed for from two to three weeks until it is all slaked, then just after a slight rain or early in the morning we commence spreading. Each pile will go over its square uniformly if the parties handling understand their work. In scattering lime it should never leave the shovel at the point but always at the side. It will then be found to fall on the ground evenly and instead of shoveling you will be sowing.

In land that is too rolling to lay off as above for fear of starting a wash, I use the same dimensions as above but instead of laying off with a plow I step it off and at each place where there should be a pile of lime I stick a tobacco stick. This, by being careful, will enable you to get it on the land fairly even.

After the lime is evenly spread over the field I commence harrowing. It is best if it can be done, to harrow both ways or cross your harrowing as much as possible, then I drill in my wheat and timothy seed together. In the spring I sow my clover seed and again harrow. After this I let it lay for from three to four years and I consider if my land was worth twenty dollars per acre before liming, at the end of the three or four years it will be worth \$40.

Sandy soil, in my experience, will improve quicker than red soil, and they both will show improvement quicker if they have either a coat of manure or green crop turned under before liming.

My lime costs me \$1.40 per ton laid down at my station, seventy miles from where it is burnt. I believe that this lime, if properly managed, could be laid down in car load lots at any railroad station in Virginia for not to exceed \$2.50 per ton.

I have tried lime from four different parts of the State and I consider this the best I have struck. A proof of this will be found in the fact that I have purchased from them in the last two seasons about 175 tons. The day the East Virginia farmers adopt a system of liming, if it is not over ten acres each year, that will be the day their permanent prosperity will begin, and every man who will add anything to the speedy adoption of such a system will go down in the future history of the State as a benefactor to his country.

As I see from several of the inquiries in your paper that a large majority of farmers have no knowledge of the action of lime on soil or its great benefit I will give you the results on a 12-acre field limed 13 years ago, with 15 tons of lime. This land was perfectly exhausted. There would nothing grow on it but dewberry vines. I had only just bought the farm therefore had nothing else to turn under, so I turned these vines under and sowed the field to wheat and timothy. In the spring I sowed clover but failed to get a stand, but got a part stand of timothy and about four bushels of wheat per acre. In the fall I top-dressed the field with the above amount of lime. The following summer I cut about three-fourths of a ton of hay to the acre, after which I grazed it two more years then plowed it up for corn. The season was not a good one, as there was but little rain, but on my 12 $\frac{3}{4}$  acre field (drill measure) I got one hundred and twenty-six barrels of corn (680 bushels). Since that time I have cropped it with three crops and am running it in grass three years and I have never failed to get a good crop. It is now in clover and timothy and no man in Virginia has a nicer stand. In addition to the permanent improvement of the soil by the use of lime I find a very decided improvement in the feeding quality of the food raised on the land that has been limed. This will, I believe, be found to be one-third greater than that raised on land that has not been limed, especially will this prove true where you wish to lay on fat and make a rapid growth of bone.

My first few years experience in feeding cattle for beef in Eastern Virginia was a failure. I could feed all winter and not lay on as much fat as feeders in limestone countries could in two months. Since I have been liming I can feed to some profit. I find another decided advantage in its use and one every farmer in my section has observed. It will stop the land from slipping or washing. It seems to act on land as it acts in mortar, to hold it together. I have no axe to grind in this matter. I have no land to sell

nor have I any interest in the sale of lime. I would only like to see this county more prosperous.

Bedford Co., Va.

OTHO HULL.

### NINETY-FIVE BUSHELS OF CORN TO THE ACRE.

Dr. Fisher, of Emmerton, (Richmond county, Va.,) who grew over 95 bushels of corn to the acre last year, sends the following particulars as to how he prepared and worked his land to secure this result. Before describing the method it may be well to give some history of the previous cropping of the land, as this in our opinion has a large bearing on the subject. Prior to 1901 the  $3\frac{1}{2}$  acres on which he grew the crop, and which made 335 bushels of corn, had been producing peas, followed by crimson clover, the clover always grazed or cut off in the spring in time for tomatoes. All the land was limed about 1898. In 1901, after a crop of clover, the land was seeded to peas and corn, three pecks of peas and one peck of field corn, put in on the 25th June, with a disc drill. The corn grew from five to eight feet tall, heavily loaded with vines. This was cut when the corn ears were in the milk state. These ears were pulled off and hauled to the hogs when the crop had been drying about two days. Getting these ears off opened up and helped to dry the crop. It made 27 large two-horse wagon loads. The land was then seeded to crimson clover that was cut in the spring of 1902. The land was then put in tomatoes. The last working of these tomatoes was followed by seeding crimson clover. This clover was grazed all fall and winter and a cutting for hogs was made in May, 1903. Then followed the corn crop in question, the growing of which is thus described by the Doctor:

The yield of corn per acre in this locality is very small on an average and was particularly so last season. There is little or no really rich land in my immediate neighborhood. Our corn crops are generally shortened, and sometimes ruined by drouth. I cultivate very little land, but study to overcome the above troubles. I fallowed my land deep, with turning plow, *subsoiling* each furrow. I pulverized with the harrow and applied 300 pounds of 10 and 2 fertilizer per acre through a wheat drill. The corn rows were opened 3 feet 6 inches apart, with turning plow (a No. X Dixie) twice to each row and in the bottom of which was run the subsoiler. The corn was planted behind the subsoiler, in this loose bed. Used a planter run shallow, dropping about 14 inches apart. As soon as the corn was a few inches tall, a cultivator worked the middles, putting a little dirt, each time down in the furrow and around corn. Dur-

ing the dry weather a dust mulch was used after cultivator. I never found moisture to fail to come within one and one-half inches of the surface. By the last running of the cultivator the furrows were filled and the whole surface was perfectly level. I will say here that I feel convinced that my yield would have more than reached 100 bushels per acre, but for the fact that the drill clogged at times and there were many spaces left from 20 inches to 30 inches. These were replanted, but to no purpose, as the growing corn soon smothered out the replanted. The device I use for subsoiling is the best I have seen. It is not original with me, as I got the idea from Mr. Jos. Peirce, of Lancaster county. Take an iron frame cultivator and take off all the shanks except the hind one (on middle bar) and righthand one. Either take off the left wing or shut it up close to the middle. Mount the two shanks with long stout steel hoes two inches wide. Put gauge wheel in front of this machine, turned so as to run wheel well ahead. Now with the two hoes just opened enough to tear up the whole width of the furrow made by the turning plow, and one good horse hitched, you can do the work well. If the shanks are set right the hoes will draw down in the hardest soil; so that the driver will have to carry some weight in his hands to keep the depth uniform. The dust mulch can be made easily by taking two sled runners, the under side being boarded with thin boards, lap jointed. Put first board on behind and you get the laps made so as to make a thorough pulverizer. Now nail a strip one inch by one inch across these boards down the middle, slightly narrow the top edge (top when it is turned over to put bottom on). This keeps it straight after the horse. A boy can ride on it and drive. Width must be made to suit space between corn rows.

To bind corn shocks, get two stout poles about 7 or 8 feet long, tie one end of a rope to one one-third of its length from the end; do the other end of the rope and the other pole the same way. Have rope 8 to 10 feet long, according to size of shock. With this binder, the closer corn is set up at bottom of the shocks the better. One man to each pole, carry end in hands, place the loop of rope just above the ears, hold poles level with the line of tie, work corn together with ends of poles and pass them around, until the shock is perfectly tight. One man holds both poles, while other one ties the shock with the usual tarred cord. If corn is distributed equally around the saddle stalks it will stand up straight and turn water. This binder does not twist the shock like others.

The handiest and cheapest way I have found to get



corn to husker and shredder, or for that matter, to barn for any other method of handling it, is a low wheel cart for horse or oxen. Have no backing gear; but run axle back against the shock by hand. Have a long chain or rope with large hook in one end. Pass hook end around shock, then with the hook make fast in shape of a loop, back team well back to get close hitch, then let the chain or rope take the whole pull. By holding one wheel back when team starts, the shock will be pulled well upon the axle. After hitching on to one shock, chain or rope can remain fastened to team. This drops the whole shock straight. What made my good yield of corn this season, a bad one in this "Neck?" Plenty of nitrogenous vegetable matter, subsoiling, thorough cultivation and dust mulching during drouth.

A. C. FISHER, M. D.

### SAVING COW PEA HAY.

*Editor Southern Planter:*

I have been a subscriber to the *PLANTER* for a number of years, always looking forward to its monthly appearance with much pleasure and feel that these few words of commendation but poorly express its real value to me. In following advice contained in the *PLANTER* as to the saving of crimson clover seed I saved enough in one season, 1903, to pay subscription price for many years to come. I saved enough seed off a very small piece of land to sow about twelve acres. I seeded eight or nine acres last year and have enough left to sow about three acres. Valuable aid has also been obtained in the saving of cow pea hay. I put mine in small stacks and leave in that condition until wanted for feed. Have over twenty stacks in the field now and they keep perfectly, only a very small portion of the hay on extreme outside is injured by weather. I don't think it pays to build houses just for putting up cow pea hay alone. Such a small percentage of the hay is damaged that it is hardly worth mentioning. I had some in the field all of the winter of 1902 and 1903 and I feel confident that the first two or three rains did all the damage received. I had a good many cocks to mould some near the ground. The weight is so great that the hay cannot cure properly near the ground. If I save any of this kind of hay this year I expect to continue following advice in the *PLANTER*, and after putting up the hay about four feet around the pole, to nail on a strip or two and finish stacking over the strips. I let my cow pea hay lay on the ground last year nearly two days before

raking. Hoping the year 1904 will bring greater prosperity than ever to the *SOUTHERN PLANTER* and that all of its readers also may be the recipients of our Heavenly Father's blessings.

*Prince George Co., Va.*

A. R. CARY.

### COW PEAS FOR FERTILIZING PURPOSES.

IS IT ESSENTIAL IN ORDER TO OBTAIN BEST RESULTS THAT THEY THEMSELVES SHOULD BE FERTILIZED? AND, IF SO—WHY?

*Editor Southern Planter.*

I doubt if there is a single farmer throughout the entire South who is not sufficiently posted on cow peas as to know that they are in every sense of the term a "recuperative" crop, that land, where they are sown or planted, is enriched and the succeeding crop benefitted and increased thereby; but, knowing all this, there are many who seem to think that, as they themselves are a fertilizer crop and planted mainly for fertilizing purposes, it would be the height of folly to apply fertilizers to them. To illustrate: A farmer sows a piece of land down to peas and mows them for hay; or plants in drill, cultivates them, then in the fall turns the hogs in on them; in either case the land works loose, light, mellow and friable, it is more retentive of moisture than where peas were neither sown nor planted; as a perfectly natural result, the crop is increased thereby, and the farmer is satisfied. He knows but little, if anything, about their attracting nitrogen from the atmosphere, and no more as to their being greedy feeders of both potash and phosphoric acid; what he does know is that the land works easier and better and the crop grows more luxuriant and the final yield is larger where they were than where they were not. He is satisfied with this knowledge, and does not seek to enquire further; but goes on planting and sowing peas year after year. He notices though that the land instead of increasing in fertility and productiveness, is actually becoming poorer and the yields obtained therefrom most beautifully less year by year, and this in spite of the fact that a fertilizing crop has been planted each year strictly for fertilizing purposes. In extreme cases (and we have heard of quite a number of such) cow peas have followed cow peas so often on the same land that it finally became so denuded of its native supply of potash and phosphoric acid that it could not even grow a crop of cow peas. The same thing has happened with clover, and indeed, with each and all of the recuperative crops. When land gets in this condition, it is

termed "pea-sick," "clover-sick," etc. The remedy is obvious. Keep up the potash and phosphoric acid supply. These two manurial agents, when applied liberally, promote the most luxuriant and heaviest growth, and ensure the absorption of the greatest possible amount of nitrogen from the air. That is just what we plant them for, to fill the soil with humus—thereby making it loose and friable, warm-natured, free-growing, and retentive of moisture; and secondly, for the absorption of nitrogen. Of course, the more luxuriant the growth of vines and roots, the greater will be the quantity of nitrogen absorbed by them; and the more liberal the supply of the two above named substances present in any given soil, the more luxuriant the growth. If the soil be very poor, and potash and phosphoric acid sadly deficient, the growth of vines will be weak, puny and spindling, and the absorption of nitrogen by them must inevitably correspond with the growth of the recuperative crop, let said growth be little or much.

Where the growth is weak and feeble, but little, if any, nitrogen is absorbed; hence the object in planting a recuperative crop is completely and effectually frustrated; while, where peas are sown, and the use of the mineral fertilizers omitted, let the growth of vines be ever so luxuriant, the land is inevitably poorer than if they had never been planted thereon. While it is a fact that they enrich the soil by the amount of nitrogen absorbed by them from the atmosphere, it is also a fact that they actually impoverish the soil to the extent of 30 pounds of potash and 10 pounds of phosphoric acid for each ton of hay that is taken off the land.

In each and every instance where the cow pea is sown as a recuperative or fertilizing crop, in order to force it to do its very level best in the way of increasing fertility, a mixture of 300 pounds of acid phosphate and 100 pounds of muriate of potash, should be applied per acre. Or, any of the "bone and potash" fertilizers, analyzing 8-4 or 8-6 may be used at rate of 400 or 500 pounds per acre. I would advise all of your readers to send for a pamphlet devoted exclusively to "The Cow Pea," which is sent free to all applicants, and can be obtained by addressing "Experiment Farm," Southern Pines, North Carolina.

G. H. TURNER.

Gomez, Miss.

### SOME NOTES BY THE WAY.

*Editor Southern Planter:*

I enjoy reading the SOUTHERN PLANTER more than any of our exchanges, mainly I suppose because

it comes home to me more closely in my own experience and practice. You have gotten so many good things in the March number that I am going to bother you with a brief sketch of what particularly strikes me, and if I do not always agree with your correspondents it is simply that I wish to add more perhaps to the general value of their letters. Southern farmers should ponder deeply what Dr. Newman tells them about hog feeding, and especially about the value of a permanent pasture of Bermuda grass for them. I once visited a friend in South Carolina, and found him selling smoked hams and bacon by the wagon load. He said that the bacon cost him for its production the same that his cotton did per pound, and he was then getting 14 cents for the meat and six cents for the cotton.

In regard to shredding fodder I wish to suggest to farmers to try the shredder for getting out their cow peas from the mown hay for seed. Of course the peas intended for seed will be allowed to ripen more than for the best hay, but the shredded feed is still of value. By the way, I was attracted by a very pretty bale of pea vine hay in front of a feed store a few days ago. It was bright and green in color and well cured. The grower was by, and told me that he set up stakes in the field like peanut stakes and shocked the hay around them as fast as cut. Only this and nothing more, and it cured well. It was as bright and pretty as mine, and that is saying a great deal for me, for curing pea hay has been a fad with me for many years.

Your correspondent "N" on "Farming as a Business," advises liming before sowing peas. I would say, don't. Peas are the only legume that in my experience do not like an application of lime. Defer the lime till the peas have been grown, and you will get a heavier growth of the peas. Then, as you say, plowing under green peas is not the way to help the land, but rather to injure it by souring. Then, too, the peas should be allowed to do all they can for you before using them as manure, and the greater part of their nitrogen fixing is done in the latter part of their growth. The hairy vetch is all right. I have had it three feet high here in February, in a mild winter, and this hard winter it is ten inches high the first week in March. Not pastured of course.

Prof. Nourse on hay substitutes reminds me of a letter I lately got from a Tennessee man, who is wintering 30 young cattle. He had been feeding hay, cotton seed meal and cotton seed hulls. But he said that the hulls got so high priced that he changed his feed to two-thirds gum and oak sawdust and one-third



hulls, and the cattle ate it. He wants to know the feeding value of the sawdust. I suggested that he try the cattle with some of it without any meal mixed with it and see if they would eat it. But what a comment on stock feeding in the South! I doubt if there is really much difference between the feeding value of the sawdust and the hulls, and I do not believe that cattle which have been accustomed to good pea vine hay and corn stover will eat either till compelled to, and the idea of a farmer in a country where peas will grow in perfection buying cotton seed hulls for his cattle argues little for his farming.

Mr. Taliaferro, who complains of his barren figs had better dig them up and plant known varieties. His are probably seedlings from the Smyrna fig, and these will not bear here unless we had the wild Caprifig and its insect. I once grew several hundred fig trees from seed washed out of the finest dried figs I could find. They made a fine growth, and set the nascent figs. But they all dropped off and never a fig was produced. If your correspondent will send to the P. J. Berckmans Co., Augusta, Ga., and get plants of the "Celestial" he will have the most hardy fig I have tried—and I have had nearly 100 varieties—and will have one that he can eat out of hand, skin and all, though not so large as the Brunswick. I received cuttings of a number of new figs from the Department of Agriculture last spring. They were said to be very hardy. All grew, but all have been cut by the winter, while my Brunswick and Celestials are little hurt. In regard to Ginseng, I think that the only money that will be made for a good while out of it will be by those who are growing plants to sell to the people they have infected with the ginseng fever. Some good roots may be grown in the higher mountain country of Virginia and North Carolina, but the people who plant in the eastern sections will hardly get anything out of it.

"Yes, Johnson grass will grow in Amherst county, Va." There is no doubt of this, and the man who first introduces it there will be ever remembered in that country as Jefferson is for the introduction of the Scotch broom in Virginia. With all of its admitted value as forage, the plant is such a pestiferous weed that any neighborhood now clear of it should use every effort to keep clear of it. We know all about the pest here, and have to fight it continually, even in our gardens.

Keep on warning the farmers against the crossing of pure breeds of animals. As an old friend of mine says, "it gives them too many relations, and

they do not know which to take after." Better keep close in line of one breed and one family in that breed and reduce the number of relations.

We hope that there is not going to be a revival of the old fad about Polygonum Sacchalinese. It is doubtless hardy and will make a tremendous growth, but I would as soon try the sawdust feed. We have grown it here and abandoned it long ago.

W. F. MASSEY,

*Editor of Practical Farmer.*

*Raleigh, N. C., March 9, 1904.*

We thank our old friend for his compliment to the PLANTER. When one with his experience of the wants of the farmers of the South says so much in commendation of our work we think we may feel satisfied that we are doing something worth doing to help forward the South.—ED.

## FARMING AS A BUSINESS.

*Editor Southern Planter:*

I wonder if "N," of Hanover county, who writes about farming under the above caption in your March number, ever tried the method he recommends?

He seems to start with the notion that Virginia land is "only a place for a farm," and that the new owner must put the farm there. Now the fact is that there are no "worn out" lands. There are lands in Virginia and elsewhere that never had anything to wear out, deep sands that are not even "a place for a farm." But the loamy soils with a good clay foundation are never worn out. Scratch plowing and poor cultivation may have rendered them very unproductive, but it is perfectly possible to restore them from their own resources. Nature will do this with broom-sedge and pine trees if we let her alone. But we can find in commercial fertilizers, intelligently used, a ready means for aiding our efforts in better plowing and tillage.

A millionaire might adopt the mode of improvement suggested by "N," but men who buy farms to make a living on them are seldom millionaires. There are few places where lime can be had for \$2 a ton. In most sections away from the limestone regions it will cost on the farm double that or more. Then "N" advises all of this work and waste of food crops without any return in meantime. He estimates the cost of four crops plowed under at the mere cost of seed and labor, when in fact these crops had a high feeding value which is entirely lost in using them as

manure direct. Four crops of legumes, fertilized as he directs should make at a very low estimate four tons of good hay, well worth for feeding on the place \$10 per ton. If thus used, the farmer could get some profit from the feeding and could return fully 80 per cent. of the manurial value to the land. Instead of waiting till he has buried a high priced farm on the poor one before getting stock, he should have stock to eat all the roughage as fast as he produces it, and thus make the farm pay its way. The way we figure on "N's" plan, the farmer will have to spend fully \$100 an acre to make his farm in addition to what he pays for "a place for a farm," and he had better buy the \$100 an acre rich land at once. The great inducement for men to buy and develop the productiveness of the run down lands of the South is the fact that by wise management these lands can be made to pay for their improvement as they are built up. They became unproductive through a long course of bad treatment and they are not going to be suddenly made as fertile as they once were, by any immediate vast expenditure in green manuring. The man who puts lime on poor land destitute of humus, with the notion of aiding the growth of cow peas, will find that lime does not help them, as it does other legumes. He must get the peas first by the aid of acid phosphate and potash if on a sandy loam, or acid phosphate alone on a clay loam. He will find too that the pulverized rock will give very little return at once on the peas, and that for immediate results he had better use the dissolved rock. Thus having got a good growth of peas he will be very unwise to turn them under green, for he will run the risk of damaging his land more than helping it, and will have cut short the work the peas would do for him, as the larger part of their nitrogen gathering is done in the later stages of their growth. Then, too, the burying of a large growth is a poor preparation for fall grain, which needs a well compacted soil.

In short, our worn lands have still a great resource of fertility to be brought out by good plowing and tillage and are really undeveloped farms and not mere "places for farms" and properly treated they can be made to pay for their improvement as they develop and do not need the expenditure of a high priced farm on them before giving profitable returns.

"VIRGINIAN."

### IMPROVED MACHINERY VS. COMMON LABOR.

*Editor Southern Planter:*

In this era of prosperity, with every business in full blast, and labor so restless and dissatisfied all

over the country and wages constantly increasing, the farmers of this section of North Carolina seem to be suffering more from the need of reliable labor than any other industry. It is a certainty that they cannot pay wages equal to our factories and railroads and make a living and have anything left. When a man puts in his time on the farm he should expect the same returns that he would from any other business. What the farmer wants is to get the most work done in the shortest time and at the smallest cost. By the use of improved farm machinery these requirements can be pretty well accomplished and farmers will be independent of so much sorry help that they are now compelled to put up with. Southern farmers are slow to realize the advantages and profits derived from the use of machinery, and it is costing them thousands of dollars in wages every year to say nothing of the endless amount of trouble and worry. The Western States learned that they could not farm without machinery and have profited by it. They could not raise wheat and corn to any extent without improved machinery and to do so the cost would be too great. There is no reason why machinery will not prove as profitable and practical on the farms of the South as it has in the West. With machinery one man can do more work and do it better than by the old method. With one team he covers twice as many acres and sometimes more and is able to cultivate the same crop oftener and this is essential in good farming. Money spent for sulky plows and cultivators, disk harrows, weeders, seeders and hay machinery will prove a profitable investment if they are properly worked. They do good work and a great deal quicker, which is important for work done when needed is the work that pays most. I have seen crops badly damaged for want of cultivation because the farmer could not get to them sooner. Last year we had several acres in hay and had to buy a mowing machine before we could save it. It cost about 50 per cent. less to cut it with the machine than by hand. With this machine you can save from eight to ten acres per day and run less risk of losing your crop from bad weather alone, which in some cases would amount to more than enough to pay for the machine. Some of the peanut growers near here had to buy a peanut picker last year before they could get their crop marketed. The picker gives satisfaction and they have the pleasure of knowing that they can get the work done any day necessary. They thrash the vines to pieces, but that does not ruin them for feeding. All the dirt and dust is cleaned off which otherwise the stock would eat. Farmers should provide



themselves with every labor saving device possible and do more and better work. It is impossible for every farmer to buy these implements, but they could all buy more if they would. There is not a farmer who has a farm of any size who could not get one or two of these implements each year if they would only try. Most of the manufacturers offer their tools on easy terms which is to the farmers' advantage. By the use of modern machinery and up-to-date methods and businesslike ways we will see better farms better cultivation and more production to the acre and the result will be more money in the farmers' pockets. The old way of farming is a thing of the past and those who expect to succeed may just as well break off from these ways and get to hustling or they will have to go "way back and sit down." They cannot compete with those who adopt modern farm implements and methods. Much of the common labor is expensive at any price. You can well afford to keep a good man at a good price when you can get a lot of work done in a short time.

*Brunswick Co., N. C.* JAMES W. MURRELL.

### SACCHALINE.

*Editor Southern Planter:*

I notice in last issue answer to inquiry relative to sacchaline.

My experience with it is that it is of no value whatever unless as a soil renovator, and then only after years of growth. In the first place it requires rich land to make satisfactory growth, say around old neglected manure piles, or where its twin sister the dock will thrive. It is not in any way related to buckwheat. It is distinctly an overgrown dock and not as readily eaten by cows or horses. It grows about five or six feet in height, and spreads rapidly from the root but not badly from seed, so there is not any serious danger as a noxious weed. My experience was derived from imported roots and imported seed. In conclusion, I should not advise any one to invest in more than one root or the least possible amount of seed.

W. H. RICE.

*Fairfax Co., Va.*

### NOTES.

A ton of stable manure contains about 10 pounds of nitrogen, a ton of green pea vines about 5 pounds, but a ton of green alfalfa contains nearly 15 pounds of nitrogen. From 20 to 25 tons of green alfalfa from one acre per year in four cuttings is not an ex-

traordinary crop and is worth nearly \$50 as a fertilizer or from \$60 to \$70 for feeding. If this alfalfa is fed, the droppings of the cattle are worth about \$50 less cost of hauling. In addition, the alfalfa stores every year an immense amount of nitrogen in the ground through its deep root system. By the way, how many acres of alfalfa are you going to save this fall? The work should begin now. Order your lime and your ground rock phosphate.

Disking the land before plowing is as beneficial as disking after plowing, but the best results are obtaining by disking before and after plowing. If you haven't tried it you will be surprised at the results.

An inquirer in your last issue asked confirmation of his belief that living in the country is cheaper than in the city. It is, if he is willing to do without city comforts, wear cheaper clothes, eat plainer food, etc. If his time is worth anything, however, paying water rent is cheaper than "toting" water several times every day from the well or spring to the kitchen. Coal delivered at your city residence may even be as cheap as spending your time in cutting and hauling wood. Walking is cheaper than riding on the street cars if you can't make profitable use of your time.

N.

### SWEET POTATO CULTURE.

*Editor Southern Planter:*

The sweet potato is "par excellence," the root crop of the Southern States, because it is suited to climatic and soil conditions as found in these States. It is also one of the most profitable and satisfactory crops that the Southern farmer can make either for market or home use, and I only state what is a well known fact, that there is not another crop so universally grown as this crop, because it can be found on the least piece of cleared land, where the foundation of the future farm is being laid, to the large fields of the old plantations where they count their acres by the thousands. At this time every year a great many inquiries come to hand from parties newly moved into the Southern States, particularly the Gulf States, as to the best methods of getting a satisfactory and profitable yield from this crop, for it appears to be a well recognized fact that to the newcomer, this is one of the crops that he can hardly fail in making something from. To such inquiries I would say first of all, see that your land is well broken and put in good tilth. If the land is old, plow as deep as your soil will allow you, and a little deeper, if new land is being used don't plow deeper than your top soil, but pulverize thoroughly what you do plow so as to make a thoroughly mellow bed for the

young potatoes to grow in. On our tough wire grass sod of the long loaf pine lands, it is not advisable to cut a large furrow slice and a very small plow of the one horse type is recommended to make a beginning with, because a large slice will take a long time in decaying and getting incorporated with the other soil. What I specially recommend, and have been practising personally for a number of years on this kind of land is a very narrow scooter, say about two inches wide, cutting and cross-cutting the land at the very first and going about six inches deep. This method of breaking new land, mixes it all up thoroughly and goes deep enough to do a little subsoiling at the same time. This followed with the turning plow a few inches deep and again with harrow and cultivator makes an excellent job on our stubborn wire grass sods. After the plowing, either old land or new, should be treated to a good application of high grade fertilizer. The claim is often made that new land does not require fertilizing. Perhaps this is so, in a certain sense, but the farmer who takes the fertility from his soil that nature put there for a crop, without adding some more to it to make that crop is a soil-robber and the results will come back on him in after years. It is a well recognized fact among all our best agriculturists, that every crop grown on the farm must be provided with the necessary plant food for that crop in the form of the proper fertilizers for same. The fertilizer for sweet potatoes should contain a liberal amount of phosphoric acid and potash. The nitrogen is not so imperative as in most of our soils, enough nitrogen is already present. An excess of nitrogen will promote the growth of the vine at the expense of the root production, and it is root we are after. In buying a fertilizer already made up as we find it on the market, the analysis of the same should be about six per cent. potash and five or six phosphoric acid, from five hundred pounds per acre up to a thousand pounds can with safety be applied broadcast and worked well in to the soil some time before the draws are ready to plant. A low broad bed is best to grow the crop in, plot culture during our rainy seasons of July and August tends to lessen the crop. I have tried both ways and found the bed system by far the most satisfactory. And the nature of the crop with its excessive vine production is against any system that requires after cultivation when the crop is once planted. The beds should be four feet apart and nicely rounded out on top. There is no crop made on the farm where keeping qualities are so essential as the sweet potato crop, for it is expected to keep all winter and well on in spring and to have these keeping qualities it must be well grown and as perfect in its nature as it is possible to make it; to get this quality in it, is the mission or object of the potash in the fertilizer.

When the first of the crop is planted we have to use draws or slips, but when once the vines begin running, we had better use cuttings, for it is a fact that vine cuttings make a better crop than slips. The tendency lately has been in favor of a vineless variety of sweet potatoes, or at least a bunch vine. There are now several of these that have given very great satisfaction, the best of which is the Jersey bunch vine, because it is early, thrifty, a good yielder and a long keeper, all of which qualities combined make it a very desirable variety to have.

V. K. McQUARRIE.

A crop of 185 bushels of sweet potatoes per acre will in its vines and roots remove from the soil 57 pounds of nitrogen, 16 pounds of phosphoric acid and 108 pounds of potash. These amounts of plant food can be supplied by 360 pounds of nitrate of soda or 800 pounds of cotton seed meal for the nitrogen, 138 pounds of acid phosphate for the phosphoric acid and 310 pounds muriate of potash or 790 pounds of kainit for the potash. If the vines are left on the ground then these quantities may be reduced to 124 pounds of nitrate of soda or 324 pounds of cotton seed meal, 86 pounds of acid phosphate and 97 pounds of muriate of potash or 367 pounds of kainit.—ED.

#### Broomsedge—Japan Clover.

We are being overrun in Southwest Virginia with broom sedge and would like to hear from some farmers in Eastern Virginia as to what they do with it? Does Japan clover whip it out? Do stock like Japan clover? Will it stand the winter? My crop sown last spring seems dead now.

R. H. P.

Montgomery Co., Va.

The only way the Eastern Virginia farmer gets rid of broomsedge is to plow it up and cultivate the land and then reseed in grass. Unless all his neighbors do the same he will soon have another crop as the seed flies from farm to farm. Japan clover will not kill it out but will make a better pasture of the field and thus ensure its being kept down by grazing and the seed be prevented from forming and reseeding land. Japan clover is an annual plant reseeding itself every year. As soon as the mild weather comes in spring your clover will spring up again.—ED.

#### Seed Corn.

Is corn two years old safe to use for seed?

Fauquier Co., Va

A. C. GOCHNAUER.

Yes, unless the weevil or some other worm has eaten out the germ of the seed.—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.

### Root Grafted Trees.

As I have had proprietors of different nurseries and their agents make great claims about their trees being grown on whole or part roots, and as it seems to me that the root is the most essential part of a fruit tree, I would like to have the following questions answered through your valuable paper:

1. Is there any preference to be given a whole root tree over a part root?
2. Is a whole root tree likely to live longer and grow better than a part root?
3. If you could buy a part root tree from 10 to 15 cents cheaper per tree than the whole root which would you give the preference?

I have read very many discussions in the different lines of fruit growing but I have never come across these very important points.

Surry Co., Va. CHARLES G. DEISSNER.

In the opinion of the leading nurserymen and orchardists there is no difference in the life of trees grafted on whole or part roots. Practically it is almost impossible to get the whole root of a tree to insert the graft in. Some part is almost necessarily left in the ground. What is essential is that there should be sufficient of the root to insert the graft in to ensure that it receive sufficient food through the rootlets which may be put out to support healthy vigorous growth. If the tree offered for less money on account of being on a part root appeared to have made a vigorous healthy growth we would take it in preference to one on a whole root.—ED.

### Castor Beans—Creamery.

1. Can you inform me about the castor oil plant, where seed can be had, what profits in the bean, etc.?
2. Would you give directions for a creamery, cost and profits?

Northumberland Co., Va.

SUBSCRIBER.

1. Castor beans are only grown in a limited section of country in the Southwestern States, mainly in Oklahoma, Kansas and Mississippi. We suppose seed could be had from seedsmen in those States, but probably the easiest way to get it would be to write the Department of Agriculture, Washington, asking for the name and address of some seedsman who is known to handle it. We cannot say anything definite as to the crop. We believe the average yield is from 8 to 10 bushels to the acre, but know nothing

of the profit on production nor where there is a market for the seed.

2. Write some of the Dairy supply houses advertising in our columns for estimate of cost of building and fitting up a creamery to handle the milk of a certain number of cows. They will give same much more definitely than we can do.—ED.

### Corn Fertilizer.

Will you be so kind as to give me, through the PLANTER, your valued opinion of the following mixture as a corn fertilizer: 1,000 pounds of phosphate, 450 pounds kainit and 550 pounds hen house manure, the manure to be seived and gotten fine. What would be the analysis of such a mixture?

Dinwiddie Co., Va.

T. B. SCOTT.

The mixture would analyze 6 per cent. phosphoric acid,  $2\frac{1}{4}$  per cent. potash and  $\frac{1}{4}$  per cent. nitrogen. To make a corn fertilizer for use on light land it should have the phosphoric acid increased by adding 400 pounds more acid phosphate, and the potash and nitrogen be increased by adding 500 pounds of cotton seed meal, tankage or fish scrap.—ED.

### The Use of Fertilizer—Preparing Land for Cotton, Corn, Etc.—Improving Land.

1. Is fertilizer worth anything as a soil improver? It is said that fertilizer makes land poor.
2. Can land be made rich with commercial fertilizer alone?
3. How to plow and when to plow gray sandy land for the best results for cotton, corn and oats for next season?
4. How to make gray sandy land rich? The land now will make from 6 to 8 hundred pounds of seed cotton to the acre. ONE OF YOUR SUBSCRIBERS.

Halifax Co., N. C.

1 & 2. The three elements nitrogen, phosphoric acid and potash are valuable as plant food and are absolutely essential in the growth of crops, but for the mixed fertilizer goods as offered on the market by the fertilizer makers we have little use as they are rarely worth what is charged for them and very often little fitted to the condition of the land or the crop on which they are applied. The judicious use of these elements in the proportions called for by the particular crop to be grown, and according to the requirement of the land, as ascertained by experiments made on it, will result in conjunction with good plowing and cultivation and the restoration of vegetable matter to the soil in making land rich and productive, but their use alone will never do this.

3. All land should be plowed in the fall and win-

ter months to get best results. Plow as far as possible in the fall, and sow a winter growing crop, clover or vetch, or both, to be turned down in spring before planting the summer crop.

4. Grow cow peas on the land in summer with 300 pounds of acid phosphate and 50 pounds of muriate of potash applied to the acre. Cut off this crop for hay in September and sow 10 pounds of crimson clover, 10 pounds of hairy vetch and half a bushel of wheat, oats and rye mixed on the land. Plow this crop down in May and plant corn or cotton and you will find the yield will be greatly increased. Sow cow peas in the corn crop at the last working and crimson clover in the cotton crop in August to cover the land during the winter. Treated in this way the land will constantly improve.—Ed.

#### Crops for Hogs.

I raise hogs for the market and grow crimson clover, red clover, dwarf essex rape, cow peas, soja beans and corn for them, allowing them to hog these crops down so as to leave all waste on the land. I also raise buckwheat for them, but I cut and feed this. Any information you can give me about raising and feeding hogs will be thankfully received, or about any crop that I can add to these. I have thought of planting artichokes but was afraid if they got a start in the land I could not get them out. Would you advise planting them, or can I kill them if I do plant them?

J. R. ROBINSON.

*Washington Co., Va.*

You are raising about all the crops (except artichokes) which we advise for hogs. You should raise artichokes for winter feed. You need not fear being unable to get rid of them whenever you want to do so. They are easily killed out by plowing the land in the winter and growing a pea or other smothering crop in summer.—Ed.

#### Cow Peas.

Are cow peas good to fatten hogs and what time should they be planted to enable one to turn hogs on by September 15th? Any information on the subject of pea culture will be gladly received. D.

*Pulaski Co., Va.*

No better crop can be grown for hogs. Sow broadcast in May or June one bushel to the acre or drill in half that quantity per acre.—Ed.

#### Hurdles for Temporary Fence.

Will Mr. Chas. L. Dewey, of Mississippi, please give plans for panels or hurdles for movable fences? I have tested his methods of feeding green food and know they are practical.

I should like if he will kindly tell more about rice polish, where and the lowest price it may be bought.  
IGNORAMUS.

#### Grass for Wet Land—Worms and Bots in Horses.

1. What kind of grass will do the best in a low wet pasture that is under water the most of the winter and dry in summer?

2. What remedy is the best to remove worms and bots from a horse?

A SUBSCRIBER.

*Accomac Co., Va.*

No grass is likely to do well on such land. Herds grass (red top) will grow best on wet land but even it refuses to stand drowning all winter.

2. In our last issue we wrote fully on the subject of worms and bots. See that issue.—Ed.

#### Fertilizer for Grass.

Please give in your next issue a formula for the best fertilizer to use on grass. I have two plots, one on medium low land, permanent pasture, the other clover, timothy, etc., both two years' growth, land needs feeding. Would it be well to use a light dressing of lime on either or both before any other?

AN INTERESTED READER.

Apply as a top dressing 250 pounds of bone meal and 100 pounds of nitrate of soda to the acre. Apply at once. In the fall apply 25 bushels of lime to the acre.—Ed.

#### Velvet Bean—Milk From Cow.

1. Is the velvet bean equal in value for a forage crop and the improvement of land to the cow pea? When and what quantity per acre should be planted? Can they be fed to all kinds of stock? What time is required for this crop to mature?

2. Will a cow give as much milk when one or two teats are spoiled as she did previous to the injury?

*Washington Co., Va.*

E. M. BALL.

1. In sections where the velvet bean will grow freely it is more valuable than the cow pea as an improver of land, as it produces a much greater crop of vines and the nitrogen gathered and stored on the roots is much more. As a forage crop, however, it is not so valuable, as its enormous growth makes it practically impossible to handle it either as green fed or as hay. The bean is a semi-tropical plant and will not mature its seed north of South Carolina and therefore it is of no use to plant it in Virginia or North Carolina except for improving land. It makes an enormous growth of vines in this State, so much so as to render it almost impracticable as a forage or hay crop. Planted in May, 1½ pecks to the acre, it will continue to grow until frost kills it with



the beans immature. In the far Southern States the beans are fully ripened and make a meal rich in protein which is used for stock feeding to some extent though even there the main use of the crop is as a land improver. It is allowed to die down on the land and is then plowed under and this is the best use to make of it here.

2. No, the cow will never give as large a yield of milk from two teats as from four.—Ed.

### Rotation of Crops.

How would the following three years rotation succeed on our fair lands, producing say four barrels of corn per acre?

1st year. Crimson clover, mowed for hay, corn.

2nd year. Peas, picked for seed and mowed for hay, seeded to wheat.

3rd year. Wheat, seeded to crimson clover.

To what crops, what kinds, and in what quantities should artificial fertilizers be used?

Would the frequent cultivation necessitated by this rotation cause our hilly lands to wash?

What crop, or crops, would you advise seeding in the corn at the last cultivation? Have never succeeded in getting a stand of crimson clover in growing corn.

What would be the effect, on the land, if this rotation was continued for a number of years?

State the improvements you would make on the above rotation.

Would a four years' rotation be better than this? If so, kindly state the order and management of the crops you would advise cultivating.

*King George Co., Va.* T. T. ARNOLD.

The primary object of a system of rotation of crops is at least the maintenance of the fertility of the land and the production of profitable crops, but on such land as that described in the above question it ought to go much further than this. Land which only produces 20 bushels of corn to the acre requires not only to have its existing fertility (if fertile it may be called making only such a poor yield) maintained but greatly added to. Such a rotation as that suggested would not have the effect of maintaining fertility, much less enhancing it. The recuperative crops, peas and crimson clover, are both removed from the land and only the stubble and roots left to maintain fertility. Whilst it is true that there is considerable plant food stored in the roots and the stubble, yet it is not sufficient to provide for the draft upon the land of a wheat crop, even though the same be aided by some commercial fertilizer. Nothing is said as to returning to the soil the manure to be made from the feeding of the crimson clover and peas to

stock, but we assume that this is intended, but even with this addition there will probably be depletion rather than addition of fertility, as the wheat crop would call for more plant food than would be stored in the soil to make a profitable crop. The rotation suggested is much too short for land of this character. A short rotation is only wisely followed on land in a high state of fertility. The constant cultivation of land renders the plant food rapidly available and capable of quick exhaustion, and therefore it must be in abundance or the last state of the land will be worse than the first. This short system of rotation is largely responsible for the wasted condition of much of the land in this country. Corn, wheat and tobacco or cotton have been grown in succession until all available plant food has been used up. Land of the character described should never be run in a rotation of less than five years, and six would be better. To suppose that the growing of crimson clover and peas and the removal of both crops will benefit such land as described is to mistake the true character of these crops and the needs of washed land. Both crops, whilst recuperative in nitrogen, are great exhausters of phosphoric acid and potash, and unless these elements are supplied, become robber crops instead of recuperative ones. They so unbalance the plant food in the soil as to make it practically unproductive. What land of this character most needs to make it fertile is vegetable matter (humus) and deep plowing and perfect cultivation. This can only be supplied by turning at least one of the crops into the soil each year and top dressing the surface with the manure made by the feeding of the other. Given this addition to the humus content of the soil, and the time necessary for it to produce a sod to be also turned under, the land will improve and profitable crops be produced. We would suggest such a rotation as the following one with the fertilizer named as being one suitable

1st year. Plow and subsoil the land in the winter and sow cow peas in May with the application of 300 pounds of acid phosphate to the acre. This crop to be turned under in September (peas may be picked if desired) and the land then to have an application of 20 bushels of lime to the acre and be seeded in crimson clover, 15 pounds to the acre, with half a bushel of wheat, winter oats and rye mixed.

2nd year. Plow down the crimson clover and grain crop and plant in corn. Sow cow peas in corn at last working, and in August sow 20 pounds of crimson clover on the peas and let the peas die down on the land (picking the peas if desired). Shaded in

this way we think you will get a stand of crimson clover.

3rd year. Plow down the crimson clover and peas in June and plow deeply and work repeatedly in July and August to kill out all weeds, as they germinate. In August apply 200 pounds of acid phosphate and 150 pounds of ground bone to the acre and work into the soil, rolling to secure a firm bed with a fine surface, and seed with grass and clover.

4th year Mow clover and grass once and pasture lightly.

5th year. Pasture until September and then plow and seed to wheat with 300 pounds of acid phosphate and 150 pounds of bone meal to the acre.

6th year. Follow the wheat with cow peas sown immediately after harvest and cut for hay in September and then plow and seed with crimson clover, wheat, oats and rye.

7th year. Plow down the crimson clover and plant corn and repeat the rotation.

The manure made from the feeding of all crops grown on the land should be applied each year to the thinnest part of the land.—ED.

### Breachy Cow.

Please state in *PLANTER* if you know of any plan to prevent cow from throwing down fence with horns?  
F. D. SWANN.

*Caswell Co., N. C.*

Hang a board in front of her eyes so that she cannot see the fence. A board about 8 or 10 inches wide hung from the horns by a cord will be sufficient. The cow can see to graze and walk around, but will let the fences alone.—ED.

### Sheep.

Please tell me which kind of sheep you think are best suited for this part of Virginia? Have been trying the Dorsets, but don't seem to have much luck with them. Have some grade Southdowns in my flock that seem to do better than anything else.

*Pittsylvania Co., Va.* T. J. FITZGERALD.

We know no reason why you should not succeed with Dorsets. They are doing well in many different sections of the State. We personally are great admirers of the Shropshires and they do well in the South. They are good as early lamb producers, good mutton sheep and shear a good fleece.—ED.

### Cultivators.

Please let me know in the next issue if you can give me the name of some manufacturer who makes

a two-horse cultivator that will work out a six-foot row of corn and will give satisfactory work from first to last working. Also if the same cultivator can be regulated to work in cotton, four feet rows, where there are but few stumps above ground. Which are the best walking or riding cultivators?

*Robeson Co., N. C.*

A SUBSCRIBER.

Refer to the advertisements in this issue. You will find a large number of different cultivators offered. Send to the advertisers for particulars of these and you will certainly find what you need. They are all reliable people. Some farmers prefer one make and some another.—ED.

### Riding Plow.

What is your idea on the riding plow, not the roller disc? It looks we will have to fix for the hands to ride if nothing but the wheels of the ox cart with the plow fastened under.

J. C. COOPER.

*Surry Co., N. C.*

There is no doubt but that riding implements of all kinds will have to be the rule in the future. There is economy in the adoption of this idea, as more work can be done in the same time and it can be done with much more comfort to the workman. The sulky plow used in the West can be used here though we are strongly disposed to think that the disc plow is to be the plow of the future. With riding plows and cultivators the farmer will be much less dependent on his labor as he can hitch up his team and mount the seat and do the work himself with little more fatigue than taking a drive in his buggy. One friend of ours who has adopted this idea has rigged up an umbrella over the seat and he says that he can work all day with comfort. His hands, too, appreciate the innovation and work more cheerfully.—ED.

### Cow Peas in Corn.

I want to know how to plant and cultivate the cow pea with corn. Can I plant the pea between the hills of corn in the same row? At what time shall I plant the pea so that I can harvest both at same time? What kind of pea is best for planting with corn? Will the pea vine run up corn like the bean?

*Grayson Co., Va.*

DR. J. RING.

The practise of growing cow peas in the corn crop to increase the value of the fodder as feed is one strongly to be commended. It has been successfully done in many places and can without doubt be done successfully in this State. At the Delaware Experiment Station the two crops are grown together for the silo and materially enhance the feeding value of



the silage. In planting the crop the corn should be put in at the usual time and then after the last working, say in June, the cow peas should be sown with a drill alongside the corn rows. The peas will then grow up the corn and the two crops can be harvested together. The best variety of peas to use for this purposes is the Whippoorwill, as the vines of this variety keep closer to the corn and do not tangle the crop together so much as do the ranker growing varieties, like the Black and Wonderful.—ED.

### Cow Peas, Canada Peas, Soy Beans.

Which of the legumes would be best suited to this section and climate as a soil improver and for forage, Cow peas, Canada peas or Soy beans? How much should be sown to the acre, and what is the best method of harvesting? Is it best to procure Northern grown seed, and when sown?

*Wythe Co., Va.*

G. J. REPASS.

In your section Canada peas would make a good crop for forage or hay sown as late as March, but after that time we would plant cow peas and soy beans. Both of these crops should do well sown in May. The New Era and the Red Ripper Peas should both do well in your elevated lands, and the Black and Whippoorwill on your lower lands. Sow a bushel to the acre broadcast and harvest by cutting with a mower and curing like clover hay. Soy beans, if intended for a hay or forage crop may be sown broadcast at the rate of a bushel to the acre, but we advise that they be planted in rows two feet six inches apart, and four or six inches apart in the rows. Cultivate like a corn crop, and they will soon meet in the rows on good land, and make a heavy yield. One and one-half pecks of seed will sow an acre. The Mammoth Yellow is the best and largest yielding variety, but is rather late in maturing for an elevated section, unless got in early in May. Wood & Sons, of this city, are offering a new variety the Hollybrook Early Soja, which they claim is three weeks earlier than the Mammoth Yellow. This may be better suited for elevated lands. We are not aware that you can get Northern grown seed of Cow peas or Soy beans, as they rarely mature seed far North.—ED.

### Cultivation of Cotton—Variety to Plant.

Please tell me in your next issue what kind of plows to use in the cultivation of cotton, and what kind of cotton to plant to produce the greatest number of pounds to the acre.

M. S. WHITTED.

*Bladen Co., N. C.*

We would never use a plow of any kind to culti-

vate cotton or any other crop. A plow has no place in a field after the crop is planted. Its work is to break the land for the crop. After this is done then the harrow and cultivator are the proper tools to use. Use a harrow to get a fine deep seed bed and after the crop has been planted and is growing use a cultivator to keep the soil loose and finely mulched on the surface to prevent loss of moisture. In the advertising columns of the PLANTER you will find many kinds of cultivators offered. The Iron Age is a good cultivator. So are the Disc cultivators. We hesitate to advise any particular variety of cotton, as the yield of any variety largely depends on its adaptability to the particular section. Usually a cotton which has been grown in a particular section and become acclimated to the soil and climate does best. What is needed is that each grower should make for himself a careful selection of seed from the plants when they are growing, and having fixed on a type, should improve the same by continued careful selection each year. In this way a variety will be secured adapted to the section.—ED.

### Teocinte—Millet—Crops for Hogs.

Will you kindly give me some points on teocinte; what distance do you plant it apart in drill, and how many seed. Also a treatise on millets; also sugar beets. I have a three acre lot. What is best to plant it in for hogs? Any information about hogs I will thank you for.

W. G. ROBSON.

*Orange Co., N. C.*

May is early enough to plant teocinte and millet. We will say something on these subjects in the May issue. Meanwhile we would say plant teocinte in rows three feet six inches or four feet apart and two feet apart in the rows. About three pounds of seed will plant an acre.

Sugar beets should be sown in drills two feet six inches apart in continuous rows. When the seeds have come up and the plants are large enough to handle thin to one plant every nine inches, and then keep the crop well cultivated and free from weeds. The land to grow this crop should be finely prepared and be rich or it will make but a very poor crop. In our last two or three issues we have published much matter on crops for hogs and refer our enquirer to these. Peas are the best crop to plant now for hogs.—ED.

### Cotton Fertilizer.

I have a good lot of ashes and wish to know what ingredients to mix with the ashes to make me a good guano for cotton. What proportions must I put in?

What will each ingredient cost to mix with the ashes to make 2,000 pounds?

J. S. SPENCER.

*Greensville, Co., Va.*

In our last issue we gave advice as to the ingredients to be used to make a proper fertilizer for cotton. We refer you to that number, page 160. The ashes may be utilized as a general improver of the land by being spread broadcast on it, but cannot be made the basis of a good cotton fertilizer. They are valuable for the potash and lime contained in them, but the potash is not in the form best adapted to cotton. This should be kainit. A better use of the ashes could be made by applying them as a preparation for a grass crop or for a pea crop.—ED.

### Sick Cattle—Tick Fever.

1. Does tick fever cause cattle to be loose in bowels? If so, what is the remedy for it? My cattle have been loose in their bowels all winter, without any cause that I can see, as I have fed them hay and ground corn, and (for a change) corn fodder. They also run at the nose, and I have lost several. I bought a car of cattle in the Valley of Virginia in February, 1903, and brought them down here to feed for beef, but they have grown very little and keep poor all the time. Would like to know if cattle brought from the western part of this State or farther west will be profitable for beef purposes?

2. Ought horses and cattle be allowed to run in same pasture together?

3. Will horses catch tick fever from cattle if allowed to run together?

4. Will it be detrimental to our health to use milk and butter from cows so affected?

CROPSEY & MITCHELL,

T. P. CLARKE, Manager.

*Dinwiddie Co., Va.*

1. Tick fever does not affect cattle in the winter. The fever is only present when ticks are about, and they are killed by cold weather. Looseness of the bowels is not a symptom of the fever. On the contrary, constipation is the usual condition of the bowels during the fever. Your cattle are evidently suffering from some disease of the digestive organs, and probably from the effects of severe colds taken in the fall. Cattle brought from the West, if they are not brought early enough to take the tick fever, will usually do well on winter keep here. They should not be brought here before October, or they are pretty certain to have the fever, unless immunized against it. In the February issue we gave the results secured in feeding Angus cattle brought from the West into Louisiana.

2. There is no objection to horses and cattle run-

ning together on a pasture, though they are better kept separate.

3. The horses will not take tick fever.

4. This depends on the disease affecting the cattle, but we would not use milk from a sick cow.—ED.

### Cold Water Paint.

Can you tell me anything about the durability of cold water paint for the painting of buildings? Would be glad to hear from some one of your readers who have had experience with it.

*Cumberland Co., Va.*

T. N. WILSON.

We have had no experience in the use of cold water paint, and therefore can give no advice on the subject. Will some of our readers who have used it give their experience?—ED.

### Preserving Stakes and Posts.

Will you please state the cheapest and best way to preserve locust stakes and posts? Of what value is gas tar in preserving them?

SUBSCRIBER.

There is a preservative on the market called Carbolineum, which is very highly recommended for this purpose, but we have had no personal experience in the use of it. If the posts are painted with gas tar this will make them last longer. Charring the part to be put into the soil by holding them in a fire for a short time also acts as a good protection. Pickling the posts in creosote also acts as a great preservative. Charring, however, is the cheapest and most readily available method.—ED.

### Crimson Clover and Sand Vetch.

Will crimson clover and sand vetch sown together the last of July or first of August thrive well for early spring forage for the pig?

*Spotsylvania Co., Va.*

W. N. UNDERWOOD.

We do not advise the sowing of these two crops together, unless there is also sown with them some cereal crop like winter oats, wheat or rye, or a mixture of all three grains, which is best. The crimson clover is not strong enough in its growth to hold up the vetches. Mixed with the grains mentioned they make a fine pasture for hogs.—ED.

### Diseased Apple Tree Branches.

I enclose apple tree twigs for your inspection. Please tell me what is the disease affecting them.

*Webster Co., Ky.*

J. K. MELTON.

The branches have been killed by the twig blight, which was very bad in some sections last year. This is a disease of the same type as fire blight on pear trees, and equally difficult of prevention.—ED.



## Trucking, Garden and Orchard.

### WORK FOR THE MONTH.

The seasonable change in the weather which has recently set in will, it is to be hoped, now continue. Everything is very backward in the garden and truck patches, fall planted crops having suffered very severely all over the country. As soon as the land is fit to work it should be stirred between the rows of fall planted crops to encourage growth and when growth has started it should be encouraged with a dressing of nitrate of soda. Land intended to be cropped should be worked into a deep fine bed as soon as dry enough, but do not attempt to work when wet. All compost and barnyard manure should be spread broadcast on the land and be worked in with the cultivator. If good crops are to be made there must be no stinting of the quantity of manure applied. Twenty tons to the acre may be put on without fear of spoiling vegetable crops. If there be not a sufficiency of farm yard manure supplement it with a high grade fertilizer made up of 300 pounds of acid phosphate, 200 pounds of cotton seed meal, 50 pounds of muriate of potash and 100 pounds of nitrate of soda. If no manure is applied double the quantity of the fertilizer. Let this be applied now and all be worked into the land and then lay off the land in long straight rows so that the crops can be readily worked with horse power.

Do not be in too great a hurry to sow seeds or set out plants. It is not yet too late for frost to strike and if young plants are just peeping through the ground they may be cut off and this means loss and a late crop.

English peas and Irish potatoes may be planted and small patches of salads, lettuce, radishes, onions may be sown, but it is best to delay the seeding of the full crop until the end of the month or the beginning of May.

In this issue will be found an article on strawberry growing and also one on asparagus growing from seed to which we refer readers.

Sow seed of tomatoes, egg plants, pepper and cantaloupes in the frames and get them growing. As they advance in growth see that they are set out in cold frames to become stiff, stocky plants, and encourage this kind of growth by giving air freely

whenever the weather is mild. Be careful not to have the plants drawn by being grown in too hot a temperature.

Whenever cabbage plants have been killed by the frost work the place well with a hoe and set out a new plant from the cold frame. Give frequent cultivation and when the crop is fairly growing give a top dressing of 100 pounds of nitrate of soda to the acre.

Bed sweet potatoes for draws. See that the heat of the hot bed is not too great when the potatoes are bedded. Better have it too cold than too warm. The weather will now soon warm up the beds and frames and they must be watched to check overheating by giving plenty of air.

See that the spraying of the orchard has attention. In our last issue will be found full instructions as to sprays.

Let the lawn and flower garden have a good tidying up before work on the farm presses for attention. Clean up all trash and leaves and rake the lawn. Dig over the flower beds and give them a good manuring so that they may be ready to receive seeds and plants when the weather is settled and warm enough. Let this part of the home grounds at least be made attractive during the summer.

Don't go off to plant the farm crops until you have left everything in order in the vegetable and flower garden so that without loss of time crops can be put in and plants set out at odd spare moments, and then the ladies of the house will be kept in good humor and the table will be helped and beautified.

### THE BITTER ROT OF APPLES.

This disease which is unfortunately widely spread in the orchards of this State and caused great loss last year is the subject of a bulletin prepared and now being got ready for distribution by the Virginia Experiment Station. We extract the following matter from the same as being of importance to be at once in the hands of fruit growers. In our last issue will be found full instructions for preparing Bordeaux mixture.

LIMB CANKERS AS SOURCES OF INFECTION.

The publication in July, 1902, by Burrill and

Blair of their observations on the so-called bitter rot canker, and later publications by Von Schrenk and Spaulding along the same line, have raised a question of the utmost importance in connection with the annual recurrence of outbreaks of this disease. There cannot now remain the slightest doubt but that these gentlemen have found the bitter rot fungus growing and producing spores in "cankers" on the apple limbs. Dr. Burrill has very kindly furnished me an apple limb showing a canker in which the parasite in question was unmistakably present and fruiting. It may also prove true that the statements of these gentlemen to the effect that the "Bitter Rot Cankers" on the apple tree limbs are the chief sources of the reinfection of the fruit each succeeding year in the districts in which these observations were made. But careful observations made here the past two summers show that these statements do not apply to the occurrence of the bitter rot in the station orchards here. We had for some time been observing the cankers on both apple and pear in connection with an investigation on black rot of the apple, *Sphaeropsis malorum*, and of the pear blight and twig blight of apple. In no instance have we been able to find the presence of the bitter rot fungus on the limbs or trunks of apple or pear, though we have especially watched for its occurrence since the appearance of the publications cited.

During the past summer and fall the bitter rot caused immense damage in the apple orchards in some portions of Virginia, and so far as able, the writer visited the orchard sections for the purpose of making observations on the trouble and the probable sources of annual reinfection of the fruit. Canker spots on the limbs of the older apple trees were found in plenty, especially in those sections where twig blight commonly occurs. In no case were we able by observation to trace the slightest connection between cankered limbs and the occurrence of rotted fruit. Later microscopic examination of some of the more promising material failed to show any trace of the bitter rot fungus in the canker spots.

We have frequently found the bitter rot present where no trace of cankered limbs could be found, and the cankered limbs without the presence of bitter rot. The often remarked occurrence of this trouble on the fruit of young, healthy, smooth trees bearing their first crop shows plainly that we are not yet warranted in attaching much importance to the cankered limbs as the source of infection in this State. *Consequently we suggest that our apple growers should be slow to undertake severe pruning in order to remove cankered limbs.* When pruning is necessary, if these injured limbs can be cut away without harm to the tree, this course is advised, but we advise against attempts to control bitter rot by cutting out the cankered limbs.

No fruit grower in this State has reported to us reliable observation which in any wise connects the outbreak of bitter rot with the canker. Some have remarked in their correspondence that the cankers are the source of the infection, but this is scarcely convincing. It would be a great service if fruit growers would observe this matter closely in future, and report any observations they may make and send us specimens for verification. This question was referred to a number of the best specialists on fruit diseases in the Atlantic Coast States, and without exception they have so far reported that they have not observed that the "cankers" are the source of the bitter rot infection. The mummied fruits are universally regarded as the chief source of primary infection.

#### SUGGESTION ON TREATMENT.

Up to the present, so far as known to the writer, no thoroughly satisfactory study of remedial measures for this disease has been made. Sporadic and incomplete efforts to control the bitter rot by the use of Bordeaux mixture, ammoniacal copper solution, sulphate of potassium, etc., have been frequently made, but no convincing statement as to just how to proceed to its rational and safe control has come to our notice. The serious difficulties attendant upon the treatment of such a trouble is responsible for this somewhat chaotic condition of affairs. A result to command confidence must show what can be accomplished in a series of years in comparison with unsprayed fruit of the same variety and grown under like conditions. So far as my own observations and experiments go, I am sure the first step ought to be directed to—

*Removing the sources of infection.*—It appears to be well established that the mummied fruits hanging to the trees and the rotted fruits upon the soil constitute in large measure the source of the annually recurring infection. Then they should be removed. I have often suggested in correspondence to growers that they remove the growing fruit just as rapidly as it shows rot. This has been practiced on a large scale in Illinois, according to Burrill and Clinton. In 1901 we first resorted to this practice in the station orchards, with apparently very beneficial results, as the spread of the rot was stayed through this effort, coupled with the application of spray washes.

However, we have never found that removing the mummied and rotted fruits, or the growing fruit as it begins to show rot, will wholly prevent the disease. If promptly and efficiently followed, these practices accomplish good, but are not sufficient. All diseased fruit removed should be so disposed of as to prevent dissemination of the spores. Possibly burying is the simplest plan. We are now prepared to say that in many instances we believe it would be very wise to remove certain varieties or certain trees on which the



disease seems to start. Intelligent observation must determine such points. As stated under a previous section, we are not ready to recommend extreme efforts to cut out all cankered limbs in Virginia orchards. There is as yet not sufficient evidence to warrant such a step; but they should be cut out whenever in the ordinary course of pruning this is found possible.

We have strong ground for saying that the second, and perhaps most important, step in the way of remedial measures should be the—

*Application of sprays.*—In saying this we do so fully realizing the fact that there is evidence against hopeful results. But the best results from experiment stations, and the best work accomplished by fruit growers, indicate clearly the value of the Bordeaux spray.

The time and method of application of the spray is so essential that no result of value can be hoped for unless these details are observed. There is no proof that winter washes of any kind applied to the trees will lessen the disease. Yet on general grounds we advocate winter washes as a part of a rational system of treating the orchard. There is also no evidence that the early spring sprayings recommended in our Bulletin 100 have any effect whatever upon the prevalence of bitter rot. These early treatments are very essential to the health and vigor of the orchard, and should be made as directed in the Bulletin above cited, and if omitted may, and in many cases will, result in worse damage to the orchard than ordinarily occurs from the bitter rot fungus; but we wish to be clear that these early treatments are not to be considered as primarily affecting the bitter rot question one way or the other. If they do, no one has yet proven this fact so far as appears in the literature. The most careful early sprayings here have been wholly negative as to results against bitter rot.

This brings us to the point where we wish to say that, in our opinion, the only spray treatment of value for this trouble is that which is applied directly to the fruit. The treatment being preventive, and not curative, the application must be made in advance of the infection. In all our observations the rot has never appeared before the first of July, consequently we advise that spray treatment for this trouble should not begin before that date. If the season is favorable to rot—viz., sultry, with hot sunshine and showers—and the set of fruit warrants, the first application should be made about the date mentioned above—say July 1st to 10th. The grower should also watch carefully for the first appearance of the disease upon the fruit. If the spray has not been applied when the disease is first observed, make the application at once. If the fruit *has been sprayed*, and the characteristic *rot spots appear*, *respray the fruit at once*. One cannot do more than keep the fruit cov-

ered with a thin coat of the spray preparation. If the Bordeaux is properly made and applied, it will adhere sometimes for weeks, and I have known it to adhere for two months on some varieties. The recommendations as to specific number of applications to be made have no value. This must always depend upon the judgment of the grower, and be governed by weather conditions, etc. WM. B. ALWOOD,  
*Expt. Station, Blacksburg, Va. Mycologist.*

## STAWBERRY CULTURE.

*Editor Southern Planter:*

The strawberry is the most important small fruit the Southern farmer can grow. It is the earliest fruit we have, very handsome, and of fine flavor, if good varieties are grown. It is very easy to grow, and very productive. Nearly every one likes the large, red strawberry. But why is it so few farmers grow enough for family use? There is always a demand for any surplus the farmer may have. An acre of strawberries near a town might bring more clear cash to the farmer than a whole field of corn. I write this article to urge all farmers who do not grow this excellent fruit to get some plants and set them out this month. Now is the time, do not put it off.

Prepare the ground well, give it a coating of well rotted manure, with no seeds in it to come up afterwards and give one the backache. Make the rows three feet apart across the garden. Under field conditions, I prefer them three and one-half feet apart. Set the plants eighteen inches apart in the row. Open a hole in the ground large enough to permit the roots being well spread out. Press the dirt firmly around the roots with the hand. Do not cover up the crowns of the plants with soil, as it will smother them. Do not wait for the soil to become wet before planting. I prefer to set when it is in good working order. Do not let the roots of the plants become dry by exposure to air and sun while setting. If these instructions are followed carefully a good start with the strawberry will be made. But what varieties should I plant? That will depend largely upon whether you want the fruit for early or late market, or for family use. There are several new varieties being introduced every year with more or less merit. The farmer can experiment with these all he wants. No doubt some of them have excellent qualities. Ten years ago I helped to test over one hundred varieties in this State, and four years ago I had one hundred and forty varieties under test in Texas. I liked the Haverland variety best for

Virginia, and the Excelsior and Lady Thompson varieties best for the Gulf States. There may be better varieties than these I mention, and where the farmer knows of a good variety for his locality he should plant it.

Keep the weeds out of the rows through the summer, and give the plants frequent shallow, level cultivation. Let the plants mat in the row forming a matted row twelve inches wide.

#### CARE OF OLD BEDS.

We frequently see small, weakly plants growing among weeds and grass, which bear a scanty crop of small fruit. What should be done with such a bed? Frequently it would cost more than the fruit is worth to clean out the bed. I would make a new setting on clean land at once, and let the old filthy bed bear what fruit it will without work. After the plants have fruited in this old bed, I would plow it up and plant something else on the soil. Two or three years is long enough to allow a bed of strawberries to stand.

R. H. PRICE.

*Montgomery Co., Va.*

#### ASPARAGUS FROM SEED.

How to get good asparagus has generally been considered a difficult problem, but the difficulty is more imaginary than real. To solve the problem I made a determined effort, first by availing myself of the experience of the most distinguished horticulturists of the past 300 years. I found as often as once in 75 years a sentence as follows, with scarcely a change of word: "Most of our gardeners are now falling back to the old method of sowing the seed where the plants are to remain, as we can get much better results than by putting out roots, one or two years old, which is now the common practice."

This method commended itself to my better judgment, from the fact that some of the allied species, grown in greenhouses for florists' use, cannot be profitably grown in any other way. That is, when a bench is to be filled it will not do to take old plants and reset them, but young plants grown in pots alone must be used, as the slightest injury to the roots was fatal to success and that because of their fleshy, succulent nature.

In the spring of 1901 I had a bed prepared in the following manner, and the seed was sown May 20. Trenches 3 feet deep by 1½ feet wide were made, 5 feet apart. At the bottom of each I put in well-rotted manure, mostly from the cow stable, to the depth of 1 foot, and packed it well. The trench was then filled to within 6 inches of the top with well-rotted manure and the soil which was thrown out, in

about equal proportions, and thoroughly incorporated. Upon this the seed was sown thinly, and covered half an inch deep with the soil as thrown out, and firmly packed down. The young plants soon appeared and were thinned to 1 foot apart in the rows. They should have been to 2 feet apart, as the plants now are sadly too close. Growth was rapid, and I soon began to draw in the earth around the plants until the trenches were filled to the level.

Before the season of growth was ended there were, on an average, six strong, healthy stems, many of which were 4 feet high, bearing a full crop of seed. As soon as the ground was frozen, the tops were cut, carted off, and the whole bed covered with 3 inches of coarse stable manure. My first work in the garden in March was to rake out the straw from the manure and give the bed a slight dressing of common salt, about one bushel to 20 to 25 square rods. This, with the manure, was forked in to a depth of 4 inches, but not deep enough to injure the crowns.

Just eleven months from the sowing of the seed I cut asparagus, some of the heads being fully three-fourths of an inch in diameter. Before the first of June this season I cut two bunches, to show what could be done. Many of the stems were an inch in diameter at the base and nearly ¾ inch 2 inches below the tip. The same treatment was given the bed the past winter and spring, and there was cut daily early in May last season, from this bed, of about one-eighth acre, 500 heads of asparagus, as fine as was ever sent to market, both as regards size and quality.

There were several causes that contributed to this success—among them: 1st, extreme cultivation; 2, favorable soil and situation; 3, the sowing of the seed where the plants were to remain; and, 4, variety, which was a selection from the Palmetto, known as the Great Emperor.—C. S. Allen in *American Agriculturist*.

#### Fertilizer for Oats.

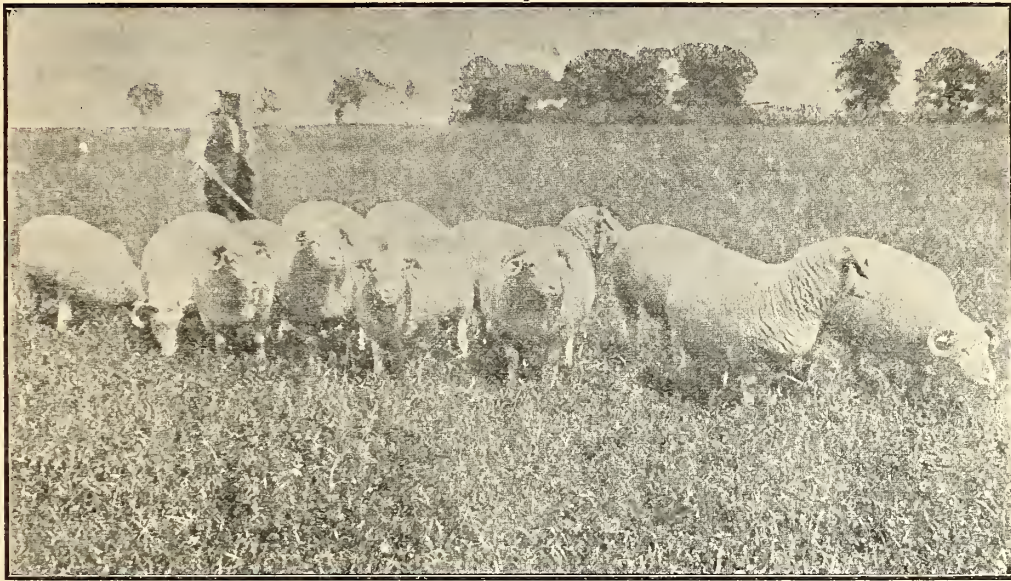
Please let me know in the *PLANTER* what kind of fertilizer is best to put on spring oats, and where it can be bought, and what is the price of same? Would also like to know how to put oats in. I live on south side James. Our land is light and sandy. Our crop here is peanuts. What manure would suit them best, we have to use marl or they will come pops?

S. B. E.

Give the oats a top dressing of nitrate of soda, 100 pounds to the acre. This can be bought from William S. Myers, 12 John street, New York, whose advertisement you will find in the *PLANTER*. In our last two issues we gave advice as to seeding oats. In the last issue you will find advice as to a fertilizer for peanuts.—Ed.



## Live Stock and Dairy.



A TYPICAL DORSET FLOCK.

### HAY SUBSTITUTES FOR STOCKFEEDING.

(Continued from March issue.)

#### HAY SUBSTITUTES FOR WINTERING BEEF CATTLE.

Realizing that many farmers would wish to see similar work carried out with beef cattle, we selected fourteen spayed heifers, feeding them with articles of roughage as mentioned before, giving some of them a portion of hay, but no silage. We wanted to keep them in a thrifty condition, but did not aim to put on a large amount of flesh; therefore gave each eight pounds of a mixture similar to that given the cows, except without the middlings and linseed meal. Grain ration was same in all cases.

TABLE II.

Number.	Weight at beginning of experiment—Lbs.	Weight at close of Experiment—Lbs.	Gain, Lbs.	AVERAGE NUMBER LBS. CONSUMED WEEKLY.			
				Hay.	Stover.	Straw.	Hulls.
1	1,034	1,055	21	91.2			
2	1,000	1,108	108	90.6			
3	954	1,020	66	.....	83.2		
4	934	1,059	125	.....	80.3		
5	910	917	7	.....	.....	31.2	
6	904	944	40	.....	.....	31.6	
7	919	1,040	121	.....	.....	.....	58.5
8	930	962	32	.....	.....	.....	51.5
9	950	1,010	60	41.6	34.2	.....	
10	826	904	78	48.4	40.5	.....	
11	827	844	17	48.9	.....	17.2	
12	830	906	76	46.4	.....	18.3	
13	818	830	12	44.5	.....	.....	30.1
14	826						

As a basis of comparison we gave Nos. 1 and 2 hay alone. Heifer No. 1 should be eliminated from the

test for, on account of not being accustomed to stalls in the barn, she constantly injured her knees, so much so, it was very evident it retarded gain in flesh, the others not suffering in like manner. We were also unfortunate with two others in the series. No. 14 receiving an injury by falling, of such severe nature, that she was taken out of the list early in the test period. The heifers were all bought as spayed animals, but toward the close of our work, it became very evident that No. 7 would soon drop a calf and hence this one should not be considered in the list. With these exceptions the cattle were all very thrifty and as uniform as a bunch of grade Shorthorns selected from seventy-five animals, could well be. Looking at the gains of four animals first in order, we note the rather remarkable fact that the ones eating stover, made a greater gain than the ones eating hay. Even if we leave out No. 1 as suggested, the stover fed lot lose nothing by comparison, as the best of the latter lot made 17 pounds more gain than the better one of the hay fed lot.

Proceeding with Nos. 5 and 6, we note that only a very small amount of straw was eaten, and the gains were relatively small, only seven pounds in one, and forty pounds in second case. If we eliminate No. 7, as we should, on account of being with calf, then the gains of the lot given hulls, would seem but little better than the previous ones, even though they ate much more of the hulls than of the straw.

As we proceed with the balance of the cattle, we



note nearly the same proportionate gains. The average of the two having hay and stover, is considerably more than the next, which were given hay and straw, or of the last, given hay and hulls.

Summing up the work in both tests herein described, it would seem that we can draw some quite definite conclusions, at least for this section of the State, and with one or two modifications, for other portions of Virginia.

Corn stover can be used to excellent advantage as a roughage for beef animals and with a moderate amount of grain, it compares very well with others given hay. For dairy cows and when used with silage and a moderate grain ration, it makes an admirable food. We have given a herd of dairy cows no roughage for the entire winter, except stover and silage, with grain as mentioned. The animals gave every appearance of thrift, and a good flow of milk continued.

At time of writing and for a month and a half previous, this has been the food given to our herd of over a hundred animals and with most excellent results. The use of straw cannot be so highly commended, and yet it can serve a good purpose, especially when hay is high in price. If given more grain to make up for the deficit in quality of the straw, it will carry stock safely through a winter, and even horses may do hard work, if given the best of care. Of course if one can get oat straw it is considerably better than that from wheat. For dairy cows, or in fact for stockers to be carried over, if they can have some silage and the straw mixed with it, as mentioned before, they are likely to come out in the spring in a very thrifty condition.

Of the cotton seed hulls, we cannot speak very encouragingly, *for this section*. As one authority states, "they are in value about equal to oat straw." From our trial we should so consider them, though we were obliged to tempt the animals by every known means, before they would eat them, due very likely to the fact they had never had access to them before.

It would seem as though it was unwise to ship such a roughage from the South where all coarse food is in demand, to this region where it is easily grown. We cannot hope to get them here for less than \$7.00 to \$7.50 per ton in car lots, and if they are only of the value of oat straw, that is too much to pay for them.

While mentioning cotton seed hulls, let us sound a word of caution concerning another product, at times sold as cotton feed, that is cotton seed hulls with a slight amount of cotton seed meal, mixed with them.

The meal, of course, would add to the value of the hulls, but it affords so much opportunity for the maker or dealer to add greatly to selling price of the hulls, with addition of a very small amount of the meal, it is a very unsafe article to buy. To give a more definite turn to the argument, we have on hand hulls, that could probably be bought in small lots for not more than \$9.00 per ton, and perhaps for less. These contain, according to analysis made by our chemical department, 4.19 per cent. of protein. Some cotton feed, (hulls and meal mixed) recently purchased near here at \$14.00 per ton, contained only 4.63 per cent. of protein, or less than a half per cent. more than the hulls alone, but with a price five dollars per ton higher. We are also using some cotton meal that could be bought in car lots at \$26.00 per ton and this contains over 46 per cent. of protein. Compare this with the so-called cotton feed, and one can see at a glance which is the cheaper food to buy. In portions of Virginia where freight rates are low, it may be possible to use hulls to advantage, but rather than buy the mixed hulls and meal, it is far better to buy each separate and mix in proportions and as wanted.

In seasons such as the one just past, when the rainfall is so small in the early spring as to seriously cut off the hay crop, we often look about for some plant to sow to supplement the small hay harvest.

Milletts are often sown and with excellent results, but corn may be planted later than is usually considered wise and yet get a valuable crop. This season we had almost no rain until the last days of June. As soon as the soil was moist enough to plow, we turned a piece of turf (after cutting a very poor hay crop), ordered it, put on 200 pounds per acre of 16 per cent. acid phosphate, and planted to corn, finishing on July 3rd. A portion of the field was planted with a very small variety known as Pride of the North and the balance with the larger and yet rather early Leaming. The stalks of the former were small, hardly larger than ones thumb, full of leaves, and in September before frost came the ears were well in the milk state. The Leaming was nearly as far advanced in the ear, but the stalk was much larger and did not cure as thoroughly after cutting. To cure it we cut with a corn harvester, dropping the bundles separately and allowed to lay for three or four days and then shocking. This was used during last of December and first of January and was much relished by stock. We obtained from the small variety, a yield of 4,220 pounds per acre and of the larger variety 3,860 pounds per acre, the former having



been planted somewhat thicker to make up for small size of plant. Considering the late date of planting, the crop was a good one and makes a very satisfactory "hay substitute" and while costing far less per ton than the cotton seed hulls, was worth more to us.

D. O. NOURSE, *Agriculturist*.

*Experiment Station, Blacksburg, Va.*

We have fed both oat and wheat straw largely to cattle which were only desired to be kept in thriving condition. Our practice was to cut the same into chaff and then spread a layer on the feeding house floor, say six inches thick, damp this well with water then add other layers and damp same until we had sufficient for a day's feeding. Mix well and then make up into a compact heap and cover with bagging. In 24 hours the heap will have warmed up and if then a little grain feed be mixed with the straw or if cut roots be fed with it the cattle will eat it readily and do well on it.—Ed.

### SOME PREDISPOSING CAUSES OF DISEASE AMONG HORSES AND CATTLE.

*Editor Southern Planter:*

During the last few months I have been called to several different counties in the State to investigate what was thought to be a contagious, and entirely new, disease among horses in two cases, and cattle in several others. However, I have found only a very few outbreaks in the State that were of a contagious nature, thus needing quarantining. On the other hand I have seen numbers of animals, that were thoroughly diseased, and in fact, in a most debilitated condition, the initial cause being the extreme winter, faulty diet, over work and defective sanitary conditions.

The farmer knows well that the colder the weather the more wood is burned in order to keep the sitting room warm; likewise thicker clothing, and especially bed covering, is used by the entire household, yet very few farmers think it necessary to increase the warmth of the stable during an extreme cold spell. They will let the straw rot out in the field in an old stack, instead of putting it under the horses for bedding where it will not only keep the poor animals warm and comfortable, but will also absorb the urine and be much better manure than it was when left in the field.

Every farmer will admit that "corn is heating," yet few of them think to give each animal an extra supply of that warming material on a cold night.

Anything that is debilitating to the animal's system predisposes said animal to disease. An animal that is very hungry, and is not furnished the proper food, will often eat materials which are injurious to its health; though it is commonly thought that just because an animal eats a thing that the particular thing eaten is of course good for the beast.

In fact, faulty diet predisposes the entire system to disease; non-nutritious, indigestible food is undoubtedly the cause of a great many deaths among the domestic animals of our country that are supposed to have died from the effects of some contagious disease.

In other words, an indigestible substance passing through the alimentary canal of any animal has about the same effect upon the animal as an iron bolt, or tap, has upon a shredding machine when it is accidentally fed into the machine—it renders the machine incapable of properly shredding the tender fodder that it once shredded to perfection.

Pure, nutritious, food is very essential to good health as it strengthens the animal and enables it to throw off disease.

Overwork also often debilitates an animal to such an extent as to make it either refuse its food, or be unable to digest the food when taken into the system, thus leaving the animal in a condition to contract many diseases that a strong individual would readily resist.

Last to mention, but not least in importance, is the defective sanitary conditions which I have observed at the sleeping, feeding and watering places of horses and cattle in this State.

Every stable should be cleaned out daily, yet I find horses standing in manure to their fetlocks; the stable should be warm and dry, though well ventilated. I noticed cattle fed on the ground in barn lots, where half of their food was out of sight in the mud under their feet.

Now as to the water supply, it is a wonder to me that some animals ever get out of the water after they go in to drink, as I have seen the mud on either side of the stream so stiff and deep that it was hard for a 1,200 pound horse to make his way out of the water after drinking, thus no animal would go into the ford unless it was very thirsty. The water should be easy to reach, and above all, everything around the drinking water should be clean.

Less medicine and more caution as to food and the general surroundings of the animals will largely reduce the per cent. of diseases among all farm stock.

J. G. FERNEYHOUGH,  
*State Veterinarian.*





### HAMPSHIRE DOWNS IN VIRGINIA.

At Round Hill Farm, Loudoun county, Va., Mr. J. D. Thomas has one of the finest flocks of Hampshire Down Sheep to be found in this country, of part of which we reproduce a picture recently taken. This flock was established in 1892, and has been carefully bred and constantly improved since that time. The flock has supplied many choice specimens of the breed to breeders all over the Northern, Eastern and Southern States, and has been productive of much wealth to the owners. The Hampshire Downs are one of the largest types of Down Sheep, and have blacker faces and legs than any other of the Down breeds. They are prolific breeders, producing twins almost regularly, and often triplets. The lambs grow fast, and the sheep mature early. They are fine mutton sheep, and shear a heavy fleece of medium fine wool. The breed acclimatizes well in the Southern States and is one worthy of the attention of sheep lovers.

### SHEEP PARASITES—STOMACH WORMS.

*Editor Southern Planter:*

We hope to say something about sheep parasites that will be helpful to our Virginia farmers. We have learned through much experience on Edgewood Farm and having come through victorious as regards one form of parasite, we think we can be of some service to others.

Many years ago we started in the sheep business on a large scale for our farm, using grade Down ewes and Shropshire and Southdown rams of pure blood. We had for a few years wonderful success with our lambs. Our lambs generally got away in June averaging from 88 pounds to 92 pounds, a large number of them weighing as high as 115 pounds and some even more than this. We knew as little about sheep parasites then as a rabbit. At that time few were

writing about such things, for most people were, like us, ignorant of such things. Occasionally a shrewd farmer would write some story about worms in his lambs' stomachs, but most of us paid little attention to his story, thinking it about as improbable as the one about the sheep biting their heels and getting grubs in their nose.

Some years later our lambs began to fall off some, although we were improving our flock all the time. About 1890 they were weighing only about 80 pounds, but such lambs were good and we were making good profits, so we wondered quietly about the falling off and said nothing. A few years later we were selling lambs that averaged only about 75 pounds, a steady decrease every year. We began to notice considerable coughing in our flock and occasionally we would note the death of a lamb from "paper-skin," an old disease which for years had been known to attack late lambs in seasons of unusual rainfall. We had a few years before introduced the Dorsets and they were allowed to run with the other sheep. The thing that stirred us up, was the loss of three beautiful purebred Dorset lambs from the "paper skin." One of our finest Dorset ewes did not do well during this year, but in spite of it she dropped two lambs that fall, went through the winter pale in skin and weak, got with lamb by accident and the next April dropped two more lambs. The strain was too much and she succumbed. I look upon the loss of this favorite ewe as the best thing that ever happened to us in the sheep business. This led to investigation. Hundreds of stomach worms were found in the fourth stomach of this ewe and every lamb that died that spring, and we had plenty of victims, revealed abundant proof of the presence of these small thread like worms in the stomach and intestines. We knew the trouble, but could find no remedy. The papers were being filled with statements about the parasites, but the remedies suggest-



ed, the principle of which was turpentine, afforded no relief. We were having heavy losses both among our ewes and lambs and the lambs we put on the market were mean and trifling. Most of them were left on our hands and those that were taken up rarely weighed as much as 65 pounds. We had reached the bottom and began to stop the sheep business.

Finally, we struck an article by Joe Wing, well known now as an agricultural writer, describing some of his experience. He had suffered as we had, but had learned of gasoline as a remedy, tried it with good results, and recommended it. We tried it on some of our lambs and saved the lives of some. Others tried it and reported many deaths from the gasoline and had no favorable reports from its use. Unquestionably gasoline would sweep stomach worms, or, at least many of them from the lambs, but lambs that had been attacked never seemed to grow and it appeared impracticable to maintain the sheep business by trying to fight off stomach worms with gasoline, so we let the body of our flock go, but not until we had learned a most important lesson. As we valued our Dorsets most we separated them from the main flock and kept them from the old pastures. They were dosed with gasoline and turned on our wheat fields or first year meadows. After the first year we noticed that our Dorset lambs had pink skins and got fat, weighing as much as 100 pounds, while the lambs kept on the old pastures were trifling as before and were true types of the stomach worm lambs. This clearly showed that the pastures were in part, at least, the source of infection. This was an important point. We resolved that our Dorsets should never be allowed on the infected pastures again and should be given a dose of gasoline every spring before the grass had come. We have followed this plan strictly and now for several years our Dorsets have been in the pink of condition and no evidence at all of stomach worms. Last June our Dorset lambs were as fine as we ever saw. We had one that weighed 139 pounds and others that went above 120 pounds. Lambs that weigh like this are not hurt by any form of parasite.

I have rehearsed this to convince you that we have had some experience. Now very briefly allow me to give a plan, which may save you from disaster in the sheep business.

Biologists do not agree on the development of the stomach worm. Some think that the eggs of the worms—that they are good layers, no one who has ever seen a female worm under a microscope can doubt, for I suppose one thousand eggs would be a low estimate for the mass of eggs found in the egg

bag—are passed with the dung and in the summer months hatch out in the soil and the larvæ crawl up on the wet grass and are thus picked up by the lambs. This is not at all implausible and will explain our infected pastures. It is hard to explain their enduring the hard winters in the soil and keeping the soil infected for two or three years after sheep have been removed from the pastures. It must be remembered that much can be said against this plan of development. Two trustworthy Southern farmers report fearful ravages from stomach worms among their lambs, when ewes had been brought from another State and turned to pastures that had not seen sheep in twenty years. In both cases it has been proved, however, that the ewes were badly infected and had given poor results the year previous. In these cases the parasites most certainly wintered in the ewes and in the spring the eggs were passed out in sufficient number to infect the pastures by May, so that the lambs were sure of getting the worms, or rabbits, which are known to be subject to the same parasites, had infected the pastures. This, by the way, may explain the well known leanness of the East Virginia "old har'." It seems to me that it suggests most strongly that stomach worms pass the winter in the intestines of the sheep, or in its tissues, although I must say that an examination of two from flocks known to have been infected the summer before failed to reveal any stomach worms in the month of December. This will not settle the matter. We need more evidence. In order to make ourselves doubly safe let's suppose that both methods of development are possible. How shall we proceed? First, get your sheep off the old pasture for at least three years. If you cannot furnish enough meadow pasture for your flock, pasture what you can on your meadows and rent pasture for your sheep on farms, where sheep have not run. You can use your own pastures for cattle. It will be a good thing for your farm pastures to get sheep off them for a little time, even if it will give weeds a fine chance.

Second, about April 1 give all your ewes two doses of gasoline on successive days, keeping them from food for twelve hours before giving the dose.

Third, when you wean your lambs, give them two doses of gasoline administered in the same way and turn them on your wheat stubble or on your meadows, which have just that year been cut.

By this plan I think you will within four years eradicate stomach worms entirely and then, for your own sake and for the sake of your neighbors, never give the stomach worm another chance. To do this



I recommend the cutting down of your flock permanently, if you have been heavily stocked. Better raise 100 lambs that will weigh 80 pounds in June than 200, half of which will not be taken up at all and the rest at about 65 pounds. If you have about half the sheep your farm will carry, my advice is to pasture these on one-half the farm for two years, using the other half for cattle, horses and hogs and for the following two years exchange pastures. In this way you can keep your flock in fine health and can raise lambs that are worth handling.

I am aware that many Virginia farmers do not suffer as much from stomach worms as others, as they raise early lambs and get them off in May. Not till June do the stomach worms get in their work, but this does not save your ewe lambs that are kept over.

In administering gasoline observe the following simple directions and you will lose no sheep and have no trouble:

1. Use a bottle with very long neck, or choose one into the neck of which a six inch rubber tube will fit tight and snug. This bottle should hold eight or ten ounces.

2. Never give over a tablespoonful of gasoline to one sheep. If a lamb weighs less than 60 pounds give two teaspoonfuls.

3. Put the gasoline into the drench bottle first and then six ounces of milk. Shake well.

4. Never force the dose. If a sheep struggles, remove bottle from mouth. Let the sheep take its time about swallowing. Better just push the sheep up in a corner and let some one hold it firmly, while you very slightly elevate the head and administer the dose. Don't push head up high; you will strangle it every time and this is fatal.

I have dosed hundreds and never lost but one and I am sure this sheep had heart trouble of some kind.

Maxwelton, W. Va.

H. B. ARBUCKLE.

### EWES DISOWNING LAMB.

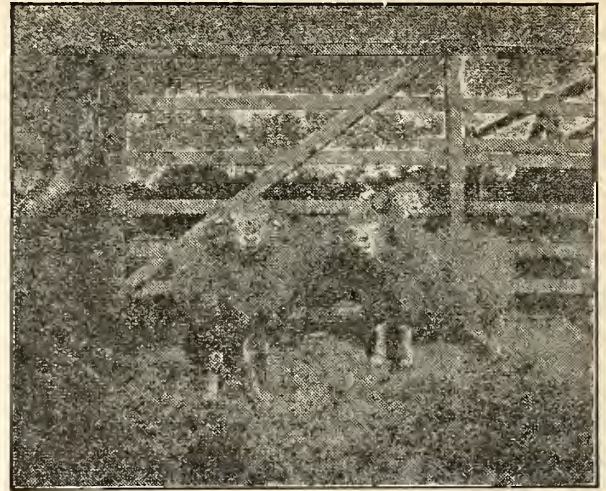
*Editor Southern Planter:*

A ewe can be made to own her lamb by cutting off its tail and rubbing the blood on her nose. Seeing the lamb in distress arouses her motherly instinct, or the taste of its blood has the proper effect, and she will give you no more trouble.

Campbell Co., Va.

H. T. PATRICK.

We have often succeeded in making a ewe adopt a lamb by smearing it with the blood and mucous matter discharged by the ewe after lambing.—ED.



THREE DORSET LAMBS

bred on Edgewood Farm, W. Va. In June these lambs weighed 139 pounds, 129 pounds, and 122 pounds, respectively.

### TEXAS FEVER.

*Editor Southern Planter:*

I beg to offer, through the columns of your valuable paper, a receipt for the prevention of Texas Fever in cattle. If I mistake not, this receipt appeared in the SOUTHERN PLANTER at the time Mr. Ruffin was the editor, but whether it did or not, I can and do recommend its use by all parties owning cattle in infected districts. I used it for a number of years while living on a farm near and around which Texas Fever prevailed annually, yet I never had a case of the fever amongst my cattle. A brother of mine also used it for a longer period than I did, with the same success. I have also given the receipt to others, and received in every instance favorable reports. Mark you, this is a preventive and not a cure for the disease. The following is the receipt:

5 tablespoonsful; saltpetre, 3 tablespoonsful (pulverized); sale petre, 3 tablespoonsful (pulverized). Mix thoroughly and feed to the cattle in place of salt, beginning to use it the last of April or first of May, and continuing its use until the last of October. Give it to them at least twice a week. Let me say further, that at the time Mr. Ruffin edited the SOUTHERN PLANTER this disease was known as Dry Murrain and not as Texas Fever. So great is my faith in this prescription that I believe by constant use of it in any community, Texas Fever, in a few years, will become a thing of the past in that community.

THOMAS E. COBBS.

Orange Co., Va.



## The Poultry Yard.

### THE TURKEY OUTLOOK.

*Editor Southern Planter:*

The great demand and unprecedented prices for turkeys for the last few months ought to open our eyes to the need of more enterprise in this line of business.

The prices alone leave no doubt as to the small number of turkeys left to begin with this season. A large number of turkey raisers sold out entirely, leaving a few in possession of the field. Now is the time to begin with a few and build up a reputation for the future.

It is in order to begin turkey culture in a business-like way and not trust to luck for results after a little attention at first. I know people who say the least attention given to a flock of turkeys after the first few days, the better luck may be expected, but from long experience I know this to be erroneous. It is quite true, what few arrive to maturity are splendid specimens, but that is a proof of the "survival of the fittest," as only those of iron constitution can stand such a life. A young flock should have regular attention for months, in fact at no time should they be compelled to gather all their food. Such a season as last year puts us to the test. The long continued dampness, I might say rain, made the turkey business dark and uncertain, and resulted in total failure in a number of instances. The long confinement in close quarters was found as destructive to life as running at large, getting wet and drabbed. This fact should make the future outlook better, for we should not embark upon the coming season without proper preparation for all kinds of weather—if we have realized our mistakes. A larger house with plank floor will be a necessity. Upon this litter straw, etc., may be scattered, and always grit, and green sods for the mothers who abhor close quarters.

Young turkeys have ravenous appetites, and while four feeds may be given with impunity, the first week of their lives daily, too much at a time would be detrimental. Hard boiled eggs, corn bread, stale lightbread are all good feeds but vary them, so as to keep them hearty. If any seem sleepy, or a little slow examine them carefully for vermin. These often exist when not visible. Dust the mothers with Persian Insect Powder and grease the heads of the young ones with lard and kerosene oil every few weeks. When they get as large as frying size chickens use insect powder occasionally. Feed wheat,

cracked corn and bread. Keep lime always at hand, there is nothing they relish more. Mix it up like dough with a little water and scatter it around the place. All the chickens will help to eat it, and pay you in eggs for your trouble. Keep the turkeys tame. Teach them to look for food at the same hour and place each day and they will soon meet you there. There is no grander fowl raised, and nothing that gives a better return for care and attention than the turkey.

MRS. JNO. F. PAYNE.

*Albemarle Co., Va.*

### THE BEST BREEDS TO KEEP.

For the requirements of a suburban resident we do not think we have any variety of fowl to equal the White Leghorn, or as a matter of fact any of the Leghorn family. It has been our experience they do well in confinement so long as scratching material under cover is provided for them to exercise their scratching propensities. Objection is raised to their flying propensities, but this need not be a barrier, for if even the runs are not covered over with wire netting, the simple process of cutting one wing so unbalances them that they could not, if they tried, fly over a five foot fence.

In erecting a fence to keep in fowls many make a mistake in running wooden rails along the top from post to post, to which they attach the wire walling, whereas if they would use cable wire instead and strain the walling to this cable by using lacing wire the inmates of the yard would not make any attempt to fly over; besides the cable wire is much better, being neater than unsightly wooden rails.

For a purely farmers' fowl, where a free run is obtainable, we consider Buff and White Rocks and some strains of Barred Rocks are as good as any, although as a general rule we consider all of the varieties of Rocks lay too small an egg for the food they consume, and are inclined to become too fat after their first season to rank in the first class as egg producers.

The Wyandotte family are an excellent all round breed, good layers of fair average sized eggs, and as a table fowl have very few equals, are great foragers, and hardy. Whites seem to have the call at present, and as a show fowl have become very popular, as is in evidence by the abnormal entries at most of our leading exhibitions in all sections of the country.—*Farm Poultry.*

## The Horse.

### NOTES.

In the March issue of *THE PLANTER* our esteemed correspondent, W. R. C., a well-known Virginian who breeds horses on his fine estate in Westmoreland county, takes me to task in a pleasant way because I have failed to lay sufficient stress on size in trotting stallions kept for stud purposes. I am glad to note the stand taken by our correspondent, which is pertinent, but really it seems the breed of trotting bred horses is yet in a formative state, and we can never be quite certain of results. Experience and judgment in mating count for much I admit, but even here results are oftentimes misleading and fall far short of the object sought, because any breed yet in the formative process does not produce true to a type. I have in mind several stallions possessing size with symmetrical form and speed, still it is rare indeed that you see one of their get to even compare with the sire. This may be in a measure accounted for by lack of qualities most desired on the maternal side, but with due consideration there the results so much sought for frequently do not obtain. My observation is that beauty and finish, also speed, follow certain lines with far greater uniformity than others, but when it comes to size, there is not only a greater uncertainty, but coarseness is more than likely to follow increased proportions. However, the general preference is for large horses, and the average farmer and breeder will do well to bear this in mind, and shape his course accordingly, being contented to cast his lot for drawing prizes in the lottery of breeding. Personally, my preference would be take chances with a well turned, sound—and remember, that I lay special stress on soundness—representative of a family that breed size, and if results were not satisfactory I should try to select another stallion without losing sight of my original purpose. But, to my mind, speed is really a secondary consideration to the average breeder and rather to be sought for by those possessing both means and inclination to develop it for racing.



Commenting further "W. R. C." remarks that no attention is paid to the American saddle horse in these columns, in reply to which I may state that this breed seems to flourish nowhere else as in Kentucky and some parts of Tennessee, while a few are bred in other Southern States, but here in Virginia the type has been mostly superseded by hunters and jumpers, which are required to walk, trot and gallop, and show no tendency to mix gaits or show the running walk, the latter a gait so popular until within

the past few decades. I have no fault whatever to find with the gaited saddler, as he is suggestive of beauty of form, finish and other desirable qualities, but the law of demand creates a supply and for this reason the hunter and jumper has about superseded the gaited horse in this State and Virginia has come to be known as one of the principal markets of the world for breeding, rearing and developing the hunter, a type usually produced by crossing thoroughbred sires on large general purpose mares possessing muscular development and good, heavy bone.



Prospects seem bright for stallion owners in this section and all signs seem to indicate that a large number of mares will be bred. Kelly, 2:27, the bay stallion by Electioneer, dam famous thoroughbred Esther, dam of four in the list, by Express, in the stud of W. J. Carter, attracts attention wherever shown. Kelly's record does not even indicate his speed limit as he could trot a two minute gait while his full sister Expressive, 2:12½, was the greatest three year old trotting campaigner ever seen. She is 16.2 in height and the Esther family is one in which fine size and finish predominates. A number of choice mares have already been booked to Kelly and breeders will act wisely in considering his claims for patronage.



The bay pacing mare Joyful Maiden, 2:19¼, by King Nutwood, owned by W. R. McComb, of the Union Stock Yards, has joined the stable of M. F. Hanson at Montzeuma Farm, and will probably be raced again this season. Others in the same stable are the chestnut stallion Estuary, 2:19¼, by Expedition, 2:15¾; Zack, chestnut gelding, 5, by Sidney Prince, 2:21¼, dam Thrift, dam of Admiral, 2:17¼, by Meander; Dr. Floyd, bay gelding, 6, by Sidney Prince, dam, the dam of Albert C, 2:16½, by Clay, and several well bred youngsters. Hanson hails from Montague, Michigan, but during his residence of five years in Virginia he has made numbers of friends by his pleasant manners and quiet, unpretentious manners, and quite a fair share of ability as a trainer, driver and conditioner, too, he has shown himself the possessor of by racing and marking such horses as Clarion, 2:15¼; Little Guy, 2:17¼; Forney, 2:19¼; Estuary, 2:19¼; News Boy, 2:21¼; Sidney Prince, 2:21¼, and J. R., 2:24¼, and these with material none too promising to work upon in this State.

BROAD ROCK.



## Miscellaneous.

### VIRGINIA POLYTECHNIC INSTITUTE.

*Editor Southern Planter:*

At this writing I notice that the Legislature has just made an appropriation of \$165,000 for the above institute. This is a good appropriation and that is what I have advocated in previous issues of the *PLANTER* and begged the farmers urge their representatives to make. Now it is "up to the Board" to do the "proper thing" for the agricultural side of this institution which has been so far behind the times. I fear the Board "needs a little reminder." A large part of the small equipment the agricultural department now has is used in producing "Mess Hall supplies" and, in a previous request to the Legislature, the Board only asked for \$20,000 for housing and equipping a building for agricultural, horticultural and veterinary work. When it is remembered that both teaching and scientific investigation are to be carried on in such a building, such a sum is entirely too small to meet requirements. I asked the president of the Board to ask for more money for such an equipment—to make it at least \$50,000. I also asked him to provide for a short winter course in agriculture and horticulture, to have stock judging, grain judging and plant breeding taught on a broader scale. He assured me he would do so if they could get a good appropriation. Now the appropriation has been made, will we get these things? Is Virginia to have an agricultural equipment at the institution of which Virginia farmers will justly feel proud? The Legislature has done its duty. Now, let those who have charge of this money do theirs for the agricultural side of this institution, which the editor of the *PLANTER* truthfully stated in the March issue was far behind the mechanical side of the institute. We like very much to see large numbers of students attend the college but this fact in itself counts for but little unless the standard of instruction is also high and proper facilities are afforded for advanced teaching. No third or second grade equipment for agricultural education and training is good enough for Virginia. She needs the best and the appropriation her Legislature has given will go a long way towards securing this if the Board will only use a large part for that purpose. Not only is the equipment for teaching far behind, but several departments of the Experiment Station need strengthening very much. What I have written is, of course, in the nature of a friendly suggestion. Being a graduate of the institute and a farmer by calling and practice,

makes me feel a deep interest in the advancement of the agriculture of the State and this must largely come from the instruction at the Farmers' College.  
*Montgomery Co., Va.* R. H. PRICE.

### EASTERN AND WESTERN METHODS.

*Editor Southern Planter:*

You may have wondered how it is possible for Western farmers to raise corn to profit at 25 cents per bushel, shelled and delivered in the elevators, and hay at from \$4 to \$6 per ton, baled. Perhaps you have tried to reason this thing out and have come to the conclusion that their land is so much better.

Is that the only reason? Supposing you had the use of good land, land that would with proper cultivation yield 8 to 10 barrels per acre, how much would the work of preparing the field, planting, cultivating, harvesting, shelling and hauling to station cost you, figuring your own time the same as you would pay your hired help? How much profit would you make at 25 cents per bushel?

Good soil is one of the causes of cheap corn out West but by no means the only one. Corn is handled but once by hand. It is husked direct from the standing stalks into the wagon, two rows at a time, while the team walks slowly along. Husking 50 bushels per day is considered a fair day's work for a man and his team, though some men will husk as much as a hundred. On the side opposite to the husker, high side-boards are clamped to the wagon box to prevent ears from being thrown over. The husks are left on the stalks.

At noon the husker drives home with 50 bushels in ears piled high against the sideboard, stopping alongside of the corn crib. In the wagon, resting on the endgate and slanting to the bottom of the box is the scoop board, so that a large scoop shovel may be used, and in a few minutes the corn is scooped into the crib. In the evening he repeats the operation.

When the corn is to be marketed, a few lower slats of the crib are loosened, a few smooth planks are laid down for easy shoveling, the large power sheller is backed to this opening and two men are kept busy shoveling the ears into the box of the hopper. In corn shelling time neighbors help each other as in threshing.

The spout of the sheller is directed into a wagon and as soon as the wagon is filled—50 bushels of

shelled corn for a two-horse load—it is driven to the station. Without stopping the sheller, the spout is switched to another empty wagon and one wagon after another drives up to be filled and start to the station. If not enough neighbors have come to help in hauling, a large bin is made on the floor and the corn is spouted into it when no empty wagon is at hand.

Arriving at the station the wagon stops on the scale, the weight is taken by the dealer, the hands of the scale being at the window in plain sight of the driver on his seat so that no time is lost. Next he drives into the elevator building, stopping on a platform, the rear part of which is lowered by machinery so that the load is dumped into a chute below. For that reason wagons with loose tongues are used exclusively. An elevator employee replaces the end-gate that the driver may not have to leave his seat. Machinery later on elevates the corn into high bins from which it is spouted directly into the cars on the side-track below. At every railroad station, however small, there is an enormous elevator, sometimes two or more.

How often has the corn been handled by hand? Once when husking. Once with the shovel when unloading at the crib and once when shoveling into the sheller. One thousand five hundred bushels or more, at 40 bushels to the acre the entire crop from nearly 40 acres, are shelled in a day. How does his compare with Eastern methods, where the corn is handled again and again by hand, sometimes even "tot-ed" in hampers, etc.

Now as to the work in the field. The Western farmer owning (or renting 80 acres at a rental of \$4 per acre) will probably have 40 or more acres in corn, probably ten acres in small grain and the rest in hay and pasture. He will work this farm without help, except in harvest time. Some men will work 60 acres of corn successfully. But how? Well, they work perhaps not much harder than Virginia farmers but they make better use of their time by using modern double row planters, double cultivators, etc., enabling them to cultivate the corn three to five times, by beginning as soon as the sprouts show above ground. It is true that they are not often interrupted in their work by rains.

The Western farmer keeps stock not because of the manure, for often it is scarcely preserved, but because it is usually more profitable to feed the corn than to sell it. I am not prepared to say that feeding 50 cent corn in Virginia is profitable but it is surely more profitable to raise 50 bushels of corn to the acre on manured land than 15 bushels on a farm where no stock is kept. If the Western farmer can

make money by raising 25 cent corn on land worth \$100 we Virginians can do better by raising 50 bushels of 50 cents corn on \$10 or \$20 land by making the land rich enough.

Haying in the West is done with a sweep-rake and a stacker. Two men and two "kids" will harvest 10 acres per day. One boy drives the gleaner, a man with two horses hitched to the sweep-rake drags the hay from the wind rows to the stack where it is dumped onto the stacker operated by a horse. Only the man on top of the stack uses a fork. Many farmers make these implements themselves though they can be bought in implement stores. A sweep rake may be made without wheels.

Baling is probably also done cheaper out West though the labor is cheaper in Virginia. Queer, isn't it? Well, if the man with the baler could move right from one field into the adjoining, keeping steady at work, week after week, perhaps for months in one neighborhood, where farmers keep every foot of their lands in productive use, they can afford to do the work for less than in sections where nine-tenths of the country is woods, brush, broom straw or "resting" with a crop of weeds and where hay is grown in patches instead of good-sized fields.

The greatest obstacle in the way of the adoption of modern methods in the South is the negro. The Southern planter balks at the proposition to pay \$200 or more per year with a decent room and something else besides "corn meal, pork and herring rations" to a competent farm hand when George Washington Jefferson, colored, is satisfied with \$9 per month. Yet it is but a question of time when our darkies will have to give way to competent white men as regular farm help and when meat stock will be substituted for the scrub Jersey and for scrub sheep. N.

*Hanover Co., Va.*

### Beef Cattle for Southside Virginia.

Please tell me what breed of cattle you consider best adapted for this part of the State. Our pasture is all wild land, but affords excellent grazing and a very large range. Would the Hereford or Angus do well? Which of these two breeds do you consider best?

SUBSCRIBER.

*Mecklenburg Co., Va.*

None of the heavy breeds of cattle are adapted for the thin lands of Southside Virginia until they have been improved. The feed is not good enough for them. We think the Red Polls are best adapted for this section in its present condition. Next to these we would select the Angus breed. Herefords and Shorthorns will do well when the land has been improved.—Ed.



THE  
**Southern Planter**

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**THE SOUTHERN PLANTER PUBLISHING COMPY.**  
RICHMOND, VA.

ISSUED ON 1ST OF EACH MONTH.

J. F. JACKSON,  
Editor and General Manager.

E. MORGAN SHEPHERD,  
BUSINESS MANAGER.

**TERMS FOR ADVERTISING.**  
Rate card furnished on application.

**TERMS FOR SUBSCRIPTION.**

THE SOUTHERN PLANTER is mailed to subscribers in the United States and Canada at 50c. per annum; all foreign countries and the city of Richmond, 75c.

ALWAYS GIVE THE NAME of the Post-Office to which your paper is sent. Your name cannot be found on our books unless this is done.

THE DATE ON YOUR LABEL shows to what time your subscription is paid.

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.

SUBSCRIBERS failing to receive their paper promptly and regularly, will confer a favor by reporting the fact at once.

Address THE SOUTHERN PLANTER,  
RICHMOND, VA.

Entered at the Post-office, Richmond, Va., as second-class matter.

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**PUBLISHER'S NOTES.**

**TO ADVERTISERS.**

We wish to impress upon our advertisers the necessity of having ALL advertisements, no matter whether new or change of copy, in our office by the 24th of each month. Advertising forms close on the 25th. We are compelled to leave a number of advertisements out of each issue because they are received too late.

**Subscription Offer.**

Should any person, who is not a subscriber to the SOUTHERN PLANTER, read this notice, we beg to ask that he will take it as a personal one to himself. We want him to join the ever-increasing army of readers of the SOUTHERN PLANTER, and to that end will accept a trial subscription for the remaining numbers of this year for 25c. We hope he will find this issue so valuable and interesting that he will want to have this magazine come to him regularly. Send remittance in the most convenient form.

**WITH THE ADVERTISERS.**

Laidlaw, Mackill & Co. have a half page ad elsewhere in this issue, offering their well known "Thistle" brand of sheep dip and cattle wash. We would suggest to our readers that they look up this ad.

Look up the engine ad of Mr. A. Mietz, of New York City.

The Baltimore Cooperage Co. is offering all kinds of slack and tight cooperage. Look up the ad.

Mr. E. F. Schlichter is advertising his well known Philadelphia silo in another column.

The Ohio Vehicle & Harness Co. is offering buggies at bargain prices.

The Johnson Harvester Co. is offering its Continental Disc Cultivator to our readers. The Watt Plow Co., Richmond, Va., are the local agents.

Another new advertiser in this issue is Mr. B. E. Watson, who offers Duroc Jersey and Berkshire hogs of the finest breeding.

The Racket Farm has an interesting poultry and stock card in another column.

Maj. A. R. Venable is offering some choice Jerseys at very low prices.

The Southern Railway Supply Co. is advertising all kinds of roofing on another page. We suggest that any of

If you want Clean Fields and Clean Crops, Sow

**Wood's Trade Mark**

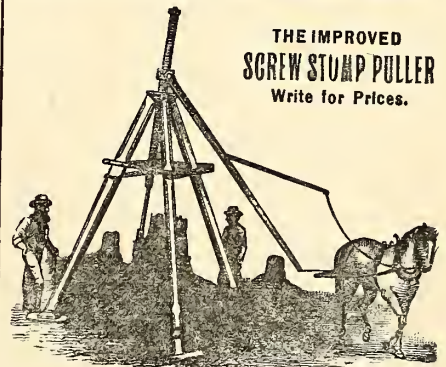
**Clover and Grass Seeds.**

They are the best and cleanest qualities that it is possible to procure—free from plantain, daisy, wild carrot and other objectionable weed seeds, often found in ordinary clover and grass seeds.

**Wood's Seed Book for 1904**

gives the most complete information and up-to-date experience about all Grasses and Clovers. Mailed free on request. Write for Seed Book and special Price List of Grass and Clover Seeds.

**T. W. WOOD & SONS, Seedsmen,**  
RICHMOND, - VIRGINIA.



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

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

**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.

**WARRINER'S CHAIN HANGING STANCHION.**  
**CLEAN, SAFE, COMFORTABLE.**  
MFG. BY W.B. CRUMB, Forestville, Conn.



our readers, who may be interested, refer to the ad, fill out the measurements, and mail to this company promptly.

Janney Bros. desire to purchase some grade Shorthorn heifers. Look up the ad.

The Occoneechee Farm, Durham, N. C., has an attractive ad elsewhere. The offering consists of Shetland ponies, Berkshire, Poland China, Essex and Yorkshire hogs, Shropshire and Dorset sheep, Jersey cattle, and all kinds of fancy poultry.

Note the change in the Rosemont Farm advertisement in this issue.

M. B. Rowe & Co. have a seasonable card in this number.

The Grove Farm offers Holstein Friesian cattle and Dorset sheep in this issue.

The Milne Mfg. Co. has something interesting to say about its stump and tree pullers.

Don't fail to read the ad of Studebaker Bros. on another page.

Look up the ad of the International Stock Food Co.

#### TOTAL OUTPUT OF PETROLEUM SINCE 1859.

It is not yet half a century since Colonel Drake discovered petroleum on the waters of Oil Creek, near Titusville, Pa. Men thought themselves civilized in those days, but had no notion that petroleum was among the necessities of a polite existence. A tallow dip or a wax candle illuminated sufficiently the night's activities, and a blazing logwood fire left no room for desire of another kind of heater. Mutton tallow answered for chapped hands and bear's grease or goose oil did well enough for pomade. Petroleum might have been counted a superfluity, but instead it sprang into immediate favor, and now its list of popular by-products grows longer every year. The total production of crude petroleum from 1859 to the end of 1902 has been no less than 1,165,280,727 barrels. That means that if two and one-half feet were allowed for the height of a barrel, and if these barrels filled with all the domestic oil that has been produced were laid so that their heads touched, they would encircle the earth two and one-fourth times.

Of this total production, Pennsylvania and New York produced 53.9 per cent., Ohio 24.3 per cent., West Virginia 11.3 per cent., Indiana 3.9 per cent., California 3.6 per cent., Texas, 2.1 per cent., leaving 9 per cent. to be supplied by the States of Kansas, Colorado, Louisiana, Illinois, Missouri, Indian Territory, Wyoming, Michigan, and Oklahoma Territory.

The above figures are taken from Mr. F. H. Oilphant's report on "The Production of Petroleum in 1902," soon to be published by the United States Geological Survey in its annual volume of Mineral Resources.

Local agencies and complete repair stocks everywhere

# PLANO HARVESTERS

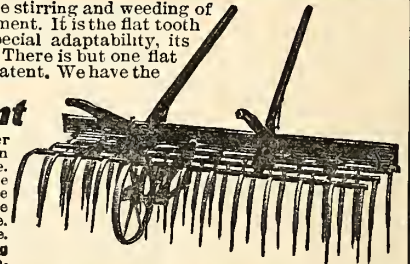
International Harvester Co. of America, Chicago, U. S. A.

## HALLOCK Combined Weeder and Seeder

The farmer who knows the value of light surface stirring and weeding of growing crops recognizes in this the prize implement. It is the flat tooth cultivator. You know what that means—its special adaptability, its service, its results. Increases crop 25% to 40%. There is but one flat tooth—the only satisfactory tooth—the Hallock patent. We have the right to manufacture it.

### The Seeder Attachment

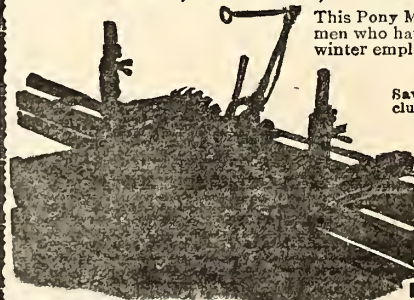
means getting a good stand of clover, timothy and other grasses. It sows them all, and its positive force feed can be adjusted to sow accurately from 2 to 18 quarts per acre. Especially valuable in the wheat fields, as the surface cultivation benefits the wheat and at the same time the grass seed is sown and lightly covered. The seeder can be readily attached to or detached from the weeder frame. Either is sold separately when desired. Catalogue is free. Don't fail to write for free book of field scenes, showing half-tones from photographs of the weeder in actual use.



Keystone Farm Machine Co., 1554 North Beaver Street, York, Pa.

## DeLoach Saw Mill

Special for the Man with Light Power and Heavy Timber.  
Cuts 2,000 to 10,000 Feet per Day. 4 to 20 h. p.



This Pony Mill is especially adapted to the use of threshermen who have engines, enabling them to secure profitable all winter employment when the threshing season is over.

### We Make All Styles

Saw mills from smallest to largest capacity. A great exclusive feature in the DeLoach Variable Friction Drive.

Our advantages in cheap Southern labor and superior and low-priced lumber, iron and steel enable us to make the best saw mills for least money of any manufacturer in the world.

Our Mill Machinery Line includes Shingle Mills, Planers, Edgers, Trimmers, Stave Mills, Lath Mills, Water Wheels, Portable Grinding Mills, Shafting, etc. Ask for Saw Mill and General Machinery Catalogue. Mailed free for the asking.

DeLoach Mill Mfg. Co.,  
Box 600  
Atlanta, Ga.

## Steam is the Best

After all, the best most reliable, most efficient and in the end the cheapest power is steam. Wind is whimsical and unreliable; water power can only be used a few months each year at best; gasoline powers are out of order more than half the time and electric current itself depends on steam power. The sure power is a

### Leffel Engine and Boiler.

This outfit is detached—boiler mounted on skids and engine on separate base. Engine can go on either side of boiler and on any reasonable distance away. Large or small pulley and belt on either end of engine shaft. A highly efficient, quick steaming, high power developing outfit. Suited to any work, any fuel, anywhere. We make many other kinds and styles of Leffel engines and boilers. Book "Power Economy and Efficiency," free.

JAMES LEFFEL & CO., Box 134, Springfield, O.





**Clark's Tools for Large Hay Crops**

**Clark's Rev. Bush Plow and Harrow** cuts a track 5 ft. wide, 1 ft. deep. Connects the subsoil water. It is an excellent machine for covering in sugar cane. Strength guaranteed.  
Can plow a newly cut forest, stump, bush, or bog land, leaves land true, clean for any crop.

**Clark's Double Action Cutaway Harrow** moves 15,000 tons of earth in a day.  
Bend for Circulars.

**Clark's Rev. Sulky Disc Plow**  
Made single or double. One or two furrows five to ten inches deep; 14 inches wide. For two or four horses. Light draft. No side draft. No similar plow made. When Clark's grass tools are used as directed in his grass circular, we, the C. H. Co., guarantee them to kill wild mustard, charlock, hard hack, sunflower, milk weed, morning glory, Russian thistle or any other foul plant that grows, or money refunded. Now is the time to commence work for next year's seeding to grass.

**THE CUTAWAY HARROW CO.,**  
Higgaum, Ct., U. S. A.

**HENCH'S 20th Century Steel Ball Coupling Cultivator**

With Double Row Corn Planter and Fertilizer Attachment Complete on One Machine.  
Parallel beam movement, pivoted axle, with lateral beam movement in connection with the removable spindles, or either independent of each other. Centre lever for spreading and closing shovel gangs. The most complete cultivator on the market, having every possible movement of the shovel gangs.  
Order immediately and introduce them for next season.  
The HENCH & DROMGOLD CO. Mfrs., York, Pa.

**Stump and Tree Pullers**

Self-anchoring and Stump-anchored. Something new. Pull an ordinary stump in 1/2 minutes. 1 to 5 acres at a setting. Different sizes to suit all kinds of clearings. For illustrated catalog address  
**Milne Mfg. Co. 834 Ninth St., Monmouth, Ill.**

**FAMILY SCALE FOR \$1.25**

This scale is fitted complete with polished tin scoop and is guaranteed to be correct. Just the thing for weighing teas, spices, meats, groceries, etc. Will pay for itself in a very short time. We sell more good goods for less money than any other house in the U. S. Write today for our Free Ills. Housekeeper's Guide.  
**STEWART BROS.,**  
445 North High Street. Columbus, Ohio.

**IN THE TWINKLE OF AN EYE.**

It is more than probable that every reader of this paper has heard of the wonderfully disastrous fire which so recently burned the heart out of the city of Baltimore. Unless you just happened to know some one who was living or doing business in Baltimore it is likely that you gave the fire hardly more than a passing thought. But what do you think it means to the people of Baltimore? What do you think it means, for instance, to J. Bolgiano & Sons, the seedsmen, who have for eighty-seven years been doing business in the fated city? In all that long period they have never before suffered from fire. Indeed, they felt perfectly safe this time, for when the fire first started it was more than ten city squares away from them. Later, and when they thought they were endangered—though the fire was still six squares from them—they employed two hundred hands and fifty drays and began the removal of their large retail seed stock to one of their warehouses a long distance from the fire, and where they felt everything would be safe. It transpired, however, that by a shifting of the winds the fire ate relentlessly away until both retail stores, offices, packing rooms and warehouses were destroyed. Bolgianos made a brave fight to save the orders and seeds for their thousands of customers, but fate was against them. The orders already booked and the lists of names of thousands of customers all over the world were lost in the twinkle of an eye.

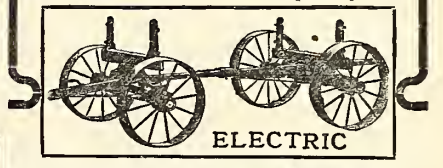
With absolutely nothing to work with, nothing to aid them except their excellent reputation, the Bolgianos have set to work with firm hands and brave hearts to rebuild their business. They have already laid in a large stock of the very best farm and garden seeds, notwithstanding the short seed crop of the past season, and will be able to fill orders as usual. Since all their advance orders and names of customers are burned, they have very little to begin on. Will those of our readers who ordered from Bolgiano & Sons, write a postal card at once, simply giving your name and post-office address? Do this whether you are an old or new customer of theirs. Send them your name anyhow so that they may send you their catalogue another season. Simply address the card to J. Bolgiano & Sons, Baltimore, Md.

**USED CAUSTIC BALSAM FOR SCRATCHES.**

Woolsey, Va., Jan. 27, 1904.  
The Lawrence-Williams Co., Cleveland, Ohio:  
I have used your GOMBAULT'S CAUSTIC BALSAM for enlargements on horses, caused by kicks, etc., and I think it a great remedy. It never does any harm. I used it once on a horse for scratches and it worked wonders.  
**H. F. LYNN, JR.**

**YOU Can Save a Lot of Work! Can Save a Lot of Money! Can Increase Your Comforts! Can Increase Your Profits!**

If you are interested in those things we'd like to send you our new book about  
**ELECTRIC STEEL Wheels**  
and the  
**ELECTRIC Handy Wagon**  
More than a million and a quarter of them are in use and several hundred thousand farmers say that they are the best investment they ever made. They'll save you more money, more work, give better service and greater satisfaction than any other metal wheel made—because **They're Made Better.** By every test they are the best. Spokes united to the hub. If they work loose, your money back. Don't buy wheels nor wagon until you read our book. It may save you many dollars and it's free.  
**ELECTRIC WHEEL CO.,**  
Box 146 Quincy, Ills.



**GOOD TOP BUGGIES \$28.35.**  
Two Years Guarantee  
**COLUMBUS' QUEEN \$49.50.**  
On 30 Days Free Trial Catalogue Free.  
**THE OHIO VEHICLE & HARNESS CO., Columbus, O.**

**WE'LL PAY THE FREIGHT**  
and send 4 Buggy Wheels, Steel Tire only - \$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. BOOB, Cincinnati, O.**

**ONE MAN SAW THE CHAMPION**  
one man saw saves backache and doubles the output. ONE man can saw over ONE cord per hour. Weight of operator furnishes bulk of power. Cuts any size timber, standing or down. Weighs 45 lbs. File steel blade; ash frame. Saves money—labor. Circular free.  
**FAMOUS MFG CO. 722 Railroad Ave. EAST CHICAGO INDIANA**

**Save Cream**  
Save much on the cost, save labor of cleaning and operating by buying the  
**AMERICAN CREAM SEPARATOR.**  
We send to you to put it on trial. It will prove these things to any man's satisfaction. You should know about it. Ask for the free catalogue.  
**American Separator Co. Box 1076, Bainbridge, N.Y.**

**CORN PLANTING** time will soon be here. To get the biggest crop you want a planter that will do the work right. "The Hamilton" Corn Planter is the best machine on earth for insuring increased corn crop. Write for catalogue and price.  
**THE H. P. DEUSCHER CO., Hamilton, Ohio, Manufacturers.**

Mention the SOUTHERN PLANTER in writing.



# WOODEN TANKS

EVERY SIZE AND SHAPE.

Wooden and Iron Towers to Carry Tanks,  
Manufacturers of Barrels, Kegs, etc.

DEALERS IN

OLD BARRELS, STAVES AND LUMBER.

BEST WORK. LOWEST PRICES.

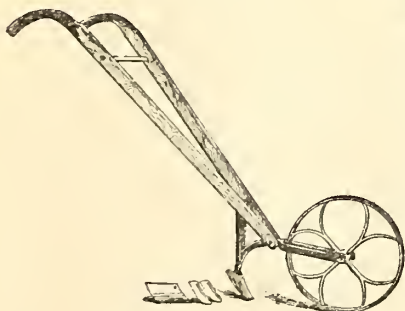
For information address

Baltimore Cooperage Co.,

Dept. A

Baltimore, Md.

\$1.75



NOW BUYS THIS NEW

Southern Garden Hoe and Cultivator.

Send stamp for particulars and how you can earn one. Remit by Express or P. O. Money Order or Registered Mail. AGENTS WANTED. Address R. M. YORK, Liberty, N. C.

# SILOS

And the only Patent Roof

THE "PHILADELPHIA"

E. F. SCHLICHTER

1910 Market St. PHILADELPHIA, PA.

Also made by the Duplex Manufacturing Co., South Superior, Wis.



The Only Cow Food

Which removes Garlic, Onion and Weed Taint from Milk. Send for circular to

VA. CATTLE FOOD CO.

DANVILLE, VIRGINIA.

## MODERN CANNER FOR \$25

Complete farm canning plant, including 100 cans. Write to-day. MODERN CANNER CO., Bridgeport, Alabama.

### MOVING THE CROPS.

Moving the crops is a phrase that is rapidly losing its terror for the money kings of Wall street.

One of the most encouraging signs of our national prosperity last fall was the fact that the moving of crops did not cause the usual stringency of money on Wall street. Why? Because the farmer had been so prosperous that he had money in the bank and did not require Eastern capital to move his crops. This prosperity of the farmer is due to a characteristic trait of the American citizen. He is, above all things, progressive and industrious. In the farmer this is exemplified by his willingness to use the improved machinery which the American manufacturer places at his disposal. Vast sums of money and years of experimenting have made many harvesting machines perfect in construction and mechanism. They accomplish the maximum of work with a minimum expenditure of labor on the part of the operator. They are "light running," and at the same time strong, durable and capable of standing hard knocks.

### BARGAINS IN JACKS.

We beg to call your attention to the advertisement of Baker's Jack Farm elsewhere in this issue. For 60 days this firm is offering jacks at half price and in addition will pay railroad fare of every purchaser. Mr. John Baker, the manager, advises us that he is making room for a new importation.

### CATTLE STANCHIONS.

Any party interested in cattle stanchions will do well to investigate the Warriner Chain Hanging Cattle Stanchion, offered by Mr. Wallace B. Crumb, Forestville, Conn., in another column. He will be very pleased to mail all enquirers a copy of a neat little booklet describing same.

A school boy in Jewell City, Mo., was assigned to prepare an essay on the subject of "Ducks," and this is what he wrote: "The duck is a low, heavy set bird, composed mostly of meat and feathers. He is a mighty poor singer, having a hoarse voice caused by getting so many frogs in his neck. He likes the water, and carries a toy balloon in his stomach to keep him from sinking. The duck has only two legs, and they are set so far back on his running gears by nature that she came purty near missing his body. Some ducks when they get big have curls on their tails, and are called drakes. Drakes don't have to set or hatch, but just loaf, go swimming and eat. If I was to be a duck, I'd rather be a drake every time."

How to defeat a drought at planting time. See Masters Planter Co.'s ad.

## THE BEST SPRAY PUMP ON EARTH

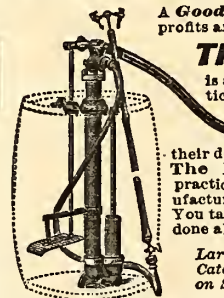


We know its merits from practical experience. Having used almost all known pumps in our own orchards, consequently we are able to judge of its superiority over all others. It is the most durable pump made. The easiest working pump; no stuffing boxes to look after. The handle is adjustable to suit the height of the operator. The agitator is a simple, direct motion, and keeps the solution thoroughly mixed. A pressure of 150 to 200 pounds can be easily obtained. Hand and Gared Vineyard Sprayers a specialty. Patented and manufactured by LATHAM & CO.,

Sandusky, O. Send for Catalogue.

## 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.

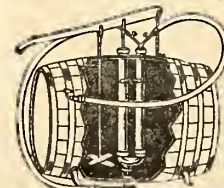
MORRILL & MORLEY, Benton Harbor, Mich.

**SPRAY AND FORCE PUMP HAS NO EQUAL**

PRICE REASONABLE  
CATALOGUE FREE  
AGENTS WANTED

**THE HOIL MFG. CO.**  
353 MAIN ST.  
BUFFALO, N. Y.

## Defender Sprayer



All brass, easiest working, most powerful, automatic mixer, expansion valves, double strainer. Catalogue of Pumps and Treatise on Spraying free. AGENTS WANTED.

J. F. Gaylord, Box #2 Catskill, N. Y.

## TENT CATERPILLER DESTROYER.

MANUFACTURED AND SOLD BY R. B. WILLIAMSON, CLIFTON SPRINGS, N. Y.

# THE KEELEY INSTITUTE

GREENSBORO, N. C.

For the treatment of THE LIQUOR, OPIUM, MORPHINE and other Drug Addictions. The Tobacco Habit, Nerve Exhaustion

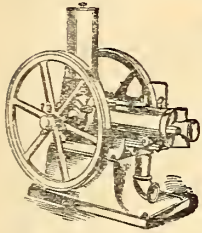
Mention the SOUTHERN PLANTER in writing.



**Hoists. Pumps. Air Compressors.**  
**C. C. THE MIETZ & WEISS**  
**Oil and Gas Engine**

(CONSTANT THRUST).

Adopted by the U. S. and Foreign Governments.



Most Economical and Safest Power known.

Funs with common Distillate or Fuel Oil. Why pay an enormous price for gasoline when you can operate a M. & W. engine on fuel costing 5c. per gallon?

It will pay you to consult me before placing your order elsewhere.

For Pumping, Electric Lighting, Charging Storage Batteries, and all other Power Purposes.

DIRECT COUPLED OR BELTED DYNAMO;

Sizes from 1 to 60 H. P.

Highest Award for Direct Coupled Kerosene Engine and Dynamo, Paris Exposition, 1900; Gold Medal, Pan-American Exposition, 1901; Gold Medal, Charleston, S. C., Exposition, 1902.

A. MIETZ, 128-138 Mott St., New York, U.S.A. Send for Catalogue, Department 37.

Portable Outfits—Dynamos—Marine Engines.

**What About Your Drinking Water?**

Are you satisfied with it? Do you have enough?

**I SINK ARTESIAN WELLS**

WITH THE MOST MODERN IMPROVED MACHINERY.

Sparkling Artesian Well Water Possible. You can have it Absolutely Pure and Your Own. Surface and Reservoir Water is more or less polluted.

I Guarantee First Class Work and Rapid Execution of Contract.

JNO. W. RANDALL, White Plains, N. Y. Correspondence solicited.

**WELL DRILLING MACHINES**

The most successful money-making machines ever made. Also machines for boring wells with augers by horse power. Write us if you mean business.

Loomis Machine Co., Tiffin, Ohio.

**Make Your Own Fertilizer**

at Small Cost with

**Wilson's Phosphate Mills**



From 1 to 40 H. P. Also Bone Cutters, hand and power, for the poultrymen; Farm Feed Mills, Graham Flour Hand Mills, Brit and Shell Mills. Send for catalogue. WILSON BROS., Sole Mfrs., Easton, Pa.

**LATEST (Newton's Patent) Every Dehorner Guaranteed THOUSANDS IN USE.**

Ask your hardware dealer for them or write H. H. BROWN MFG. CO., - - DECATUR, ILL.

**FENCE! STRONGEST MADE.** Built strong. Chickens tight. Sold to the Farmer at Wholesale Prices. Fully Warranted. Catalog Free. COILED SPRING FENCE CO., Box 52 Winchester, Indiana, U. S. A.

**ECONOMY.**

There seems to be little possibility, at any rate not any immediate possibility, that a substitute for horse power in the operation of farm machines, will be adopted by modern farmers in their field work. The horse still pulls the binder, the mower, the reaper; in fact, is indispensable in grain fields the world over. Because of his general usefulness and great capacity for work, the horse is given much consideration and usually the best care by the considerate farmer. The far-seeing, practical farmer of today believes it will inure to his own benefit to take the best care of his field power. Real economy is to get the most actual work out of a horse for the longest possible period of time. The McCormick Harvesters are known to be remarkably easy on the horses, and thousands of farmers have purchased O. K. machines because they knew it meant the saving of their horses.

**PAIN AND PERPLEXITIES.**

An article in The New York Medical Journal says: "Antikamnia Tablets have been used with very favorable results in headache, neuralgia, influenza and various nerve disorders. No family should be without this wonderful pain reliever. Dr. Caleb Lyon, of Rossville, N. Y., aptly expresses himself, briefly, as follows: 'In my practice Antikamnia Tablets accompany the maid from her virgin couch to her lying-in chamber, assuaging the perplexities of maidenhood and easing the trials of maternity with most gratifying results.' Two tablets for an adult is the proper dose. They can be obtained in any quantity from your family drug store."

*Editor Southern Planter:*

The Olives Pride, the new strawberry I introduced last season, has proved a wonder. A seedling of Crescent, but earlier than Crescent. It sold at Marion Station in the berry season, 1903, for \$5 for 32 quart crate, when the choice Hoffmans sold at \$2.50 for 32 quart crate. The Hoffman is one of the best sellers and shippers we have at this point. Olives Pride blossoms perfectly, berries large, and holds its size well to the end. The plants are vigorous growers, producing a plenty of healthy plants. It is a beautiful, deep red flesh all through, and holds its color. It ripens its whole crop in a very short time. It has a large, double cap unexcelled in appearance when crated, flavor excellent. Its large stalks hold its large crop of fruit from the ground, therefore does not need any mulch. It was planted largely last season here for market purposes. Growers who want the earliest berry grown and a good crop-pper should try this one.

J. W. HALL.

Marion Station, Md.

**UNION LOCK POULTRY FENCING**

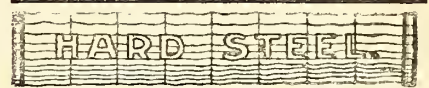


HAS BEEN FULLY TESTED AND FOUND SUPERIOR TO ALL OTHERS.

Will fit uneven ground without cutting. Every part can be stretched perfectly. Made of

high grade galvanized steel wire. All horizontal lines are cables, making it stronger. Has fine mesh at the bottom for small chicks. We also make extra heavy for gardens, lawns, etc. The largest poultry farms are using this fence—over 700 rods by Lakewood (N. J.) Farm Co. We pay freight and satisfy every one or no sale. Can ship from N. Y., Chicago, or San Francisco. Write for free catalog of Farm, Lawn and Poultry Fencing.

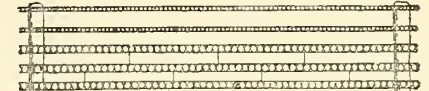
CASE BROS., Box 340, Colchester, Conn.



**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 FENCE CO., Cuyahoga Falls, O.

**EACH STRAND**



of Truss and Cable wire board fencing is composed of six thoroughly galvanized wires of superior quality, strength being equal to the combined tensile strength of all the wires. We make one strand 2 in. wide and one 4 in. wide. Write for free sample. The Truss & Cable Fence Co., 614 Cuyahoga Bldg., Cleveland, O.

**Barbed Wire—\$2.35 Per 100 lbs.** Brand new, on original reels. Also galvanized smooth wire shorts, gauges 8 to 16, \$1.49 per 100 pounds. Annealed wire in continuous lengths, 8 to 16, \$1.90 per 100 pounds. Wire staples, \$2.00 per 100 pounds. Tubular fence posts at 80c each. Write for free catalogue on building material, household goods, etc. CHICAGO HOUSE WRECKING CO., West 55th and Iron Streets, - - Chicago, Ill.

**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.



**YOU CAN CLIMB OVER**

sit upon, or fall a tree across a Page Fence and not deform or damage it. It's made differently. PAGE WOVEN WIRE FENCE CO., Adrian, Michigan.

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

**FENCE** We'll tell you the cheapest and best way to build it. Of any kind of wire, for any requirement, with cheap labor, no machine and we'll tell you how to fix your old fences too. Write B. B. FENCE CO., 142 W. 3rd St., Peru, Ind



It takes a good dealer to sell right lamp-chimneys when wrong ones pay so much better.

**MACBETH.**

The Index tells you, in ten minutes, all you need to know for comfort with lamps and the saving of chimney-money; sent free; do you want it?

MACBETH, Pittsburgh.

**Italian Bees.**

The kind that do the hustling. Guaranteed to work on Red Clover. Spring Colonies furnished at \$5.00 each f. o. b. cars here, in your choice of Foot or Dazembaker hives. The best comb honey live on earth. Also Root's hives and supplies at Root's prices. Catalogue for the asking. Write me anything you wish to know about bees and their management.

J. E. Thomasson,  
Bumpass, 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.  
CHANDLEE & CHANDLEE, Patent Attorneys  
976 F Street, Washington, D. C.

**LICE**

Gibson Liquid Lice Killer kills all lice and mites, on Fowls, Cattle, Hogs and Horses. Easily applied and guaranteed to kill the lice or money refunded. Gallon can \$1.00. Liberal terms to dealers and agents. Write to-day for prices and circulars.

GIBSON & LAMB, West Alexander, Pa.

**ROOFING TIN**

Iron and paper roofing, nails, builder's hardware, sash, doors, etc., carriage and wagon goods, paints and oils, cook and heating stoves, guns, pistols, rifles, "Robin Hood" loaded shells. Do you use any of the above? Write us.

HARRIS HARDWARE CO., 409 E. Broad, Richm'd, Va.

**ZENOLEUM AGENTS WANTED.**

We wish to secure good, live stockmen to interest themselves in the sale of Zenoleum. To those who can show plenty of good business for famous Zenoleum Dip and Disinfectant, we will offer a proposition that is sure to be interesting and profitable. Address for particulars at once, ZENNER DISINFECTANT CO., 93 Bates St., Detroit, Mich.

**IS A FARMER'S TIME VALUABLE?**


Some folk seem to have a peculiar, and, for the greater part, wrong impression of the modern farmer, his life, habits and work. It is the belief of many that his time is neither occupied nor valuable; that it would make little difference to him whether his harvest were delayed a day, a week, or a month. From the farmer's view point, however, the question of time, especially in the busy harvest, is a vital one. One often hears expressions of dissatisfaction with certain lines of farm machines because of the delay caused in keeping them in proper repair during the busy season. Milwaukee Harvesting machines are honestly constructed and bear the reputation of doing their work well with little repair expense and causing a minimum amount of delay during the busy harvest season.

**EMILY'S CHARGE.**

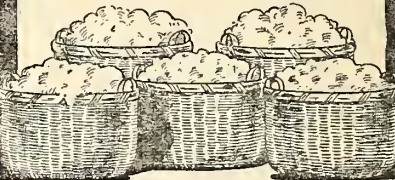
(A serial tale by Mary Washington.)

**CHAPTER X.**

It is now time we were having a glimpse of Lucy Gordon, to do which we must carry our readers back to the time immediately following her father's death, when she went to Georgetown to spend a year with her aunt. Lucy, as we have said before, had been educated at the convent in Georgetown, and she had contracted a strong bent towards the Roman Catholic Church. Other influences being brought to bear, however, after she left school, this feeling lay dormant for several years. It revived, however, in full force when she went back to Georgetown and found herself surrounded by Roman Catholic influences, both at home and abroad, her aunt being a devout member of that Church, and before the lapse of many months, she had become a zealous convert and had made up her mind to formally unite herself with the church. About the same time, a revolution of a different kind also took place in Lucy's affairs, or rather in her aunt's. This lady had been only in moderate circumstances when Lucy went to her, but after many weary years of litigation, she, at length gained a lawsuit, involving the sum of \$20,000, which put quite a new aspect on her affairs. Being childless, she now wished to formally adopt Lucy, in whom she felt an additional interest since the latter had become a convert to her Church. She made many a fine plan for Lucy's advantage and enjoyment, but always checked herself with a sigh, explaining, "But that unfortunate engagement of yours! That is a blockade to everything! How I wish you were well out of it! We could have such a delightful trip abroad. We could go to Rome and see the Pope and all the grand sights there, and go to Paris and all over the Continent."



**Five Baskets or Three**  
A planter who can make five baskets of cotton where he formerly made but three, by simply Top Dressing his land with one hundred pounds, per acre, of  
**Nitrate of Soda**  
(The Standard Ammoniate)  
is simply neglecting to reap full benefit from his soil if he does not use the Nitrate, for this result is within the reach of every Cotton Planter.  
Equally profitable results may be obtained from corn, grass, tobacco or potatoes, from fruits or garden products, in fact from anything that grows. "Food for Plants," and other valuable bulletins giving actual field trials with Nitrate of Soda at Agricultural Experiment Stations, are sent free to farmers. Send name and address on Post Card.  
William S. Myers, Director, 12-16 John St., N. Y.



**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 3/4c. per lb.; barrels, 425 lbs., at 3/4c. Large quantities, special rates. Send for circular.  
JAMES GOOD, PHILADELPHIA, PA.  
939-41 N. Front St.,

**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.

**Position Wanted.**

Gentleman, 52, widower, no family. Thorough, practical farmer and stock man. Open for engagement as manager large grain and stock farm. Address BASIL CHAMPER, Southern Planter.

**WANTED.**

Practical dairyman, married preferred, wife to have charge of dairy. About 40 cows in herd. Write, stating wages wanted, giving reference and experience. Address J. M. MacGREGOR, Miller School P. O., Va.

**YOU CAN MAKE \$3 TO \$10 A DAY**  
Fitting glasses for us. Big profits. Our 24-page FREE EYE BOOK tells how. Write for it today.  
JACKSONIAN OPTICAL COLLEGE, Dept. 2093, Jackson, Mich.

**WARNER'S**  
CORRESPONDENCE SCHOOL, at Bradford, Pa., teaches Shorthand, Bookkeeping and Penmanship by mail. Write now.





**STOCK LICK IT  
TOCK LIKE IT**

**BLACKMAN'S  
MEDICATED  
SALT BRICK**

The only guaranteed Tonic, Blood Purifier, Kidney and Liver Regulator and aid of Digestion for all stock. A sure hit on worms. Ticks cannot live. No dosing, no drenching, and no waste of feed. Your horse his own doctor. Endorsed by thousands.

Full descriptive circulars, testimonials, etc. address

**Blackman Stock Remedy Co.**

920 Highland Park, Chattanooga, Tenn.



**Lump  
Jaw**

Save the animal—save your herd—cure every case of Lump Jaw. The disease is fatal in time, and it spreads. Only one way to cure it—use

**Fleming's Lump Jaw Cure**

No trouble—rub it on. No risk—your money back if it ever fails. Used for seven years by nearly all the big stockmen. Free book tells you more.



**Spavin  
and Ring-bone**

Once hard to cure—easy now. A 45-minute treatment does it. No other method so easy—no other method sure.

**Fleming's Spavin and Ringbone Paste** cures even the worst cases—none too old or bad. Money back if it ever fails. Free illustrated book about Lump Jaw, Spavin, Ringbone, Splint, Bog Spavin and other stock ailments. Write for it.

**FLEMING BROS., Chemists,**  
230 Union Stock Yards, Chicago, Ill.

USE  
**FOUTZ'S  
HORSE  
AND  
CATTLE  
POWDER**

**DAVID E. FOUTZ**  
BALTIMORE, MD

A medicine which makes sick animals well, the diseased whole, the weak strong and the thin fat. It will restore lost Appetite, expel Worms and cure Chronic Cough, Heaves, Influenza, Distemper, Hide-bound, Indigestion, Constipation, Flatulency and all Stomach and Bowel trouble.

The finest of all animal vitalizers and tonics and the only one which increases the coefficient of digestibility of protein.

Get the Genuine or send to us. Pamphlet No. 1 Free.

Sold by All Dealers.

**DEATH TO HEAVES**  
Guaranteed

**NEWTON'S** Heave, Cough, Distemper and Indigestion cure. A Veterinary specific for wind, throat and stomach troubles. Strongly recommended. \$1.00 per can. Dealers, Mail or Ex. paid. **The Newton Remedy Co., Toledo, Ohio.**

This lady's opposition to the match had only sprung up only since her accession of fortune, nor was her gravest objection to it that it interfered with their trip to Europe. She had objected to it for some time past on grounds both religious and secular. In the first place, Ellis was a poor young physician and not at all an ardent lover. Then it was against the principles and canons of the Roman Catholic Church for first cousins to marry. Of this point especially she made capital when Lucy was in all the fiery zeal of a new convert. "If you enter our Church, my dear," said her aunt, "as you propose doing soon, I do not see how you can do so without giving up Ellis Gordon. Not only is he your first cousin, and as such forbidden by our Church to be your husband. Besides that, he is a staunch Protestant, and might oppose you and make you very unhappy on account of your religion. Then, if children come of the marriage, what a wretched thing it would be for the parents to be at variance about their religious instruction."

The priest added his influence to her aunt's, and between them they carried their point. Lucy was of a flexible nature, and had loved Ellis more from habit and old associations than anything else. Under new and opposing influences, she suffered this affection to be gradually weakened and eradicated. She felt some suffering while this was being done, but in the zeal of her new conversion, and the bustle and excitement of preparing for their foreign trip, her thoughts were much diverted from Ellis, and before she had crossed the ocean, the wound was well healed over.

It was well for Lucy she did not have the humiliation of knowing with what heartfelt joy and relief Ellis received her letter dissolving their engagement. He felt like a prisoner brought forth from a dark, narrow cell into the glorious sunshine and fresh, bracing air.

Did you ever reflect, reader, on the wonder and significance attached to a letter? A simple sheet of paper on which the pen has traced a few lines. A small, simple thing it seems to be when it is handed to us, and yet this trivial sheet of paper may change the whole current of our existence; may carry with it an absolute stroke of doom, may give sentence either of life or death, and after reading those lines, which it required only a few moments to trace or read, our life may never again, through time or eternity, be the same that it was before. So it was with this letter of Lucy's. No transformation, of which fairy books tell us, could have been more sudden and complete than the one which Ellis underwent, after reading this letter. His whole face and bearing and manner changed. In short, he seemed to wake again into life after a long trance.

**Horse Owners! Use**



**GOMBAULT'S  
Caustic  
Balsam**

A Safe Speedy and Positive Cure  
The Safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
**THE LAWRENCE-WILLIAMS CO., Cleveland O.**

**Don't  
Waste  
Your  
Strength.  
Use**

**BAKER'S TRACELESS  
HARNESSES.**

No whiffletrees—no traces. Fine for farm work. Has no equal for use in orchard, vineyard, garden, lumbering, etc. Easier on team. Write us now. Catalog free. Agents wanted.  
**B. F. BAKER CO., 236 Main St., Burnt Hills, N. Y.**

**\$25,000,000 WASTED ANNUALLY BY FARMERS FOR WANT OF KNOWLEDGE**

To put to use the odds and ends of their products. Millions of dollars are made annually by large manufacturing concerns in our cities from that source alone. You cannot do yourself justice without our assistance. For 25c. we will mail you six receipts, and if they don't earn you \$25.00 the first year, we will refund your money.  
**M. HURLEY, 47 Sidney St., Bangor, Me.**

**WANTED!**

ALL KINDS OF  
**LIVE WILD BIRDS AND ANIMALS**

Particularly Deer, Wild Turkeys, White Squirrels, Ducks, Swans, Bob White Quail, Grey Squirrels, Bear, Etc.

**CECIL FRENCH,**  
718 Twelfth St. N. W., Washington, D. C.

**SECRET**

**BENEVOLENT SOCIETY FOR FARMERS AND THEIR WIVES.** Pays \$10 weekly sick, \$20 weekly accident and \$2,000 death benefit, and \$50 old age pension. Organizers wanted; good pay. **KNIGHTS OF AGRICULTURE,** Washington, D. C.

**VIRGINIA DIVISION.**

**FARMER'S MUTUAL BENEFIT ASSOCIATION.**

Chartered by State of Virginia.

A fire Insurance Association for farmers of Eastern Virginia.

Organized January 9, 1899; amount insured January 9, 1904, \$370,000; policies secured by real and personal property, estimated value, \$1,000,000. For further information address **CHAS. N. FRIEND, General Agent, Chester, Va.**

**No More Blind Horses** For Specific Ophthalmia, Moon Blindness and other sore eyes, **Barry Co., Iowa City, Ia.,** have a sure cure.



# Seeds

Johnson & Stokes

## Garden and Farm Manual—Free

tells about the best seeds money can buy and shows photographs of what they produce.

Our Floracraft Seed Gardens and Trial Grounds insure to our customers vegetable and flower seeds of known vitality and purity. Our list of farm seeds is the most complete of any house in the U. S.

Austin's Colossal Yellow Dent Corn and Golden Fleece Oats are two most profitable field crops.

Enrich the soil by sowing Velvet Beans, Cow Peas, Winter Vetch or True Dwarf Essex Rape. Also good for fodder and hay.

JOHNSON & STOKES Dept. A.

"Seedsmen to the Money-Makers"

217-219 Market St., Philadelphia, Pa.

## New Strawberries.

MARK HANNA, The most wonderful berry in cultivation: 1,000 bushels per acre.

THOMPSON: o. 2, largest firm fancy berry, and

THOMPSON'S No. 3, a seedling of Lady, handsomer and firmer than parent. No one will grow Lady who can get No. 3.

150 Varieties, including Thompson's Earliest

Ripe here April 19th the last season. If you want the earliest plant them, Thompson's No. 3, a seedling of Lady. But superior in every way, beautiful color, immensely productive, firmer, best shipper ever put on the market. Thompson's new berries are acknowledged to lead all others.

Cabbage Plants, Tomato, 5,000 Hardy Monthly Rose, California Privet Dahlias, Chrysanthemums. Send for my spring catalogue. MARK T. THOMPSON, Rio Vista, Va.

## Premo Dewberry

The earliest and most productive Blackberry variety. Very large, jet black, firm and solid. Crop ripens rapidly. This is the berry to plant for profit. Write at once for prices and particulars. Myer & Son, Bridgeville Nurseries, Bridgeville, Del.

## SEED CORN FOR SALE.

I have a nice lot of Hickory King Seed Corn for sale. Large deep grains. The corn for thin lands and droughty weather. 90c. per bushel here, sacks extra. C. S. TOWNLEY, Red Hill, Va.

Hastily making preparations for his journey, he set out for Emily's home, for until he knew that he could win her, he could not enter on positive happiness, his present condition being only one of negative happiness. It was now a year since he had seen Emily, and the spring had returned with its sweet dream of hope and promise.

After Alice's marriage, Emily realized with a feeling of sadness that her sister and brother were independent of her care, the former entirely so, and Walter in a great measure, for though Emily could still add greatly to his comfort and happiness, the day was past in which he was dependent on her for maintenance and training. He had attained manhood, and was well established in right principles, and in habits of steadiness and industry. One evening, soon after Alice's marriage, as Emily was walking amongst the flower beds, she heard a footstep behind her, which she supposed to be Walter's. Turning around, however, she found herself confronted with Ellis Gordon. Our readers may suppose she was greatly startled, but she was not. The image of his face had been so constantly in her mind that it startled her but little to see it in reality. It seemed only like the harmonious continuation or fulfillment of her thoughts. Therefore she greeted him calmly enough, though beneath the surface ran a thrill of "such joy as mixes man with heaven."

It seemed a fitting time and place to tell of love when all the atmosphere was tremulous with new life and hope and joy, and on this sweet spring evening Ellis poured out his confession to Emily and read in her clear eyes what her lips faltered in avowing—that she loved him.

When Walter learned the state of the case, he experienced mingled fullness. He was fond of Dr. Gordon, and not unwilling to extend to him the right hand of fellowship, but he was still sore from Alice's departure, and when he thought of the prospect of Emily's leaving him in the lurch also, he looked at her with something of an "et tu Brute" expression of countenance, but finally breaking into a good humored smile, he declared that the only refuge was for him to follow suit, which, he gallantly added, he would be very willing to do whenever he could find any young woman to equal Lis sisters. Emily consoled him somewhat by telling him that Dr. Gordon expected to resume his former position at the Springs, so she would still be near him, a fact which was very soothing to Walter, and which served to fill up the measure of Emily's contentment.

I do not think we need any prophet to unfold to us the future of the young couple. From what I have already unfolded about them, and especially about Emily, our readers may form a

## 10,000 Plants for 16c

More gardens and farms are planted to Salzer's Seeds than any other in America. There is reason for this. We own and operate over 5000 acres for the production of our warranted seeds. In order to induce you to try them, we make you the following unprecedented offer:

### For 16 Cents Postpaid

1000 Early, Medium and Late Cabbages,  
2000 Bellous, Carrots,  
2000 Blanching Celery,  
2000 Rich Nutty Lettuce,  
1000 Splendid Onions,  
1000 Rare Luscious Radishes,  
1000 Gloriously Brilliant Flowers.

Above seven packages contain sufficient seed to grow 10,000 plants, furnishing bushels of brilliant flowers and lots and lots of choice vegetables, together with our great catalog, telling all about Flowers, Roses, Small Fruits, etc., all for 16c in stamps and this notice. Mammoth 140-page catalog alone, 4c. JOHN A. SALZER SEED CO., La Crosse, Wis.

## Peach and Apple Trees,

BONAVISTA NURSERIES, Greenwood, Va.

We offer a fine lot of choice trees for Fall and Spring planting

Our apple trees are the best—Wine Sap, Mammoth Black Twig, York Imperial and Albemarle Pippin, all perfect and well grown trees.

Our peach trees are the standard sorts, Stump, Elberta, Bilyen's (Comet,) Wonderful, Champion, Globe, Picquet's Late, Albright's Winter, Crawford E. & L., etc.

We send out none but good trees and have never had a complaint made by any purchaser of our stock. Order soon, especially Peaches, as good trees will be very scarce this season.

CHAS. F. HACKETT, Manager.

## RELIABLE SEED

Select Sweet and Irish Potatoes, Artichokes, Field Corns, Cow Peas, Clover and Grass Seeds, Sorghum, Millets, Fodder Plants, Rape and all varieties of Garden and Flower Seed of the highest quality and germination. Write us for prices; samples mailed on request

CATALOG MAILED FREE.


DIGGS & BEADLES,  
1709 East Franklin Street,  
RICHMOND, VA.

## Albemarle Prolific SEED CORN

For 4 years past, the entire crop at Arrowhead farm has been sold for seed, and those who put off ordering until the last, could not be supplied. We have a fine crop for sale. Price, \$1.75 in small lots, half bushel, \$1.00; peck, 65c. No smaller order shipped. If the land is good and properly prepared before planting, and properly worked after planting, over 100 bushels per acre should be the yield. More forage will be grown than from any other variety.

ARROWHEAD STOCK FARM Charlottesville Virginia.





The flavor of TOBACCO may be improved by the use of stable and rank organic manures.

# Potash

in the form of sulphate produces an improved flavor and a good yield.

*Tobacco must have Potash.*

Our little book, "Tobacco Culture," contains much valuable information, and every tobacco grower can obtain a copy free of charge by writing for it.

GERMAN KALI WORKS  
New York—93 Nassau Street, or  
Atlanta, Ga.—22½ So. Broad St.

**FOR SALE**

**Selected Pride of York Seed Corn.**

It grows well, matures early, weighs well, makes lots of good fodder.

J. TABB JANNEY, Van Clevesville, W. Va.

# SAFONI SEED CORN

A beautiful white variety and a wonderful yielder: 2 to 4 large ears to a stalk; don't fail to try it.

HIGH-GRADE RED POLL and Aberdeen-Angus Cattle, both sexes.—Address,  
LOUIS B. GILLILAND, Jr., Clarksville, Va.

# Pumpkin Seed.

VIRGINIA MAMMOTH, largest and most productive variety for table and stock. Cost nothing to grow in corn field, but price of seed, and greatly benefits corn by shading the roots. Splendid keeper. Fresh selected seed. 35c. pound delivered; 5 pounds or over, at 30c. E. C. BELLWOOD, R. F. D., No. 1, Manchester, Va.

# ALFALFA

If you expect to sow Alfalfa, why not start right, by inoculating your soil with the Bacteria of Alfalfa, the presence of which, we are told by the scientists is necessary for the proper vitality of this, the most valuable forage plant.

2 bushel bags, \$1.00 F. O. B. Ewell's, Tenn from a plot showing nodules in great abundance.


Address GEO. CAMPBELL BROWN, EWELL FARM. ... Spring Hill, Tenn.

# CHICKS THAT LIVE

get strong and healthy—gain steadily in weight, are chicks hatched in Reliable Incubators.

## The Reliable

provides automatically a constant current of odorless, warm air at a uniform temperature—chicks pip, hatch and thrive under its nature-like conditions. Send 10 cents and get our 20th annual catalog—full of poultry information. Reliable Incubator and Brooder Co., Box 4-11, Quincy, Ill.



general idea of their after life, which will only be the deepening and widening of the current of their past one. Doubtless cares and trials are ordained them, and yet we may safely predict that their life will be a happy and satisfying one, and that in loving companionship they will walk together through this world—

"Yoked in all exercise of noble use."  
Finis.

**A CHAMPION.**

All the world loves a champion. It is natural to admire the brave, the strong and the successful, whether it be in the field of war, of sports, of art, or of literature.

Our readers will at once agree that the Champion line of harvesters have been well named. They are champions in every sense of the word. They have never been conquered in any field and are continually gaining in popularity.

The Champion Binders, Mowers, Reapers, Rakes and other harvesting machines are as perfect as time and money can make them. There is a satisfaction in using champion machines that cannot be measured in dollars and cents. It is the satisfaction caused by perfect confidence in knowing that your machinery can be depended upon.

**EARLIEST GREEN ONIONS.**

The John A. Salzer Seed Co., La Crosse, Wis., always have something new, something valuable. This year they offer among their new money making vegetables, an Earliest Green Eating Onion. It is a winner, Mr. Farmer. Try it for 1904.

Just send this notice and 10 cents in stamps to them and get sufficient Carrots, Celery, Onions, Lettuce, Cabbages, Radishes and Flower Seed to grow bushels of flowers and lots and lots of vegetables, together with their great catalog, which is sent you free.

Those who have used Potato Diggers will not need to be told of the tribulations resulting therefrom. The "Ideal" Potato Digger, Plow and Pulverizer offered this season by D. Y. Hallock & Sons, not only digs potatoes perfectly and leaves the ground in good shape, but it may be used to plow and pulverize the ground in the spring. It is plow and potato digger in one.

A New York lawyer tells the following story of an old darkey preacher in North Carolina, who prefaced the passing of the collection plate with: "Salvation's free, brethren, salvation's free! It don't cost nothin'! But we have to pay the freight on it. We will now pass aroun' the hat, an' collect the freight charges."

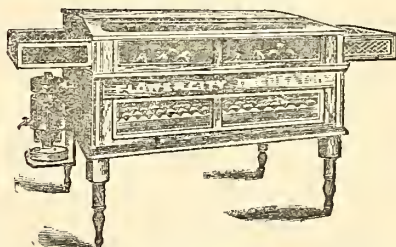
How to set tobacco plants so that they all grow and no blanks. Read Masters Planter Co.'s ad.

# "He that loves a rosy cheek," uses only Williams' Shaving Soap.

Sold everywhere. Free trial sample for 2-cent stamp to pay postage. Write for booklet "How to Shave."

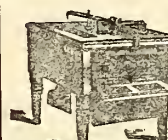
The J. B. Williams Co., Glastonbury, Ct.

**INCUBATORS - ON - 30 - DAYS - TRIAL.**



A certain and never failing Business Hatcher. Reasonable in price; best in quality, and always reliable. Thousands of these machines are in successful operation here at home and abroad.

Our handsome catalogue is free for the asking, send for a copy at once, before you select a machine and make a mistake. Address The Standard F. C. Incubator Co., Dept. 23, Rochester, N. Y. Mention this Journal.



**VICTOR BOOK**

tells why our machine is preferred by users and all about artificial incubation. There's pointers that may mean dollars to you. We pay freight. Guarantee goods as described or money back. The book is free. Write for it to-day. Postal will do. GEO. ERTEL CO., Quincy, Ill.

**SPECIAL OFFER** to the readers of this paper.  
We will sell a Hundred and Ten Egg "MICHIGANDER" Hot Water Incubator only \$10 and allow you to try it for 30 Days Free, Tried and known to be perfect. Get a Catalog Free.

CASH SUPPLY & HFG CO., Dept. 11, KALAMAZOO, MICH.

**HEN-LIKE HEAT**

uniformly diffused; quick-to-act water regulator; cold-excluding walls; convenient trays; hydro-safety lamp; copper tank; every condition a duplicate of nature's way, make the Sure Hatch Incubator a more certain hatcher than your favorite old hen. Photos in free catalogue D-35 tell the truth. Sure Hatch Incubator Co., Clay Center, Neb. or Indianapolis, Ind.

**ANGORA GOATS** are handsome, hardy and profitable. For large circular address E. W. COLE & CO., Big Clifty, Ky.

**EGGS! EGGS!!**

Barred Plymouth Rocks, White Wyandotte and S. C. B. Leghorn, M. Bronze Turkeys, crossed with wild. Book your orders now. Miss CLARA L. SMITH, Croxton, Caroline county, Va.

**WANTED**

25 to 50 GRADE DORSET EWES, medium price; also 1 each, good yearling DORSET and SOUTHDOWN Rams, registered. GRIMES, BROS., Lexington, N. C.



## HOMES AND THE PLACE TO FIND THEM.

No place in the United States can a man do so well at farming, for the money invested, as in Virginia. Lands are cheap; climate good, and the best of markets close at hand. It is the State of all others, for a comfortable all the year round home. The James River Valley Colonization and Improvement Company offer superior advantages to land purchasers. For free 36 page land pamphlet, address

W. A. PARSONS, Vinita, Va.  
C & O Main St. Depot, Richmond, Va.

## ..To Homeseekers.. "THE BUSINESS OF FARMING IN VIRGINIA."

Is the title of a new pamphlet issued by the Norfolk and Western Railway Company. We will gladly mail you a copy.

W. B. BEVILL, PAUL SCHERER, Agt.,  
G. P. A., Lands and Immigration,  
Roanoke, Va.

### ...FOR SALE...

FARMS AND SUBURBAN HOMES OF EVERY DESCRIPTION.

25, 50, 100, 500, 1,000 and 2,000 acre tracts. Some of these highly improved and convenient to schools, churches, steam and trolley lines. If you want to buy or sell a Virginia farm, see Hockaday & Casselman, Richmond, Va.

J. R. HOCKADAY, Richmond, Va.; LAWRENCE CASSELMAN, Ex-Auditor McLaine Co., N. Dakota.

## I Can Sell Your Farm....

If located in one of these Virginia counties: Prince George, Chesterfield, King William, Gloucester, New Kent, King and Queen, Hanover. Send description, stating price.

JOHN JELINEK, 1116 Pine Alley,  
Braddock, Pa.

## "In the Green Fields of Virginia."

Homes for ALL; Health for ALL; Happiness and Independence for ALL. ALL sizes of FARMS at corresponding prices, but ALL reasonable.

MACON & CO., Orange, Va.

**FINE FARMS** In the great fruit grain and stock section of VIRGINIA. Best climate and water in the U. S. Near great markets, with best educational advantages. For further information, address

ALBEMARLE IMMIGRATION CO.,  
SAM'L B. WOODS, Pres. Charlottesville, Va.

## VIRGINIA FARMS

All prices and sizes. Free list on application

WM. B. PIZZINI CO., RICHMOND, VA.

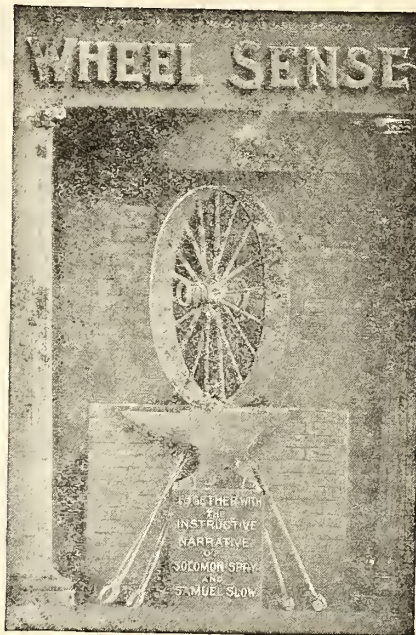
## VIRGINIA FARMS

\$3 PER ACRE AND UPWARDS.  
EASY PAYMENTS. CATALOGUE FREE

GEO. E. CRAWFORD & CO., Richmond, Va.  
Established 1875.

### "WHEEL SENSE."

We reproduce herewith the cover page of a most attractive hooklet just issued by the Electric Wheel Company, Box 146, Quincy, Ill., setting forth some good, practical sense on the subject of wagon wheels. It presents in a



forcible manner the advantages of the Electric Wheels, shows their strong, substantial construction, and presents the case in such a way that one can hardly fail to be convinced of their value. The proposition is really simple. A low wagon is certainly more easily loaded than a high wagon. A wide tire will not cut into fields and roads, rutting them up as does the narrow tire. A metal wheel made after the manner of the Electric certainly will outwear two or three wooden wheels and save you repair bills as long as they last. The average man who buys an Electric Wagon never fully appreciates its real value until after he has used it for a time; in other words, it always proves to be handier and more convenient than he had counted on. We hope our readers will send for the hook and read the story for themselves.

### MRS. LEA'S MILK AND BUTTER PURIFIER.

The Virginia Cattle Food Co., Danville, Va., resumes its advertising with us in this issue. The preparation which they make is guaranteed to remove all odor of garlic or weed from milk and butter. As this is the principal season of the year when these noxious weeds thrive in the pastures, our readers should lose no time in investigating the merits of this preparation.

Mention the SOUTHERN PLANTER in writing.

Agents for

## "Monarch Pats"

Best \$3.50 Shoes

In the World.

\$10.75 will do wonders in clothing buying at this store. \$12.50, of course bids for better. The former commands a suit of clothes that many stores will have trouble bettering at \$13.50. The latter brings you in contact with garments that really would not be high prices at \$16.50. And remember, all is newness. Old goods have no home here. Stores do exist that are merely asylums for styles of the past. At \$15 we're showing Men's Suits which are worth every penny of \$20 and \$22. Take a turn through this store—see if everything doesn't smack of superiority.

## Gans-Rady Company,

1005 E. Main Street,

Richmond, Va.

## Northern Virginia,

Grain, Fruit, Dairy and Blue Grass Farms of Every Class within one hour of Washington, D. C.

LOUDOUN COUNTY  
Farms a specialty....

Catalogue on application.

P. B. BUELL & SON,  
Real Estate Brokers,

Herndon, Fairfax Co., Va.

### ••• VIRGINIA FARMS •••

Nice little poultry farm, 100 acres, good house and orchard, \$500 00. Blue Grass, Stock and Fruit Farms. Address PORTER & GATES, Louisiana, Va.

## Go South.

For full particulars write  
A. JEFFERS,  
Norfolk, Va.

## Cultivation and Storage of Sweet Potatoes.

Instructions from start to finish thorough. By mail (preferably by M. O.), 50 cents. If you register, deduct fee. BRYAN TYSON, Box, 210, Carthage, N. C.



# GREAT BARGAINS IN VIRGINIA FARMS.

Below I give a few of the many choice offerings I have of Virginia Real Estate; fuller particulars, if desired.

## No. 5.

Contains 163 acres; one-half under cultivation; balance in second-growth timber. Good seven-room dwelling and necessary outbuildings; good orchard in fine fruit section. Farm lies near Southern railroad, twenty miles from Washington; well watered; a splendid dairy farm. Price, \$2,000.

## No. 16.

130 acres—20 acres hardwood, balance in good state of improvement, and a splendid quality of red clay subsoil; 50 acres in wheat and timothy; 20 acres in meadow, balance is new land, and will be for corn next spring. Situated in excellent neighborhood of refined people. Twenty-two miles from Washington, 5 miles from Herndon Station. Fronts on pike. Comfortable 4-room house and all buildings. Farm watered by large branches. Price, \$20.00 per acre. Terms, to suit purchaser.

## No. 17.

80 acres—15 acres in hardwood, balance in grass, except 20 acres for corn. Fronts on pike; 5 miles from railroad station. Watered by large branch. All in good state of cultivation. No buildings. Price \$18.00 per acre. Easy terms.

## No. 22.

225 acres in Loudoun county, 2 1-2 miles from railroad station, 40 acres in oak and hickory timber, soil mahogany clay, stiff clay subsoil, fine grain and grass land, all level and well drained. One to two miles from three churches and post-office. Running water in every field. Land in good state of production, free from stones. A good seven-room dwelling, dry cellar, shady lawn, a large barn, complete with stalls, grain room and driveway. Water in barn yard, double corn crib, meat and poultry house, all in good repair. Deep well at kitchen door. Situated in refined neighborhood. Price, \$20 per acre.

## No. 23.

50 acres in Fairfax county, 2 miles from town, 10 acres in timber, 3 acres in apples, peaches, pears and cherries. Situated 13 miles from Washington, high state of cultivation. Operated now as a plant and market garden. Improvements, a nice two-story seven-room dwelling, barn 40x50, work shop, hog, poultry and meat houses, all in

excellent repair. Situated on macadam road. Price, \$2,650.

## No. 25.

175 acres in Rockbridge county, 1 1-2 miles from Buena Vista, Va. 120 acres in blue grass, 10 acres in wheat, 15 acres for corn, balance in timber. Soil lime stone clay, high state of improvement. Land gently rolling and well fenced. New 10-room dwelling, two large porches, good 5-room tenant house and other small outbuildings, barn was burned, stone foundation 37x50 in good repair. Good spring in every field. Price \$5,300.

## No. 28.

516 acres in Rockbridge county, 1 1-2 miles from town, near railroad; 300 acres of cleared land, 70 acres in wheat, 26 acres in white oak and hickory timber, 230 acres in blue grass and timothy sod, 190 acres of mineral land, 1 mile from railroad, cleared land in high state of cultivation, excellent fences. Improvements—new 10-room brick dwelling with three cellars, hot and cold water in house, telephone connections with county and long distance phones, barn 44x60, stable 30x45, sheep barn 24x15, double corn crib and granary 25x30, machine, carriage, ice and poultry houses, two 5 room tenant houses. Price, \$16,000; one-third cash and balance on 10 year time if desired.

## No. 31.

2 acre lot, situated at intersection of three public highways, in a prosperous and thickly settled neighborhood. Improvements—a 2-story 6-room dwelling, a large store house, 5 rooms over the store, a feed stable 18x40, 20 feet high, blacksmith shop, wheelwright shop, and 4-room tenant house, all occupied and in excellent repair. Price, \$1,500. Fine business stand.

## No. 34.

50 acres—Truck and fruit farm in Virginia, near steam and electric railroad, 12 miles from Washington, 10 acres in timber. This farm is almost covered with fruit trees, namely, peaches, pears, plums, cherries, apples, crab apples and berries. Land is smooth and gently rolling, watered by several springs. Improvements—5-room frame dwelling, barn 30x35, corn crib, granary, wagon and wood shed, hog, poultry and meat houses, all in

good repair. In excellent neighborhood. Price, \$5,000.

## No. 30.

50 acres in Loudoun county, 3 1-2 miles from railroad. Land chocolate clay; 5 acres in timber, 3 acres in apple orchard 10 years old. Land in good condition. Improvements—a new 6-room dwelling not quite finished, a large stable, and other small farm buildings in fair condition. Price, \$1,600.

## No. 33.

400 acres in Loudoun county, convenient to railroad, level road, 40 acres in timber, balance cleared, divided into eight fields, running water in all, good fence. Land well set in timothy and clover. Soil mahogany clay and some yellow loam, fine grain and grass land. Situated in pleasant neighborhood, 24 miles from Washington. Improvements—7-room dwelling, 1 1-2 story, new sheep barn and new cow barn, large stable for 9 horses, machine sheds, granary, corn crib, poultry house, fine spring house with large spring at edge of lawn. This farm is smooth and level. There are about 300 sheep and lambs on this farm. If farm is sold by May 20th, 1904, the farm and sheep and one-half of the lambs can be bought for \$8,500 on easy terms.

## No. 35.

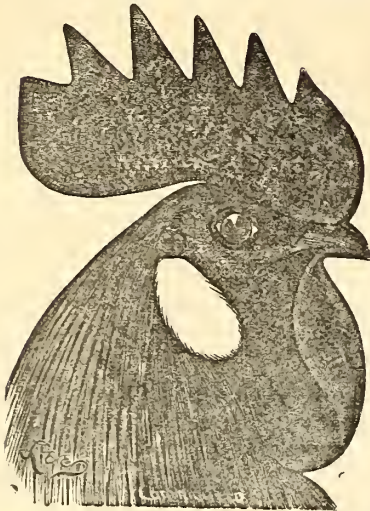
400 acres in Loudoun county, 26 miles from Washington, 60 acres in timber, balance cleared, smooth and just a little rolling, divided into seven fields, excellent fences, running water in all, 50 acres in wheat, 230 acres of orchard grass, blue grass, timothy and clover. Any of this land will grow from 40 to 50 bushels of corn to the acre without fertilizer. Improvements—handsome 8-room dwelling with closets, pantry and cellar, two long porches, new barn 30x100 feet, stalls for 12 horses and 50 big cattle, 4-room tenant house, granary and all other necessary small farm houses in excellent repair, large store house near dwelling, post-office in store, telephone in house. There are 30 three year old cattle on this farm. If farm is sold by the 20th of May, 1904, the farm and 30 cattle can be bought for \$9,000; one-third cash, balance to suit the purchaser.

I have a number of other good farms for sale, both large and small, Write me description of what you want, and I shall be more than pleased to serve you.

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## LEGHORN POULTRY FARM



Has for sale a limited number of S. C. BROWN and S. C. WHITE LEGHORN Pullets and Roosters. Best layers known. Prize Winning Stock. Price, \$1.00, \$1.50 each. Eggs in season at \$1.00 for 16; \$2.50 for 50; \$5.00 per 100. Satisfaction guaranteed.

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

## Farm-Raised Poultry.

Two distinct flocks of Mammoth Bronze Turkeys from which we make matings for breeding purposes at reasonable prices. Eggs in season.

BARRED PLYMOUTH ROCKS,  
WHITE PLYMOUTH ROCKS.  
BIRDS AND EGGS.

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## PIT GAMES

Black Devils and Red Cubans.

These cocks won 90 per cent. of battles fought in 1902 and 1903, and have never lost a battle when gameness and cutting qualities could win. Eggs \$2 per 15; stock for sale.

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## EGGS for HATCHING.

75c. Per Sitting of 15.

Light Brahmas, Black Minorcas, S. L. Wyandottes, Barred and W. Rocks, Brown Leghorns S. and R. C; White Leghorns S. C.

A few more Leghorn and Minorca Cockerels left. J. B. JOHNSON, Manassas, Va. CLOVER HILL FARM.

## EGGS FOR SALE.

MAMMOTH BRONZE TURKEYS and BARRED PLYMOUTH ROCKS, are my specialties. My flocks of both are derived from "prize winners" of the best strains in the world.

PKNS No. 1.—Turkey eggs per 15, \$4.00. Barred Plymouth Rock eggs per 15, \$2.00.

PKNS No. 2.—Turkey eggs per 15, \$3.50. Barred Plymouth Rock eggs per 15, \$1.50.

If you wish to secure eggs, file your orders at once.

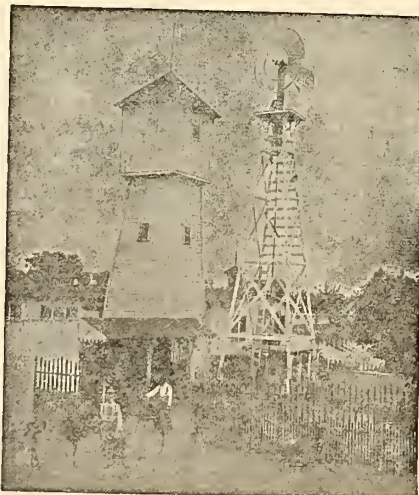
PIEDMONT POULTRY PLACE,  
Miss E. Cullie Giles, Prop. Whittle's Depot, Va.

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Uncle Sam, in the person of 10 of his government officials, has charge of every department of the Hayner Distillery. During the entire process of distillation, after the whiskey is stored in their warehouses, during the seven years it remains there, from the very grain they buy to the whiskey you get, Uncle Sam is constantly on the watch to see that everything is all right. They dare not take a gallon of their own whiskey from their own warehouse unless he says it's all right. And when he does say so, that whiskey goes direct 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 dealers' big profits. If you use whiskey, either medicinally or otherwise, you should read the offer of The Hayner Distilling Company elsewhere in this paper.

## DR. HAAS' EXPERIMENTAL FARM.

The accompanying illustration is a scene on the experimental farm located near Indianapolis, Ind., and owned and conducted by Dr. Jos. Haas. This farm is maintained for the express purpose of demonstrating what can be done with the different live stock preparations manufactured by Dr. Haas, all of which were perfected years ago and users of them to-day are feeding preparations that are abso-



lutely certain to bring about the results claimed for them. Nothing is claimed for his Hog Remedy, Live Stock Remedy (for horses, cattle and sheep), Stock Food and Poultry Food that practical tests have not proven they will do. See his advertisement elsewhere in this issue, and send to him for a copy of his book, "Hogology," which will be sent free to any of our readers asking for it, if Southern Planter is mentioned in writing.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

## Hollybrook Farm

# EGGS FOR SITTING

==OR==

# INCUBATORS.

**Barred Plymouth Rocks**  
Per Sitting \$1.00, per 100 eggs \$5.00.

**:-: WHITE WYANDOTTES :-:**  
Per Sitting \$1.50, per 100 eggs \$7.00.

Both are from first class vigorous stock from the best laying strains in the country.

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From WHITE WYANDOTTES, SINGLE COMB and BROWN LEGHORNS and PEKIN DUCKS. We breed only layers from layers, and get layers that commence early and keep at it. Vigorous stock, fertile eggs, and careful packing is our way. Eggs, 15 for \$1.50. DIXIE POULTRY COMPANY, R. R. No. 4, Richmond, Va.

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PRIZE WINNERS, THOROUGHbred. The matchless F. F. V. strain founded on Bradley Bros., Thompson and others Plymouth Rocks, are recognized as the best general purpose fowl. Improve your stock by new blood. Fancy stock for show room. Large, vigorous birds for farm. Eggs, \$1.50 to \$3 for 15. Circular free. VIRGINIA HILL POULTRY FARM, Bristol, Va.—Tenn.

14 years line bred

## Barred Plymouth Rocks

for laying qualities. Try a few sittings and be convinced. Price \$1.00 per sitting of 15, 2 sittings at \$1.50; no stock for sale; see what one of my many customers says:

"The birds received all O. K. I am well pleased with them. They are more than I expected. When I am in need of any more stock, you can depend on me."

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for Southern farmers. Ten years' experience with fowls has taught me that WYANDOTTES and ORPINGTONS excel in winter laying. Blue grass S. C. ORPINGTONS (from imported stock). Eggs, \$1.25 per 13. First class BUFF and WHITE WYANDOTTE. Eggs, \$1.00 per 13. M. B. TURKEYS IN FALL HUGUENOT POULTRY YARDS, Dublin, Va.

## EGGS!

## Barred Plymouth Rocks

### ONE DOLLAR FOR 15.

Prompt attention.

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University Station, Charlottesville, Va.  
CLAIRMONT DAIRY FARM.

Pure-bred young B. PLYMOUTH ROCK hens for sale at 75c each.

Miss S. M. HITER,  
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**EGGS-ACTLY-EGGS!!!**

Here is the place to get your eggs for hatching. Choice eggs from Standard bred Barred Plymouth Rocks, "Ringlet" strain. Some of "THE BEST WHAT IS." Barred Rocks are the FARMER'S FAVORITE, the POULTRYMAN'S CHOICE—in fact, they are the PRIDE OF THE POULTRY WORLD. If you want the BEST. Write me to-day. E. C. NEWTON, Propr. Pee Dee Poultry Farm, McColl, S. C., R. F. D. No. 2.

**Eggs at One-Half Price**

For 30 days to introduce my BARRED PLYMOUTH ROCKS. No fowls for sale. Eggs, 60c. for 13; \$1 for 26; \$1.50 for 40; \$3 for 100. Can furnish a few sittings of S. C. B. Leghorns at \$1 for 15, if orders hooked early. No more Berkshire Pigs for sale.

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Book your orders early for eggs from our solid Buff Orpingtons. Orders can only be filled in turn. Sold out on cockerels long ago, and no stock till fall. Eggs, \$1 per 15. Orpingtons only. Poland China pigs, \$7 for pair; \$3.75 for one.

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Of 40 Varieties Best Poultry. Fine, large illustrated descriptive Poultry Book postpaid, only 6c. Price list FREE. Write now. JOHN E. HEATWOLE, Prop. Valley Foultry Farms, Harrisonburg, Va.

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Fancy stock, progeny of New York winners for 10 generations. Hens averaged 220 eggs last year. Order now to avoid disappointment. Eggs \$2.00 for 15. Also

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The best months in the year to hatch chicks.

ORDER YOUR EGGS FROM OUR

**HEAVY LAYING STRAIN OF Barred Plymouth Rocks**

\$1.00 for 15.

D. N. McLEAN, Maxton, N. C.

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BLACK BREASTED RED GAMES, S. C. RHODE ISLAND REDS, S. C. WHITE LEGHORNS.

Eggs, \$1.25 per 15; \$2.00 per 30. If we do not have what you want, write us and we will tell you where to get it. RIVERSIDE POULTRY FARM, J. B. COFFMAN & SONS, Dayton, Va.

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**WHITE WYANDOTTES and BUFF P. ROCKS.**

Stock and Eggs for sale. Choice lot of Cockerels from \$1 up; eggs, \$1 for 15, or \$5 per 100. JOHN A. REEDY, Prop.

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This is the title of a very handsome book of 186 pages, issued as a catalogue by the Cyphers Incubator Co., of Buffalo, N. Y., who have been advertising with us this season.



The illustration shown here does small justice to the beauty of the cover. However, the attractiveness of the book is only secondary to its contents. Between the covers will be found a thorough discussion of the poultry question from a to z, and any one who reads it cannot fail to get a lot of valuable information. We suggest that all of our readers interested in poultry send for a copy of it, mentioning the SOUTHERN PLANTER.

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Poe loved Richmond as he loved no other place on earth. His happy childhood was spent there—the only period of his troubled life which was free from want. Here he found his foster-father, John Allan, who was proud of the orphan boy, and the only mother he ever knew, who was sweet and gentle with him to the end. Here were the friends and playmates of his boyhood, and here lived the gentle woman who was the "Helen" of the most beautiful of his early poems. Here, after a first ceremony in Baltimore, he was married by a second to a lovely and youthful Virginia Clemm, and here they spent the happiest year of their married life. Here, as editor of the "Southern Literary Messenger," he did much of his best work.—April Century.

**CUTAWAY HARROWS.**

The Cutaway Harrow Co. has extended its advertising contract with us for another term. We invite the attention of our readers to these useful labor-saving tools. This company will be very pleased to mail descriptive pamphlet to all enquirers.

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Incubator eggs \$3 00 for 100

Sunnyside Ringlets, \$2 50 each. Return the cockerels, if not satisfactory, and get money back.

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**WALSH'S****Barred Plymouth Rocks**

High class combination utility and exhibition stock. Best blood. Bred from prolific layers of large brown eggs. Eggs, \$1.50 per 15.

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**Eggs For Hatching.**

\$1.00 per 15 from strong and healthy birds of leading strains. A few choice pullets at \$1 each. Pure-bred Poland China Pigs at \$5.00 each.

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**MY PURE-BRED****S. C. Brown Leghorns,**

Are the best layers in the world—lay at all seasons. Place your orders early for eggs, 15 for \$1.

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Eggs for hatching from splendid layers, \$1 per setting. Pens mated for best results. A few White P. Rock Cockerels at \$1 each.

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**EGGS FOR HATCHING**

From finest strains in America. White Wyandottes, Barred Plymouth Rocks, \$1.00 per 15. PENN LAIRD POULTRY CO., - Penn Laird, Va.



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ALWAYS IN STOCK.

BIRDS, PET STOCK, GOLD FISH  
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Having made a change in management we are better than ever, prepared to make prompt shipment.

FANCIERS' SUPPLY CO.,  
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## NOW IS THE TIME,



to set eggs. My eggs are produced from some of the best stock in the country, and will give satisfaction. Prices reasonable. G. F. POINDEXTER, Breeder of WHITE WYANDOTTES and PEKIN DUCKS, BROOK MOUND FARM, Greenlee, Rockbridge Co., Va.

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This month your last chance to get cockerels. Special price for three. Chickens have run of large farm, so cockerels are sure breeders. Eggs for sale at \$1 dozen. H. B. ARBUCKLE, Maxwelton, W. Va.

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I offer 25 choice pure bred BARRED PLYMOUTH ROCK COCKERELS at \$2 each. Entire stock was purchased last Spring from Biltmore, of prize winners. DAVID DUNLOP, Westover, Va.

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Eggs, \$1.50 for 15, cash with order.

JOHN W. MORRIS, Waldrop, Va.

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200 egg strains of W. P. ROCKS, W. WYANDOTTES, W. S. C. LEGHORNS. Limited number sittings from best pens. Reasonable prices. All stock inbred for eggs. Address E. M. HICKMAN, Edlaburg, Va.

### BARRED PLYMOUTH ROCKS

and BLACK MINORCA eggs for sitting at 75c. for 15 eggs; \$1.25 for 30; and \$3.50 for 100. Apply to Mrs. N. T. GARTH, Ellisville, Va., Louisa county.

### MAGAZINES.

Easter is a subject of prominence in the April Century. Two of the four color drawings are of Easter subjects: "The Easter Hymn," the frontispiece, by Violet Oakley, and "The Easter Bonnet," by Anna Whelan Betts. Two other pictures are of "Easter in Greeley Square, New York City," a double-page drawing of a flower market by Jules Guerin, and an engraving by Cole in the Old Spanish Masters series of Morales's beautiful "Madonna of the Little Bird." The other two pictures in color are by Maxfield Parrish, illustrating the famous Villa d'Este and the Pool of the Villa d'Este, in conjunction with Edith Wharton's paper on "Villas Near Rome," with which there are other pictures in black-and-white by Mr. Parrish, one of which might be an illustration of an anonymous poem in the May number, "Spring at the Villa Conti." L. Frank Tooker, whose poems of the sea are well known, writes of "Spring in South Street," the harbor of sea craft in New York.

The most novel feature of the April Century is the opening part of Mr. Weir Mitchell's new record of "The Youth of Washington," told in the form of an autobiography. With it is given a portrait of Dr. Mitchell, recently made by John S. Sargent. Dr. Mitchell's unique experiment is the fruit of years of research, and challenges attention by its combination of the interest of fact with the interest of fiction. Readers interested in the war in the East will turn first of all to "The Great Siberian Railway," a paper written from recent personal investigation by James W. Davidson, lately appointed United States Consul at Antung. Mr. Davidson had unique facilities for his four months' study of the great thoroughfare. He writes chiefly of its operations in time of peace, but its important relationship to the war gives special timeliness to the article. A paper of current interest in scientific investigation, entitled "Protozoa and Disease," is contributed by Gary N. Calkins, of Columbia University, whose important work in tracing the life history of the small-pox germ is about to be announced. The article is illustrated by the author, "Landmarks of Poe in Richmond," by Charles Marshall Graves, is a paper of identifications in a field of perennial interest, and is illustrated by pictures by Harry Fenn and by a number of new portraits. "The Fights of the Fur Companies," by Agnes C. Laut, is a chapter of adventure in the Louisiana Purchase, illustrated by Remington, Fenn and others, and presenting a quaint and hitherto unpublished portrait of John Jacob Astor. Maurice Maeterlinck, whose article, "Our Friend, the Dog," in a recent number of The Century attracted very large attention, contributes an essay on "Sincerity and Love."

The frontispiece of the April St.

## EGGS from Fine Fowls.

Barred, Buff and White Plymouth Rocks; Silver, White, Buff and Partridge Wyandottes; Black Minorcas; Black Langshans; Light Brahmas; Buff and Partridge Cochins; White and Brown Leghorns.

◆◆◆◆ 15 FOR \$1.00 ◆◆◆◆

except the Wyandottes which are \$2.00 for 15  
No stock except a few B. P. Rocks and Light Brahmas. C. J. WARINER, Mgr., Ruffin, N. C. OAKLAND POULTRY FARM.

Racket Farms, Parksley, Va.

A. S. JOHNSON, Mgr.

Toulouse Geese, Pekin Ducks,

OF LARGEST STRAINS.

RHODE ISLAND REDS, WYANDOTTES, BROWN LEGHORNS. Can furnish Leghorn birds of best quality by the hundred. Geese eggs, 6 for \$1; all others, \$1 per sitting, or \$5 per 100.

Rhode Island Reds and water fowl a speciality. Beiglan Hares cheap. Satisfaction guaranteed.

## EGGS! FREE!! EGGS!

One setting (13) FREE from flock of best B. P. ROCKS in Virginia. Write quick for particulars. Home of the 400 in Poultry and Stockdom. Most fashionable strains of B. P. R. fowls, M. B. TURKEYS, Jersey Cattle, Duroc Jersey and Poland China Swine, English Setters and Beagle Hounds. THE CEDARS P. & S. FARM, WM. G. OWENS, Midothlan, Va.

## EGGS

From my S. C. Black Minorcas and S. C. White Leghorns of the very best strains.

These breeds are raised on separate farms, and have free range. Eggs, 75c. per 15; \$1.50 per 35; \$4.00 per 100. I guarantee two-thirds hatch, or replace at half price.

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### Silver Laced Wyandottes.

No finer general purpose fowl in America. Bred for beauty and utility. Eggs from choice and pure bred stock, \$1.25 per 15; \$2.00 per 30. Twenty-three years a breeder and shipper.

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## BARRED PLYMOUTH ROCKS.

The ideal farmer's fowl. Eggs, 50c per setting of 15 F. O. B. here. Mrs. WM. P. BURKS, R. F. D. 1. Bedford City, Va.

### FOR SALE

**B. P. ROCK** eggs \$2.00 per 15. No better blooded stock. My highest aim is to treat my customers right and retain their patronage.

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**BARRED PLYMOUTH ROCKS,** BUFF COCHINS, PEKIN DUCKS. Stock and eggs for sale very low. Incubators and organs cheap. Satisfaction guaranteed. Rev. J. W. HECKMAN, Cascade, Va.

**MINORCA EGGS** for hatching 75c per sitting of 15.

Mrs. A. G. HILL, Huon, Louisa County, Va.


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S. C. Brown Leghorn Eggs for Hatching, 75c per 15, \$4.50 per 100.

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**KEEPS EGGS FRESH**  
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A FILLER, PRESERVER, TESTER  
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**Barred Plymouth Rocks,**

Eggs for hatching from ROSE COTTAGE FARM  
1.00 for Sitting of 15 Eggs.

MRS. MOLLIE A. SHIELDS,  
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PUREBRED Barred Plymouth Rock Eggs,  
\$1.00 per sitting of fifteen; also M. Bronze Tur-  
keys eggs, \$2.50 per sitting. Splendid birds  
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**PEKIN DUCK EGGS.**—Thorough-  
bred, from young stock, very pro-  
lific. healthy; wide rangers.  
Per Sitting \$1. Chas. B. Cooke, Richmond, Va.

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to make room for the  
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I will also pay the R.  
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at once for a bargain.  
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A neat Binder for your back num-  
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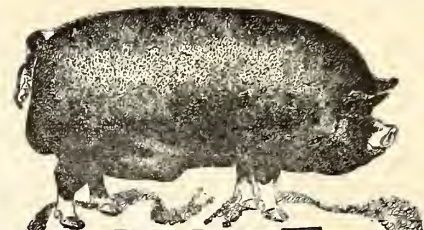
Nicholas is a half-tone reproduction from a Copley print of "Dorothy," as winsome a little lass as ever sat for her picture. The original portrait was by Lydia Field Emmett. Temple Bailey's stories always please young readers, and "The General's Easter Box" is seasonable and cheery, well worth the second reading it is sure to have. Anne McQueen's "A Work of Art" is a quaint story of a quaint little maiden of long ago, a tale good enough to be true. Every girl and boy, of whatever age, will be intensely interested in the two Robinson Crusoe articles, "The Author of 'Robinson Crusoe,'" by W. B. Northrop, and "Robinson Crusoe's Island Two Hundred Years Later," by Francis Arnold Collins. April 26th will be the one hundred and seventy-third anniversary of Daniel Defoe's death, a fact which gives especial interest to the likeness of the author reproduced from a copperplate portrait in the British Museum. Several photographs, made a few months ago by some Chilean warship officers, and now published for the first time in the United States, illustrate the articles, showing the familiar scenes of Crusoe's shipwreck, his cave and his lookout, the tablet erected in memory of Alexander Selkirk, etc. Another article of special and timely interest is the account of "A Japanese 'Middy,'" by Teiichi Yamagata, an officer in the Japanese navy.

Stories in the April St. Nicholas are many and varied in interest. The plot in B. L. Farjeon's serial, "A Comedy in Wax," thickens to such exciting interest that waiting for the next installment will be hard work. "Four Little Girls and Their Four Little Stories" is a delightful Western idyl from the pen of Joaquin Miller. "Wanted" is a jolly, helpful story for boys by Margaret Vandegrift; "What Befel Prince Snapsandsnails" is a nice, old-fashioned fairy story, and "A Visit to a Colorado Glacier" is an account of the only known glacier in the interior of this country. Tudor Jenks tells "About Old Ink-stands," and Margaret Jackson brings "The Little Duke of Dorset" near to the girls and boys of to-day.

The April number seems more than usually rich in taking pictures and in jolly verse, and the departments are, as usual, almost the best of the feast.

DAN PATCH, 1:56½.

The International Stock Food Co., owner of this celebrated horse, would like to send all of our readers a handsome poster of him. It is lithographed in nine colors and contains no advertising. All that is necessary to secure a copy of this poster is to refer to the ad of this company on another page and answer the two questions contained therein. You can use a postal.



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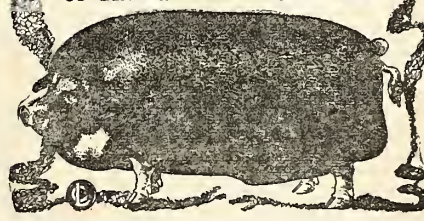
than feed is required to develop the perfect hog. Highest results presume perfect health from birth to slaughter. Get at once to the root of the matter. Insure perfect health to your herd by creating absolutely sanitary conditions. The way lies through the use of

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"The Great Coal Tar Carbolic Disinfectant Dip" Sample gallon of Zenoleum by express, prepaid, \$1.50; five gallons, freight prepaid, \$6.25. Two Zenoleum hand books, "Veterinary Adviser" and "Piggie's Troubles" are full of value for stockmen. Ask for them.

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**IMPORTED FRENCH  
COACH STALLION.**

Will be in the stud at Mr. A. Pollard's "Dunraven Farm," three miles below Richmond, on New Market Road.

Javanais is large, handsome, and of idea carriage conformation, and has proved himself a sire of carriage horses. Pedigree on application. Fee, \$20.

HORSES BOARDED winter or summer; horses fitted for market. Colts broken to harness or saddle. A. POLLARD, R. F. D. No. 5 Richmond, Va.

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American Farmers' Manual for 1904, Peter Henderson & Co., New York City.

Griffith & Turner Co., seedsmen, Baltimore, Md.

Mount Hope Nurseries, Ellwanger & Barry, proprietors, Rochester, N. Y. Southwick Nurseries, Ed. Gillett, Southwick, Mass. Hardy ferns and flowers.

Geo. A. Sweet Nursery Co., Danville, New York. Descriptive catalogue for 1904.

Elmwood Nurseries, J. B. Watkins & Bro., proprietors, Hallsboro, Va. New descriptive price list for spring and fall of 1904.

Circular and price list for 1904 of J. W. Hall, Marion Station, Md. Potato and strawberry specialist.

Alfalfa, a four page circular from Geo. Campbell Brown, Spring Hill, Tenn.

How and When to Spray, from the Goulds Mfg. Co., Seneca Falls, New York.

Catalogue and price list No. 16, National Hoist & Machine Co., Chicago, illustrating and descriptive of Parker Stump Pullers, Grubbing Machines, Hoists and attachments.

A Book of Field Scenes, The Keystone Farm Machine Co., York, Pa. This catalogue is described elsewhere.

The Modern Canner, from the company bearing that name, Bridgeport, Ala. See ad in another column.

Descriptive circular, directions, etc., for the use of Patent Process Fertilizer Lime from the Rockbridge Lime & Stone Co., Lexington, Va.

Bug Death, describing this well known insecticide, made by the Danforth Chemical Co., Leominster, Mass. See ad in another column.

A Short Story for Poultry Raisers, Union Fence Co., New Haven, Conn.

The O. I. C. Swine Breeders' Association, Cleveland, Ohio. Last year's report of the Association.

Photographic views and description of the great Baltimore fire, issued by the Armour Fertilizer Works, Baltimore, Md. Price 25c.

We strongly urge our readers to send for any or all of the above mentioned catalogues, in which they may be interested. Many of them are works of art and all of them contain valuable information in addition to giving descriptions of the wares of the firms by which they are issued.

Always mention the SOUTHERN PLANTER when writing.

WILD GAME WANTED.

Dr. Cecil French, of Washington, has an advertisement in another column which will interest numbers of our readers. He will buy anything from a white elephant to a white mouse. All of our readers should look up his ad and let him know what they have for sale. He will pay cash for what he wants.

## BERKSHIRES

ANNEFIELD HERD

Contains the

**Finest Blood Lines**

in England and America.

Young Stock for Sale.  
Inquiries cheerfully answered.

SPECIAL: A few extra 6-months old pigs, either sex.

EDW. G. BUTLER, Annefield Farms,  
Briggs, Clarke Co., Va.

## Berkshire Hogs!



Sires in service, **Rockland Majestic of New Era**; his sire **Rockland Gentry**, champion of America in 1903; grand sire, **Baron Lee IV**, **Model Lee IX**, sire **Gov. Lee**, champion of America in 1589, Sows of EQUALLY NOTED Strains. A few nice pigs for sale. Write for prices.

JNO. CALHOUN, Clío, S. C.

THOROUGH-BRED...

**Berkshire Boars,**  
**Dorset Buck Lambs,**  
**Jersey Bull Calves.**

All stock in best of condition and guaranteed as represented.

F. T. ENGLISH, Centreville, Md.

**Hawksley Stock Farm**  
offers some extra fine

### BERKSHIRES.

A top lot of pigs not akin, ready for April delivery,  
B. P. Rock and S. C. B. Leghorn eggs at \$1.00 per 15. J. T. OLIVER, Attens Level, Va.

### Accomac Herd

## Large English Berkshires

For the next 30 days I offer some choice sows and pigs at HALF their value. Fine COLLIE PUPS, strictly pure bred. Write your wants. A. P. WHITE, JR., Parksley, Va.



## JERSEY BARGAINS.

10 HEIFERS out of cows from the best in my herd, which I have been 30 years in building. They are the prettiest I ever saw. Price, \$30 each.

### 2 Reg. Bull Calves

6 wks. and 6 mos. old. Each out of a cow giving 2 pounds of butter per day, and by

### Coquette's John Bull,

he out of a cow with a record of 18 pounds butter per week. Price, \$50 each. Also a U. S. SEPARATOR for sale at \$40; in good repair and cost \$125 new.

A. R. VENABLE Jr.,  
Farmville, Va.

## V. P. I. Farm Bulletin

We are now offering some choice young Bulls of the following breeds:

Shorthorn, Hereford, Aberdeen-Angus.

Write at once for pedigrees and prices.

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

### 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 4 to 6 months old, \$25; Heifers, same age, \$35. POLAND CHINA PIGS, \$5 each. Send check and get what you want.

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

## Cattle, Horses and Sheep

From Blue-Grass, Va.  
Bought on Commission

We can furnish grade Shorthorn, Hereford and Angus steers, from 1 to 3 years old.

High grade, and pure-bred, heifers and young bulls at low prices.

SADDLE, HEAVY-DRAFT and DRIVING HORSES. Write us your wants.

SHANNON BROS.,

POPLAR HILL, VA., Giles Co.

Telegraph Office and Station,  
Dublin, Va., N. & W. Railroad.

## WANTED 20 VIRGINIA or NORTH CAROLINA GRADE S - O R T H O R N

heifers, 2 to 3 years old, bred to Registered Bull, and to calve from August to January. Address, stating price, breeding on both sides weight and age. JANNEY BROS., Gloucester, Va.

## REPORTS.

U. S. Department of Agriculture, Washington, D. C. Bureau of Animal Industry. Bulletin 47. The Hog Industry.

Bureau of Animal Industry. Bulletin 55. Statistics of the Dairy.

Bureau of Plant Industry. Bulletin 57. Methods used for Controlling and Reclaiming Sand Dunes.

Farmers' Bulletin 188. Weeds used in medicine.

Farmers' Bulletin 190. Experiment Station work.

Alabama Experiment Station, Auburn, Ala. Bulletin 126. A leaf curl disease of oaks.

Bulletin 127. Alfalfa in Alabama. Colorado Experiment Station, Fort Collins, Col. Bulletin 85. Cantaloupe seed.

Bulletin 86. Crown gall. Idaho Experiment Station, Moscow, Idaho. Bulletin 39. Some experiments with fungus diseases in 1903.

Bulletin 40. Winter spraying for the apple aphid.

Illinois Experiment Station, Urbana, Ill. Bulletin 89. Notes on the insecticide use of the gasoline blast lamp.

Bulletin 90. Fattening steers of the various market grades.

Bulletin 91. Preventing contamination of milk.

Bulletin 92. City milk supply.

Circular 73. Milk production at the University of Illinois.

Iowa Experiment Station, Ames, Iowa. Bulletin 74. Breakfast foods.

Kansas Experiment Station, Manhattan, Kas. Bulletin 121. Treatment and utilization of flood damaged lands.

Bulletin 122. Blackleg and vaccination.

Kentucky Experiment Station, Lexington, Ky. Bulletin 110. Nursery inspection and San Jose Scale.

Bulletin 111. The Hessian fly in 1902-'03.

Bulletin 112. Commercial fertilizers.

Maryland Experiment Station, College Park, Md. Bulletin 90. Experiments on the control of San Jose Scale.

Nebraska Experiment Station, Lincoln, Neb. Bulletin 82. Kherson oats.

New York Experiment Station, Geneva, N. Y. Bulletin 241. Should potato growers spray?

Bulletin 243. Spray mixtures and spray machinery.

Bulletin 244. Directors report for 1903.

Rhode Island Experiment Station, Kingston, R. I. Bulletin 98. Analysis of feeding stuffs.

Tennessee Experiment Station, Knoxville, Tenn. Sixteenth annual report for 1903.

## —FOR SALE—

**2 ABERDEEN-ANGUS HEIFERS,**  
Bred from "Hero of Bunker Hill," 31462, at farmer's prices. They are blocky, good bone, mealy coats, and WIDE AS A CART. J. TABB JANNEY, Van Clevesville, W. Va.



### ANGUS & HOLSTEIN CATTLE.

Registered and grades, of all ages and sexes, and of champion blood for the best and milk strains and at moderate prices. Also Nursery stock of all descriptions.

MYER & SON, Bridgeville, Delaware.

### MONTEBELLO HERD

## ABERDEEN-ANGUS CATTLE

FOR SALE—2 Registered Bulls, calved Dec. 17th, 1902, and Aug. 28th, 1903.

### Berkshire Pigs,

(Biltmore Strain.)

farrowed May 1903. For terms, apply to

L. H. GRAY, Orange, Va.

### —ROSEDALE HERD—

## Aberdeen-Angus Cattle.

Choice bulls, 4 mos. to 4 yrs. old. Prices as low as good breeding will permit. Inspection of herd and correspondence invited.

ROSEDALE STOCK FARM, Jeffersonton, Va.

## Angus Cattle.



Am still offering at reasonable prices, some choice yearling ABERDEEN-ANGUS BULLS.

These bulls are sired by a bull weighing over 2,000 pounds. The Caryshbrook Herd of Angus cattle is probably the largest in Virginia, and has doubtless furnished more bulls to cattle breeders of the State and farther South than other herd in the South. C. E. JONES, Caryshbrook, Va.

## H. F. COLEMAN & SONS,

MULBERRY GAP, TENN.

—BREEDERS OF—

## ABERDEEN-ANGUS CATTLE.

JANNET'S KING, 48271, greatest son of Valiant Knight II., 29331, first prize bull at all three of the International shows, heads the herd. Visitors and correspondence invited. Young things for sale.

### GREENFIELD HERD OF

## Aberdeen Angus Cattle.

Baron Ida, 20184 (Champion yearling, 13 firsts, 17 times in 1st prize herd, 4 firsts on produce of sire and 3 times at head of grand sweepstakes herd) at head of herd.

The females in this herd are prize winners or the immediate descendants of prize winners sired by such noted bulls as Champion Lord Hillhurst, Beau Forbes II., by Beau Bill (champion of the West for two years); Cham. Baron Ida, Ludolph 4th, Rustler 2d.

Choice calves from the above cows sired by Baron Ida, Encouragement 46282, and Erard 55380.

WARREN RICE, Winchester, Va.



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 about good wheels and good wagons that will save you a lot of work and make you a lot of money—the

**ELECTRIC STEEL WHEELS**  
 —and the—  
**ELECTRIC HANDY WAGON.**

By every test, they are the best. More than one and a quarter millions sold. Spokes united to the hub. Can't work loose. A set of our wheels will make your old wagon new. Catalogue free.

**ELECTRIC WHEEL CO.,** Box 146, Quincy, Ills.



**ELECTRIC**

**POLAND CHINAS.**

I offer for immediate sale, 12 pure-bred open Gilts and 4 Boars, farrowed Sept. 1903.

These are first class and in fine condition. Apply to

**C. A. WILLIAMS,**  
 Ringwood, N. C.

**PURE-BRED Poland-China**

Pigs and one 2 year-old Reg. Boar for sale. Prices reasonable. Apply to **W. H. COOPER,** Catawba, Va.

**PURE-BRED DUROC-JERSEYS and Large ENGLISH BERKSHIRES.**

I am now booking orders for Spring pigs. Both breeds are of the finest blood lines that money can buy. Farmer's prices and satisfaction guaranteed. **B. E. WATSON,** Pulaskee, Va.

ORCHARD HILL PURE BRED

**Poland Chinas!**

A few pigs, brood sows, and boars for sale; also some **S. C. B. LEGHORN** Cockerels.

**F. M. SMITH, JR.,** Charlottesville, Va.  
 R. F. D. No. 4.

Registered Berkshires, C. Whites. All ages, mated not a In, 8 week. pigs. Bred sows. Service boars and Poultry. Write for prices and free circular.



**P. F. HAMILTON,** Cochranville, Chester Co., Pa.

**Poland-Chinas and Chester Whites**

AT FARMER'S PRICES.

**S. M. WISECARVER,** - - Rustburg, Va.

**Jersey Red Pigs** I have some very fine healthy Jersey Red Pigs, about three months old. Price, \$2.50 each. Only a few left.

**CHAS. B. COOKE,** Richmond, Va.

Virginia Experiment Station, Blacksburg, Va. (Special Bulletin.) Fourth report of the State Entomologist and Plant Pathologist on the San Jose Scale and the administration of the crop pest laws of Virginia 1902-1903.

Wyoming Experiment Station, Laramie, Wyo. Bulletin 59. The wheat grasses of Wyoming.

Bulletin 60. Wheat growing on the Laramie plains.

Philippine Bureau of Agriculture, Manila, P. I. Farmers' Bulletin 10. Maguay in the Philippines.

Imperial Department of Agriculture for the West Indies, Barbadoes, W. I. Lectures on the diseases of the sugar cane.

West Indian Bulletin, Vol. IV., No. 4. Sea Island cotton in the United States and the West Indies.

**WASHINGTON NOTES.**

Representative Brooks, of Colorado, has introduced a bill for the purpose of taking a census of the live stock of the country. It provides for a tax of a mill on each head of cattle, horses, mules and asses, one-fourth of a mill on each head of sheep and goats, and one-half of a mill on each hog in the country. The tax is to be collected through a system of stamps, similar to the internal revenue method. The idea of a tax therefore is simply to provide funds for gathering and compiling annually live stock information.

Is there such a thing as a man having too much agricultural knowledge? Possibly there is, especially if that man is not a farmer. I have in mind the genial assistant chief, or more properly, assistant editor, of the Agricultural Department's Division of Publications, Joseph A. Arnold, who has charge of the review and editing of the entire output of bulletins and circulars of the department, averaging something over one a day.

"I do not believe," said Mr. Arnold, the while fingering the page proofs of a bulletin on farm experiments, which I later corralled for the benefit of the readers of the Southern Planter, "that the majority of the farmers of the country appreciate how really good and useful some of the publications of the department are. Because farm bulletins are sent to farmers upon request, free of charge, and probably because such a mass of uninteresting documents are printed by the different government departments, farmers doubtless think that these bulletins and booklets on farm crops, farm animals, and farm procedure, are not worth studying or following. A knowledge of the facts would convince any man of an inquiring turn that this department affords every farmer a free library and issued in convenient form for carrying around in his pocket for reading at odd moments, which would cost him in the open market many dollars. The department has special-

**REGISTERED SHORTHORNS.**

Our old, established herd of about forty good milking cows is headed by imported **SIR WILFRED LAURIER**, 144766 (a son of the great English champion Marengo); **CEDRIC**, 126088 (a grandson of William of Orange, of Marr Farm), and **FRANTIS LAD**, 210443 (a winner of second prize in senior bull calves at 1903 International Young stock for sale,

**P. S. LEWIS & SON,**  
 Point Pleasant, W. Va.

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

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

**MEADOW BROOK SHORTHORNS.**

I have several very fine Shorthorn Red Bull Calves 6 to 10 months old, and several very nice yearling Shorthorn Heifers for sale at farmer's prices. **C. A. SAUNDERS,** Meadow Brook Stock Farm, Culpeper, Va.

**COOK'S CREEK HERD SCOTCH-TOPPED SHORTHORNS...**

Herd Headed by Governor Tyler, 158548, 1st prize aged bull at Radford Fair, Young Bulls and heifers for sale. Inspection and correspondence invited.

**HEATWOLE & SUTER,** Dale Enterprise, Va.

**WM. T. THRASHER,** Springwood, Virginia,  
 BREEDER OF PURE BRED

**Short Horn Cattle and Poland-China Hogs.**

FOR SALE: 2 yearling bulls, good ones, ready for service, sired by Verbena's Champion No. 129831; some younger bulls, sired by Royal Chief No. 185432; also some Fall Poland China shoats of both sexes. Come or write.

**REGISTERED GUERNSEY CATTLE**

Of all ages, for sale, including a 2-year old Bull, from a tested dam.

Also 2 grade Cows and a tested 2 yr. old Bull.

**G. M. WALLACE,**  
 FALMOUTH, VA.

**O. I. C. PIGS FROM REG. STOCK.**

FOR SALE. PRICES RIGHT.

**F. S. MICHIE,** Charlottesville, Va.



## Angus Cattle for Sale LOW.

- 1 Reg. Bull Calf, 8 mos. old.  
 2  $\frac{3}{4}$  Grade Angus Bull Calves.  
 3 15-16 Grade Angus Bull Calves.  
 1 Bull Calf out of a fine Short Horn Cow by  
 our Angus Bull.

These grades calves look like thoroughbreds,  
 and will please the most fastidious.

- 1 First Class Family Milk Cow, 4 years old,  
 qualities perfect.

A splendid location for a saw-mill.  $2\frac{1}{2}$  to 3  
 million feet,  $\frac{3}{8}$  Oak and  $\frac{3}{8}$  Pine. One half  
 mile from Railroad.

**W. M. Watkins & Sons,**  
 Saxe, Va.

### I OFFER

- 2 Reg. Ayrshire Bulls,**  
 One 10 mos. old ..... PRICE, \$40.00.  
 One coming 3 yrs. old.....PRICE, \$65.00.  
 Low considering Quality.

Registered and high grade HAMPSHIREDOWN  
 SHEEP of best breeding. Rams, Ewes and  
 Lambs for sale. Stock and Prices will suit.

J. D. THOMAS, Round Hill Va.  
 Meadow Brook Stock Farm.

## FOR SALE.

Having rented my river farm, will sell new  
 McCORMICK SELF BINDER. Also 36 head of  
 COTSWOLD Ewes, two to four years old, and  
 bred to full blood HAMPSHIREDOWN Buck, to  
 lamb in April.

Address JOHN MATHEWS,  
 EAST RICHMOND, VA.

...WOODLAND FARM.

## DORSET SHEEP,

Beardless Barley,

The best known nurse crop.

J. E. WING & BROS., Mechanicsburg, O.

....BARGAINS....

## DORSETS AND HEREFORDS

H. ARMSTRONG, LANTZ MILLS, VA.

### Reg. Devon Bull.

1 year old for sale. Price, \$50 f. o. b. cars  
 Richmond, Va. A fine animal. J. W. C.  
 GRAVES, Glen Allen, Va.

### FOR SALE

Cross bred JERSEY and DURHAM heifer.  
 Soon fresh. Cross bred JERSEY and ALDER-  
 NEY cow calf. Fine brood mare. Saddle  
 stock. M. R. WALLACE, Golansville, Va.

Mention the SOUTHERN PLANTER in  
 writing.

ists of its own on most subjects, men  
 who are trained and have given their  
 lives to the study of their particular  
 branches. If any agricultural subject  
 comes to the fore upon which the  
 agents of the department themselves  
 are not entirely conversant, the secre-  
 tary contracts with some acknowledged  
 authority for a special report or arti-  
 cle on the subject, in order to place  
 the results of this man's knowledge  
 and experience before the American  
 farm public. It is true that we issue  
 a vast number of bulletins and farm  
 pamphlets, and we are always more  
 than glad to send out anything we  
 have when we believe it is appreciated.  
 nevertheless it is probable that there  
 are hundreds of thousands of farmers,  
 who, if they knew more of the excel-  
 lence of some of these farm bulletins  
 would do much to secure copies of  
 them."

A German test noted by the Depart-  
 ment of Agriculture shows that trans-  
 planting carrots apparently interferes  
 with the growth of the tap root and  
 induces abnormal forms, such as oc-  
 cur here and there from hoeing or cul-  
 tivating. While they are irregular in  
 shape, the transplanted roots are usu-  
 ally larger.

All of the Seed catalogues contain  
 several pages of alluring novelties.  
 These are in each case described as  
 new strains and varieties discovered  
 and bred up under peculiar conditions,  
 so that they are far and away ahead of  
 anything else of the kind, for earli-  
 ness, size, flavor, etc. The farmer who  
 might be figuring on doing a little  
 extra gardening with a view of supply-  
 ing the village might get the impres-  
 sion from reading of these novelties  
 that all he would have to do would be  
 to get a sufficient supply of certain of  
 these extra early things, and if his  
 neighbors didn't happen to see the  
 wonderful discovery made by the seed  
 house running the Springfield Farm, he  
 would have a scoop on the community  
 with these wonderful varieties, which  
 would enable him to sell everything  
 he could raise at fancy prices. Pro-  
 ceeding on such a theory would cer-  
 tainly bring disappointment. The  
 novelty pages are in the catalogues  
 every year, and it is well enough to  
 let them alone or patronize them spar-  
 ingly.

Consul Guenther sends in a govern-  
 ment report on the extent of the per-  
 fume industry in the city of Grasse,  
 Germany. Over two million and a half  
 pounds of roses are used and over half  
 a million pounds of orange flowers an-  
 nually. The so-called oil of roses is  
 manufactured from a grass, and the  
 oil of geranium is produced from a  
 flower in no way resembling that plant.  
 It might be assumed that new mown  
 hay extract would be the principal per-  
 fume product of that city.

## TOBACCO.

### High Grade Smoking Tobacco.

We will give the Smoker direct  
 for 35 CENTS PER LB. in 5 lb.  
 boxes, as fine a pipe and cigar-  
 ette tobacco as is made. Send  
 us \$1.75 and be convinced. The  
 regular retail price of this stock  
 is 72 cents per lb.

The Richmond Merchandise & Trading Co.,  
 Box 149. Richmond, Va.

### COLLIE PUPS

By Imported Sires. Sable and white and tri-  
 colors. Prices, \$8 to \$15. Older ones correspond-  
 ingly low. Book on Training, 50 cents: FREE if  
 you buy a Collie. MAPLEMONT STOCK FARM,  
 Albany, Vermont.

## "Crop Growing and Crop Feeding."

BY PROF. W. F. MASSEY.  
 383 Pp. Cloth, \$1.00; Paper, 50c.

We offer this splendid work in connec-  
 tion with the SOUTHERN PLANTER  
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## and WASHINGTON SOUTHERN R'Y

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Fast Mail, Passenger, Express and  
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 all points North, South, East and  
 West.

W. D. DUKE, C. W. CULP,  
 General Manager. Asst. Gen'l Man.  
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Mention the SOUTHERN PLANTER in  
 writing.



During the early years of the Republic patents were granted at the rate of seven or eight a year, and in Washington's, first term when patent applications were presented to the government, they were passed upon by the President and his Cabinet in regular cabinet meeting. Later a patent office was established and a commissioner of patents appointed. The Department of Agriculture sprang from the Patent Office. When Henry L. Ellsworth was commissioner, in 1839, he recommended to Congress an appropriation of \$30,000, which was made, for the collection of agricultural statistics, investigations for promoting agricultural and rural economy and the procurement of useful cuttings and seeds for gratuitous distribution among farmers. Mr. Ellsworth never dreamed how his free seed idea was to grow, and at the same time degenerate into a scheme to help Congressmen get re-elected.

The Sunset Magazine says that the way to cook a goose is—first, after getting the goose, to skin it, since the skin carries a strong odor, and if left on while being cooked will flavor the whole flesh. Skinning birds of various kinds is practiced by many sportsmen and hunters. An expert can skin much quicker than he can pick a bird. I have often skinned birds for camp cooking, but believe I prefer to eat the bird with the skin on. This calls to mind also the practice of skinning fish. This is really an excellent idea, and skinning a fish when one knows how takes much less time than scaling it. Nothing is so unpleasant, too, as finding scales in your fried fish, unless it is cores in baked apples.

"The Dairy Herd: Its Formation and Management," designated as farmers' bulletin No. 55, has been revised and reprinted by the Department of Agriculture. This bulletin has been in steady and constant demand since its preparation some years ago by Major Alvord, the chief of the Dairy Division. Major Alvord is himself a practical farmer, wears boots and lives on a farm out in Virginia, an hour's ride from Washington, and reading this bulletin seems like talking with any up-to-date, wide-awake dairyman farmer, who has had the advantage of travelling around and getting in touch with the operations of other successful and prominent dairymen.

Another farm bulletin which the Department of Agriculture has had to revise and reprint because of a large demand for it is No. 22, "The Feeding of Farm Animals." This bulletin has gone into the hands of tens of thousands of farmers, and has been reprinted by the Department seven or eight times.

Local agencies and complete repair stocks everywhere

# MILWAUKEE HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

## THE GROVE STOCK FARM

—I OFFER THIS MONTH—

### 5 Dorset Rams,

1 YEAR OLD, REGISTERED. PRICE TO INCLUDE TRANSFER.

1 HOLSTEIN FRIESIAN Bull, 18 months old, sired by "Sir Netherland of the Grove," Dam "Floyd Reynolds." Also 3 young bulls, 9 months old, sire of these bulls has 24 of his nearest ancestors that gave 21 lbs. of butter in 7 days.

T. O. SANDY, Burkeville, Va.

N. & W. AND SOUTHERN R. R.

## 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.

## LARGE YORKSHIRE HOGS

THE COMING BACON BREED—  
THE MOST PROLIFIC BREED—

48 pigs from four litters, ready for December delivery—our Fall prices always the lowest.

INDIAN GAMES, the fashionable table fowl.

WHITE LEGHORNS, the greatest layers.

WHITE WYANDOTTES, the best all round fowl. Also

JERSEY BULLS and HEIFERS from cows with recorded butter tests of 18 to 24 lbs. in 7 days.

**BOWMONT FARMS. Salem, Va.**



The Department has an illustrated bulletin in press descriptive of the various weeds used in medicine. A glimpse of the advance proofs shows illustrations of such common things as burdock, dandelion, poke weed, mullein, catnip, thistles, jimson weed, etc., and the subject might seem of entire unimportance, but it is a fact that certain of our best known weeds now either generally or locally infesting the country, are the sources of crude drugs, which are imported into the country in large quantities. Some of the plants coming within this class are in many States at present subject to anti-weed laws and farmers are required to take measures toward their extermination. Often when weeds have been dug, the work of handling and curing them is not exhaustive, and might even prove a diversion for the little boy on the farm, especially if he were going to make a few pennies out of it. The prices paid for crude drugs from these sources are not great, and would hardly tempt any one to pursue this exclusive line of business. The bulletin in question gives considerable information as to the methods of collecting and preparing the weeds which produce these drugs. Primarily the leaves or roots must be thoroughly dried, otherwise they will mold in transit and be rejected by the drug dealer to the discouragement of the collector. The description of the various weeds from which these drugs can be obtained comprises their several local names, their localities and habits of growth and the usefulness of the drug derived; also the imports of the drugs to the United States, and the average price.

GUY E. MITCHELL.

#### IN DARKEST RUSSIA.

The Russo-Japan war, should it be prolonged, will create a boom in wheat such as has never before been experienced, all of which is now an actuality. It is perhaps not generally known that Russia is a great producer of wheat and that the great wheat industry of Russia and Siberia formidably rivals that of America. The development of wheat growing in Russia as in America has been largely due to the use of American harvesting machinery.

The Deering Binder, Mower and Reaper are as common sights in a Russian field as in this country, and their use elicits the same enthusiastic praise in Russia and all European countries as is given by the American farmer.

#### B. B. FENCE STAYS.

The B. B. Fence Co. sends us an interesting illustrated circular showing the use of their well known fence stays. Refer to the ad and send for the pamphlet.

## Ponies, Ponies, Ponies,

Shetland Ponies, Stallions, Geldings, Mares, Mares in foal, Matched Pairs, Teams Tandem \$135 to \$250 each delivered. 🌿 🌿 🌿

We Keep no books. 🌿 Terms Cash, F. O. B.

## OCCONEECHEE FARM,

JULIAN S. CARR, Proprietor,

DURHAM, N. C.

ALL KINDS of Fancy Poultry and Eggs for Hatching. Pheasant Eggs, \$5.00 for 10. PIGS, PIGS, PIGS, Berkshires, Poland Chinas, Essex and Yorkshire, Shropshire and Dorset Sheep. Fine milch Cows, Jersey Strain.

If it comes from OCCONEECHEE, it's all right.

SUNNY HOME HERD OF

## ABERDEEN-ANGUS CATTLE.

BARON ROSEBOY 57666 by the world famous

🌿

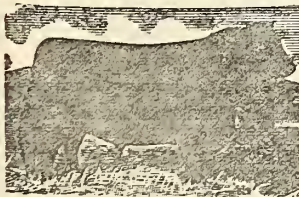
GAY BLACKBIRD heads the herd.

Females by such noted sires as Gay Blackbird, 14443, (sire of the highest priced American bred Angus bull), Ermon 18171, (by the champion sire of females Royal Eric), Enlalties Eric 15563, (2nd prize yearling bull at World's Columbian), Beau Bill 13637 (champion of the West for two years), Baron Ida 26184 (champion at N. Y. State Fair 1898), Baronet of Advia 1226 (by the "Judge" champion of the world).

Families represented in the herd are Coquette, Queen Mother, Nosegay, Westertown Rose, Old Rose of Advia, Violet, etc. We claim for our herd as good breeding as any herd in America. The individual animals in the herd have been selected with the one aim "quality" in view. Come and see, or write your order and let us guarantee a first-class animal.

Shipping point and depot, Fitzgerald, N. C., on D. & W., 24 miles S.-W. of Danville, Va.

A. L. FRENCH, R. F. D. 2, Byrdville, Va.



## ABERDEEN ANGUS BULLS

AT A BARGAIN.

For the next 30 days, you can buy Registered Bulls low, Herd headed by Allenhurst King IV, 47199, greatest son of McHenry Blackbird 20, 32499. Pan American champion. Come and see or Address W. P. ALLEN, Prop. of Glen Allen Stock Farm, WALNUT HILL, VA.

...Jersey and Guernsey Heifers...

## FOR SALE

Berkshire sows due to farrow in April and May, several boars large enough for service, pigs in pairs or trios not akin.

EGGS FOR HATCHING from Bronze turkeys, Pekin ducks, B. P. Rock and Brown Leghorn fowls. A few trios for sale, also a fine lot of Fox Terrier puppies by imported Rozanne.

M. B. ROWE & CO., Fredericksburg, Va.



### APOTHEOSIS OF THE APPLE.

Twenty Carloads of Fruit to be Distributed Free at the World's Fair. This is to Take Place on Apple Day—September 27—Apple Consumers' League to Promote the Interests of This Luscious Product as a Food.

BY ROBERTUS LOVE.

St. Louis, Mo.—The day of the apotheosis of the apple has been set. September 27 next is the date. That will be "Apple Day" at the World's Fair. The secretary of ceremonies, with the approval of the committee on ceremonies, has set aside that day for the special honor of the apple. Thus, after waiting many years for recognition, the big red apple and his lesser brothers are to receive a signal honor. After that day he will be Sir Knight or Saint Apple.

This novel and interesting idea originated with Mr. John T. Stinson, superintendent of pomology, department of horticulture for the World's Fair. Mr. Stinson's special protegee in the fruit line is the apple. As chief of the Horticultural Experiment Station at Mountain Grove, Mo., he had occasion to study the apple in its native glory, in the great orchards in Southwest Missouri which is called the "land of the Big Red Apple." He is a member of the executive committee and statistician of the American Apple Growers' Congress, which met in St. Louis not long ago, and at that meeting he suggested that an "Apple Day" be named, on which every visitor to the World's Fair should be presented with a few eating apples. The congress adopted the suggestion with alacrity. Barkis being willin', Col. Culp, of the committee on ceremonies, named the day.

So it comes about that the 27th of September is to be made memorable as Apple Day. Already the mouths of many thousands of prospective fair visitors are beginning to "water," in anticipation of a treat of the popular fruit. Already the devotees of the apple have begun arrangements to make the ceremonies of that day vivid with variety, so that the fame of the apple may be spread even unto the uttermost parts of the earth.

Every man, woman and child who attends the exposition on that day is to be presented with three or four fine apples, daintily wrapped in tissue paper, on which will be printed the local habitation and the name of each apple. The person eating the apple will enjoy the added pleasure of knowing what kind of apple it is and where it came from.

This free apple distribution will not be so simple an affair as it may seem on the surface. September is one of the golden months for exposition attendance. The management confidently expects to have about 300,000 persons in attendance if the day be bright. Estimating the attendance at 300,000 and allowing three or four apples to each guest, we

### Save Time, Labor and Money by having a threshing and power outfit of your own.

This No. 3 Pennsylvania Thresher and Cleaner and Roller Bearing Level Tread Power is the best individual outfit for threshing rye, barley, oats, flax, rice, alfalfa, millet, sorghum, timothy, etc. Will thresh and clean 100 to 150 bushels of wheat per day. Also made in two and three horse sizes. Power can be used for cutting ensilage and dry feed, shelling all kinds of grain, to run the saw, green bone cutter, pump water, separate cream, churn, etc. Also make lever powers, Feed and Ensilage Cutters Grinders, Saws, etc. Heebner & Sons, 25 Broad St., Lancaster, Pa.



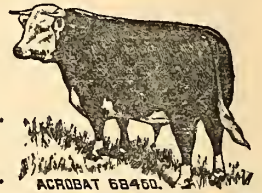
## ROSEMONT HEREFORDS.

HEADED BY THE FAMOUS ACROBAT 68460,

Choice young stock for sale at all times. Visitors welcome.

Come and inspect the best herd in the South

ROSEMONT FARM. Berryville, Clarke Co., Va.



## Bacon Hall Farm.

### Hereford Cattle :- Berkshire Hogs

REGISTERED—ALL AGES.

### Toulouse Geese, Muscovy Ducks.

MOTTO: Satisfaction or no sale.

E. M. GILLET & SON, - Glencoe, Maryland.

# Hereford Cattle.

The BEST to be had, both in BLOOD LINES and INDIVIDUAL EXCELLENCE, are to be found here at prices which can not be duplicated.

I have for sale now, 1 year old Bull by Lars, Jr 85297, and 4 Bull Calves by Imported Salisbury 76059. Salisbury Bull Calves are in great demand; better see about one before it is too late. Write for particulars.

Murray Boocock, Owner Castalia Herefords,

Keswick, Alb. Co., Va.

## Registered Herefords,

Herd headed by the Grand Champion

American Royal Show

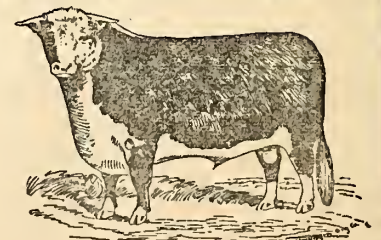
PRINCE RUPERT, 79539.

## Special Offer:

Three Bull Calves, 10 to 14 months old.  
Two Cows, young, bred to Prince Rupert.

All Inquiries Cheerfully Answered.

EDWARD G. BUTLER, Annefield Farms, BRIGGS, Clarke Co., Va.





have, in round numbers, 1,000,000 apples to be given away.

There are three hundred apples on an average, to a barrel, and 150 barrels to a carload. A very little figuring will show that more than twenty carloads of the fruit will be required.

The object of this distribution of apples, aside from the temporary delight which the feast will afford, is to promote the interests of the apple as a food. The American Apple Growers' Congress is engaged in a systematic exploitation of the apple, to the end that it may be adopted as a regular food, either raw or cooked in any one of a hundred ways, for a still greater portion of humanity than is using it at present. The apple is bidding for the place of the potato as a universal edible, and the congress hopes to demonstrate its value as a health food at the World's Fair. In furtherance of this end, a considerable quantity of apple literature is to be distributed on Apple Day and other days.

**THE GILTNER HEREFORD SALE  
AT AUBURN, ALA., FEBRUARY  
27, 1904.**

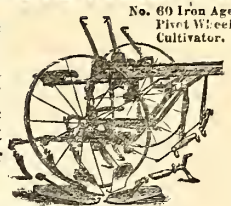
The appreciation of the efforts of Giltner Bros., is best told by the crowd of over 800 stockmen, representative of every State in the entire South, that thronged the little City of Auburn, to attend this sale.

Fifty-three head of Registered Herefords, ranging in age from four months to mature cows, sold for an average of \$214 per head. The highest price, \$450, was twice reached, once for that grand old matron, Prairie Rose (in calf to the phenomenal "Britisher"), which went to the famous "Herbert Domain" of J. O. Kittel, of Tennessee; and again when the sensationally good heifer, Mlle. Lamp-lighter, was purchased by W. Thornton, at the same figure, as a cornerstone in the splendid herd he is founding at his Talledega Farms. Carnation 16th and Carnation 19th, two beautiful daughters of Acrobat, and in calf to Britisher, sold for \$420 and \$400 respectively, showing how the best are appreciated, even in the South.

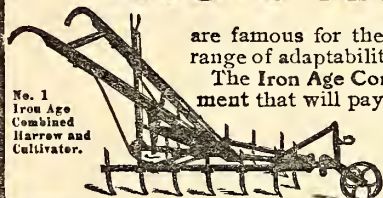
Hazel Dean, a crack son of old Acrobat, was the first bull to sell at the high water mark for males, \$400, at which figure he went to Mr. Beattie, the land and sugar king of Cuba, who also purchased six other head of the choicer kinds. Laddie, the most phenominally short-legged, hocky calf that has yet come under the observation of the writer, went to head the herd of the Alabama Live Stock Co., at the same price, \$400. Mr. Strete, of Alabama, The Southern Cattle Co., of Florida, and Mr. C. H. Davis, of Georgia, were among the largest buyers, and each secured the nucleus of a magnificent herd. The cattle sold to eight different States, and Cuba,

**SURE!**

The Iron Age Cultivators are made of best steel, wood, malleable and grey iron, and are handsomely finished. By using the best materials we are able to build them light, yet strong. They do not wear "rickety." The Iron Age Pivot Wheel Cultivator is to-day the leading implement of its kind.



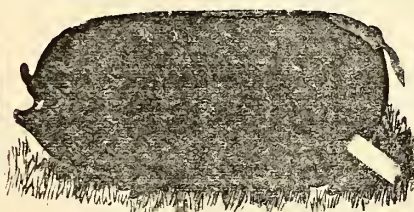
**IRON AGE IMPLEMENTS**



are famous for their ease of adjustment, easy draft, and wide range of adaptability to every condition of soil and crop.

The Iron Age Combined Harrow and Cultivator is an implement that will pay for itself time and again in the cultivation of crops that require especial care. Send for the New Iron Age Book that describes the entire line. It's free.

BATEMAN MFG. CO., Box 167 Grenloch, N. J.



HILL TOP STOCK FARM.

**Berkshire Hogs and Southdown Sheep**

A SPECIALTY

S. Brown Allen, who succeeds H. A. S. Hamilton & Co. in the ownership and management of this celebrated Stock Farm, with increased facilities, will make a specialty of breeding Berkshire Hogs and Southdown Sheep, without regard to cost, from the purest and most royal strains of imported blood.

**My BERKSHIRE PIGS**

For this Spring delivery will weigh 100 pounds at 12 weeks of age, and for INDIVIDUAL MERIT cannot be excelled in the United States. They will make show hogs against any and all competitors and are being engaged every day. The last of my Fall and winter pigs have been sold, and orders will only be taken for Spring delivery S. BROWN ALLEN, Staunton, Virginia, (Successor to H. A. S. HAMILTON & Co.)



I am now prepared to book orders for pigs from imported Kingstone Poetess, bred by C.C. Smith, Kingstone Commons, England. Also from Queen of Fassifern, bred by James Lawrence, of Shrivensham, England. Also from Queen Alfreda, from imported Loyal Mason, imported Loyal Berks, imported Princess Alfreda,

Prince Alfred, etc. These are as fine as the world can produce, though I cannot expect fancy prices for them like some breeders get. Bacon your mongrels and start aright in the hog business. Remember me when pricing shorthorns (Durhams).

**THOS. S. WHITE, Fassifern Stock Farm, LEXINGTON, VIRGINIA.**

**F  
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E**

**BERKSHIRE BOARS**

6 months old, right in every way.

JERSEY BULL CALVES,

from superior cows.

**Forest Home Farm,  
Purcellville, - - - Virginia**



and the good seed thus scattered will prove a wonderful power for good in the South, and cannot but work miracles in the cattle conditions in the South. The fight of Giltner Bros., with their superb Herefords will rebound to the good of all improved breeds. It is not the fight of the Herefords alone but the fight of the best of pure-bloods against the scrub.

The far-reaching value of this Giltner sale in the South, and its benefits, possibly can never be estimated. Aside from the seed of good blood that was thus broadcasted over the South and the good sure to result therefrom; of far greater worth to the South was this practical demonstration of what really good cattle are. An object lesson of incalculable value has been given the South, and a standard of excellence furnished. The days of the scrub, pedigreed, "lost pedigreed" or just plain old scrub, is numbered. In the future the South will now demand the choicer types of pure breeds. A mighty howl and growl may be expected from those peddlers and pinhookers of grades and scrubs in the South, vultures always in live stock advancement, who find themselves bereft of the opportunity to longer prey on the confidence and credulity of Southerners.

**IN MANY FENCE FACTORIES.**

One man can attend to two, three or even six looms at a time. Their fences are entirely machine made, but in our factory it requires one man attending to one Page loom every minute, and he has to handle every crossbar separately and by hand. If you notice the construction of Page fence you will see that it is different from all others, and also that it requires hand labor on every foot of the fence, that cannot be done by machinery. This costs a trifle more, but we think it is worth all it costs, as the fence gets constant personal attention during the process of manufacture.—Page Fence Age.

**VIRGINIA HILL POULTRY FARM.**

This poultry farm has an advertisement in another column, to which we invite the attention of our readers. We also suggest that they send for the 1904 catalogue of this concern, if they are interested in Plymouth Rocks. It will be mailed free on application.

**A BOOK OF FARM SCENES.**

The Keystone Farm Machine Co., of York, Pa., has issued a new catalogue under the above title. This catalogue gives views of the "Hallock" and "Keystone Adjustable" weeders at work among the various crops. Numbers of our readers already appreciate the fact that a weeder is an indispensable tool on the farm. To those who have never used one, we suggest that they write for this catalogue. It will be mailed free and we assure them that it is well worth having.

Local agencies and complete repair stocks everywhere

# MCCORMICK HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

## BIG BARGAINS

IN

### ABERDEEN-ANGUS BULL CALVES.

For prompt sale we offer as follows:

- 1 YEARLING BULL FOR \$75.00
- 2 8 MOS. CALVES, EACH \$50.00
- 2 c " " " \$40.00

These calves are sired by our Bull Marvil, No. 40591, (direct descendent of the world-famous Gay Blackbird) out of as pure blooded cows as are to be found anywhere. These calves are in good condition, and fine specimens as to form, color, etc. Remember the bull is half the herd—therefore get the best. Come and see them or write

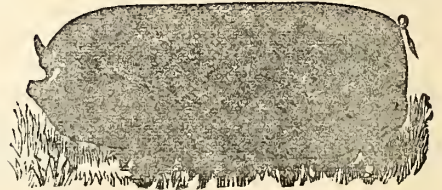
**WILSON BROS. & CO., - News Ferry, Va.**

**THE - OAKS - STOCK - FARM.**

A. W. HARMAN, Jr., Prop.,  
We breed and ship the best strains of  
**Large ENGLISH BERKSHIRES**

Send us your order and get the best.  
A Large Registered English Berkshire Boar, 1 1/2 years old, extra fine specimen FOR SALE. None better bred in this country. 6 coming 2 year old JERSEY HEIFERS for sale; also 2 fine Jersey Cows; 1 yearling heifer, a perfect beauty. Write for price.

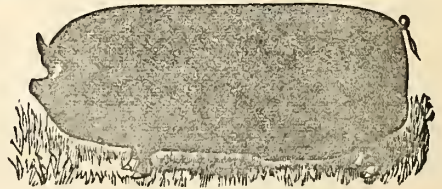
ALEX. HARMAN, Mgr., Lexington, Va.



We positively guarantee to breed and ship the VERY BEST strains of thoroughbred registered **LARGE ENGLISH BERKSHIRE** Hogs for LESS MONEY than any other firm in the U. S., the superiority of our stock considered. Send us your order and we will satisfy you both in price and stock.

WALTER B. FLEMING,

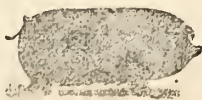
Proprietor of the Bridle Creek Stock Farm, Warrenton, N. C.



## ESSEX PIGS.

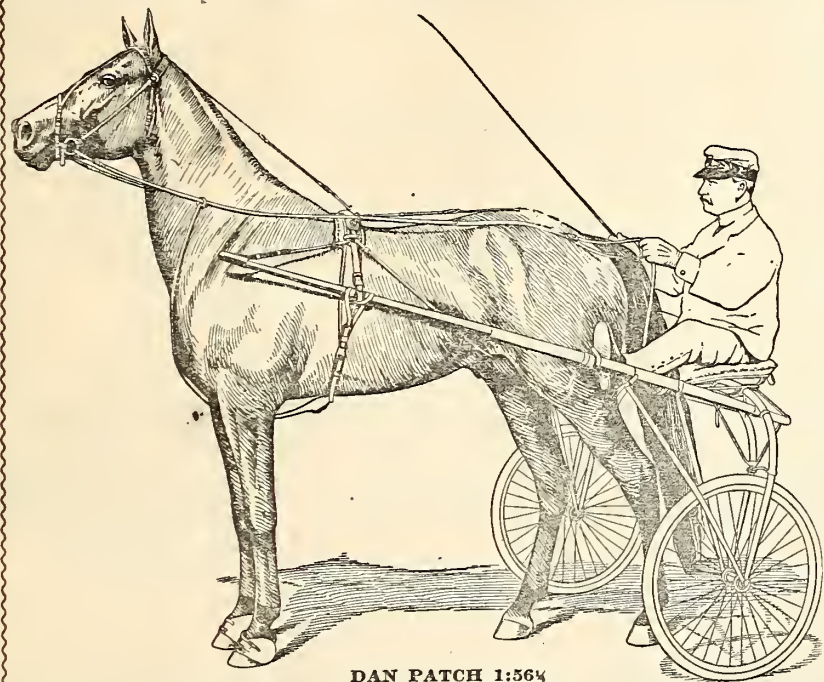
Some fine ones, 3 mos. old, not related; from recorded stock, also Southdown and Hampshire-down Lambs. Address

**L. G. JONES, 1  
Tobaccoville, N. C.**



A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.





DAN PATCH 1:56¼

## DAN PATCH 1:56¼

Fastest Harness Horse IN THE World

HOLDS FOLLOWING WORLD RECORDS:

Mile Record, . . . . . 1:56¼  
 Half-Mile Record, . . . . . 0:56  
 Mile Record on Half-Mile Track, . . . . . 2:03¼  
 Mile Record to Wagon, . . . . . 1:57¼  
 Mile Record to High Wheel Sulky, . . . . . 2:04¼  
 Two-Mile Record, . . . . . 4:17

HIS BEAUTIFUL COLORED PICTURE FREE

PRINTED IN SIX BRILLIANT COLORS  
 Size 21 by 28 Inches

We own the World-Famous, Champion Pacing Stallion, Dan Patch, and have Fine Lithographs of him. They give a complete record of all his Races and Fast Miles and are Free of Advertising. The fine, large Colored Lithograph shows Dan hitched to sulky just as you see him in this engraving.

IT WILL BE MAILED TO YOU FREE

Postage Prepaid

IF YOU ANSWER THESE TWO QUESTIONS—AT ONCE

- 1st.—How Much Stock of All Kinds Do You Own?
- 2nd.—Name Paper in Which You Saw This Offer.

Write to

**International Stock Food Co.**  
 Minneapolis, Minn., U. S. A.

### SPRING'S WORK IN EASTERN VIRGINIA.

*Editor Southern Planter.*

Notwithstanding the unusually cool winter, and the late backward spring, the great potato crop is now planted here, and all crops in the ground are taking on new life and growing rapidly. The fruit buds are kept back, however, and indications point to a full crop of fruit.

The full moon in April is the frost danger period here. This year we have full moon March 31st. We may look for light frosts then, but the fruit will not be out enough to damage materially. The next full moon comes the last of April, too late to bring a damaging frost, so we may safely assume that fruit is going to escape the frost entirely this spring. We are, therefore, quite sure of a good fruit year.

The winter has been unusually cool for this section. The coldest day was twelve above zero, one day in February. The coldest in January was fourteen above. We had only about four days when the thermometer went below twenty above; but we had an unusually large number of days with the thermometer between twenty-five and thirty-two above.

Large acreage of radish has been sown, and much of the crop is now up. Early peas are sown, also spring oats. The balance of the kale and spinach crop is going rapidly to Northern markets. These two last named crops have done usually well—bringing good prices all winter.

## EDGEWOOD STOCK FARM DORSETS DORSETS

You men in the early lamb business need Dorset blood. No lamb grows like a grade Dorset. Grade Dorset ewes will lamb in December.

One cross will bring results. Try a Dorset ram. Our fall lambs are beauties. Write us or come to see them.

J. D. and H. B. ARBUCKLE, Maxwelton, Greenbrier Co., W. Va.

—REGISTERED—

## POLAND-CHINA

Pigs from 4 to 6 months old. Boars ready for service, and young sows with pigs. Tamworth pigs 8 wks. old \$5. Prices Reasonable. Apply to

J. C. GRAVES, Barboursville, Va.

## THE OAKS

OFFERS FOR SALE AT LOW PRICES **2 SHORTHORN BULLS,**

Rising 1 yr. old; a solid red with white points and a rich red roan. Eligible to registry. Also a pair of MORGAN COLTS, 13 hands, 2 inches high. B. B. BUCHANAN, Bedford City, Va.

## SPECIAL BARGAINS IN HOLSTEIN-FRESIANS.

From a few months to 1 year old, from dams that are large producers, and with strong, official hacking on both sides. The sire is half the herd; it is important that you get the right one. We have that kind, and our prices are no higher than others are asking.

LARGE ENGLISH BERKSHIRES, by such sires as Manor Faithful Imp., Esau Princess of Filston, by Esau Imp., Fancy Duke, a double G. son of Loyal Berks. Address

URY STOCK FARM,

THOS. FASSIT & SONS, Sylmar, Md.



Spinach sown the last part of August and first part of September sold in the field in December for two hundred dollars per acre in some cases. The price of spinach in New York going as high as five to seven dollars per barrel. The cabbage crop is a light one. Last year we had 365,000 barrels. This year we doubt it's reaching half that amount. All the early green crops are going to pay well this spring. The demand for green stuff in Northern markets is increasing each year.

There has been fear expressed that the trucking business would be overdone, but when we consider that, measured by freight rate, this important trucking section is not more than twenty-five miles from ten million consumers, at the North and East, we see that there is but little danger of over-production.

We may remark, in passing, that, owing principally to the warm mild and genial influences of the "Gulf Stream," this important trucking section, while only twenty-five miles from New York, measured by freight rates, is fully one thousand miles south of New York measured climatically. Thus we see the climatic advantages and the commercial advantages of this seaport section of the Sunny South.

These facts, together with many others, insure for this great trucking section both a permanent and rapid development.

Norfolk, Va.

A. JEFFERS.

#### THE MIETZ & WEISS KEROSENE ENGINE.

Among the numerous Kerosene Engines on the market, few have the claim for as many strong points as Mietz & Weiss 2-Cylinder Marine Engine, advertised in this issue by Mr. A. Mietz, 128 Mott St., New York City. This engine was minutely described in a recent issue of the "Iron Age" and a most flattering mention made of it. As this engine is especially adapted for farm work, such as sawing, separating cream, shelling corn, cleaning wheat and grain, etc., our readers are naturally interested in it. We, therefore, ask them to look up the advertisement and send for catalogue and prices, stating about what horse power they probably need.

#### WHY SHE HAD NO MONEY.

A young man of Montana went to church with his best girl. Both were quite honest and modest. When the collection was being taken up the young man explored his pockets and whispered to the young lady: "I haven't a cent. I changed my pants." In the meantime the young lady had been searching in her pockets and, finding nothing, blushed a rosy red as she stammered: "I'm in the same predicament."—Ophir (Col.) Mail.

Local agencies and complete repair stocks everywhere

## DEERING HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

## MEAT AND EGGS

DO YOU WANT THEM NEXT WINTER AND SPRING?

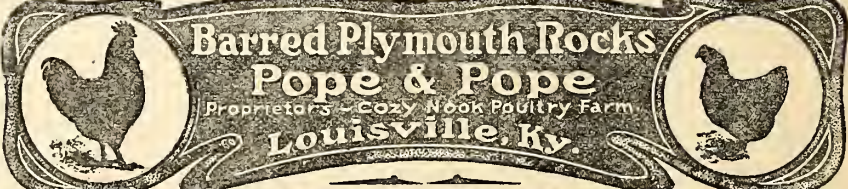
Then why not get eggs from probably the largest egg and broiler plant in the state.

My stock is thoroughbred

## BARRED PLYMOUTH ROCKS,

bred to lay. The broilers of this breed are given a strong preference on the Richmond market. Eggs \$1.00 per 15; \$2.00 per 40; \$4 00 per 100.

ADDRESS **H. C. WARD,** East Richmond P. O. R. F. D. No. 3, Va.



**Barred Plymouth Rocks**  
**Pope & Pope**  
 Proprietors - Cozy Nook Poultry Farm  
 Louisville, Ky.

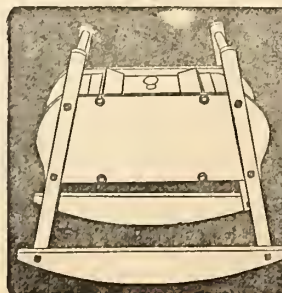
**...EGGS FOR HATCHING...**

Our yards are noted for the size, vigor and health of the birds. They are big fellows, prize winners and heavy layers. Our matings for this season are especially fine, and, if you want ribbon winners, it will pay you to order eggs from us. Cozy Nook Farm is one of the most perfectly equipped plants of its size in America. Headed by birds scoring 92 1-2 to 94 1-2. We cull our eggs closely. They will give you fine, sturdy chicks. Price, \$2.00 per setting of 15 packed in our special baskets. Send for illustrated Catalogue—free.

**POPE & POPE, LOUISVILLE, KY.**

## S. C. WHITE LEGHORNS

Of fine quality. Great laying strain. Prices very reasonable. Satisfaction guaranteed. Write for prices before buying elsewhere. C. G. F. FINK, R. F. D. 2, Richmond Va.



### The **ROCKER CHURN**

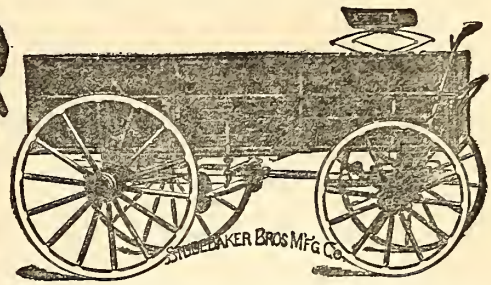
Gets the butter from the cream down to the one thousandth part. Made of tasteless wood and the churning process is entirely the result of its own motion—no machinery inside or out to get out of order or require oiling.

#### Its Special Advantages

are: 1—Simplicity. 2—Least friction. 3—Gravity does the churning; a child can operate it. 4—Absolutely no adjustments, always ready. 5—Nothing but the churn box to clean, easily accessible. 6—Violent agitation of cream without paddles or dashers. 7—Gives the finest grade of butter of any churn on the market. **WE PAY THE FREIGHT.**

Your money back if not satisfied. In eight convenient sizes, 8 to 66 gallons. Prices as right as the quality. Illustrated circulars free.  
**Rocker Churn Mfg. Company, Forsyth, Georgia.**





Compare a Studebaker Farm Wagon with any other, point by point—wood stock and ironing; wheels, spokes, hubs, tire and felloe; axles and skeins; boxes, gears, bolsters, paint—everything—and you will understand why the Studebaker is sold in excess of any other make in the world. The simple truth is,

## The Studebaker is the Best

farm wagon ever built. We have been hammering away at farm wagons for fifty years, and we know what counts for long life and good service. We have the pick of the best lumber sawn in America; we keep 55,000,000 feet of it drying in our yards; we have a larger and better equipped factory and we have more patented, special features than any other manufacturer. That's why more Studebakers are sold than of any other make; that's why every Studebaker customer is a satisfied customer. The same thing is true of Studebaker Carriages and Harness. They are made to last a life time. Sold only by regular dealers. Send to us for Free Booklet No. 56

**STUDEBAKER BROS. MFG. CO., SOUTH BEND, IND.**

All Studebaker goods carried at each of the following repositories:  
 NEW YORK CITY: Broadway and 7th Ave., at 48th St. SALT LAKE CITY, UTAH: 157-159 State St.  
 CHICAGO, ILL.: 378-388 Wabash Avenue. DENVER, COL.: Cor. 15th and Blake Sts.  
 KANSAS CITY, MO.: Cor. Hickory and 18th St. DALLAS, TEXAS: 317 and 319 Elm St.  
 SAN FRANCISCO, CAL.: Cor. Market & 10th Sts. PORTLAND, ORE.: 330-334 E. Morrison St.  
 Local Agencies Wanted Everywhere. Factory and Executive Office: South Bend, Ind.

When you go to the World's Fair, St. Louis, look up our exhibit in Transportation Bldg. and shake hands.

### WHAT A BERKS CO., PA., FARMER MAKES ON A 15-ACRE FARM.

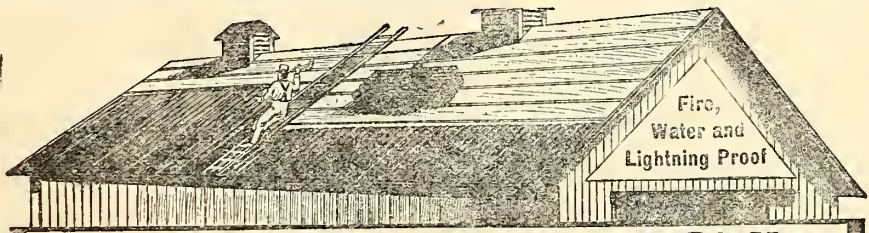
Hereford, Pa., March 5.

There has been an opinion afloat among many leading farmers that to make farming pay a farmer needed at least a 100-acre tract and a fine herd of milk cows, and that the small tracts of land, which average from ten to twenty acres, were useless, being too expensive to cultivate with profitable results.

E. H. Hertzog, of Schoneck, says such an idea is erroneous in every respect, and by proper management and systematic bookkeeping any small farm can be conducted to bring forth the most profitable results.

Mr. Hertzog is one of the State's younger farmers, and by his practical business methods he has shown that on his fifteen-acre farm he raised the following berries, vegetables, etc., during 1903:

- 941 boxes raspberries, at 10 cents per quart.
- 680 boxes of blackberries, at 7 cents per box.
- 100 boxes huckleberries, at 10 cents a box.
- 75 boxes gooseberries, at 5 cents a box.
- 25 boxes currants, at 7 cents a box.
- 300 bunches onions, at 3 cents a bunch.
- 40 bushels onions, at 80 cents a bushel.
- 1½ bushels onion sets, at \$3 per bushel.
- 4 bushels green peas, at 75 cents a bushel.
- 800 bunches radishes, at 2½ cents a bunch.
- 8 baskets peaches, at \$1.50 per basket.



## New Steel Roofing and Siding

Complete with nails and painted red on both sides at  
**\$2.00 Per 100 Square Feet.**

Most durable and economical roof covering made for houses, stores, barns, sheds, cribs, poultry houses, etc., and a hundred other purposes for inside or outside use; cheaper and will last longer than any other covering. Sheets are 6 and 8 feet long.

### We Pay the Freight

to all points east of Colorado. This roofing at \$2.00 per square is our No. 10 grade, semi-hardened. Very easy to lay; requires no experience; hatchet or hammer the only tool needed. Comes in Flat, Corrugated, Crimped, Brick Siding and Beaded Ceiling or Siding. Prices on application. Send us your order today for immediate shipment. Write for our catalogue No. 1 on furniture, building materials, wire, pipe, plumbing materials and supplies of all kinds. We buy at sheriff's and receivers' sales.

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## SUCCESS Manure Spreader



Leads every other machine for the mechanical spreading of manure. Its superiority appears in the fact that it is a distinct improvement on the Kemp Spreader, which we still manufacture and which has been the typical Spreader for 25 years. Spreads all manures of every character and condition and all commercial fertilizers. Pulverizes and spreads evenly, thick or thin, broadcast or drills in rows, any desired quantity per acre, unloading the largest load in 3 to 5 minutes; apron automatically returns to position in the next 60 feet driven.

**A SPECIAL FEATURED MACHINE**  
 for convenience of handling and perfection of work. Notably superior in its Beater Freeing device. Direct Chain Beater Gear, Speed Regulation and Automatic Return of Apron. Positive and dependable in all movements. Simplest in gear, lightest in draft, least chance for breakage. The driver never dismounts for any purpose but controls everything from his seat. Made in four sizes and sold under stringent guarantee as to materials, workmanship and duty. Investigate fully before buying. Catalogue with valuable chapter on farm fertilizing mailed free.

**KEMP & BURPEE MANUFACTURING CO. BOX 205. SYRACUSE, N. Y.**

## IS YOUR FARM FOR SALE?

If so, list it with us. No sale, no charge. Largest list of farms for sale in Virginia. Write for Free Catalogue.

**R. B. CHAFFIN & CO., (INC.) Richmond, Virginia.**



4 bushels plums, at \$2 a bushel.  
 50 bushels apples, at 25 cents a bushel.  
 1000 pickles, at \$4.  
 400 dozen roasting ear corn, at 10 cents a dozen.  
 2 tons sweet corn, at \$12 per ton.  
 Fox, chicken and Concord grapes, at \$4.50.  
 10 bushels persimmons, at 5 cents a box.  
 40 bushels tomatoes, at 60 cents a bushel.  
 40 bushels soup and other beans, at \$2 a bushel.  
 15 bushels artichokes, at 75 cents a bushel.  
 Tobacco, worth \$40.  
 125 bushels sweet potatoes, at 75 cents a bushel.  
 15 bushels of walnuts, at 50 cents a bushel.  
 2 bushels shellbarks, at \$1.75 per bushel.  
 1 bushel Paragon chestnuts, at 30 cents a quart, or \$9.60 a bushel.  
 1½ bushels chestnuts, at 18 cents a quart.  
 5 dozen quinces, at 36 cents a dozen.  
 100 bushels field corn, at 60 cents a bushel.  
 Hay and corn fodder to feed one horse and three cows.

#### OTHER SOURCES OF PROFIT.

Besides, he sold some milk and butter, and has on his farm fifty apple trees, 400 peach trees, forty plum trees, one acre of raspberries and one-quarter acre of strawberries.

Not only has he paid such marked attention to the products of the soil, but his poultry yards have also been a special item in his ledger accounts. He has been raising poultry for six years, and has an incubator cellar, 14 by 17 feet, with incubator capacity for 700 eggs. Nearby is a brooder house, 62 feet long, 14 feet wide and 7 feet high, and a double-decker chicken house, 124 feet long, 16 feet wide and 12 feet high, with a capacity for 500 hens during the coldest weather. His ledger shows a net profit of \$538.78 on poultry alone for 1903, while the net profits on the products of the soil amounted to \$740.84, being a total net profit of \$1,279.60.

This proves to those advocates of large tracts what can be done on a fifteen-acre tract by a man of push and who knows how to conservatively manage such a tract.

Hertzog says he does not spend all his time on this farm, but has leisure moments to read the daily papers, agricultural journals and magazines.

#### UNION POULTRY FENCE.

The Union Fence Co. has a very interesting little booklet entitled "A Short Story for Poultry Raisers." All of our readers, who are interested in good cheap fencing should look up the ad of Case Bros., Colchester, Conn. They are the Eastern agents for this concern. Don't forget to send for the pamphlet.

## HOG BOOK FREE!

The points most essential to successful hog raising, as found in my 28 year experience as a specialist in the care of hogs and the treatment of their diseases are treated in a thorough and practical manner in my book, "HOG LOGY," which swine experts pronounce the best book of the kind published. One hundred pages, fully illustrated. FREE if you mention this paper when asking for it.



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## CASH FOR ALL HOGS THAT DIE

When my remedy is fed as a preventive. Write for plan. This is a bona fide offer and you should consider the difference between it and the "would-be guarantee" whereby you are "promised" a refund of the cost of the preparation if results are not as claimed. A guarantee that does not put the value of the animal in your pocket, in case of loss, is unfair to you.

PRICES FOR REMEDY: 25-lb. can, \$12.50; 12½-lb. can, \$6.50, prepaid. Packages, \$2.50, \$1.25 and 50 cents. None genuine without my signature on package or can label.

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Can save you Money, save your Horse,  
 save your Mule or save your Cow.

## Home Treatment for Horses and Cattle.

Sick and Lame Horses Made Well. Weak Cows Made Strong. Better Breeders and Milkers.

Book for the asking of your druggist or dealer, or send to

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Mention the PLANTER.

## Farms Steadily Improved and Crops Doubled

is the verdict of customers who use

## MAPES MANURES.

MAPES MANURES are made from Animal Bone and other High Grade Materials and not only increase the crops, but improve the mechanical condition and permanent productiveness of the soil. This is the great advantage Animal Bone Basis Fertilizers have over those made with Acid Phosphate as a basis. See page 76 of Wood's Seed Book, or send for special circular about Mapes Manures. Prices quoted on request.

T. W. WOOD & SONS, SEEDSMEN, Richmond, Va.

For a fine assortment of Apple Trees, a bargain in Plum Trees, fine lot of extra sized Rose Bushes, choice varieties, Hardy Ornamentals, specimen shaped bushes, Spireas, Weigelas, Deutzias, Hydrangeas, etc.,—go or apply to

GEO. E. MURRELL ORCHARD & NURSERY CO.,

Send for our Descriptive Catalogue—IT'S FREE.

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**Headquarters for GOLDENLAD 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.** ❀ ❀

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**Headquarters for the best IMPORTED ENGLISH BERKSHIRES.**

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**EGGS FOR HATCHING**

**The Imperial Fruit and Poultry Farm**

❀ ❀ Is now booking orders for eggs for hatching from strictly pure, high-class poultry, at \$1.00 for 15 eggs, except duck eggs, which are \$1.00 for 13. ❀ ❀

- BARRED PLYMOUTH ROCKS, WHITE PLYMOUTH ROCKS,
- SINGLE COMB WHITE AND S. C. BROWN LEGHORNS,
- SILVER LACED AND WHITE WYANDOTTE,
- MAMMOTH PEKIN DUCKS.

Satisfaction Guaranteed. Write your name and address plainly.

**P. H. HEYDENREICH, Prop., : : : Staunton, Va.**



## GOOD HOUSEKEEPING.

## CREAM OF ASPARAGUS SOUP.

You may use the less expensive bunches of asparagus for this and it will be just as good.

Take one bunch of asparagus, wash it well and tie it up. Put it in a sauce pan of boiling water and let it boil for three quarters of an hour, or until the vegetable is tender. Cut off the tops and lay them aside. Put one quart of milk on in a double boiler and when it has boiled add the asparagus which must be pressed through a colendar. Cream one large tablespoon of butter with two table-spoons of flour until perfectly smooth and add this to the soup now put in the tops and season with pepper, salt and a few pieces of parsley or thyme, and serve hot with toasted bread.

## ASPARAGUS ON TOAST.

Wash the asparagus well and put it into a pan with as much water as will cover it well, cover it and let it boil until tender. Take it out and drain off the water. Toast the stale bread to a light brown and on each slice arrange half dozen stalks of the asparagus. Pour over these a sauce made of one pint of milk, two table-spoons of flour and one large spoon of butter. Put the butter in a pan and let it melt, not brown, then stir in the flour and add the milk. Let it cook until creamy and season with pepper and salt.

## GREEN PEA SOUP.

Boil a beef bone for two hours then add the hulls of the peas and let them boil for an hour, strain out the bone and hulls and add two quarts of peas and boil another hour. About fifteen minutes before serving add two large table-spoons of flour creamed in as much butter; pepper, salt and parsley. Serve with cold bread or toast.

## BAKED SHAD.

You can tell when a shad is fresh by turning up the gills and if they are a bright red it is all right. Wash it out after it has been cleaned with a little salt water and wipe dry. Return the roe to the shad. Make the dressing of stale bread crumbs, an onion, a little chopped pickle, half teaspoon of black pepper, one teaspoon of salt, a teaspoon of celery seed, one hard boiled egg chopped fine and a large spoon of butter, mix this all well and lay it between the roe and tie it up or sew it. Lay it in a well greased pan with a little flour sprinkled on the bottom and with a few pieces of nice fat bacon sprinkled on the top of the fish. Fill the pan half full of water and bake one hour in a hot oven. Serve on a hot dish and garnish with hard boiled egg and parsley.

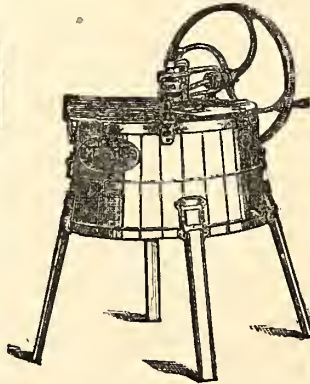
## BOILED SHAD.

Wash the shad with salt water and sprinkle salt, pepper and a little cayenne inside and sew it up in a towel.

Local agencies and complete repair stocks everywhere

# CHAMPION HARVESTERS

International Harvester Co. of America, Chicago, U. S. A.

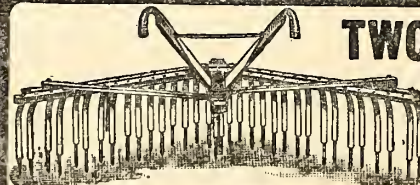


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## The Majestic Rotary Washer

has too many good points for explanation in an advertisement. Yourname on a postal card will bring our booklet, with full particulars of our six different machines and how to get them. One of them will certainly please you. All are made with electrically welded wire hoops sunk in grooves—our patent. Being the largest manufacturers of woodenware in the world, we can make better machines for the money than any one else. If you want a machine that washes, buy one of ours.

THE RICHMOND CEDAR WORKS, Richmond, Va.



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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 and steady running. Furnished either with round teeth or with flat to suit different soils, as we are licensed to manufacture the famous Hallock flat tooth. Write today for catalog and booklet of field scenes showing half tone pictures from photographs of weeder in actual use. Both free for the asking.

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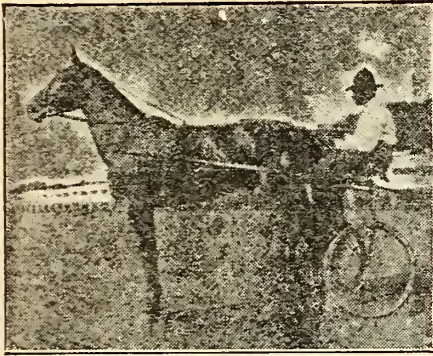
W. H. PALMER, President.

W. H. McCARTHY, Secretary.



**WILKES. X NUTWOOD.**  
**WEALTH, 2:10—RECORD 2.0**

Sire Gambetta Wilkes, 2:19 $\frac{1}{4}$ , the leading sire of 2:10 performers, leading sire of new standard performers for 1902 and 1903, with total of 147 in 2:30 list, one of the best sons of the immortal George Wilkes, one of the founders of the American trotter.



Dam, Magnolia, by Norfolk, he by Nutwood, 2:18 $\frac{3}{4}$ , sire of 178 and of dams of 170. The founder of one of the best families of trotting bred horses, 2nd dam Beck Collins, dam of Choctaw, 2:30, by Woodburn Hambletonian, 1639, 3rd dam, Rebecca (thoroughbred), by Blucher. Wealth, 2:10, foaled 1897, is dark bay, 16 hands, weight 1,200 pounds, of beautiful shape, style and finish, good disposition and commanding appearance. His breeding represents the cream of trotting families, he being a cross of the Wilkes on Nutwood blood, with a strong thoroughbred foundation. His record, 2:10, is not his speed limit, as he has gone quarters and even halves at a 2 minute gait. 1903 was his first season in the stud, though he has sired a filly which trotted in 2:25 in her 2 year old form. Wealth will transmit his speed and style to his off-

spring. Mr. Cecil, owner of Gambetta Wilkes, in a letter dated January 14, 1904, says: "Wealth, 2:10, is as sure to be a very great sire as we both live." Breed to him. Mares bred at \$20. the season, with usual return privilege. Mares sent me will receive best of care at \$1.50 per month on grass, or if on grain at actual cost.

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CLIFTON FARM,

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12 1-2 lb. Box \$1.00; 100 lb. Keg \$7.00.  
 DUSTER FOR APPLYING DRY, 25 cts.

Extra yield more than pays entire cost. Prevents blight, produces better quality. CONTAINS NO ARSENIC—KILLS THE BUGS on potato, squash and cucumber vines.

Kills current, gooseberry and tomato worms, and all bugs that eat the leaves of plants, trees or vines.

HORSE POWER SPRAYER \$65.00 HAND SPRAYER \$15.00  
 FOR APPLYING IN WATER.

**Danforth Chemical Co.,**  
 Manufacturers, Leominster, Mass.

PERCY L. BANKS, Manager Norfolk Branch, 41 Union St., Norfolk, Va.



Pat. March 16 and Nov. 9, 1893.  
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Pat. Mch. 16 and Nov. 9, 1897. Pat. in Canada, Nov. 2, 1897, and Jan. 25, 1900.

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Old Reliable Paris Green Mixture for Potato Bugs and Tobacco Worms. 85 cts. per 100 lb. bag, \$1.50 per 200 lb. bag. Special price for larger quantities. :: :: ::

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Put some strips of wood in the bottom of the pan and lay the fish on and cover with water. Let it boil steadily for an hour. Take off the cloth and serve on a hot dish with egg sauce. A little highly seasoned dressing in the shad is an improvement.

**EGG SAUCE.**

Melt a large spoon of butter and blend with it two tablespoons of flour Add a pint of stock or milk and let it thicken. To this add six hard boiled eggs chopped fine and seasoned with pepper, salt, parsley and thyme. Save some of the rings of the white of the eggs to lay over the fish with slices of lemon as a garnish.

**SWEETBREADS.**

Lay the sweetbreads in salt water for awhile and then parboil them until done, putting them in cold water and let it come to the boil. Drain and wipe dry. Split in half. Rub each piece with melted butter, pepper and salt and dip in beaten egg, then in cracker crumbs, lay them in a buttered pan and sift more crumbs over them and set in the stove to brown, or else fry them in deep fat.

**FRIED BEEF KIDNEYS.**

Plunge the kidneys in boiling water and then cut them in thin slices, season with pepper and salt and dredge well with flour and fry until done in hot lard. While they are frying make a gravy with a piece of butter the size of an egg, a large spoon of flour and pepper, salt, and a cup of water. Boil and take the fried kidneys off the griddle, put them in the gravy, add tomato or walnut catsup with parsley, thyme or sage minced and a small piece of an onion. They should simmer for a few minutes in the gravy and then they are ready for the table.

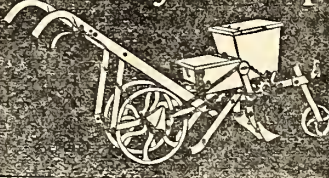
**STEWED BRAINS.**

Soak the brains in salt water for an hour and then pour over them hot water, which will make it easy to remove the skin. After doing this put them in a stewpan with water just to cover them and let them boil twenty minutes. Pour off the water, add one teacup of fresh milk, salt and pepper, butter the size of an egg creamed light, and let them cook for ten minutes longer. A little vinegar added after you put them in the dish is pleasant to some tastes.

**BRAIN AND SWEET BREAD CROQUETTES.**

Take two sets of calf brains and one set of sweetbreads. Lay the brains in salt water for an hour, and then pour boiling water on them and take off the skin. Soak the sweetbreads in warm water for thirty minutes and then plunge into boiling water to make them white. Remove the outer skin and pipes and cut into small pieces. Cook the brains and sweetbreads separately until they are done enough to be mashed very fine and let them get cold before you mix them together. Season with butter, pepper, salt, red pepper, a very little

The Proof of the Planter is the Stand of the Crop.

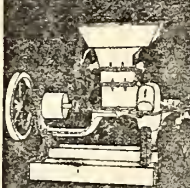


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Plants corn, beans, peas, etc., without cracking a grain or missing a hill. Will work wherever a plow will run. Drops seed in drills, or in hills at any distance. Distributes any kind of fertilizer in any quantity desired, with absolute safety from injury to seed. Strong steel frame gives lightness and durability. Write for new 1904 catalogue describing this and other farm implements and machinery.

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**GRINDS SNAP CORN**



Corn in the ear and all grains, any sort of chop mixture. For speedy and perfect work, saving feed and labor, the all-purpose grinding mill is the

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Made in a variety of styles, including Power Mills, Sweep Mills, Mill and Power Combined. The line that meets feeders' wants and is right in price. Don't buy until you have seen our late catalogue. Mailed free. Write for it to-day.

THE FOOS MFG. CO., Springfield, Ohio.

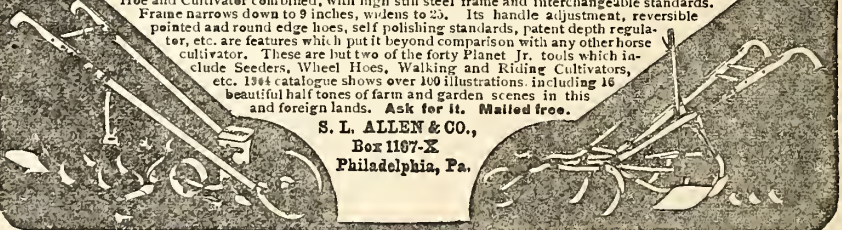
RICHMOND ATLANTA NASHVILLE NEW ORLEANS

**No. 25 of the Planet Jr. Family.**

Below on the left is a tool after the gardener's own heart. It wins the approval of every one because in its many forms it suits exactly each sort of garden work. It is a Hill and Drill Planter, Double and Single Wheel Hoe, Cultivator and Plow combined. It marks out rows, all distances apart, drops in hills, 4, 6, 8, 12 or 24 inches apart, kills weeds, stirs the surface, or cultivates all depths, furrows, ridges, etc. Throws earth to or from, works between or astride rows. Its handles raise or lower to suit man or boy. Doing all kinds of garden work, its crowning virtue is that it is so quickly changed from one use to another.

**No. 8 Planet Jr. Horse Hoe**

shows a practical knowledge of gardeners' needs combined with genius in manufacture. It is Hoe and Cultivator combined, with high stiff steel frame and interchangeable standards.



Frame narrows down to 9 inches, widens to 25. Its handle adjustment, reversible pointed and round edge hoes, self polishing standards, patent depth regulator, etc. are features which put it beyond comparison with any other horse cultivator. These are but two of the forty Planet Jr. tools which include Seeders, Wheel Hoes, Walking and Riding Cultivators, etc. 1904 catalogue shows over 100 illustrations, including 16 beautiful half tones of farm and garden scenes in this and foreign lands. Ask for it. Mailed free.

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**\$37<sup>50</sup>**

**Split  
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Top  
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NO. 4089—This is a good, strong, substantial buggy and not to be compared with the cheap, inferior buggies offered at the same or lower prices. Equal quality sells at retail for from \$50.00 to \$60.00. It is sold on **30 Days Free Trial, Satisfaction Guaranteed.**

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**Line** of Top Buggies, Driving Wagons, Runabouts, Phaetons, Carriages, Spring Wagons & Carts comprise the latest and best in Workmanship and Quality. A Split Hickory name plate on your vehicle means that you have absolutely the best made.



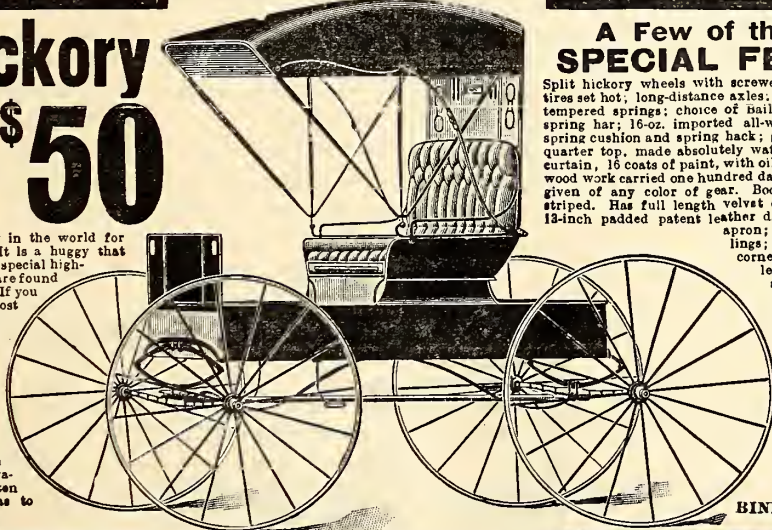
PRICE  
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**Split  
Hickory  
Winner  
Top Buggy**

NO. 4241—This buggy has long distance axles, quick shifting shaft couplings, double braced shafts, best SPLIT Hickory wheels, good, first-class leather quarter top, in fact, is complete in every respect and an excellent value for the money. It is sold on **30 Days Free Trial** and guaranteed to be the equal of buggies that retail for \$60. Our catalog gives full description and specifications.

## Split Hickory SPECIAL \$50 Top Buggy

NO. 4045—This is the best buggy in the world for strength, neatness and comfort. It is a buggy that surpasses competition and has more special high-grade and up-to-date features than are found on buggies that retail for \$100.00. If you want the handsomest, strongest, most complete and up-to-date buggy in your neighborhood, a buggy that we will guarantee to be superior to anything you can buy elsewhere for \$75.00, you will make no mistake in ordering our **SPLIT Hickory Special**. It has **100 Points of Merit** only a few of which we can mention here. Complete description is given in our catalogue and many illustrations are shown of this buggy gotten up in different combinations, as to finish, construction, etc.

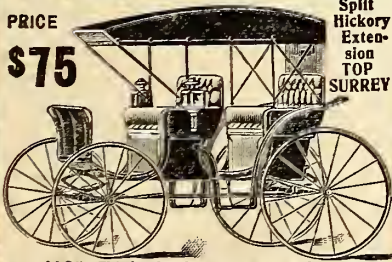


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Split hickory wheels with screwed rims, round edge steel tires set hot; long-distance axles; cemented axle beds; oil-tempered springs; choice of bailey body loops or wooden spring bar; 16-oz. imported all-wool broadcloth trimming; spring cushion and spring back; genuine enameled leather quarter top, made absolutely water-proof, reinforced back curtain, 16 coats of paint, with oil and lead foundation; all wood work carried one hundred days in pure oil. Option is given of any color of gear. Body can be plain or fancy striped. Has full length velvet carpet with panel carpets; 13-inch padded patent leather dash; side curtains; storm apron; quick-shifting shaft couplings; shafts have heel braces, corner braces and 36-inch point leathers, with round leathers at singletree and at hold-back straps. Write for our **FREE 136-Page Catalogue**, which fully describes our

**30 DAYS  
FREE TRIAL  
PLAN**

and our **TWO-YEAR  
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PRICE  
**\$75**

**Split  
Hickory  
Extension  
TOP  
SURREY**

NO. 4088—This is a handsome, roomy, comfortable and substantial surrey, the seats are wide and roomy, backs are high and comfortable, it is equipped with long distance axles, quick shifting shaft couplings, oil burning lamps, genuine leather double fenders, seat sides are padded, full length water proof top and complete in every detail. Full description given in catalog, with many options as to finish.

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**Ohio Carriage Mfg. Co.**  
(H. C. PHELPS, President)  
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**Split Hickory Rubber Tire  
DRIVING WAGON \$50**

NO. 4028—This is a very popular style, is furnished with the very best grade of solid rubber tires, roller run irons, open head springs, padded dash, quick shifting shaft couplings, double braced shafts and everything complete. It is our leader in driving wagons and the best value on the market for the money. Full description in our catalog.

of this last, and the yolk of three hard boiled eggs powdered, mould them with the hands into round or cone-shaped pieces and dip them into beaten eggs, then into fine cracker crumbs. You can buy the cracker dust already prepared. Fry them in boiling lard deep enough to cover. Only let them stay in the fat long enough to take a light brown. Lay them on butchers paper to absorb the grease. Keep in a hot place and serve hot.

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## CROSSING OF APPLES.

World's Fair Shows New Varieties Produced by Scientific Hybridization.

St. Louis, Mo.—Apples of every color in the spectrum, painted mysteriously by the hidden processes of nature, are brought from every State in the Union for the greatest display of this fruit ever dreamed of in the history of universal expositions. It is arranged artistically on apple-green plaques of uniform design in the great Horticultural Palace of the World's Fair of 1904. Practically every State in the Union had the choicest selections from apple crops placed in cold storage, ready to be removed at a moment's notice in refrigerator cars and installed in the Horticultural Hall for the opening of the fair.

The artistic installation of the apple exhibits has a striking feature never before carried out at any exposition, in that all exhibitors are compelled to use plaques of the same color and design. Thus a harmonious effect is produced and the eye of the visitor is not startled by incongruous combinations of colored china and wooden plaques.

The official plaque adopted by Chief Taylor is an artistic example of the modern art of the potter. The center is white, bearing the exposition monogram, L. P. E., in apple green color, and the outer portion of the top is a broad band of apple green, with the perimeter gilt-edged.

Pomologists of the United States have written volumes on the hybridization, or crossing, of apples in order to produce new varieties of commercial value suited for growth in the climatic and other physiographic conditions of this and that section of the country. An apple that is grown successfully in Missouri might not be the most profitable in the Upper Peninsula of Michigan, and the apple from the rockbound coast of the New England States would not thrive, perhaps, on the coast of California. Science has done much for the apple grower in this respect, and the great World's Fair apple display possesses untold scientific value and educational worth in exploiting all the many successful varieties that have been produced by modern hybridization in all parts of the Union. This feature is to be prominently seen in a majority of the State exhibits, and for the first time in the history of expositions the farmer and the commercial apple grower will have the opportunity of seeing complete displays of all apples successfully produced by crossing.

Hybridization is a charming employment for the apple grower, because here man uses his art and skill in attempting to control some of the most exquisite workings of nature. Scientific crossing is done by using a camel's hair brush to take the

## ... Vegetable Plants...

Book your order now for  
Lettuce, Celery, Egg Plants, Tomato and Pepper Plants.  
Prices and Varieties on "Application."

E. PARKE LINDSAY, Portsmouth, Va.

## .. ELMWOOD NURSERIES ..

—WE ARE GROWERS AND OFFER A FINE ASSORTMENT OF—

**Apples, Peaches, Pears, Cherries, Plums, Apricots, Nectarines, Grapevines** in large assortments, **Gooseberries, Currants, Strawberries, Horse-Radish, Asparagus, Dewberries** and an extra fine lot **Raspberries**. Splendid assortment **Ornamental and Shade Trees, Ornamental Shrubs and Hedge Plants**.

**EGGS** from B. P. ROCK and BROWN LEGHORN FOWLS at \$1.00 per 12. Also a few pullets and cockerels of these breeds at \$1.00 each for immediate delivery. Write for Catalogue to

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

## Five Crops a Year.

This is possible only with the wonderful **Turkestan Alfalfa** of which we have the only stock of seed in this country. The U. S. Government tested it thoroughly and report that it is harder than ordinary alfalfa; stands both drouth and freezing better; sprouts and starts growing quicker; having more leaves, makes heavier yield; gives better results in alkali soils and that it lasts longer without reseeding.

It is undoubtedly the most valuable plant ever introduced for the semi-arid and irrigated sections and will prove of value anywhere. Every farmer should try a few acres at least, this spring. It will outyield in both pasture and hay, anything you can possibly sow.

Write for Free Illustrated Seed Catalogue.

1 lb. by mail, 50c; by express or freight, 10 lbs., \$3.00; 25 lbs., \$6.75; 100 lbs., \$25.00.

Stacking Alfalfa. **CURRIE BROS. CO., Box 43, Milwaukee, Wis.**

Established in 1866.

300 Acres Under Cultivation.

## W. T. HOOD & CO.,

Old Dominion Nurseries, Richmond, Va.

OFFICE: CHAMBERLAYNE and RENNIE AVENUES.

Take Lakeside Car First and Broad Sts. PHONE No. 2155.

Nurseries, Brook Road Half Mile from City, and Hanover Co.

Wholesale and Retail Growers of **High Grade Nursery Stock,**

**Shade Trees, Lawn Trees, Shrubs, Roses, Etc.**

## FRUIT TREES.

All the Standard and New Varieties. We have experienced men to plant trees and lay out grounds when desired. **Shade Trees a Specialty.** Catalogues mailed on Application.

AGENTS WANTED, Write for Terms. Liberal Commissions. (Mention this Paper.)



pollen from the blossom of one variety of apple and impregnating the pistil of the flower of another variety. The fruit formed from this blossom is a cross of the two varieties. The seed of this is planted. Sometimes the grower, in this way, hits upon a fine apple, but there are a thousand failures to one success.

The great State of Minnesota, which has made wonderful success in scientific hybridization, gives the world the benefit of her knowledge by showing a large number of seedlings that have proved commercially profitable in her cold climate.

Iowa, South Dakota and Wisconsin show some fine specimens of seedlings that have been hit upon after years of patient work in scientific crossing. For instance, Patent's Greening is a fine specimen from Iowa.

Aside from the seedlings the great apple exhibit shows all the well known standard varieties, and the Ben Davis from Indiana runs a close race with the Ben Davis from Missouri for popularity, and the delicious Albemarle Pippin from Old Virginia will not be forgotten alongside the Newton Pippin from California.

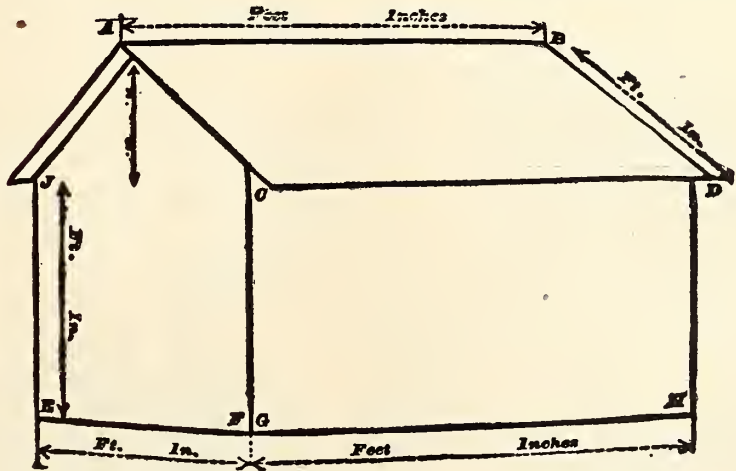
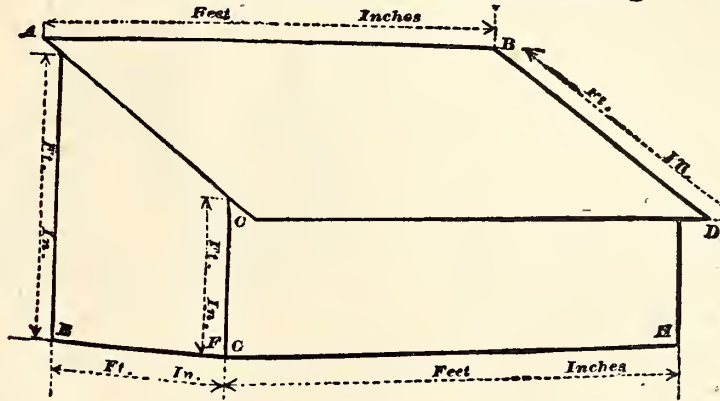
Colorado is represented by a magnificent display of all standard varieties of apples that grow to such astonishing perfection in the irrigated sections of that State. Missouri, known the world over for her fine red apples, has a fine display of standard varieties. Indiana has sent an exhibit to prove that Hoosierdom is one of the greatest producers of all kinds of apples, from the beautiful Maiden's Blush to the Winesaps and Ben Davis. Michigan is well represented, and her Northern Spy variety is especially exploited. New York makes one of the largest apple displays ever made by a single State at any exposition, and her noted Baldwins will perhaps land several blue ribbons. Arkansas displays her well known specimens of Gano, Ben Davis, Mammoth Black Twig and Winesaps, and little Rhode Island has a display the star feature of which is her far-famed Greenings.

The farmer and owner of commercial orchards can obtain a liberal education in apple culture at the World's Fair. He can gain pointers as to the best methods of marketing apples, and of utilizing rough land for orchard purposes, and of securing clear-skinned fruit, and can see all the manifold advantage of applying the principles of modern pomology to commercial fruit culture and furthermore, he can gain information as to the best means of protecting his orchards from the ravages of bugs and insects, for the latest discoveries made by etomologists in this line will be fully explained in lectures given by competent scientific investigators.

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# ROOFING OF ALL KINDS.

Painted Corrugated Roofing, Painted V. Crimp Roofing, Roofing Tin in boxes or rolls, Tarred Roofing Felt, Perfected Granite Roofing.



Fill in the Dimensions in the diagram showing the kind of roof you wish to cover. Mail it to us and we will quote you price AT YOUR DEPOT, on a sufficient quantity of whatever kind of roofing you desire.

We also carry a complete stock of Conductor Pipe and Gutter Solders and Metals; Galvanized and Black Sheet Iron, etc.

**Southern Railway Supply Company,**

1323 East Main Street,

RICHMOND, VIRGINIA.

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Where an established reputation warrants continued confidence. The name of LUMSDEN on anything in the JEWELRY or SILVERWARE line is a STANDARD of QUALITY.

**FINE GOLD AND DIAMOND JEWELRY,  
STERLING SILVERWARE AND CUT GLASS.**

SIX SOLID STERLING SILVER TEA SPOONS, \$3.30. Write for our catalogue; it contains many articles on which we can save you money.

**C. LUMSDEN & SON, Established 1835, 731 East Main Street, Richmond, Va.**

When corresponding with our advertisers always mention the SOUTHERN PLANTER.



**THE "IRON AGE" PIVOT WHEEL RIDING CULTIVATOR.**

We give herewith a brief description of one of the latest members of the "Iron Age" family of farm tools. This tool is fashioned somewhat as others made by this company, but has a number of improvements. The pivot wheels are decided improvements that are specially desirable where one has occasion to work the cultivator on a hillside or desires to economize space at the end of rows. The wheels are easily fixed in position by simply dropping a pin in a hole. The whole weight of the tool rests upon hardened steel balls and as the pivots are very close to the centre of the wheel, the cultivator can be easily guided.

The Gang Adjusting Lever is another desirable feature of this machine. The gang can be moved close together or further apart, so as to change to cultivate young or more matured crops simply by the movement of the gang adjusting lever, which is at the right of the operator just in correct position to easily handle. We have not space here to give a fuller description of this tool, but suggest that those interested refer to the ad of the Bateman Mfg. Co. and send for their latest catalogue, which describes it and all the rest of their tools completely.

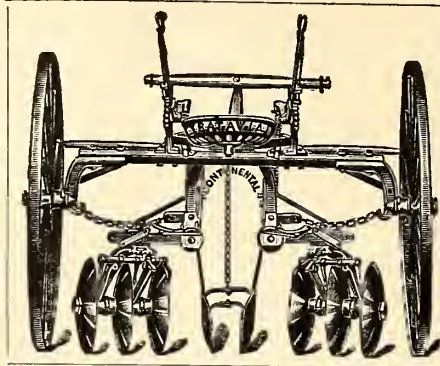
It is not uncommon to meet people who are always well shaven, but always have sore faces. In most cases the cause is in the soap used. Poor shaving soaps, common toilet and even ordinary laundry soaps are used. Nothing but sore faces are to be expected. The practice is worse than unclean—it is positively dangerous. When the very best shaving soaps, such as Williams', are to be had for so little money, there is absolutely no excuse for using unfit articles. If such people would send for the free sample of Williams' soap mentioned in the advertisement elsewhere, they would never go back to common soaps.

**ANGUS CATTLE vs. ALL OTHER BEEF BREEDS.**

This is the title of a very interesting folder gotten up by Messrs. H. F. Coleman & Sons, who are regular advertisers in this paper. This firm will be very pleased to mail all interested parties a copy. It gives all the strong points of this celebrated beef breed.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

**JOHNSTON**



**"Continental" ..Disk Cultivator.**

—FOR—  
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SAVES HALF THE LABOR.

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...of...

**Binders, Mowers, Rakes, Tedders and Harrows.**

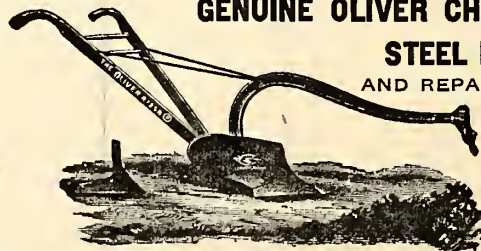
**THE JOHNSTON HARVESTER CO.,**

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The Watt Plow Co., General Agents, Richmond, Va.

**GENUINE OLIVER CHILLED STEEL BEAM PLOWS AND REPAIRS.**



This far-famed and world-renowned Plow we guarantee you is worthy of all that is said in praise of it. Wood Beam also furnished. Write for large Illustrated Catalogue.

We are general distributors of the GENUINE ONLY.

**Farm Tools and Supplies**

Large Illustrated Catalogue for 1904 just issued, embracing Hand, Horse and Power Labor-Saving Implements.

You must save as well as make money.

Write for this FREE catalogue at once.

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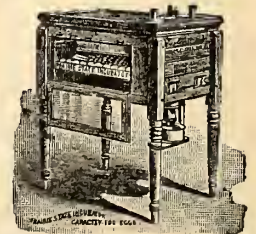
Implements  
Poultry Supplies

Fertilizers  
Wheel Material

41 to 51 Union Street,

NORFOLK, VA.

**INCUBATORS AND BROODERS.**



Season is at hand. HEN PRODUCTS higher than ever. Our prices low. Write for Free Catalogue.

**DON'T BUY GASOLINE ENGINES UNTIL YOU HAVE INVESTIGATED "THE MASTER WORKMAN"**

A two-cylinder gasoline engine; superior to all one-cylinder engines. Costs less to buy and less to run. Quicker and easier started. Has a wider sphere of usefulness. Has no vibration; can be mounted on any light wagon as a portable. Weighs less than half of one-cylinder engines. Give size of engine required. Prices 1 1/2, 2, 2 1/2, 4, 5, 6, 8, 10 and 15 horse power. Mention this paper. Send for catalogue. THE TEMPLE PUMP CO., Meagher



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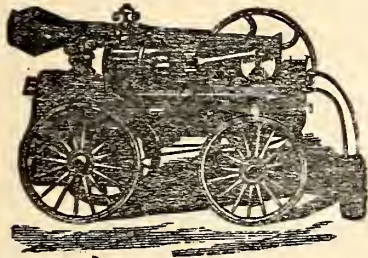
ESTABLISHED 1840.

# THE WATT PLOW CO.,

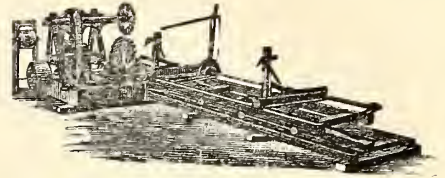
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15th & Franklin and 14th & Main Sts., Richmond, Va.

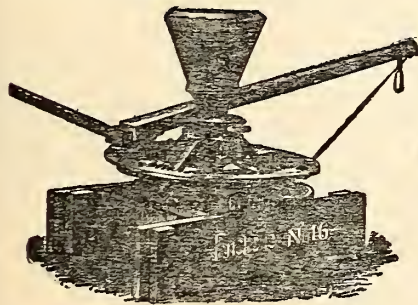
**Agricultural Implements,  
Machinery, Vehicles and  
Harness.**



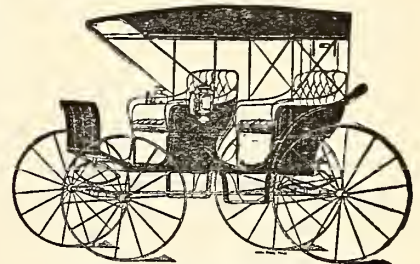
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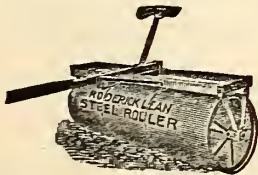
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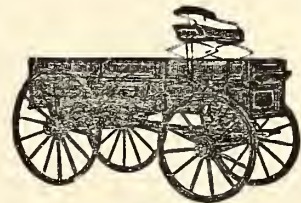
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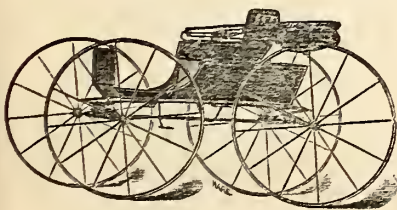
EXTENSION TOP SURREY.



RODERICK LEAN LAND ROLLER.



WEBER WAGONS.



ALL STYLES OFBUGGIES.

A full stock always on hand, and prompt shipments guaranteed. South Bend, Dixie and Farmer's Friend Plows and repairs. The Hancock Rotary Disc Plow, warranted to go in the ground where all others fail.

Hocking Valley Feed Cutters, Cyclone Shredders, Smalley Feed Cutters, Dain Corn Cutters. Equal to any made. Staver Buckeye Feed Mill and Horse Power Combined.

Whitman All-Steel, full circle Hay Presses, George Ertel Company's full circle Hay Presses. Rapid Fire Horse Power Hay Press, for one horse, a good, cheap press. Will put up from 150 to 200 bales a day. The well known Minnich Hand Baling Presses.

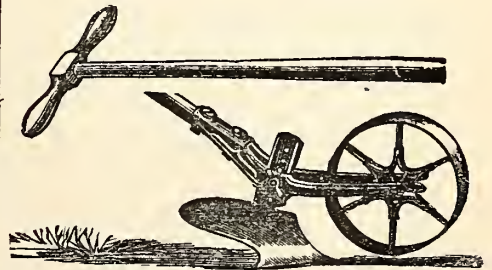
Hocking Valley Wine and Cider Mills. Hard wood rollers. The best mill made.

Hocking Valley Corn Shellers, for hand or power. Smalley Electric Pole and Wood Saws, for steam or horse power. Peerless Engines and Saw Mills always in stock. Several good second-hand Engines and other second-hand machinery for sale. "Pittsburgh Perfect" fencing, electrically welded. Barb Wire, Plain Galvanized Wire, Baling Wire, and Bale Ties. Continental Disc Harrows, Buffalo Pitts and Lean Spike Harrows.

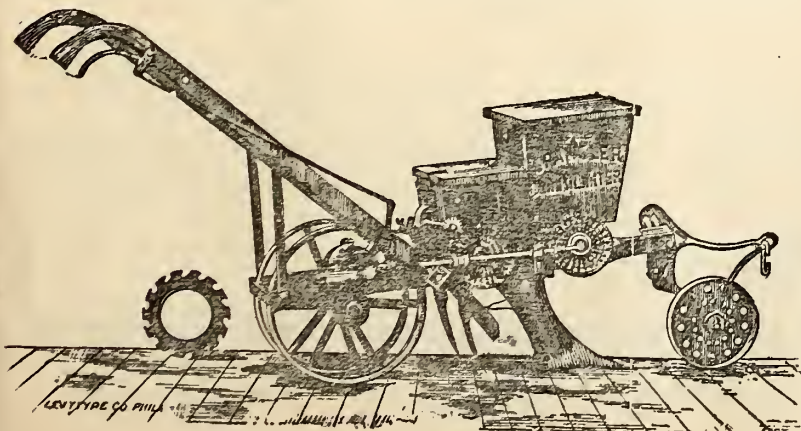
John Deere and Continental Disc Cultivators, Corn Planters, etc. A full line of Planet Jr., Garden Tools. Your correspondence is solicited. We will mail copy of our new catalogue upon application.



SPIKE HARROW.



FIREFLY GARDEN PLOW.



## The Spangler Corn Planter

With and Without Fertilizer Attachment

The Spangler Planter has a side gear which is convenient and practical. The quantity of corn to be dropped can be regulated instantly without changing the quantity of the fertilizer sown, or the quantity of the fertilizer can be changed without affecting the corn dropping, and either can be discontinued in an instant and not sow at all.

Hoosier Single and Double Row Planter, made entirely of steel, except handles—a very durable machine—Black Hawk, and John Deere single and double row planters.



## DAN REILLY'S TEMPER.

A man has rights in these free United States of America—oceans of rights, if he but knows them—and he is a poor fellow who does not have most of them trampled upon these days. Whatever does an Irishman come all the way across the water for, and swear to uphold the constitution and by-laws of the United States for, if, by all the saints, he is going to let every one walk all over him and his rights? No wonder a man gets mad now and again. Looking at it fairly, Dan Reilly seemed to have more rights and more people stepping on them than any other man in the city. And a grand temper the little man produced out of the wrangle.

Hard on him was it to have the neighbors he had, too. It would throw any man in a temper to have neighbors who would never get a temper, and that was the trouble with Van Dusen, to the left of Reilly, and Umholt, to his right. What are neighbors for if they can't get in a sociable quarrel now and again?

There was Umholt, the tailor, now. He sat cross-legged on his long table at the window of his cottage, pulling his thread before his weak eyes all day, with never a smell of excitement, and yet in the tall of the day, when he came into his garden, never a quarrel would he have, or a hot word, or a fierce look. It was unneighborly.

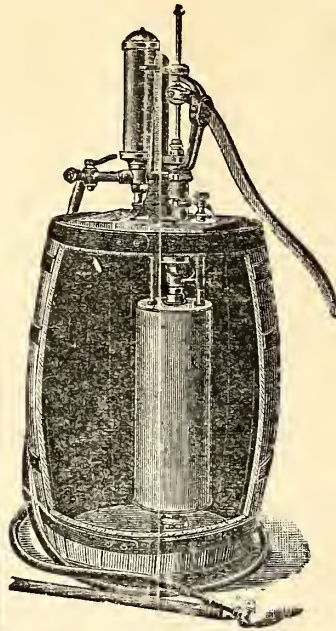
"Ol do be thinkin' thim Dutch hev no blood in thim at all," said Dan to his wife, one morning after his pig had spent a voracious night in the Umholt garden. "Niver a worrud did ould Umholt say whin he druv the pig home, an' half hls cabbages gawn. Uf his pig ate up my cabbages Oi 'd l'ave hlm hev a bit av me moind, now, Ol w'u'd. Phwat roight has a man to be l'avln' his pigs go roamin' around devourln' up people's green truck, Oi 'd lolke t' know? Bliss his sowl, Oi 'll show him! The idee! Is ut t' fat his pig Oi do be workin' me arms aff all the spring? Oi 'll hev the law on him, Ol will!"

He brought his fist down on the table with a crash that made the dishes rattle. Mrs. Reilly settled her two hundred and odd pounds comfortably back in her chair and folded her arms. She had grown fat and cheerful on forty years of Dan Reilly's temper.

"Talk sinse, Dan Reilly," she said. "No plg alove c'u'd git out av Umholt's sty, an' ye know ut. Ut 's yer-sillf might better be patchin' up yer own sty to kape the pig insoide, than to be blissin' ould Umholt, the poor droled-up felly. Ut 's a good man he is, uf he do be Dutch, an' ut 's hlm moight bettther be blissin' ye an' yer plg. Wan w'u'd think 't was his pig got intil yer cabbages, to hear ye go on."

Dan shook hls fist.

"Ol 'd lolke to see his plg in me lot, Ol w'u'd!" he cried. "An' Ol 'd lolke



## SPRAY NOW

and save your fruit and vegetables. CATALOGUE and SPRAYING CALENDAR giving FORMULAS, free for the asking.

Our Pumps used by Virginia and North Carolina Agricultural Departments  
Pumps, Wind Mills,  
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Sydnor Pump and Well Co., Inc.,  
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# THE SEABOARD

## AIR LINE RAILWAY

OFFERS  
PROFITABLE  
INVESTMENTS

TO

THE MANUFACTURER,  
THE STOCK RAISER,  
THE DAIRYMAN,  
THE FRUIT GROWER,  
THE TRUCKER.

### WHERE YOUR LABOR IS NOT IN VAIN.


Would a country where work can be carried on the entire year and where large profits can be realized interest you?

The SEABOARD Air Line Railway traverses six Southern States and a region of this character. One two cent stamp will bring handsome illustrated literature descriptive of the section.

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CHARLES B. RYAN,  
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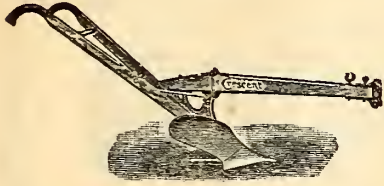
**THE YORK Improved Weeder**

The flexibility of the teeth is the important thing in a weeder. The York Improved Weeder has teeth of square spring steel with round points. These teeth have great flexibility, and being narrow in the body they do not whip or bruise the growing plants as flat teeth do. This style also allows more clearance and prevents clogging. Our square teeth do not break. The frame is made of strong flexible angle steel and handles and shafts are adjustable. Send for free circular. The Spangler Corn Planters and Grain Drills are the best for you to use. **SPANGLER MFG. CO., 501 Queen St., York, Pa.**

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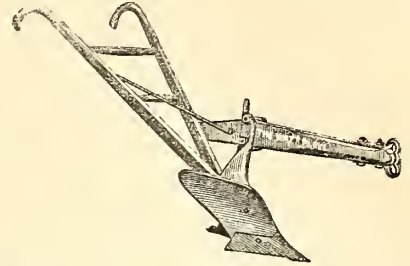


# Perfected Implements for Spring Work.



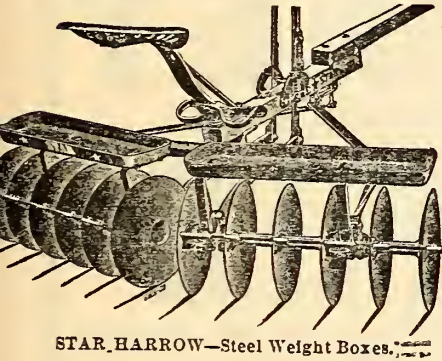
THE CRESCENT PLOW.

To get the best results prepare your land with the WATT, CROWN or CRESCENT PLOW, made in sixteen sizes and adapted to every variety of work in all kinds of soil. Guaranteed to be the best general purpose plows made and sold subject to approval by trial.



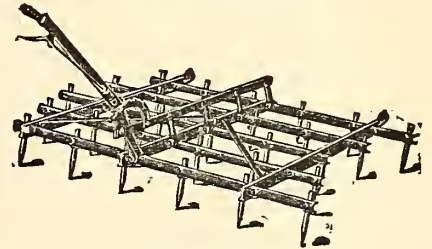
THE WATT PLOW.

OUR ROAD PLOWS will enter hard ground when no other will.



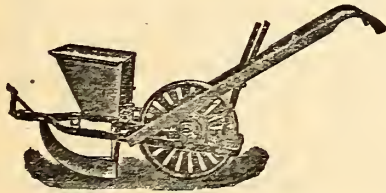
STAR HARROW—Steel Weight Boxes.

DISC HARROWS with or without solid steel weight boxes. Most durable bearing with oil reservoir directly over axle free from dust and clogging. Anti Friction Rollers. Adjustable Seats. Easy to handle. Light in draft.



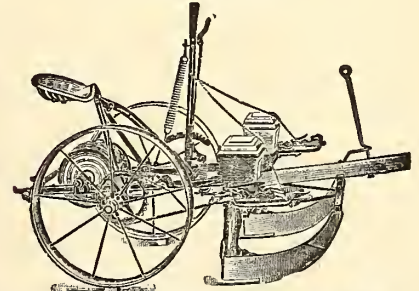
LEVER HARROW.

ALL STEEL LEVER HARROWS made up of sections of 25 teeth each. Instantly adjusted straight or slanting by lever.



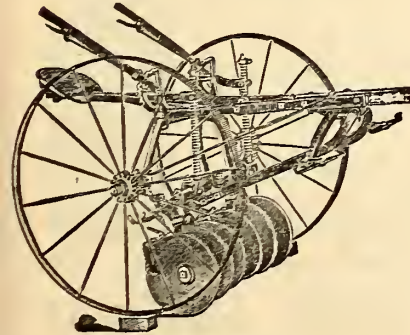
SINGLE ROW PLANTER.

THE EMPIRE CORN PLANTER with or without fertilizer attachment The Lightest Planter Made. Plants any quantity and distance accurately.



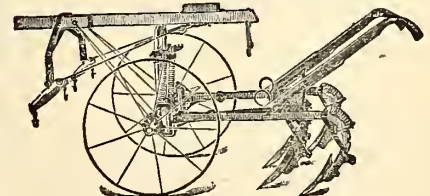
DOUBLE ROW PLANTER.

DOUBLE ROW PLANTER with or without Check Rower, Drill and Fertilizer attachments. Adjustable in width, distance of drop and quantity.



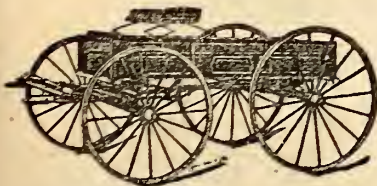
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DISC CULTIVATORS and HARROW combined. Made of steel and malleable iron. Light Draft, Great Strength, High Steel Arch, Steel Axle, Steel Wheels, adjustable in width. Discs adjustable in depth and at any angle.



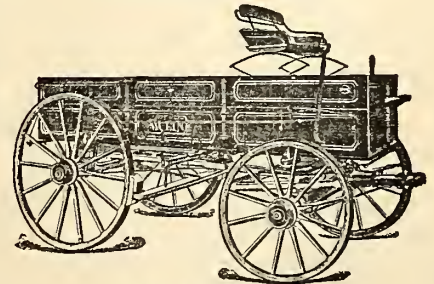
WALKING CULTIVATOR.

WALKING AND RIDING CULTIVATORS with four, six or eight shovels and spring teeth.



IMPERIAL ONE HORSE WAGON.

FARM WAGONS built of air-dried timber and all material the best that can be procured.



THE NEW MOLINE.

IRON AGE PATTERN CULTIVATORS and HARROWS, MALTA DOUBLE SHOVEL PLOWS.

WEEDERS, FERTILIZER DISTRIBUTORS, FIELD ROLLERS with solid Steel Heads, BALING PRESSES for Hand or Power, GRAIN DRILLS, FEED CUTTERS, PEA HULLERS, THRESHERS, ENGINES, SAW MILLS, GRINDING MILLS, &C., &C. Write for Prices.

13 So. Fifteenth Street,  
Between Main and Cary.

Established by  
GEO. WATT, 1840.

**THE CALL-WATT CO.,**  
MANFRED CALL, Gen'l Manager.  
**RICHMOND, VA.**



to see him hev worruds wid me hecase me pig made free to break out av the sty! Sue me, w'u'd he? Jist let him thry ut, the ould, droied-up tailorman. Oi 'll show him an Irishman has as good a roight to kape a pig as a Dutchman has!"

He shook his fist savagely. He was so angry he could not hold his hand steady enough to light his pipe.

"Him!" he cried. "Him! Oi 'll show him yit, Oi will, the tame ould hurrud that he is! Oi hev me roights!"

He crushed his soft hat upon his head and went out on the porch, where he sat on a step and glared at the inoffensive tailor, who was sewing away in his open window.

**CLOVER FOR HENS.**

I have fed a good deal of clover to hens this winter with excellent results. I never fed so much before and never gathered so many eggs. The clover was obtained from the barn floor and especially from the mows where the hay is pitched up and down again when fed. This is hetter quality than that lying around the feeding rooms. I was surprised to find so much and such good quality, as only the broken off heads and leaves are used.

The clover was prepared by either filling a large kettle, pouring on some cold water and allowing to come to a boil while tightly covered, or it was scalded with boiling water in large wooden pails. It can be fed alone or mixed with ground grain, bran, middlings and meat meal. I found the hens ate it just as well when fed alone. In fact, I used less ground grain, bran, etc., than ever before.—J. B. Lisk in American Agriculturist.

**FARMS IN NORTHERN VIRGINIA.**

Any of our readers interested in farms in this splendid section should write to P. B. Buell & Sons, Herndon, Va., for their latest catalogue. This firm is making a specialty of handling real estate adjacent to Washington. Look up the ad in another column.

**ESSEX PIGS.**

L. G. Jones is offering some choice Essex pigs, three months old. He also has for sale some Southdown and Hampshiredown lamhs. Look up his ad.

A neat Binder for your back numbers can be had for 25 cents. Address our Business Office.

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**EXPRESS CHARGES PAID BY US**

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Every quart of whiskey we sell is made at our own distillery, and our entire product is sold direct to consumers, saving you the dealers' big profits and avoiding all chance of adulteration. No matter how much you pay you cannot get anything purer or better than HAYNER WHISKEY and yet it costs only \$3.20 for four full quarts and we pay the express charges. Satisfaction guaranteed or money refunded by first mail. Distillery, Troy, Ohio. Established 1868.

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Sire of McChesney, 2:16 $\frac{3}{4}$ , Etc.

Bay horse, by Electioneer 125, first dam Esther, dam of Expressive 3, 2:12 $\frac{1}{2}$ ; Express, 2:21, etc.; by Express, second dam, Coliseum, by Colossus.

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FEE, \$25 the season.

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Record, 2:20.

Sire of Captain, 2:16 $\frac{1}{4}$ ; Foxhall, 2:19 $\frac{3}{4}$ , etc. Bay horse, by Billy Thornhill, 2:24, dam Sweetstakes, by Sweep Stakes, 2:23. Fee, \$25.00 the season.

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Brown horse, by Guy Wilkes, 2:15 $\frac{1}{4}$ , dam Sable, dam of Sable Wilkes, 2:18, etc., by The Moor, 3:70.

N. B.—Very fast and a great show horse.

FEE, \$25.00.

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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

**THI-WEEKLY.**

The World (thrice-a-week), N. Y....	1 00	1 25
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**WEEKLIES.**

Harper's Weekly .....	4 00	4 00
Harper's 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
Heard's Dairyman .....	1 00	1 35
Country Gentleman .....	1 50	1 75
Religious Herald, Richmond, Va....	2 00	2 25
Times-Dispatch, Richmond, Va.....	1 00	1 25
Central Presbyterian, " " .....	2 00	2 25
Horseman .....	3 00	3 00

**MONTHLIES.**

Wool Markets and Sheep .....	50	75
Dairy and Creamery .....	50	75
Commercial Poultry .....	50	75
All three .....	1 50	1 15
North American Review .....	5 00	5 00
The Century Magazine .....	4 00	4 25
St. Nicholas Magazine .....	3 00	3 25
Lippincott's Magazine .....	2 50	2 50
Harper's Magazine .....	4 00	4 00
Forum Magazine .....	3 00	3 25
Scribner's Magazine .....	3 00	3 25
Frank Leslie's Magazine .....	1 00	1 35
Cosmopolitan Magazine .....	1 00	1 35
Everybody's Magazine .....	1 00	1 35
Munsey Magazine .....	1 00	1 35
Strand Magazine .....	1 25	1 65
McClure's Magazine .....	1 00	1 35
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Successful Farming .....	1 00	75
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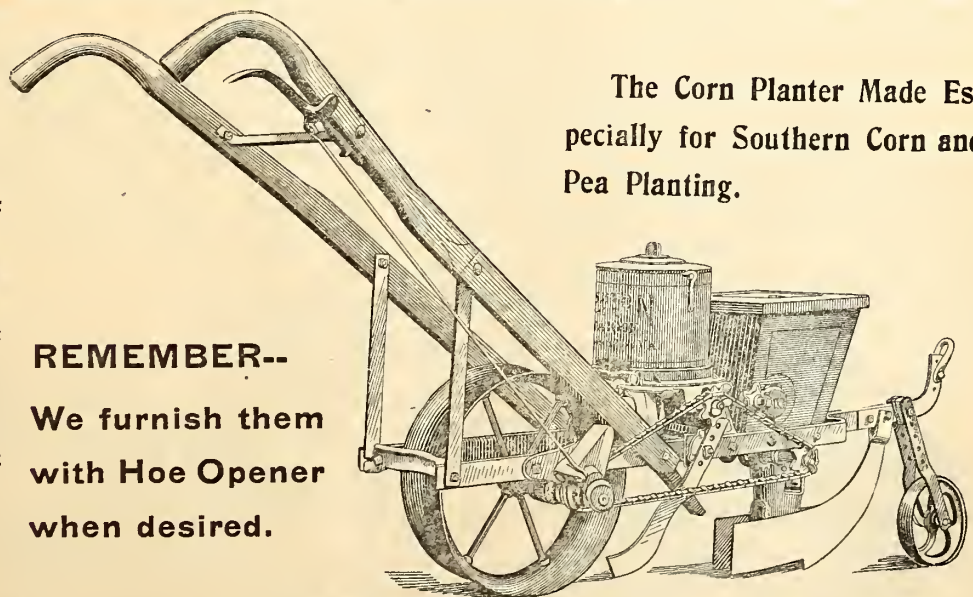


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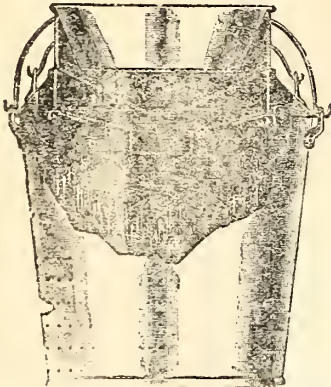
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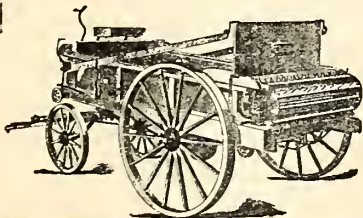
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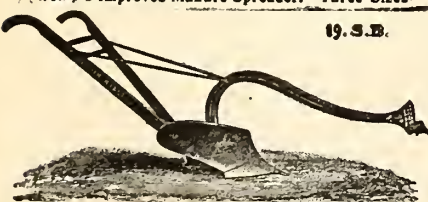


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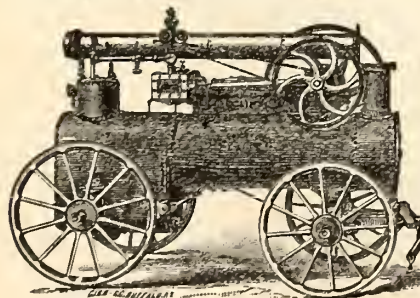
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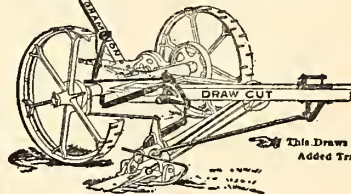
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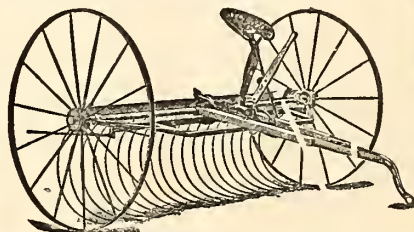
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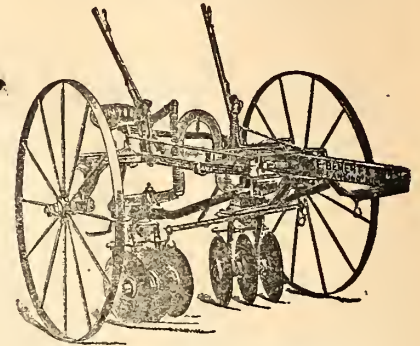
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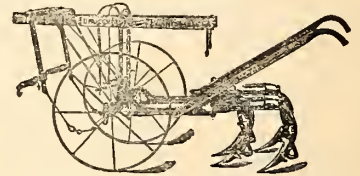


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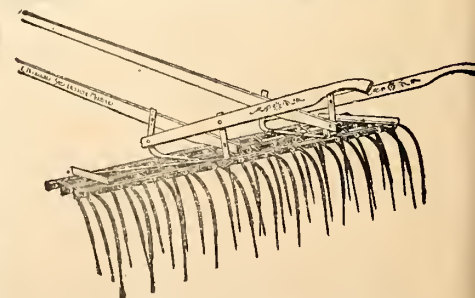
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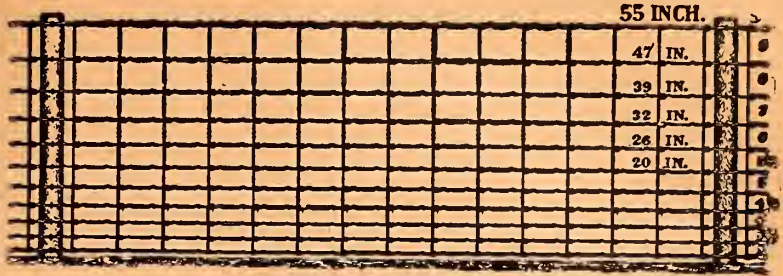


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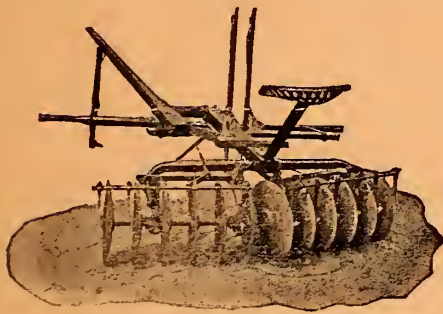


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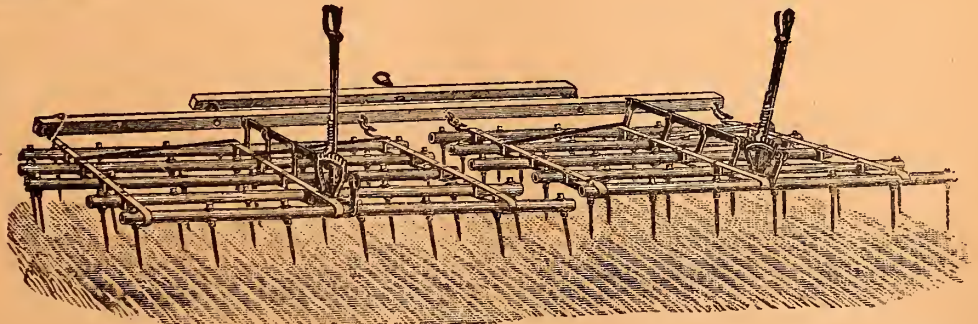
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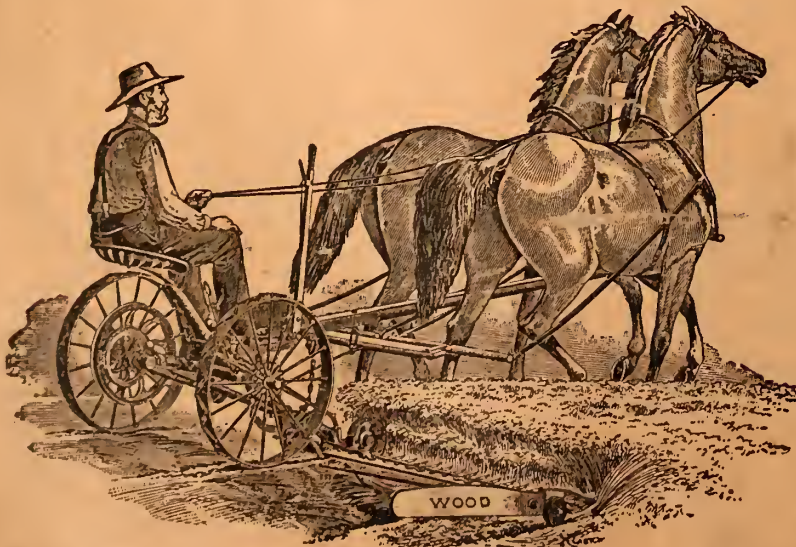
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