

# THE SOUTHERN PLANTER

DEVOTED TO

**AGRICULTURE, HORTICULTURE, LIVE STOCK AND THE HOUSEHOLD.**

T. W. ORMOND,	PROPRIETOR.
W. C. KNIGHT,	EDITOR.
W. C. JACKSON,	ADVERTISING AGENT.

44th Year. JUNE, 1883. No. 6.

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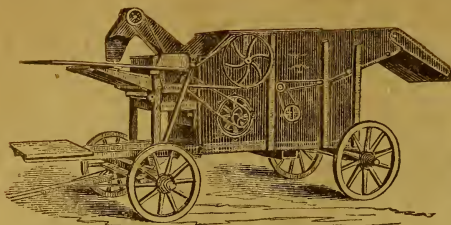
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—THE—

# SOUTHERN PLANTER.

DEVOTED TO

Agriculture, Horticulture, Live Stock and the Household.

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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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T. W. ORMOND,	-	-	-	-	-	-	-	PROPRIETOR.
W. C. KNIGHT,	-	-	-	-	-	-	-	EDITOR.

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44TH YEAR.

RICHMOND, JUNE, 1883.

No. 6.

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## FARMERS AND FARMING IN VIRGINIA IN THE OLDEN TIME.

### No. 11.

1. Letter from John Marshall and others, Committee of the State Agricultural Society, to the Secretary of the Albemarle Agricultural Society. This letter is in the handwriting of Judge Marshall, the first President of the first State Agricultural Society formed in Virginia. The other signatures are the *autographs* of other distinguished citizens.

2. Letter from Gov. Jas. Barbour to Peter Minor, Esq., Secretary of the Albemarle Agricultural Society.

RICHMOND, *November 7th*, 1808.

*Sir*,—Your letter of the — day of —, with its enclosure, was laid before the society which convened at this place at its last meeting. We are instructed to express the thanks of the Society for the communication it contains, and the pleasure derived from the very valuable address delivered by your President.

The agriculture of our country will, we trust, soon manifest the advantages to be gained from the intelligence now devoted to its improvement.

Allow us to assure you that as individuals, not less than as members of our Society, we have been much gratified by your communication, and feel much pleasure in executing the enclosed resolution. With great respect we are, sir,

Your obed't  
W. C. NICHOLAS,  
I. COALTER,

JOHN MARSHALL,  
J. WICKHAM,  
JOHN ADAMS,  
*Committee of Correspondence.*



BARBOURSVILLE, *October 10th*, 1819.

*Dear Sir*,—In redemption of the pledge I improvidently gave at our last session, to present a scheme for the appropriation of our funds to the objects best calculated to further the views of the Society, I beg leave to submit the following plan for their consideration. In forming which, I have taken as my guide, the example of similar institutions, and the suggestions of my best judgment.

Previously to the exhibition of the plan, I beg to be indulged with the liberty of presenting the following remarks. Every system of husbandry must, necessarily, if judicious, conform to the circumstances of the country in which it is adopted. The circumstances to which I allude are its climate, its soil, the kind of labor employed, its products, the reward for such products, &c. A grazing country, for example, will be most interested in discovering the cheapest and most productive method of growing and fattening stock, the improvement of their breed, &c.; while with us, where the valuable grains of wheat and indian corn constitute our staple productions, such a system of cultivation as will enlarge their products, must claim our first consideration. Intimately, and, indeed, indissolubly connected with this interesting subject is the reclamation of our exhausted fields—the result of the deteriorating system of our ancestors, and of which the present generation is far from being guiltless.

It is, therefore, to these objects I propose first to direct the application of the funds of our Society, and as these shall increase (an event much to be wished), we shall be enabled to widen the sphere of our patronage till it embrace the whole circle of agriculture.

1st. In the first place, I propose to give a premium of \$—— for the greatest production and best quality of winter wheat grown not less than three acres in one piece.

2nd. \$—— for the next greatest production, &c.

3rd. \$—— for the greatest production and best quality of indian corn from the same quantity of land as above.

4th. \$—— for the next greatest production, &c.

5th. \$—— for the best method of recovering worn-out fields to a more healthy state, within the power of farmers in general, without dear or far-fetched manures, but by judicious cultivation and the application of materials common to the generality of farmers in the country, founded on experience, of at least three acres.

6th. \$—— for the second best.

*Regulations Concerning the Proposed Premiums.*—The premiums as above proposed shall be awarded on the crops of the year 1821; that of wheat in the autumnal session of that year, and on indian corn in the ensuing spring session. That for the reclamation of land, in the session of the autumn of 1822. and manner of sowing or planting, and of harvesting.

A description of the land on which the crop has been raised, and the object offered for premium. Also the nature and quality of the soil on which the crop has been raised. The nature of the produce, manner of cultivation, quantity and kind of manure (if any) used the preceding year, the quality and kind of manure used the year of their production, the quantity and kind of seed sown or planted, and the manner of preparing it, and the times and number of ploughings and harrowings, the times

It is understood that the several kinds of grain must be raised on old, unimproved land. The products must be ascertained by the certificates of two respectable and disinterested witnesses.

The candidate for the premium awarded to the reclamation of worn-out fields shall state also in writing the nature and quality of the soil, the degree of exhaustion, the kind and quantity of manure (if any) applied, and the result of such application, on or before the 1st of September, 1822.

None but members of the Society shall be candidates for premiums.

All premiums shall be paid in silver plate with proper inscriptions.

But the Society reserves to itself the right of withholding the proposed premiums in any case where there appears no peculiar merit.

With a view to guaranty the prompt payment of the premiums which may be awarded, and to give facility to the administration of the funds of the Society, it is recommended that they be by the next session vested by the treasurer in the three per cent. public stock of the U. S., and that the interest thereon, as well as the accruing subscription money, be quarter yearly vested in the same stock, the whole in the name of the treasurer in trust for the benefit of the Society.

All which is respectfully submitted,

*Peter Minor, Esq.,* Secretary.

JAS. BARBOUR.

## LECTURE ON AGRICULTURAL EXPERIMENTS.

BY DR. JOHN R. PAGE.

*Gentlemen,*—How men first approached Nature; how the facts of the natural history of the earth have been made known and converted into what we call the “*Natural Sciences*,” is a theme of attractive research entirely too extensive to be brought within the limits of a single lecture. Suffice it to say, that natural history, in the broadest acceptation of the term, comprises the sciences applied to natural phenomena; that is, sciences based upon an accumulation of facts derived from accurate observation and experiment, formulated into general principles, or laws of universal or general application. But, it must be borne in mind, that these applied sciences make no pretension to *absolute* truth or mathematical exactness. They only make known principles or laws based upon ascertained facts, whose probability of certainty rest on the concordance of accumulated proofs in favor of such laws. In the science of astronomy, the theory is the science. It is an airy garb which invests the facts and constitutes the science itself. The theory of gravitation, and of the rotations of the earth, preceded the knowledge of the facts which were made known subsequently by direct observations and calculations, formulated into laws by Sir Isaac Newton. The theory of “Atoms,” conceived by Democritus 2,000 years ago—still-born for centuries—constitutes the basis of modern analytical and synthetical chemistry. So, too, in physics, the “transformation of force,” foreshadowed by the Greeks, is now a recognized fact.

Agricultural and medical sciences, however, unlike the so-called mathematical or exact sciences, are based on facts derived from direct observation and experiment on the phenomena of Nature, prolonged, varied and accumulated, so as to present a system of truths capable of being formulated into general principles or laws of more or less universal application.

The importance of accurate experiments in agriculture, therefore cannot be over-estimated, and it is a subject which is attracting a great deal of attention in all agricultural and scientific circles at the present time.

Having had some experience in conducting agricultural experiments I am free to state that the difficulties attending them are far greater than they are commonly supposed to be. The factors which enter into the subject are numerous and intricate. In the first place, the mere observation and record of the facts involved, from day to day, is difficult, while the analysis and collation of all the facts accumulated, so as to be formulated into principles, requires a trained intellect. In the



second place, it is difficult to find land of uniform quality and to make experiments of general application, from the fact that soils differ, climatic influences vary, and seasons are unlike, while it is still more difficult to estimate the extent to which these influences operate as factors in producing given results.

Great stress is laid now-a-days on the importance of teaching students the art of conducting experiments. I agree with Professor White, of Perdue University, Indiana, "that experiments should have a prominent place in agricultural instruction, but that they should be taught as a means of *investigation and training*. It should be borne in mind that experimental farming and practical farming are very different processes. Experiment, like experience, is a dear school, and experimental farming is no exception. Common sense and a thorough scientific training are necessary, as a means of preparation, for experiment in agriculture, in order to reach valuable results of general application. To insure this, the soils, plants, animals, implements and plots of an experimental farm should be made as much a part and parcel of the "*teaching aids*" as are the black-boards, diagrams and microscope in the lecture-room. A common and very faulty idea exists in the minds of many farmers, that *science* is an *entity*, that it can create and make anew, and in this way they expect too much from its teachings. They fail to realize the common sense idea that science can accomplish *nothing* of itself; an idea well expressed by Dr. Oliver Wendell Holmes, in regard to the science and practice of medicine; when he said: "Science is a first-rate piece of *furniture* for a man's upper chamber, if he has common sense on the ground floor. But, if a man hasn't got a plenty of good common sense, the more science he has, the worse for the patient." This is especially true in regard to the experimenters in agriculture. It must be admitted, that however much help we may get from the applied sciences as contributions to our social life, their help to our agriculture will never cause a revolutionary change. For, after all that we can do to the soil by the addition of the best manures which experimental research and the knowledge of the chemist can point out: after we have drained with the greatest skill and tilled with the most effective implements which mechanical art can produce; after the scientific skill of the botanist has been enlisted and exercised in the selection of the best seeds and the most suitable plants; after the application of the knowledge of the entomologist in the destruction of insect pests: aye, after all these things have been done wisely and well, the experimenter, like the farmer, can do *nothing* but to trust that the controlling influence—the *seasons*—will be favorable to

his work and enable him to reap a good reward for all his labor and expenditure of time and money.

Science enables us to accomplish many things, but it cannot help us warm the too cold earth with the telegraph wire; nor can it enable us to command sunshine with the mighty steam engine. We live, truly, in an age of wonders, in the application of science to the affairs of every day life, but agriculture, though partaking largely of this vitality, is, in many respects, the same slow, anxious and laborious profession it was when Virgil wrote his Georgics and Arthur Young taught improved husbandry to the English farmers.

It is true that immense strides in the improvement of agricultural processes have been made since those times; but, after all, it means but little else than that we, with improved appliances of science, are willing to risk a great deal more than did our fathers to the uncertainties of seasons and climate.

Certain experiments may be made every year by the farmer, as well as the original investigator and teacher, without involving any considerable expense, and in some cases experiments may yield a money return; and I would urge upon farmers the value of making experiments every year; but the converting a farm into an "experimental field" is a poor way to make a living, whatever may be the value of the results to others.

The distinguished "savant" and chemist of the Royal Agricultural Society of England, Dr. Voelcker, in an address delivered about two years ago on "Experiments in Agriculture," expresses opinions and views which I so fully corroborate, that I shall not hesitate to make use of them here. After referring to his experience of twenty-five years in conducting field experiments, he says: "An agricultural experiment to be worth recording at all, is no easy matter. Indeed, I may say, without fear of contradiction, that I do not know of any kind of experimental inquiry more difficult in carrying out rationally and successfully. In the first place, a definite inquiry should be at the base of each experiment. The more simple and definite the inquiry, the better. Many of the published experiments are far too complicated to yield useful results. When a great number of different kinds of manures, mixed together in various proportions, are applied to the land and to a variety of crops, such a complication of conditions ensues, that it is a matter of extreme difficulty to say to which constituent the result is due; and I confess I always look with suspicion upon published accounts of field trials, in which the results of fifty or more plots, manured indiscriminately with all kinds of manuring matters, are given;



and indeed, in nine cases out of ten, experiments of such a kind are misleading and utterly useless for all practical ends. Let me give one or two instances showing more clearly what I mean in saying that an experiment should be as simple as possible. The question may be raised: In what form may nitrogen be most profitably applied to land? A point by no means settled. The question may be thus put: Will it answer my purpose better to apply to wheat nitrate of soda or sulphate of ammonia, or will it be more economical to use nitrogenous manure in the shape of [organic nitrogen] shoddy or wool refuse? The solution of this question will depend, of course, upon the character of the land and on the season, but it is a definite question which can be answered experimentally. Again, as regards the various quantities of nitrogenous top-dressings for wheat, barley, &c., a number of clear and instructive experiments might be made by any intelligent farmer. Then, as regards the mode of applying manures, the time of the year at which to apply them to the land, simple and useful experiments which might be tried in a variety of ways and which naturally suggest themselves to practical men. Equally useful and comparatively simple trials may be made in the feeding stalls of cattle. Thus, the question might be tried, What quantity of linseed cake or cotton-seed cake may be given with the greatest advantage to fattening stock? Another important and definite question is, How much dry food, such as hay or chaff, should be given along with mangels, swedes or turnips, so as to derive the greatest economical benefit from the consumption of roots? Ought the roots to be sliced, pulped or given whole? These are definite inquiries, to which experimental feeding trials can alone give an answer.

“Having settled the purpose and scope of an experiment, the experimenter should, in the next place, consider how far the character of the soil and the prevailing climate are suitable to the natural habits and requirements of the crops upon which he wishes to experiment. Thus, it would be of little use to try field experiments on roots on a stiff, imperfectly-drained clay soil which has never been brought under the ameliorating influence of thorough drainage and autumn cultivation, nor would there be any use in trying to grow wheat continuously, from year to year, on a soil so little suited for wheat as a poor infertile sand. Equally useless is the attempt of growing vines or other plants in pots filled with various materials, such as flints, peats, charcoal, pure white sand, &c., with ‘*nutritive liquids*’ of various kinds. Plants confined to pots and grown under physical conditions, altogether adverse to their healthy development, drag on a sickly existence; some for a

shorter; others for a longer period, but none of them produce anything to afford valuable information. This is an extreme statement, made to show the folly of trying experiments under altogether abnormal conditions. But there are ordinary soils in every county and on almost every farm which are altogether unsuitable for field experiments for one of the following reasons: *First*, The soil may be in a bad physical condition; it being either too light or too heavy for general manuring experiments. *Second*, On account of being located in too exposed a position, in consequence of which the crops are likely to suffer. *Third*, The experimental field may not be sufficiently level, nor sufficiently uniform in composition or depth of the soil. *Fourth*, The soil may be too shallow. *Fifth*, The soil may be abnormally fertile or similarly sterile. Of course, useful experiments may be made with the view of reclaiming bad lands, or bringing into cultivation stiff clay soils or light poor sands. But these remarks refer to general agricultural experiments; for these, all soils possessing extreme characteristics are undesirable. Neither soils of extraordinary fertility, nor others of more than ordinary sterility, should, for obvious reasons, be chosen for experiments. Land heavily manured or soils in high agricultural condition are also objectionable for experimental purposes.

“Land in fair average condition, of uniform depth and composition, in level position, resting on porous sub-soils, is the kind of land best adapted for field trials.

“Before beginning a systematic course of experiments, it is desirable, in order to secure greater uniformity in the agricultural condition of the field throughout, to grow without manure one or two crops before the experiment is undertaken. [This will enable you to examine into the nature of the soil carefully, and to form some idea as to the *natural capacity or strength of the soil.*] Thus much in regard to the selection of fields for trial and their preparation for experiment.

“We have, in the next place, to consider the size of the experimental plots. It is not always easy to find a field of ten or twelve acres, or perhaps twenty, that is fairly uniform in character, but it is far more difficult to lay your hand on a similar field of fifty acres. On account of this difficulty, if you make your experimental plots too large, you not only increase very much the trouble, time and expense in harvesting and weighing the produce, but the want of uniformity in these large plots prevents you from drawing legitimate conclusions from the results of the harvest of such plots. On the other hand, if you reduce the experimental plots to very small dimensions, you greatly multiply the unavoidable discrepancies which, on larger plots, would be compara-

tively insignificant. As a rule, quarter-acre plots are well suited for experiments on corn crops and for roots. If an even crop of roots could always be secured, experimental plots of a smaller size, say one-tenth acre, or perhaps one-twentieth acre, would suffice; but, as this is not always possible, and a few missing plants or bare places in the field may not affect the produce materially on quarter-acre plots, but altogether vitiate the experiments on small plots, occupying only 1-112th part of an acre, I have come to the conclusion that field experiments on roots should be tried on plots not less than one-tenth of an acre in extent. \* \* \* \* \*

“Passing to the consideration of manures or fertilizers and their application to the land, I observe that the composition of all the manures should be accurately ascertained beforehand. It is well to mix artificial manures which have to be used with twice their weight or more with dry sand, or soil, before spreading them on the land, in order to secure their more even distribution, which may be effected either by hand or by machine. In the Woburn experiments, the artificial manures, such as nitrate of soda, sulphate of ammonia, &c, after having been mixed with sand for the cereal crops, are applied by the broadcast distributor, manufactured by the Bristol Wagon Company, which I find a useful instrument for distributing top-dressings more evenly than it is possible to do by hand. \* \* \* For root crops, the manure is applied by hand. \* \* \* \* \*

“All manuring experiments should be made in duplicate, and in each set at least one plot should be left unmanured, as it is absolutely necessary to notice what are the natural variations of the soil, independently of any effect produced by the manures applied. \* \* In conducting systematic experiments on cereal or root crops, the whole produce of each plot, and not a small portion only, should be weighed, and the produce per acre be calculated, not merely from the weight of a part of the yield of the experimental plots. In the case of root crops, it is also desirable to ascertain their composition and nutritive value; inasmuch as it is well known that certain manures, as nitrogenous or amoniacal matters, applied in rather large proportions, are apt to produce roots abounding in water and deficient in solid nutriment, whilst others, such as phosphatic and bone manures, are conducive to early maturity and the production of less water, more sugar and other solid nutritive matters. [I have known a difference of from eight to ten per cent. of sugar in beets from this cause.]

“I would next submit the desirability of continuing field experiments for a number of years, carefully recording the results of each



year, and of avoiding the drawing of conclusions from any isolated field experiments extending only over a few years. The effects of most manures, though not of all, as is well known, show themselves not merely in the crop to which they are applied, but also in successive crops.

“In systematic manuring experiments, the produce of each plot, variously manured, extending over the whole rotation, should, if possible, be ascertained. The result of a single season’s experiment is often misleading and utterly worthless, as illustrated by experiments at Woburn. Experience at Woburn show that isolated experiments, as a rule, help but little in solving agricultural questions which may appear simple enough, but which, nevertheless, can only find satisfactory answers in the self-denying, pains-taking labors of field experiments like those of Mr. Lawes and Dr. Gilbert, who, for nearly forty years, have devoted their best talents to the pursuit of field and feeding experiments, which have been of the greatest benefit to the farmers of England and all civilized countries. Systematic experiments, like those of Messrs. Lawes and Gilbert, or the more recent experiments which, under the auspices of the Royal Agricultural Society of England, through the liberality of the Duke of Bedford, Dr. Voelcker has the privilege of conducting, may appear disappointing to men who have no conception of all that is implied in field experiments, and who cannot understand that years of persevering labor in the experimental field and in the laboratory should be expended before many apparently simple agricultural questions can be answered satisfactorily.”

The more I gain in experience and knowledge in agricultural matters, the more I am convinced of the great necessity of systematic agricultural experiments to accumulate facts and embody truths, out of which scientific principles of general application may be formulated. This work can best be accomplished by thoroughly trained scientific men in charge of well-equipped experiment stations, where original researches may be carried on continuously without the interruptions incident to the duties of professors and teachers in the universities and colleges.

Quite a number of the States of the Union have established and equipped experimental stations, with well-trained, scientific and earnest men in charge of them. Notably among them is our Southern Sister—North Carolina, in which most valuable results are being accomplished. In conclusion, I will add, that my ardent desire is to have the universities and agricultural colleges do all that is possible for them to do in this matter, but especially to see experimental stations, similar to Rothamstead or Woburn, in every State in the Union. In the course of studies which are to follow, I propose to call your attention to the ex-

periments which have been conducted on the Experimental Farm in connection with this school in the past, as well as to those now in progress, not only to show their aim and object, but to illustrate and teach the important facts briefly indicated in the foregoing remarks as well as to familiarize you with the plots, the nature of their soils, the methods of treatment, the crops and the kinds of fertilizers used on each.

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#### REPORT BEFORE TUCKAHOE FARMER'S CLUB ON OTWAY S. ALLEN'S FARM.

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Mr. Allen not residing on his farm, and consequently the Club never having assembled there, they have been thus deprived of great pleasure, as well as profit. We doubt if there is a member of this Club that can present so creditable and thrifty farming as was presented to the view of your committee in their tour of inspection.

His farm includes 100 acres of splendid land, and as you all know, is partly in the City of Richmond, and lying immediately abreast of and directly in line of the City's western progress and improvement. The larger portion of this farm now estops and confronts Grace and Franklin streets, that must, of necessity, very soon be opened through it, to meet the growing wants and imperative demand of our rapidly improving city. (As a feeling testimonial of this fact, \$800 of taxes is charged against this farm per year). In most convenient and well arranged manner Mr. Allen has recently commenced the fattening of cattle, with a silo well prepared filled and weighted down with this appetizing compound; he has constructed over the pit a house, and, sagacious man as he is, to be prepared for any emergency, while he has soured and alcoholized his corn fodder down stairs, he has also, in the natural stall, cut and filled up with masticated corn fodder up stairs. Connected with this building, with door opening into the silo, are his cattle stalls. In addition to ensilage thus fed, there is a horse-power cob and corn grinder, which supplies the meal, and with one third cotton seed meal added, furnishes the rations of the eleven head of young cattle purchased by him about six weeks ago. One of your committee saw these cattle when they were first stabled, and while under such favorable and abundant treatment they have, of course, improved; yet it has not been such as would give weight to the argument of any of our enthusiastic advocates of the silo process. While on this diet the cattle drink but little if any water; and while it is a relish that meets the demands for acids and whets up the appetite, and while it may in-

crease the flow of milk, that it so readily and largely increases the flesh and fat, we claim is a proposition yet to be established. The substantial fattening properties are afforded these animals in the meal they regularly get; and at this season of the year, green rye, such as we saw being cut and fed at the same time by our President, Dr. Puryear adjoining this farm, would have proved just as acceptable, and more so, to these cattle, and altogether as beneficial as this ensilage; at least this is the opinion of one of your committee, and to these expressions Major Garber is in no wise committed. Maj. Garber, while without experience on the subject, thinks it good for fattening stock. We perceived the advantage of ensilage here, and that was, in the advantage of manure made. It seems a decided manufacturer of this article. And this standing day and night, as these animals are compelled within narrow stalls, its effects were visible upon them. We doubt the policy of this or its strict propriety under the present recognized laws for animal protection. Let them only have the opportunity and they will conform readily to their health and cleanliness; and for the animal and for the purity of its flesh as food we should prefer to see them freed from the halter, if only within a small enclosure. A large bank of manure has thus accumulated in the barn yard, and we also looked upon compost heaps made by alternate layers of clay, manure, and refused straw, grass, &c. This we highly commend.

In our pleasant and profitable inspection of this farm, we find 40 acres in clover and orchard grass of last year's seeding. We need only say of this, for real beauty in appearance and luxuriance of growth, it can not be well surpassed any where. At this season it presents a charming scene; and to the eye of the true farmer, who must love, appreciate, and be taught useful lessons in the miraculous power of nature, and of that greater power beyond, that says, "it must die that it may live again," it has no rival with him in either its suggestive splendor or practical uses.

One lot of three or four acres Mr. Allen had seeded last fall in clover and orchard grass alone, or without any accompanying crop of grain. It was in fine growth. By this experiment two lessons seem to have been taught. 1st, That it was really no better than the grass above referred to, which was sowed with wheat. That on this a crop of wheat or rye might as well have been raised and thereby cleansing the field of the weeds and other growth putting up. And, secondly, because of slow process in well developing, Mr. Allen being convinced at the time that he had not secured a stand, plowed up a portion of the lot then already in grass, whereas, as it now appears, that portion left



undisturbed is far better in every respect than the other. This admonishes us to be slow in disturbing our grass seeding. We then pass over about 38 acres of magnificent wheat, of the "Shoemaker" variety, all nicely drilled and every point guarded by suitable water furrows and drains. At the seeding last fall timothy was sowed on 22 acres of this wheat and fearing that a good catch was not secured, this operation was repeated this spring. The result is a most abundant and promising growth of young timothy your committee ever saw. This wheat land has the advantage of some 350 bushels of pure ground bone per acre, applied at the last working of the corn, for last year it was in corn producing about 9 bls. of corn per acre. Neither the pulling of corn fodder or cutting of tops is permitted on this farm; all severed with the corn; knife close to the ground, shocked, removed from the field, and thus handled at convenience; the land then plowed and seeded to wheat the tenth of October. The plowing done by Watt's 63½ chilled plow to the depth of 8 to 12 inches. About one quarter of an acre of some new variety of wheat Mr. Allen is introducing, and this, as an experiment, has been drilled 18 inches apart, and to be worked out and cultivated.

The fundamental principle of Mr. Allen's improvement consists of lime and green pea fallow. Bone used where required, and such top dressing of barn-yard manure as he can. Lime and peas he considers as good as manure and not so expensive. His opinions are entitled to much weight on this subject, when we remember that when he first commenced his agriculture here, (by the impoverishment of the tenants that had preceded him) this land would hardly sprout clover; now, witness the wonderful change and the great results of the sensible, practicable feeding of thin land. We invite attention to Mr. Allen's wise practice of top dressing (so far as he can) his grass, with tobacco stems. Of its truly remarkable benefits we refer the Club to 8 acres of orchard grass thus treated. The evidence in this growth is conclusive.

Mr. Allen is truly a live farmer, earnest and enthusiastic in the work. His quick perceptions grasp the whole subject; he detects everything and nothing escapes his vigilant eye. He is a "General" in farming, but does he always reap the *benefits* of his victory? We fear not. He has the vigor, boldness and skill to direct, but does he not need some one to attend to the details, conserve and reduce all to *practical* benefit? We rather think so, and many able, vigorous intellects are found in this category. We have but a little evidence to go upon, yet we would thus direct his mind and attention.

His barn is filled with baled straw that before this should have found a market. One large rick of wheat straw, of some two years old, spoiling where it stands. About twelve or more straw stacks, of last year in good preservation, now on hand, that if he could not get 40 cents per hundred for, had best been sold for 30 cents. Three stacks of rye, that should have been long ago thrashed, or beaten out; then the straw would have been readily worth \$1 per hundred—now, all is spoiled and lost. He speaks of reducing some of this rick clover and orchard grass to ensilage. To such profanation we cry out, and to such “base uses” we here enter our solemn protest.

A. W. GARBER. } Committee.  
J. A. LYNHAM. }

Since this report was prepared, and at its reading before the Club, Mr. Allen made the following explanations upon the criticisms of the committee.

In reference to the accumulated wheat straw, it was said that on account of the low prices offered in the city for the straw, the difficulty and expense attending the hauling of the same and great difficulty in finding purchasers at all, it was thought best to utilize the same in the making of manure, using some of the best in the curing of his hay crop this season, as more profitable than sales at low figures.

And that in reference to the rye, this was lost to him because of entire inability to procure in time a rye thresher so as to preserve this straw in the only way desired by the collar makers.

As to the silo feeding, Mr. Allen is confident that his stock has improved and fattened more than would be inferred from the report; and furthermore, that his corn fodder was not cut at the proper time, so as to preserve the full strength of the fodder. For silo purposes he considers that the corn should be cut in the roasting ear state.

These explanations of our host are cheerfully embodied by the committee in their foregoing report.

#### LETTER FROM CANADA.

ASHBURN, ONT., April 24, 1883.

*My Dear Col. Knight;*

I confess I hardly know how to begin a letter to you after neglecting you so long. I owe you a thousand apologies for so poorly requiting all your courtesies to me while in Virginia.

I was not at all well when I left Richmond for the North, and when in Washington I was taken quite ill, so that my father thought we had

better start for home instead of going over to the Eastern shore of Maryland as we had intended. I stayed a couple of days in Philadelphia while my father went down to Dover, Del.; then we started for home on that ill-fated train that was wrecked at Rummersfield, Pa., on the morning of Dec. 5th by colliding on a side track with a freight train, the engineer and fireman of which were burned alive before us.

Many a time since I left old Virginia have my thoughts reverted to the pleasant hours I spent at that Richmond sanctum, the centre of so much wisdom and geniality, and many a regret have I had some of these cold days that I could not have remained with you. This winter has seemed so very long to me. The snow is almost all gone though some banks still remain, and it snowed a good deal to day.

Very little farm work has been done yet; we have not yet begun plowing or sowing grain. It is not likely we can let the stock out of the stables before first of June. The cold has been so severe this winter that our stock required more feed than usual, but it is looking well and prices are very high. Fat cattle and sheep are being shipped now, and are bringing good prices; while heavy draught horses are exceptionally high. We can get almost any price for good horses for New York and Philadelphia markets—those weighing from twelve to sixteen hundred.

Every farmer here on his fifty or hundred and fifty acres turns out every spring from three to ten fat cattle, it being only in this way that we can keep up the fertility of our farms by feeding the crops largely on the farm.

A neighboring farmer—tenant farmer, by the way—fed this winter all his barley and coarse grain, besides grinding up for his cattle over a hundred bushels of first class wheat to finish them off.

I tell you, Colonel Knight, I believe if Virginia were once well started in diversified farming and stock breeding *and feeding*—for it is the *manure* we are after—it would distance the North in well earned prosperity.

You have Baltimore, Philadelphia, and New York markets at your very doors with exceptional facilities for shipping by land and water; while we have only Great Britain for our cattle and sheep. And your own cities are the markets for our horses with the disadvantage of a heavy duty, which, of course we have to pay. And you have the advantage of climate. I often tell of the cattle stables, I saw one day, on that fine farm of Messrs. Haxall adjoining Hollywood Cemetery; three sides of the stable open to the air, while here we are all building underground stone stables.



Several of my acquaintances are talking of paying a visit to Virginia this summer to see the country with a view to buying there.

After all, my dear Colonel you may see me again some day, for I must say I have a very warm remembrance of your own handsome city and your genial countrymen.

My sister, who is spending the winter with us, will probably soon pass through Richmond to join her husband, who has settled about thirty miles above the city in Powhatan Co. My visit resulted at least; in their going to Virginia, if I did not manage to stay myself. It was not for a want of a kindly welcome that I did not stay.

Dear Col., I cannot close this already long letter without one word for the *Planter* which I enjoy so much. There is not a man in the State of Virginia who has anything to do with an acre of her soil, that can *afford to do* without the *Southern Planter*. And since it is simply in direct accordance with my own ideas, I think the articles in January and February numbers, on sheep husbandry, pages 37 and 68, are invaluable to Virginians as being in the most direct manner, a complete answer to the item in March number, page 147, on "profitable farming", which means *improvement of the soil*.

It is in following out such suggestions that many of Virginia's barren fields may be made to bloom.

If this letter were not too long already, I might send a message to *The Industrial South*, but I'll defer it till another time and only ask you to give the gentlemen in the office my best regards and good wishes.

L. N. S.

[We feel assured that our Canadian friend will not consider that we abuse a personal confidence by publishing his letter. Our remembrance of his visit to Virginia and to ourself and family is fully as agreeable as any he has retained of us. Before he came, he was a subscriber to, and a reader of, the *Planter*, and when he reached Richmond he found our office. Our association with him for several months whilst he made Richmond his head-quarters, was especially agreeable. He came here with the honest intention of looking at our lands, acquainting himself with our people, climate, and other advantages which might attract an immigrant from a northern clime. His letter shows the impressions made upon him, and for this purpose we publish it.

He visited several portions of our South-Side counties, and others of Henrico and Hanover counties. In our private conversation we saw the impression produced by his observations, that the lack of good culture, home adornments, &c., made the country present an uninviting appearance, and he could not well understand why a country with such a climate and apparent advantages should not present a better appearance. The causes we assigned were, to some extent satisfactory; but we must say again, and again, that our farmers who have a large quantity of surplus land which they cannot cultivate are at fault by not confining themselves to a system of *intensive farming*, with proper rotation of crops, and due attention to farm buildings, enclosures, and home

adornments which will attract the eyes of strangers, and thus secure purchasers for the lands contiguous which they have not the money to improve. If we had in middle Virginia, here and there, farms, however small, well cultivated, and having the attractions which should surround a pleasant home, they would be as *oases* in a desert, and show conspicuously to strangers the capabilities of our climate and soil, as well as the tastes and genial hospitality of our people.—[Ed. S. P.

### BILL ARP'S ' ARPING.

#### The Southern Farmer's Life.

Variety is the spice of life, and if a man can get any fun out of trouble he had better do it. Farming is an ever-changing employment. There is something new turns up most every day, something unexpected and out of the general run. It aint so with storekeeping, nor carpentering, nor any mechanical business, for with those pursuits one day is pretty much alike another, and that is why I like farming. There is more play for a man's ingenuity and contrivance and more gratification in his success. If a farmer contrives a good gate, or a good stall for the stable, or makes a good wagon tongue, or single-tree, or plow stock, he is proud of his labors and thinks more of himself.

I have been mighty busy of late fixing up fences. Fences are a big thing in these parts, and if a man aint careful it will take about half he makes on his farm to keep 'em mule high and bull strong and pig tight. I had about a mile to build this spring, and timber was too scarce to make it all of rails, so I went to work and cut down a lot of pines for stock, and borrowed a carrylog and began to haul 'em to the saw mill. The pines were on the side of a rocky ridge, and the steers were sorter bull-headed and took all sorts of roads to get down, and run over saplings, and against stumps, and my old darkey couldn't do much with 'em, and the iron dogs would come out of the logs when the hind end rolled over a rock, and the log would stop and the steers go on, and it took all hands to head 'em with sticks and thrash poles and make 'em turn around and go back and straddle the log again; we had to swing one big log five times before we got it down to the road—and it was "gee Dick," and "haw Tom," and "come back here," and "whar you gwine" a hundred times, and the key come out of the bow, and the bow dropped down, and old Tom thought he was loose and started for home, and we had a time of it all around. After a while I noticed that the dogs were too straight and didnt swell around the log as they ought to, so I sent 'em to the shop and bent 'em, and after that we could drive 'em in deeper, and we had no more trouble on that line—when we got all the stocks down to the big road, we ha-

gan to haul 'em to the mill, and there was a right smart hill to go up, which was the only hill on the way. Old Tom is a mean old steer. He is just like some folks, he has fits of pulling and fits of not pulling and when he does pull he wants to pull as hard as he can. He took a notion that the hill was too much for him, so he wouldn't go worth a cent; we hawd him, and gee'd him, and whipped him, and hollered at him and twisted his tail, but he got sullen and got down on his knees and played off, and we fooled away half a day without moving a stock. Then I sent after the mules and a double tree, and fifth chain, and hitched the mules in front and all hands hollered "get up there," and I cracked the long whip and old Tom come down to his work, for he saw he had help, and the way we jerked those logs up the hill was a cortion. We had no more trouble after that, until the time to go home, and I concluded a ride on the carrylog tongue would suit me pretty well, for Ralph, my fourteen year old boy said it was good riding, and so I mounted on the little plank seat, and took the lines and the whip and give the word of command, and suddenly old Tom took a notion to run away for amusement. It was down a gentle grade for quarter of a mile, and there were deep little ruts in the road, and pine roots crossing it ever and anon and some turnouts around the bad places, and so I began to pull on the lines and holler, "wo, wo, wo, I tell you, wo Tom, wo Dick," but they paid no more attention to me than if I was a big hog in the road. They just went a kiting, and didn't miss a big stump half an inch, and the ruts and the roots bumped me up and down like a churn dasher. I never was scared so bad in my life. The darkey and Ralph come a running as fast as they could to get ahead of the brutes, and that made 'em worse. I didn't dare to jump off for fear the big wheels would get me, and then there was those confounded iron dogs with their big hooks hanging down and I expected every minute to be jolted off, and have 'em catch me in the slack of my pants, or somewhere else, and drag me home a mangled and lifeless carcass. I dropped the long whip and let the lines go, and hung on to the tongue with arms and hands and legs for dear life, when suddenly a turn in the road brought the infernal beasts right square up against a wagon that was coming, and they stopped. I left that tongue before you could say Jack Robinson, and sat down on a log to be thankful. Driving steers is not my forte, and I shall hereafter let all such foolishness alone. The folks have not got done laughing about it yet. Carl drew a picture on his slate of a carrylog and steers and two big hooks a hanging down, and a man hugging the



tongue, and when I came into the room Jessie was a cackling, and the girls a giggling, and Mrs. Arp laughing like she had found a circus; but I can't see any more fun in it than in a last year bird's nest.

I am building a fence now, a good fence, and a cheap fence. We got out one hundred chestnut posts, six feet long, in one day, and hauled 'em home. I put 'em twenty-two inches in the ground and twelve feet apart; my plank is twelve feet long. The base is ten inches wide, and the next three six inches wide, and then comes the barbed wire two inches below the top of the post, and this makes the fence just four feet high. There is a strip of six inch plank nailed up and down in the middle of every panel, which is nearly as good as if there was a post in the middle. This strip keeps the plank in line, and keeps them from warping. The nails should not be driven in straight in but a little slanting to make 'em hold better. I built a half mile of this kind of fence two years ago, and can find no fault with it. The wind can't blow it down, and stock never try to jump it. My lumber cost me five dollars a thousand for sawing—my wire cost me half a cent a foot and that makes the fence cost me twenty-eight cents a rod besides my labor, and a rail fence can't be built much cheaper considering the value of timber. Fences are generally made too high and too top heavy, and the wind rocks 'em about, and the posts get loose, and the rain drips in and rots 'em. Gates are most always made too heavy—a gate should be made wide, say nine feet, and very light. Use bolts instead of nails at the corners and in the middle of the brace. Dont let the gate swing when it is shut. Let the bottom of the latch-post rest on a piece of scantling, bevel the scantling a little and let the gate slide upon it as it shuts. An iron roller put in like one is put in a bed post is a good thing, for then the gate will roll up instead of slide up. A gate is open very little compared with the time it is shut, and if it rests on something when shut it will never swag when open. A gate should be no higher than the fence, but I make my farm gates with the hinge post three feet higher, and run a brace from the top of it down to the opposite corner, and another brace across that one from the other two corners. Pack post well at the bottom, especially on the front and back. The plank will hold 'em the other way. I think I know right smart about gates and about fencing, but I don't know how to drive steers, and I don't want to learn.

BILL ARP.

[Where is there an old farmer of Virginia, or any other Southern State, who does not recognize a truthful picture in "Bill Arp's humorous description of "driving steers"?

His ideas about farming and gates are not to be *laughed at*, although his manner of communicating them is *laughable*. Follow Mr. Arp in these matters and you will be all right. We copy the communication from the *Southern Cultivator and Dixie Farmer*.]

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**CLOVER AND GRASS.**

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**The most Important Crops to the Farmer who wishes to Improve his Soil.  
How to Raise Them Successfully.**

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The very serious difficulty the farmers have labored under for years, and that I have experienced great losses in contending with, viz., the difficulty of getting a good set of clover, has at last been met by a combined implement invented by myself. It has long since been proven that harrowing and rolling fall sown wheat in the spring is of great advantage to the wheat. The implement referred to will not only do this thoroughly, but will prevent the usual risk of sowing of grass seed in the spring on the wheat by sowing fertilizer and harrowing it in the surface of the ground, and in so doing prepare a seed bed to receive the grass seed. Immediately after the harrow, the grass seed is distributed broad-cast in any quantity desired, and can be sowed with equal regularity, sound or not. Then follows the roller covering the grass seed a proper depth, and pressing the earth to the roots of the wheat, and thoroughly leveling the surface of the ground. In other words, I have invented a combined machine for sowing fertilizer and harrowing it in the surface of the ground, and sowing grass seed on this prepared seed bed, and covering them with the roller. Fertilizer attachment, harrow, grass seeder, and roller, all in one. The simplest, most economical, and complete implement ever offered to the farmer, that will accomplish so much. Either one of the attachments can be used with the roller, or the whole of them can be taken off in a few minutes, and the roller used alone. The gearing is the simplest possible, not a cog wheel about the machine. Any boy who can manage a span of horses, can manage it as easily as a man. He can raise the harrow from the ground, and cut off fertilizer and grass seed without leaving his seat, or stopping the team; he has only to keep the fertilizer and grass seed in their respective boxes, and drive until he finishes the job. What induced me to apply my mind to the construction of this implement was the great difficulty I had to contend with in getting a good stand of grass, particularly on fall sown wheat. From experience I have found it safer to sow clover seed after freezing weather was over, and the ground in proper condition to harrow. By harrowing, sowing the seed, and then rolling, I have never failed to get a good set of clover; but I have experienced, each year, a great difficulty in accomplishing the three operations before a change in the weather would take place. By the time the harrow would be far



enough in advance of the seed-sower to enable him to sow for a half a day without stopping, often the weather would change, and if to a rain, the ground would settle together, and be in as unfit condition to receive the seed as before harrowing; then again, often after the seed was sown the weather would become unfavorable for rolling. (It is impossible for the roller to keep up with the seed-sower unless he loses two thirds of his time.) Having experienced the above serious difficulties, I concluded to try and make a combined machine that would complete the entire work in one operation; this I have succeeded in doing, and the same implement will answer for a number of other purposes; it will sow fertilizer or plaster and harrow it in after corn is planted, and put the land in complete order, thereby insuring prompt germination of seed, by pressing the soil close to them and keeping in the moisture. A splendid implement to run over grass land in the spring, will re-seed the vacant spots and sow fertilizer on them. The driver can cut off the fertilizer and seed (either or both) in an instant and put them on just as quickly. The Patent Office has granted my application for a patent, and as soon as I can get a number of them built, I propose sending you an explanatory cut, and getting you to insert an advertisement in your periodical, for their sale.

T. R. CRANE.

*Mantua Farm, Northumberland Co., Va.*

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### GRASS.

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ORCHARD GRASS AND CLOVER, THEIR IMPORTANCE IN THE FARM ECONOMY AND THE BEST MANNER OF SEEDING—READ BEFORE THE SOUTH-SIDE ALBEMARLE FARMERS CLUB. FEBRUARY 25, 1883.

I have taken the liberty of selecting the above subject (as we are already in the midst of seeding time) not in all its bearings by any means, but merely its importance and the best manner of seeding. I may say that the amount of grass seed wasted each year, for the want of knowledge in the preparation of the land, the lack in understanding the nature and requirements of the seed, and the time and manner of sowing them is directly equal in money value to a loss of thousands of dollars, and a prospective loss of much more. The latter loss means no hay, poor stock, no manure, and therefore a deterioration of the land. It is estimated that on a field well taken in grass, there is manureal substance equal to twenty-five wagon loads to each acre when plowed for corn or other crops. But for our annual drouth, the subject of grass would not be so difficult, and it is the most important



difficulty we have to contend with. To provide against it, it is first necessary to properly prepare the land for a seed bed. It is too often the case that expensive grass seeds are scattered on land it is known will not bring the plant. It cannot be expected, that even if the seed germinates during the early moist weather of spring, that the delicate plant can survive the hot suns that are sure to follow, when the seed is cast upon hard soil which is itself in comparatively poor heart. Such a soil should be thoroughly harrowed, if in wheat or other grain, to render its surface loose and the seed should then be well covered with a harrow, to be followed by the roller, and in a good season there is then a prospect for a good crop of grass. The best field of orchard grass I ever had was seeded in March by itself. The land plowed (after corn) harrowed and rolled—two bushels per acre were seeded, and harrowed in—the seed being covered as deep as many cover oats—it should have been rolled again, but the experience did not come until later. To make success sure give the field a light top dressing of manure, and in spite of drouth, a thick and even stand of grass will result.

Do not sow either orchard grass or clover until all danger of the land's freezing is past. This time occurs from the tenth to the twentieth of March.

For the best results sow by itself, and do not pasture until well established. A good stand of grass the field over is the object; let every acre pay something every year. Land must have rest, and when in grass it is recuperating its powers for future exertions, and at the same time paying the interest on its value and taxes, either in hay or pasture; but if the stand of grass is a failure, the exact reverse of this is going on. The hot suns are destroying its vitality, the rains are washing away its most fertile portions, not to be replaced for years to come, and your capital is dead to you.

To farm without grass is like attempting to carry on a mercantile business with neither credit or capital.

When a field is seeded to wheat or corn, a good crop is expected, and blank would be the books if at harvest we would find nothing to reap or gather. But how many grass crops are seeded with the above result.

It is reported that 85,000 tons of fertilizers were sold in N. C. in 1881, at a low estimate, two and a half millions of dollars worth. With the right fertilizer and proper management how much permanent grass land could have been laid down.

Geo. Geddes, of Fairmount N. Y., a prominent farmer and agricultural writer, says that but 5 to 11 per cent. of blue grass seed germi-

nates or may be expected to grow; and does not advise its use, as it will come in itself. I think it will come in our lands also; although my recent practice has been to mix one bushel of blue grass with ten of orchard grass when seeding.

Mr. Geddes recommends the following mixture, giving prices of each seed and quantity for seeding one acre:

Red clover.....	6 pounds.	60 cents.
Timothy.....	5	“ 35 “
Red top.....	5	“ 50 “
Orchard grass.....	5	“ 75 “
Alsike clover.....	2	“ 50 “
White clover.....	1	“ 25 “

This is for N. Y. State. Alsike clover I know nothing about, but here timothy and white clover might well be left out of the list for our seeding, as the latter is not indigenous and the former is killed by grazing, at least on high land. Blue grass and meadow oat might well be substituted. Last spring I sowed on wheat four bushels of meadow fescue, and it bids fair to do well. I shall have seed from it this year, and am confident it should have a place amongst our field grasses as it withstands drouth and covers the ground well. I will report on it at a future meeting.

Let me add one word in regard to selecting grass seeds and where to get them. The best and most economical place to get your seeds is from your own farm, for then you know exactly what you are getting; but if you have to purchase, always buy the best. Our country is said to send the best orchard grass seed to market, and I have never been able to buy as good seed as that raised on my own land. Of blue grass, Kentucky is the principal raiser, and buy the tripple select, which is sometimes 25 to 50 cts. per bushel higher than other grades, but is really worth twice as much. In buying clover wet your finger and run down into the seed, then examine those seed adhering; if after one or two trials you find all are clover, you may trust it. We often get foul seed in clover, which when set in our lands is difficult to eradicate. I have been greatly troubled with dodder or love vine, brought in by clover seeding. Lastly, purchase your seed of reliable houses, for such men have reputations to uphold, and buy enough to give a liberal seeding. An extra dollar spent in seeding will often return ten fold.

W. GORDON MERRICK.

As every thread of gold is valuable, so is every minute of time.

### EGGS AS FOOD.

We put it down as a maxim of eternal truth that a more wholesome, delicate, nutritious, and acceptable morsel was never compressed into so small a compass, as is to be found in the shell of an egg. Under different forms of cookery, it is good alike for the strong and vigorous, and for the delicate and feeble. The hardest laborer on the farm or in the mines, finds the egg nutritious and strengthening, and the invalid, suffering the horrors of consumption or other forms of wasting disease, derives from them the only meat food his organs will bear. There is no article of food more healthful to all alike, and when the price is low, no food, save milk, is more economical. At twelve cents a dozen, almost any one can afford to partake of them, for at that price they are cheaper than bacon at the same price per pound. A dozen eggs furnish more nutrition than a pound of bacon, and in summer especially (when eggs are cheapest) they should be largely substituted for the heat and fever-producing fat meats. The use of fat bacon in summer is strongly condemned by physicians, and while it is desirable to employ it more or less at that season, it is far better to partake of it sparingly, and substitute eggs and milk in its place. We advise our people to eat more eggs and less bacon. They will enjoy better health, be stronger and more lithe and elastic, and perhaps live longer. At any rate they will enjoy life more, and be more useful citizens. Fat meat makes sluggards and dyspeptics—eggs and milk make wise heads and healthy bodies.

[The *agricultural editor* of the *Weekly Index Appeal*, Petersburg, Va., is a person we should like to know and shake hands with. We agree with him about eggs, as about many other things. We have copied his articles, and now he must *own up* and tell us who he is, and how he acquired his excellent practical knowledge of farming. We wish we had space for his article on "garden helps" in the same issue from which we have taken "eggs as food."—Ed. S. P.]

### ENQUIRIES.

*Editor Southern Planter:*

In a short time I wish to trouble the *Planter* again with something more on the subject of grapes. It is evident that we must do something for this black belt country, and "if it were well when 'twere done, 'twere well 'twere done quickly." The politicians are making the darkies the predominant race. Now the question is, if we abandon the culture of tobacco, and adopt instead that of the grape, small grain, grass and cattle raising, would we not thereby improve our social and political status? first by causing an exodus of the present unreliable laborers and tenants to the tobacco, cotton and sugar plantations of the West and South; next, by keeping at home our young



men, and especially our young *gentlemen*, who are all now going south or to the cities; next, would we not be contented with smaller farms, more highly improved and better cultivated? next, would it not invite immigration from the wine countries of Europe? next, would we not have more time to improve and beautify and make attractive our homes? and next, would it not make us a sober and decent people? I believe it is a conceded fact that mankind will have something in the class of stimulants and narcotics, and that pure wine has a less tendency to enslave the nervous system than anything else. It cheers and exhilarates without the consequent gloom and melancholy resulting from the stronger alcoholic drinks, and from the narcotics. I see Hanibal Hamlin said in a late lecture in Maine, that during his residence in Spain while U. S. Minister, he did not see a single intoxicated individual and he attributed it to the fact of the national use of the light wines.

Do not imagine, I beg you, that I wish to impose the trouble of answering all my questions by private correspondence, but if you think they would be of interest to the public, I would be glad for you to answer them through the *Planter* and solicit the views of your contributors. If I am in error, would be glad to be righted. You know old men will be garrulous, and when I begin to talk to an old friend am apt to spin a long yarn.

Luckily for you, however, my lamp is beginning to burn so dimly that I must now close. Am always glad to hear from you Colonel, and wish you individually and editorially a long, prosperous and happy life.

Very truly your friend,

R. I. H. HATCHETT.

[The questions of our friend are all pertinent to methods of progress. We hope that some of the *Planter's* readers will give replies. We might attempt it ourself, but an editor's thoughts and expressions are too common to his readers to be of much avail; so that something fresh from the minds of farmers, whose ideas and conclusions are drawn from practical experience, is most to be desired.—ED. S. P.]

### GERMAN CARP—A PLEA FOR THEM.

*Dear Colonel Knight:*

Sometime last summer or fall a letter appeared in one of your city papers, giving a somewhat disparaging account of the value of German carp as a food fish. These carp were caught in July, and pronounced soft in flesh, and muddy in taste. This is not surprising, and I would enquire what fresh water fish, except brook trout which will not live in water over 70°, and perhaps "black bass," are fit to eat in

the "dog days"? I say, without hesitation, not one. Take another instance, the shad leaves salt water in the early spring and comes into fresh water to spawn. These fish are much improved by a run in fresh water, and are very fine in April and the early part of May. But suppose they were taken in July and August after they were "spent," are they not utterly worthless as food? Now the same thing, no doubt, is true of the "German carp". They spawn in May and June and a carp of five or six pounds weight will deposit from 300,000 to 500,000 eggs, and could not possibly be fit for food earlier than the middle of October or first of November.

Having had some experience with "carp" and thinking that many of your readers feel an interest in the *cultivation* of this fish and in the general question of fish culture, I will in a few words give you that experience. In the fall of 1880, I received from the U. S. Fish Commission seventeen carp about two inches long, which I placed in my ice pond. In the spring of 1881 I also received through a friend in Baltimore some thirty more; all these were hatched in the year 1880. In the summer of 1881 I built another pond expressly for fish, and in the fall of that year I procured and placed in this pond about 100 carp hatched in the year 1881. In the spring of 1882 I determined to enlarge my ice pond and convert that into a permanent fish pond. In order to do this it was necessary to draw off the water. It was drawn off in May and the carp were caught and transferred to the other pond. I secured about 35 out of the 47 put in. No doubt some few may have escaped, and some may have been buried in the mud, but the entire loss was some thirteen. These carp were about twelve or thirteen inches long, and would have weighed I suppose about a pound. In catching them, one, a female full of roe, was injured, and this one we fried and ate. It was pronounced by all the family a very good fish. These fish are doing much better than I had expected; those which were hatched in 1880 are now about twenty inches long and I think would weigh three or four pounds. Those hatched in 1881 are about twelve inches long and weigh about a pound. I feed them very often with loaf bread broken into small pieces; this floats for a time and the fish rise to the top and take the particles of bread, just as readily as a trout takes a fly, but with much more deliberation. They are quite tame and on any warm evening, upon throwing in crumbs of bread, some fifty or more will come up to the bank and swim around almost on top of the water. On yesterday I concluded to try the eating qualities of one, and with a small "fly hook" with a piece of bread, soon caught one of the "yearlings" (hatched in 1881.) I avoided the large

ones by drawing out the hook when any of these approached, as I wished to save all these for breeders this year. The carp caught weighed seven eighths of a pound and was twelve inches long—growth of one summer. We had it fried for breakfast and seven persons tasted it; all pronounced it excellent. The flesh is quite firm and white and had no taste of mud. It reminded me in appearance and flavor of the “New River cat,” which is generally considered a very good fish. It has but few bones. Any farmer having a small stream, can with a very moderate outlay raise carp enough to supply the family.

In conclusion, permit me to say that in my opinion Prof. Baird and his able corps of assistants, amongst whom is Col. McDonald, are doing more to develop and enlarge the supply of cheap and wholesome food for our people than any other department of the government.

Yours truly,

R. T. W. DUKE.

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#### INTERESTING LETTER.

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*Editor of Southern Planter :*

I perused your journal with much pleasure, and saw many names familiar to me when a subscriber a few years ago. My intention is to send you this communication for insertion, or to embellish your wastebasket as you may see proper. In nature it will partake of its authors rambling disposition, and may touch on subjects, which, if followed by other more able writers may be of benefit to my native State, Virginia. I noticed a short article by Dr. Pollard in regard to wheat not yielding as well as in *ante bellum* days. The doctor is right. When living in Charles City county, I abandoned its cultivation for the simple reason the yield did not justify the labor bestowed. Something is lacking, at least, in the soil of Western Virginia, that unfits it for profitable wheat culture except in rare instances. Even the river farms, to my certain knowledge, yielded far larger crops before the war than they have in the past few years. The substitute used by me for wheat was our great staple, Indian corn, in the cultivation of which I was generally successful even during a drouth. It always paid me, as I could raise it for less than thirty cents per bushel. The method adopted was cheaper than the old-fashioned mould-board system and for the benefit of your readers is given below. The land well and deeply plowed and allowed to lay to the pulverizing effects of winter's frosts, then reduced to its finest tilth by cross harrowing, and if possible harrow again the way it was plowed. The seed was sown with a corn planter in rows three feet eleven inches apart (this I claim to be



one of the great causes of my success, contending the rows should be close enough for good cultivation and not allow the blades to touch across the "balks") and was experimenting to see how close the rows could be to produce a good crop. Am satisfied three feet six inches will not injure the crop; it may require more careful attention to the land as a larger crop will be taken off. The crop of 1882 was the poorest ever known in Charles City county; but mine was acknowledged the best in the county by all who examined it. As soon as the plant is sufficiently high to distinguish the rows, a five-toothed cultivator is run as close to the stalk as possible without covering; next the turning plow throws one furrow from each row, which a good plow laps so thoroughly in the middle as to smother all weeds and grass; the corn is then thinned and hoed by hand, after which the five-toothed cultivator is run to level the list made by the turning plow. The plow lays a small furrow to the stalk and the cultivator again used to "clean out the balks." An expanding cultivator is much to be preferred, the reasons being obvious to any practical man.

Another important subject I would call attention of your readers to is the alarming destruction of the timber. I may ask the question for careful consideration. Is not the cutting down of the forests somewhat the cause of the long protracted drouths that Eastern Virginia has for some time suffered? The present generation may reap a small pecuniary gain from the sale of timber, but if they do not live to see it, they will entail upon their posterity a lot that few will enjoy, from the fact the money they receive from this wholesale destruction is not applied as it should be. Perhaps necessity compels them to act otherwise and use this revenue for living entirely. If they improve their lands with this value taken from it they might avert for a time the evil consequences, but as it is they can only give their children for an inheritance a farm in a malarial section, that is not capable of sustaining life only under very favorable circumstances.

Ride through the lower counties of Tidewater section and you can but remark the absence of those majestic forests that were noticeable features characteristic of this region. You can but sorrow at the avidity with which people fell trees that dealers of "Auld Lang Syne" would have laughed at. I see that this destruction is prevalent everywhere, but in Virginia and North Carolina it is carried on to an alarming extent without mitigating circumstances as in some localities where forestry is encouraged.

VIRGINIUS.

[This comes to us from the State of Texas. The author is evidently a native of Virginia and of the county of Charles City. His ideas about wheat, which we do not agree with, will probably explain why he left off farming in Charles City and went to Texas to edit and publish a very good paper.—Ed. S. P.]

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**The Present and Prospective Condition of the Small Farmers of Virginia.**

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*Mr. Editor :*

I desire to bring to your notice, and to the consideration of your readers, the present and prospective condition of the small farmers of Virginia. It is known to us all that since the war this class has increased very much in number. What is their present condition? It is much the same in every part of the State—they own a hundred acres of land, or less, generally poor; two horses, a wagon, two cows, a few hogs, a small stock of farming implements, but no capital. They have, it may be, two or three sons to help them and as many daughters to provide for. They are entirely dependent on the farm for a support. Their necessary expenses, taxes, doctor's bills, blacksmith's, &c., may amount to fifty dollars annually. The small farmer makes only corn enough for bread and to feed his stock. He makes a little wheat; after the expenses of saving and threshing are paid, he gets a few barrels of flour. I know of no income he derives from the farm. How is he to get groceries and clothes for the family? The mother furnishes these things from her dairy and fowls. Such is the present condition of a large class of our people. What have they to look forward to? They are discouraged because they make nothing; their children are unprovided for. How are they to improve their position? How are the daughters to live after the death of their father? This class is little better off in Tidewater region of Virginia, the cheap and convenient water carriage they have, the benefit of fish and oysters; they have marl, a permanent improver; they cultivate the ground pea and sweet potatoes, both sure and profitable crops; the large towns afford them good markets for fruits and vegetables. In Middle Virginia the small farmer is dependent on the staple crops. Give this matter your serious attention. I call upon your readers to make such suggestions as may do us good. It is useless for us to contend with the Western farmer in trying to compete with him in the raising of corn, &c. He can place his articles in market as cheaply as we can. It seems to me the small farmer must vary his products, and raise and send to market such things as do not come in competition with the Western farmer. All sorts of fruits, either green, dried, or canned, meet with ready sale. If we could establish factories and villages as they have done in New England, we would have a market for our labor as well as for all our truck. A man who owns a hundred acres of land in New England considers himself rich. Things tend that way. Let us do all in our power to hasten this consummation. I will advise better



tillage and more thorough manuring, but the small farmer has no money to buy fertilizers or grass seed. Occasionally we see an industrious, enterprising man better his condition and rise to independence, showing it can be done. The Staunton papers tell us of a gentleman of Augusta who at the close of the war had fifty cents, all his capital, who rented land, and his property is now assessed at thirty thousand dollars, all made by farming.

OLD FARMER.

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### PLAIN FARMERS' DWELLINGS TO COST \$400 TO \$800. BARN AND STABLES.

*Editor Southern Planter :*

To erect a house of four rooms, above ground, the lower floor should be *four* feet above the surface, on a knoll, with a gentle descent on all sides to remove standing water. Groves and yards of one acre, or more, should surround each dwelling, with hen-houses, cribs, wood-house, &c., on the line back of the house, in the corners of the yard.

The chimney should be between the two rooms, and not over *six* feet from the *front* door, opening against it. To allow *good* steps on the *other* side of the chimney leading to the two rooms above, the rooms should be sixteen feet square, thus allowing an easy ascent. The pitch of the lower rooms should be *nine* feet, and the upper *eight*. The roof should be nearly flat, allowing one inch fall to every foot, and covered, of course, by a tin roof. The rafters should be sawed, ten by four inches, on the upper side. By having the ceiling with seasoned weather-boarding and filled in with saw dust before the roof is put on, the rooms will be cool in summer and warm in winter. One window in front and on each side and upstairs on the back side will give light and air from every side. On the ground floors, two doors on the back in place of windows would be sufficient. Without going into details, such a house can be built for from \$300 to \$400, complete. As the owner prospers, he can put up a two-story house adjoining these four rooms. The chimney can be between the two rooms, or at either end of the rooms, with a passage and steps above between in the place of the chimney. The roof should incline to the front, and built as the other. Where such an addition is contemplated, the windows should have *door* panels in place, so that as little plastering as possible may be removed.

Such a house, with *eight* rooms, could be erected almost in any neighborhood for \$800. A small or large porch in front, to suit the purse



of the owner, could be added at any time. Such a plain building might not look as picturesque as a cottage, but the cost would be much less, while the upper rooms would be comfortable, which is not the case in high-pitched buildings.

All buildings should be built for tin roofs, as allowing more room underneath and costing no more than the old fashion.

Many a farmer, with a carpenter, could aid in erecting such a house, and thus the cost would be less. Most of the cheap dwelling-houses and barns appear as if they were dropped from the sky, and often vary in shape, size and other things, and as inconvenient as possible for all comforts. If builders would suggest better and more suitable dwellings, the want of taste and propriety of the owners would be gradually improved, and every neighborhood would have a better show to strangers, and the settlement of new men would be an improvement over the old in many respects.

Barns and stables, according to amount of stock and provender, should be built together for convenience in feeding and shelter, and not separated as on most farms.

A barn, thirty-six feet square, should have a middle passage-way on the lower floor, to feed the horses on one side and cows and hogs on the other. The lower story should be six feet high. Over all the stock the whole floor should contain the forage, with cutters to cut up the long feed during bad weather and let down through a hole in the floor to the passage below. Where it is convenient, the water trough, with water always in it, should be in the cattle portion of the stable. Stanchions are better than stalls, as the cattle are more easily secured, take up less room, do not horn each other, and can eat all the food fed them without disturbance from the larger cattle. A small boy can feed the stock without danger of being kicked, and the owner can see for himself the condition of his stock without going into each stall. A piggery on the back side, with a large box opening into the southern exposure to the sun, is preferable for winter. The upper story of the combined stable and barn should be not less than eight feet, and might be ten feet or more, and the roof nearly a flat one, covered by tin. Many a barn is erected costing the same in roof, and only one story, and the stable also another roof like the barn, when they should be together. The corn-cribs, with bins for mill-feed, should be twenty or thirty yards distant. By two-story houses, one roof is saved in expense, and when covered with tin, the insurance against fire is reduced. The above is an outline merely, and not a full statement.

C. R. CULLEN.

## ENSILAGE.

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*Editor Southern Planter :*

I promised last winter to give you my experience on ensilage, and thereby answer some of the many questions you asked in your February number.

1. "Location of silo, with reference to cattle, stalls, &c.?"

The silo, if possible, should be in an hillside, sufficiently high to give drainage from the bottom, and to be at one end or side of the cattle stable, for convenience of feeding.

2. "Form of silo?"

Oblong or a parallelogram,

3. "Dimensions of silo?"

That depends on the number of cattle to be fed and the length of time of feeding. It will take about 1,200 pounds per head per month, and supposing that amount to be contained in a cubic yard, you have a safe basis for a calculation.

4. "Walls and material for silo?"

Where stone is not convenient, I would use 2-inch plank, put up perpendicularly, and not over eight feet long or deep. With stone, you can break up and use as concrete cheaper than to build with heavy stone. Have your walls eight inches thick and twelve feet or more deep.

5. "Cover?"

Inch boards, two inches in thickness, breaking joints.

6. "Weight?"

Stone, if convenient, twelve inches deep, or earth eighteen inches deep, and a shelter over all to keep off rains.

7. "Cost?"

Silos can be built of timber for about one dollar per cubic yard of capacity, or of stone for two dollars per cubic yard.

8. "Crops best suited?"

Clover, millet, peas, corn-fodder or rye, but corn-fodder will make more per acre than any other forage.

9. "Stage or condition to cut?"

Corn-fodder, as soon as it drops its bloom and the stalk full of sugar; other plants, in full bloom.

10. "Kind of corn preferred?"

Any prolific kind of large growth of stalk.

11. "Preparation of fodder for silo?"

Cut with any good power cutter level and trample as cut; fill and close as soon as possible. Where pits are large, divide so as to fill and close up as soon as possible.

12. "Cost of filling?"

About fifty cents per ton.

The other questions are of a general character, and will be answered in what I shall now relate as to my experience the past winter and spring.

The first of January I began to feed seventeen head of beef cattle, five cows and three yearlings. The 20th of January, I bought fifteen more beef cattle, making forty head in all. They were fed ensilage and meal, mixed, twice daily. The meal was crushed corn and cobb, of which I gave four quarts each daily, except the yearlings; they had only one-half that quantity. The cattle averaged from twenty-five to forty pounds of ensilage each daily. I could not get mine to eat fifty and sixty pounds and upwards, as I have seen stated by others, and was greatly surprised when I weighed (which I frequently did) to find that they ate so little in weight. They fattened much faster than my cattle did in 1882, fed on twice as much meal and all the corn-fodder they would eat dry; and, strange to say, when the ensilage gave out, the 7th of April, I gave them nice, dry corn-fodder, cut fine, wet, and six quarts of meal added for each animal, thus increasing the grain ration one-third, and yet eleven out of seventeen would not eat it, and three out of four of my milch cows refused it too, and, after trying them nearly a week, I had to give the meal alone, and then the corn-fodder dry, and they would pick it over, but lost flesh considerably in the three weeks they ate it, and my cows went back in milk twenty-five per cent., and in butter fifty per cent., which was entirely unexpected; and now, May 12th, we are feeding the cows green rye, meal and bran, and they have improved in quantity of milk, but very little in butter. And now, to sum up results, if I can get more beef with ensilage and one-half ration of grain and more milk and butter than on any other feed (beets not excepted), what is the use of theoretical farmers prating to me about *sauer kraut* and the vile odors of ensilage.

These are progressive times in farming, and I am in for that which pays best. Some say silos are expensive things, and the cutting up and hauling a very heavy, expensive business. I can build silos cheaper than I can barns to hold dry corn-fodder, and the fodder has to be cut up anyhow, dry or green, and cuts much easier green than dry; and although it is a busy time in the fall, it pays better to work hands when the days are long and pleasant than short and cold. Then when cut and



put in the pit, much extra labor is saved, the cut corn is ready for feeding, needs no water to make the meal stick, and the cattle need very little cold water when eating ensilage. Corn-fodder is hard to cure. It has to be left out a long time to cure properly, and requires much more room to store it.

What more, Mr. Editor, need I say? I have no axe to grind in this matter, but when I try a thing and find beyond a doubt it is good, I want my fellow-men to have the advantage of it. I am no enthusiast. I state facts, and facts are stubborn things.

*Manchester, Va.*

F. GUY.

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CARYSBROOK, VA., April 15th, 1883.

*Editor Southern Planter:*

I am a subscriber to your valuable journal, and I think by publishing the statement of facts below, you will benefit some of your other subscribers, by saving them from being humbugged. I will say, as something of consolation to myself, that there were several others of this vicinity "sold" besides myself.

Last November there was a party who came to my place, claiming to be able to spay stock of all sorts with but little pain to them and no danger, by operating externally altogether, simply severing a cord that connected with the womb. He proposed also to operate on the males by severing two cords that connected with the testicles.

I let him operate on both sexes—quite a number of them—hogs and a number of heifers. As to the latter, I am not able to say yet, but so far as it goes, with some, it is a complete humbug.

I have lost not less than one hundred dollars by this operation, from the fact that it caused me to delay so long in really spaying my hogs, that they pigged once, and are about to do that again.

Yours respectfully,

C. E. JONES.

We concur in the above.

W. L. WALLING, SONS & Co.,  
P. A. STRANGE.

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STEEL manufacturers are anxiously awaiting the result of a trial of paper rails to be made on a prominent Western road. Car wheels of this material have long been in use, and are reported to give satisfaction. The rails are said to be made wholly of paper pulp subjected to a pressure which renders it solid as metal.

### FLOATS.

[In our last issue brief mention was made of the Third Annual Report of the Hon. A. P. Butler, Commissioner of Agriculture for the State of South Carolina; and of an interesting, and, to the farmers and planters, an important article from Dr. F. L. Frost, State Chemist, on the subject of *Floats*. We promised extracts from Dr. Frost's article, but we find we cannot do it justice in that way. About one-half of it is, therefore, published now, and it will be completed in our next issue.—ED. S. P.]

Many inquiries having been made of the Department regarding "floats," or ground phosphate, its fertilizing value, &c., we addressed a letter to Dr. F. L. Frost asking that he would furnish us all the information he could for the benefit of the farmers of South Carolina. In response to our letter, Dr. Frost contributes the following valuable and exceedingly interesting article to our Report:

*Hon. A. P. Butler, Commissioner of Agriculture, Columbia, S. C.:*

DEAR SIR,—Your communication of the 19th ultimo, requesting my views on "*Floats*," came to hand, and would have received immediate attention but for my absence from the city and the pressure of business.

*Floats* is crude phosphate rock ground to an impalpable powder, so fine that it will *float* in the air—hence the name. This extreme comminution is effected in various ways, but chiefly by the use of the Duc Atomizer Mill, invented by our fellow-townman Mr. H. A. Duc, Jr., a man of great natural talent, and of the most remarkable inventive genius.

The object of all grinding is to increase surface. In very much greater ratio than the fineness of the particles will be the surface that is presented; and, in proportion as the surface is increased, the more readily will the rock be acted upon and rendered available to plants by the agencies that are in the air, the rain, the dew and the soil; and especially so by the digestive powers of the plants themselves.

Some appliance, therefore, by which phosphate rock and other refractory materials could be reduced to an impalpable dust, or to its ultimate atoms, as it were, has long been considered a great desideratum.

Heretofore the old French buhr-stone was our sole dependence. To any thinking man this seemed a very rude contrivance, suited only to the most primitive ages; for half the power and half the wear and tear were applied to the grinding or destruction of the instrument itself, the buhr-stone, and were consequently lost to the object in hand—the grinding of the phosphate rock. Furthermore, it was found impossible to reduce the rock to what was conceived to be the requisite degree



of fineness, owing to certain insurmountable difficulties; for as each particle of phosphate rock, in the process of grinding, was broken, the number of such particles would be doubled, and, consequently, there would be double the resistance to further reduction; and thus, as the grinding progressed, in intensive ratio, the resistance increased, until finally, the power remaining the same, the practical limit to subdivision was soon reached. And this *inherent* difficulty was further increased by the *accidental* ones of obstruction and lubrication; for the rock, being fed in at the centre of the stones, in order to effect its exit had to work its way out to the periphery. Now, owing to the rock not being of absolutely uniform density, and to the impossibility of keeping the stones absolutely true, there would be unequal action in the grinding, some particles undergoing reduction much more promptly than others; such particles, being more or less remote from the periphery, and thus not able to make their immediate escape, not only offered resistance to the work by obstruction, but, being very fine and smooth, they further hindered it by a practical lubrication of the larger particles, thus thwarting the process of attrition and consequent comminution.

These difficulties have all been overcome by Mr. Duc in his atomizer mill. By this mill the rock is made to grind itself by the attrition of rock against rock. The whole power is made to apply itself to the work in hand, and there is no wear and tear upon the mill.

The mill consists of an iron disc, five feet in diameter, into which the rock is introduced; the disc is then made to revolve; by centrifugal force the rock applies itself firmly to the interior periphery, forming a surface upon which a certain mass of the rock (which, by a simple device, is not allowed thus to obey the centrifugal force), is ground. The mill is relieved of the ground material by suction applied at the centre of the disc. In proportion to the gentleness of this suction or draft will be the fineness of the product.

It is thus that the material called "floats" is *mainly* produced.

Within the last twelve months another process has been invented, and has been in use by one of our largest companies in this city, on the principle of *percussion*, and not of *attrition* as in the Duc Mill, the same ends of extreme reduction being attained. And although the exact method is not at present known to the general public, the results in all respects are said to be highly satisfactory.

And now as to the uses of floats:

In the manufacture of floats, it must be remembered that the rock has undergone only mechanical treatment. It is, therefore, still an in-



soluble phosphate of lime, differing chemically in no way from crude phosphate of rock, or from the rock as ordinarily ground by buhrstones. What, then, has been gained?

When phosphate rock was first discovered in the old world, its similarity of composition to bone at once suggested to scientists the idea that it would make a good fertilizer; and that as the organic phosphates—bone—gave good results by simply grinding, so would the mineral phosphates. Indeed, inasmuch as phosphate of lime was known to be plant food, the idea that if it was applied to plants in suitable mechanical condition, they would recognize it and somehow get possession of it, was so simple and direct that it would seem to have been primitive.

The rock was accordingly first used simply ground, and the results were measurably satisfactory.

But Baron Liebig, having previously discovered that by treating raw bones with sulphuric acid, their activity was thereby greatly increased, the same process was applied to the phosphate rock, and with such markedly good results that from that time the almost universal practice has been to treat the rock with sulphuric acid.

It was thus that Dr. J. B. Laws of England made his famous "Laws' Superphosphate" or "Coprolite Manure."

As the mind of man, however, is ever prone to go back and unearth things that it has long since buried, so there has been manifested a constant disposition on the part of agricultural chemists, in all countries, to reconsider this subject; and on the part of agriculturists the practice has never been wholly abandoned.

Since the first discovery of phosphatic deposits in the South of England by Drs. Mantel and Buckland, and the recognition of their manurial value by Professor Henslow, phosphate rock has been used simply ground—without acid treatment; and to this day the green-sand fossils are used in England and the Ardennes phosphates in France, and the South Carolina rock in the United States and all over Europe, more especially in Scotland, in a simply finely ground powder.

When, therefore, in the process of scientific investigation, it was discovered that, although the immediate action of the sulphuric acid upon the rock was to change it from a tricalcic (insoluble) to a monocalcic phosphate, in which latter state it was soluble in water (and presumably available to plants), but that subsequently, by certain chemical reactions taking place in itself, but more especially when applied to the soil, this monocalcic or soluble phosphate would revert—so-called—and become a bicalcic (or reverted or reduced) phosphate, in which

latter state, although the phosphoric acid became again insoluble, it was found to be available as plant food; and when, upon still further investigation, there was found good reason to believe that the whole of the monocalcic (or soluble phosphate) does so revert in the soil and become bicalcic and insoluble before it is or (as some maintain) can be taken up by plants; and inasmuch as the essential characteristics of this bicalcic or reverted or reduced phosphoric acid consist (or are supposed to consist) *principally* in its reduction to ultimate atoms by the action of chemical precipitation to which it has been subjected, and, *secondarily*, to its containing but two instead of three equivalents of lime, as in the case of the crude phosphate rock, it naturally occurred to such investigators that the same end could be attained by more simple and direct means—that the key to the whole matter is extreme fineness or comminution, and that, in accomplishing this end, mechanical subdivision might be made to take the place of chemical precipitation; and that, this requisite of extreme reduction being attained, the *principal* characteristic of reverted or reduced phosphoric acid will thus have been secured, and that the material will then be in condition to undergo the *secondary* change from tricalcic or insoluble to bicalcic or reverted phosphoric acid, through the action of such weak acids as are to be found in the soil, and more especially in the rootlets of plants.

Under this view of the case, some appliance by which the rock could be reduced to an impalpable powder became imperatively necessary. The inventive genius of man (ever able to respond to any demands that his material needs may make upon it) was put to work, and the result is the “Duc Atomizer.”

And now that we have the floats, the impalpable product, the *sine qua non*, the question still presents itself: What has been gained? For it still remains to be seen whether chemical ends can be accomplished by mechanical means.

The question, practically, it must be remembered, is not whether ground phosphate rock is a fertilizer, for we all know that it is a fertilizer, and that the finer it is ground, presumably, the more efficient will it become; but the question is whether ground phosphate rock used by itself is a fertilizer in any such kind or degree as to make it a substitute for acid or dissolved phosphate.

The advocates of floats claim not only that it is such a substitute, but that, not having had an equal weight of another product (sulphuric acid) added to it, as in the case of acid phosphate, it is twice as rich in phosphoric acid, and, therefore, *doubly as valuable*; that in the near



future there will be no further use for sulphuric acid; and that as sulphuric acid (in their opinion) is a poison, destructive of plant life and injurious to the soil, they will accomplish the two-fold purpose of acquiring a useful product and of discarding a hurtful one.

Now no amount of reasoning, however able and scientific, can determine this question. Like all other problems in agriculture, it must be subjected to the crucial tests of the field. We must ask our crops what they think (for nature cares nothing about our speculations and deductions, which are much of the time for self-aggrandizement or for the gratification of our own conceits). As Professor Ellzey, of Virginia, truly says: "The inductive basis upon which the science of fertilization must finally rest must be wrought out in the field and not in the laboratory. The data of the laboratory are merely suggestive; *the data of the field are determinative.*"

Biding this final arbitrament, however, it may not be devoid of profit for us to predicate on the subject; for if we can, with a measurable degree only of probability, predetermine this question, it may be the means of great good—serving as a guide to experimentation and as a caution against too hasty conclusions.

In reviewing this subject, we will have need of the best aids at our command. We will, therefore, be governed by the experience of the past and the opinions of the foremost agricultural chemists of the day, as moulded by that experience and the light of the laboratory.

We have, therefore, the two uses of the phosphate of lime—the insoluble and the soluble—the one in its crude state (ground phosphate or floats), which has been in use, we may say, since time immemorial; and the other in its so-called cooked state (acid or dissolved phosphate), which has been in use since the comparatively recent time of Baron Liebig.

In the one case the treatment is mechanical, and our dependence is upon the acids of the soil and of the cells in the rootlets of plants which are so weak that they can only act upon materials of extreme fineness of comminution, whose action is at best slow, and the results, therefore, more or less remote.

In the other case the treatment is chemical, and our dependence is upon the powerful sulphuric acid, which does its work promptly and thoroughly, and has stood the severest tests of experience in all parts of the world, on all crops, on all soils, in all climates and under all systems of culture, with uniformly good results, and with ever increasing popularity.



The one is used with more or less 'misgivings as to the actual and profitable results; the other is used with absolute confidence as to both.

The comparison may be likened to one between the old time post of our fathers and the express of our day. By either mode the mail reaches you; but a man in these times cannot afford to receive a letter to day which his neighbor got a month ago.

Now of these two products—ground phosphate and acid or dissolved phosphate—which, by the judgment of the agriculturists of the world, and especially of our Southern States of America, has given and is to-day giving the best results? Beyond all question, and almost immeasurably, as expressed by demand and consumption, the acid phosphate.

Although the one product has been known and in use much longer than the other, yet the demand for the acid phosphate is now, and has been at all times, full, hearty and ever increasing. Where most used and known, there most valued and wanted. Whereas the demand for ground phosphate, as such, is feeble and timid, amounting to almost nothing by comparison, and would in all probability die out altogether but for the constant agitation of the subject, by which it is kept before the minds of the people, and thus here and there men of originality and thought (of whom there are such in every community) are induced to give it a trial, but with almost the invariable result of disappointment, unless, indeed, they are prepared to wait for tardy and remote results, or have, perchance, used it in combination with some other of pronounced qualities and activity.

Now this demand, be it understood, is the exponent of judgment stimulated and directed by personal interest—a most searching and unerring instinct; and it therefore becomes a most important indicator of the comparative merits of the two products.

It is plain that if ground phosphate gave equal results it would be in equal demand.

That our farmers do not want it, is the best evidence that we can have that they do not find it profitable to use it, or, at least, that it does not give the same crop results, and consequent money returns, that the acid phosphate does.

It may be objected that these remarks, however they may be applicable to phosphate rock as ground by buhr stones, do not apply to floats, inasmuch as the prime condition of extreme comminution is wanting in the ordinary ground rock.

We maintain that this is not the case, and that the conditions, although not wholly present, are in good measure so, and at least in such degree as to afford reliable indications; and that, to the degree

that the conditions do exist, they should manifest themselves in the results. We do not, however, find this to be the case.

Now the advocates of floats claim not only that it is *equally* as active and available as acid phosphate, but that, one-half the weight of acid phosphate being sulphuric acid, and the floats not having been so treated, and containing, therefore, twice the amount of phosphoric acid that the acid phosphate does, is consequently *doubly* as active and valuable.

[TO BE CONTINUED IN NEXT NUMBER.]

### COUNTY ROADS.

Everybody has heard the old saying "Make haste slowly." These times are fast; people live fast, drive fast; and learn more in the present era in a twelve month than past generations did in a lifetime. Nothing takes the man of to day by surprise. Puck puts his girdle round the earth in forty minutes. Railroads are left far behind. Electricity is applied to every day uses. Can anything slow or old fashioned be imagined in this fast day, anything that really makes haste slowly? Hitch up the team and pass over almost any of our county roads, shut the eyes, and then see if by any stretch of the imagination one could conceive himself living in a fast age.

The condition of our public roads has driven away more intended settlers than any other one thing, and justly too.

Is there no remedy, can not we have good roads? Cannot any farmer who reads *THE COURIER* save five or ten dollars annually in blacksmith and wheelwright bills by spending the same on his neighborhood roads? Surely a small additional tax is no objection, when a good road will allow you to carry four or five more bales of hay or three or four more railroad ties to the load, and thus earn in a week the money that will give you better roads and put money in your pockets in the long run by the increased loads and a smaller bill for repairs. I am met with the objection that the party at present in power have declared for a reduction of taxes, and this will cause an increase. To earn money we must first spend money, and how can we better spend it than by improvement of the roads, in what manner can we bring in better returns? Increased immigration, larger loads to market, less expense for repairs, easier work for our teams.

Let us combine on this one point. Demand of our next representative in the Legislature that he will push forward a bill that will bring about this most desirable object, and give him to understand that we make this a point in giving him our suffrages. Agriculture represents the real wealth of any country, and the demands of the country must not be slighted. Our present road law is totally inadequate for the purpose for which it was formed, it is a relic; most assuredly we have made haste slowly in this matter! I will give a single instance of the injustice of the present law: A laboring man who earns barely



enough for the sustenance and clothing of himself and family is required to put just as much work on the roads as he who owns his thousand acres. Is this just, is it reasonable? The result is that the man who earns his pittance does the work, while he of the thousand acres does nothing. I could mention many other flaws in our present system, but it is only necessary for us to see and ride over to know that a radical reform is needed in our road laws. It is not my place, at least at present, to suggest a better law. We have only to apply to some of our neighboring States for hints, and frame a new law in accordance with our means.

Meanwhile let the community wake up and put the roads in order before the fall Fair, and avoid the disgrace of hearing it said: "Yes, the Fair is all very well, but what 'beasty' roads to get there!"

FARMER, in *Scottsville Courier*.

[We have on every fitting occasion said through the *Planter* all we could in advocacy of good county roads, and have published several articles on the subject—notably, a most excellent one from Dr. J. L. M. Curry in the past year, and another from the pen of our friend, Capt. Richard Irby. There are at least, three very important matters which should be provided for by legislation, and the farmers should look to them: public roads, a system of enclosures, and a *dog-law*, to protect sheep.—ED. S. P.]

### WESTMINSTER ABBEY IN DANGER.

Every Englishman who takes a patriotic pride in the splendid examples of ancient architecture still left to us, will receive with deep regret an announcement which we are enabled to make. The exterior stonework of Westminster Abbey, which has long been a source of uneasiness to the Dean and Chapter, has now been found to be disintegrating so rapidly as to be almost a source of danger. Of late years the Abbey has grown blacker and blacker, until it is now hard to say which one of the two metropolitan cathedrals is the grimmer. It is this constant deposit of harmful particles which has been silently doing the mischief that has now become so serious. The decision arrived at by the Dean and Chapter by the light of their professional advice is, we understand, that there is no alternative but to reface the entire fabric of the abbey. If it really be that there is no escape from this course, we must make up our minds to the inevitable; but the nation will demand that so hallowed a piece of national property shall not be rudely or hastily dealt with. If it be essential to the safety of the abbey that its stonework should be refaced, there is nothing to do but to reface it as quickly as may be, and with stone which shall be much more durable than that of which the houses of Parliament were built. Most people, we imagine, have a greater veneration for the interior of the abbey than for the exterior, but the Dean and Chapter—who, we feel sure, may be trusted to act cautiously and reverently in the matter—must remember that unless very good cause can be shown for so extreme a step they will have to face a storm of public obloquy such as has not in modern days been aroused in England upon a purely artistic question.—*London Land*.



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## Editorial.

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### THE POLLUTION OF MILK AND BUTTER IN THE MONTHS OF MARCH AND APRIL.

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We wish to address a few words to those of our readers whom "the cap will fit," on the subject above announced. With the coming of every spring, during the months named, and sometimes prolonged, milk and butter are tainted to an offensive degree by turning milch cows out to graze on wild onions and the early buds of trees and shrubs. This is wrong, as convenient and cheap remedies may be applied. Milk and butter, we may say, are the *fundamental* comforts of every family, and therefore some care should be taken to secure their purity. The farmers who are improvident, and find themselves short of forage, are they who inflict this trouble on themselves and others who may unwittingly buy and use the products they send to market.

There are several remedies which may be easily and cheaply used, and we will mention one or two :

First. Have near your barn, or place where your cattle are stabled, an acre of land, well fenced, for each cow that will be *in milk* in the spring—the extent of this inclosure to be regulated by the average number of cows kept. This land should be properly fertilized and put in orchard grass and clover, mixed, and the milch cows should be turned in each day for a few hours, and for the balance of the day and night kept confined and fed on chopped fodder, or even straw or chaff, with the most liberal supply of meal or bran which can be afforded. In the event that neither of the last mentioned articles are at hand, or to be conveniently had, then let them take their chances on any dry forage which can be given them. The pure grass on which the cows have grazed during the day, for a few hours, will secure a fair and pure flow of milk.

Second. Use *ensilage*. An acre of good land, drilled in corn for this purpose, will keep three cows to a flow of pure and rich milk for four months, from January to May, and thus tide over the most trying months of the year. How this ensilage is to be prepared and used has been sufficiently explained, but we will refer to the practical communications of C. N. S. in our March number, and of Mr. Guy in a former number and the present.

There is no excuse, then, for tainted milk and butter. If the purity of these products for use in the family, or for any surplus which may be sent to market, does not afford a sufficient inducement for a little

care to secure it, then we pity the farmers and farmers' wives who disregard such an important matter to family comforts and profits. We say *profits*, because no one will buy tainted milk or butter except at a very low price, and they who buy without examining the quality will never buy again from the same person.

Our remarks, suggested by the experiences of the spring just past, are too late for the present year as to buds, &c., but in time for the next, and for our second suggestion of ensilage.

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### ENQUIRIES.

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A subscriber asks the following questions in respect to plaster: How to use it, when to apply it, how much to the acre, and "especially whether it loses its virtue or strength by being ground several months before applying it to crops"?

We reply that plaster is always advantageous, and the methods of its use are at the will and convenience of the farmer. Its use by men who have knowledge of its chemical action may be more judicious and marked in results than by those who have not, but in the soil it may be compared to *salt in bread*, which is a necessary article, whether the cook be good or indifferent in its use.

Now we will say that there are three prominent and judicious ways in which plaster may be used:

1. As a disinfectant in stables, cattle yards, hog pens, &c. A weekly, or semi-weekly, sprinkling of plaster in these places will contribute to the purity of the atmosphere breathed by the animals, secure valuable chemical combinations, and bring the plaster to the land in the shape most beneficial when the manures are hauled out and spread on the land.

2. In composting animal manures with earth, kitchen and house slops, plaster should be applied in alternate layers by a liberal *dusting*; and here again, it comes to the land when these composts are applied.

3. Plaster can be applied with good effect to grass—say clover—when its first spring growth appears, at the rate of one to one-and-a-half bushel to the acre, sown broad-cast; or, if this is overlooked and omitted, to the sod after the grass is cut.

4. We have never heard, and can see no reason why, that plaster should lose its effect, however long it may have been ground before use. The purity of the rock, and the integrity of those who grind and supply it, are only to be considered.



We have not time to say more, as these enquiries come just as the *Planter* goes to press; but we have said enough to impress our enquiring friend with our ideas of the value of plaster and some methods of use.

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### SOUTH SIDE FARMERS' CLUB.

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On Wednesday, the 25th ult., the members of this Club met at their rooms in Barksdale Hall.

Two new members—Messrs. Jos. Wilmer and James B. Coleman—having been balloted for and elected, Mr. Isaac R. Barksdale proceeded to address the meeting on the Hog. He stated that after many years' experience he was certain that there was no profit in the common or "wild" hog of the country, but that there was money and good pork in the docile and well-bred animal. After an instructive discussion in which Messrs. G. W. Gilmer, W. G. Merrick, R. J. Leckie and others took part, it was proposed that the members should join in petitioning the Legislature to pass a bill legalizing the levying of a fine on the owners of all straying hogs not having rings in their noses, or to authorize the confiscation of them.

After a vote of thanks to Mr. Barksdale for his excellent address, it was settled that the subject for the next meeting should be Peas and other Green Crops as Fertilizers.

Mr. R. J. Faris, representing the firm of Allison & Addison, spoke briefly on the subject of acid phosphates and floats, and promised to bring samples and further information next meeting.

We clip the foregoing from the *Scottsville Courier*, and having published in our present issue the essay of Mr. Merrick on Grass, we should like to have it followed up by Mr. Barksdale's address on the Hog. Mr. B., by an old-time acquaintance, knows us well enough to appreciate how we should like to hear from him on any agricultural topic.

A more recent issue of the *Courier* informs us that an association has been projected and organized for holding an agricultural fair at *Scottsville* this fall, and that money and other contributions have already been made to ensure success. We take it for granted that this is mainly the work of the *Club*; and we say further, that these associations and exhibitions give life and activity to the farmers, and are just what we need in every county, or at least in a district of counties, to keep alive an active progress. It should be observed that as to time, &c., these local associations should never conflict with the *State Fair*, for this should be the embodiment of all the fairs.

The following circular further explains the *Scottsville* exhibition:



SCOTTSVILLE, April, 1883.

To Col. W. C. Knight :

Dear Sir,—It having been determined to hold an exhibition of live-stock, farm products, agricultural implements, commercial and domestic manufactures, &c., &c., in the autumn of this year at Scottsville, the committee solicit contributions for the same, and they will also be glad to enter into arrangements as regards exhibits at the forthcoming fair.

The fair grounds are to adjoin the Richmond and Alleghany railroad, and a commodious building has been engaged for the exhibition.

The programme of the fair, with the rules and regulations, will be ready shortly.

The committee trust you will see that it is to your interest to take part in this undertaking, and hope you will let them hear from you as early as convenient.

Contributions will be received by the treasurer, J. Luther Moon, Scottsville Bank.

Communications by the Secretary.

I am, yours truly,

GEO. W. CLARK,  
Secretary of Committee.

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#### THANKS.

We have received the following: “*The Santa Fé Tertio Millennial Anniversary Association* extends a cordial invitation to yourself and lady to attend the celebration in commemoration of the 333d anniversary of the settlement of *Santa Fé* by Europeans, to be held at *Santa Fé*, N. M., from July 2d to August 3d, 1883.”

The officers of this Association will accept our thanks for their kind invitation, but we are too old, and our lady too lame, to feel confident that we should enjoy so long a travel.

New Mexico, though on the Pacific coast, is yet, by trade, tributary to the Atlantic cities. We are informed that a line of transcontinental railway is now projected from a fine harbor at a low point on the Gulf of California which will pass through New Mexico and connect it with the principal Atlantic ports, mainly Norfolk, Va., and form a line *one thousand miles shorter* than the Northern Pacific and other lines. The *Atlantic and Pacific* line, on which *Santa Fé* is located, is still more northern, and, as we understand it, will cross the Mississippi at St. Louis, and thus have a direct communication with eastern cities. The lower line we have referred to will reach the Mississippi at Vicksburg, and from this point have connection with good Atlantic ports by established lines of railway, say to Fernandina, Brunswick, Savannah, Charleston and Norfolk. The natural tendency of the trade of the

vast trans-Mississippi country must be eastward, and will build up our Atlantic cities, which by a reflex action will advance the material interests of all the States in which they are situated.

Since the foregoing was written, we have received, with the compliments of Senator Windom, President, a pamphlet of eighty pages, illustrated with maps, which fixes the western terminus of the short line referred to at *Topolobampo*, which is represented as a good port on the Gulf of California, and the line is to be known as the *American and Mexican Pacific*.

There are five lines of trans-continental railway, completed and in progress, as follows:

1. *Northern Pacific*, starting at *Portland*, Oregon, crossing the Mississippi at a high point and reaching *Chicago*.

2. The *Central Pacific*, starting from San Francisco, and passing by the most direct line to Chicago.

3. The *Atlantic and Pacific*, starting at *San Diego* and crossing the Mississippi at *St. Louis*.

4. The *Southern Pacific*, starting at San Francisco and deflecting south to cross the Mississippi at *Memphis*.

5. The *American and Mexican Pacific*, starting at *Topolobampo* and reaching the Mississippi at *Vicksburg*.

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[COMMUNICATED.]

### KING OF FIRES!

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COAL AND WOOD SUPERSEDED BY NATURAL CRUDE PETROLEUM, FOR FURNISHING HEAT, LIGHT AND POWER, WITHOUT THE USE OF WOOD OR COAL, BY THE USE OF CARTER'S IMPROVED PATENT HYDRO-CARBON BURNER.

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By the use of Carter's Hydro-Carbon Burner, no draft or blast of air is required, which obviates the necessity of any chimney or smoke-stack, grate-bars or ash-pit, as the combustion of Petroleum by this process produces no smoke, cinders, or unpleasant odors. No extra labor is needed for handling fuel, &c., and there is perfect safety from accidents.

Users of steam for Domestic, Agricultural and Manufacturing purposes, we call your especial attention to the extraordinary advantages offered by Carter's Improved Patented Hydro-Carbon Gas Retort for generating heat and power from Natural Crude Petroleum, which is undoubtedly the fuel of the future; and Carter's Retort is the only effective, safe and economical machine ever yet invented or discovered for bringing it into easy, common and practical use. The combustion of carbon and hydrogen, which we claim for Carter's Patent Retort, produces 50 per cent. more heat than any other

invention known, with a saving of over 50 per cent. of oil. As a producer of heat and power it has shown practical results that confirm all that has been represented. Its substitution for wood and coal will be wide-spread on account of its economy, cleanliness, convenience for use, and security. It can be adapted and applied to any description of furnace or boiler. It is now in practical use, beyond the stage of experiment. The cost of the apparatus is nominal in comparison with the first cost of grate-bars and smoke-stack. A very important advantage of Hydro-Carbon Gas as a fuel is the fact that the heat is instantaneous—can be increased or diminished at will, and can be used as conditions require, and a uniform temperature kept up—a result not obtained from coal or wood.

Hydro-Carbon Gas from Natural Mineral Oil, generated by Carter's patented process, which is owned by E. G. BOOTH, Esq., produces the most intense heat of any element known, and for cheapness, readiness for use, efficiency, and the ease and safety with which it may be employed for domestic purposes, locomotives, stationary and portable engines, coal and wood bear no comparison with it; and for agricultural engines it is a desideratum long needed.

The public are invited to visit the Pioneer Steam Mills, No. 3 Fifteenth street, and examine the merits of this most valuable invention in daily operation, generating steam for a 20-horse power steam engine.

The great variety of small industries to which motive power can be advantageously applied demands an economical and perfectly safe and clean fuel. This we claim for our Hydro-Carbon Retort. We are compelled to make use of fire and steam, notwithstanding the great risk and dangers that are connected with their use; we cannot avoid it; go where we will, we must live and move by it, constantly exposed to the destructive and unlimited power it develops when unloosed, and uncontrolled by the use of Hydro-Carbon Retort. Perfect safety is guaranteed, as the fire can be extinguished in an instant, by simply turning the handle of a spigot.

The following strong endorsement is given by the *Southern Planter* in its issue for May:

"The advertisement of Mr. Benedict should attract attention. The hydro-carbon process of generating heat we have had occasion before to speak of in the columns of the *Planter*. It is simple and wonderful in efficiency. The process patented by Mr. Carter is controlled by the well-known Virginian, E. G. Boothe, for the United States; but with his well-known devotion to his native State, he desires, first, to confer on its people the advantages which may be realized from its use. Mr. Boothe was also the part owner of another patented process, known as the *Holland Retort*, but he prefers the *Carter*, and as far as we can judge, it is the best. We may be able hereafter to say why.

"Mr. Boothe is arranging to organize a chartered company to bring this process into general use."

BENEDICT & CO.,  
*Pioneer Steam Mills, Richmond, Va.*



### USEFUL NOTES.

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**TO PREVENT POTATOES ROTTING IN THE CELLAR.**—When potatoes are first put into the cellar they exhale an unpleasant odor. To absorb this, and also to exclude the light and air, they may be covered with a little dry sand, and if there is any tendency to rot, this can be counteracted by a sprinkling of air-slacked lime.

**FURNITURE POLISH.**—One pint of linseed oil, one wineglass of alcohol; mix well together; apply to the wood with a linen rag; rub dry with a soft cotton cloth. Furniture is improved by washing it occasionally with soapsuds. Wipe dry, and rub over with a very little linseed oil upon a clean sponge or flannel.

**WHITEWASH.**—Whitewash should be applied as often as once a year to cellars, outbuildings, and to rough board fences that cannot be painted. Take a lump of lime and slack it with boiling water; cover it during the process; strain it, and add a little salt dissolved in warm water, half a pound of Spanish whiting, two ounces of glue. This is good for ceilings, walls, wood, brick or stone.

**USES OF CHARCOAL.**—Tainted meat, surrounded with charcoal, is sweetened; strewn over heaps of decomposed pelts, or over dead animals, it prevents an unpleasant odor. Foul water is purified by it. It is a great disinfectant, and sweetens the air, if placed in trees around apartments. It is so very porous in its "minute interior" that it absorbs and condenses gases most rapidly. One cubic inch of fresh charcoal will absorb nearly 100 of gaseous ammonia. Charcoal forms an unrivaled poultice for malignant wounds and sores, often corroding away dead flesh, reducing it one-quarter in six hours. In cases of what we call proud flesh, it is invaluable. It gives no disagreeable odor, corrodes no metal, hurts no texture, injures no color, is a simple and safe sweetener and disinfectant.—*Southern Enterprise.*

**A CHEAP FERTILIZER.**—The following combination is recommended by the *Boston Journal of Chemistry* as a cheap and reliable substitute for commercial fertilizers, such as superphosphates, &c.: Take one barrel of pure, raw, finely ground bones and one barrel of the best wood ashes; mix them on a floor, and add gradually three pailfuls of water, mixing thoroughly with the hoe. Use in small quantities in about the same manner as the superphosphates. If the ashes cannot be procured, dissolve twelve pounds of potash in ten gallons of hot water, and with this solution saturate the bone flour thoroughly; a barrel of dry peat or good loam, without stones, may be added. The mixture should not be sticky, neither too moist nor too dry. In applying it, avoid direct contact with the seed; for instance, when applied in the hill, scatter a little earth over it before dropping the seed. A very early visible effect should not be anticipated; but the good results will manifest themselves as the season advances.

# The Southern Planter.

SUBSCRIPTION: \$1.25 a year in advance, or \$1.50 if not paid in advance.

## TERMS OF ADVERTISING.

### PAGE RATES.

	1 Mon.	3 Mons.	6 Mons.	12 Mons.
One-eighth page	\$ 2 50	\$ 7 00	\$12 00	\$ 20 00
One-fourth page	5 00	12 00	22 50	40 00
One-half page..	9 00	25 00	45 00	80 00
One page.....	15 00	40 00	80 00	140 00

### COLUMN RATES.

	1 Mon.	3 Mons.	6 Mons.	12 Mons.
One inch.....	\$ 1 50	\$ 4 00	\$ 7 00	\$12 00
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Three inches...	4 00	10 60	20 00	40 00
Half column....	5 00	12 00	25 00	50 00
One column....	9 00	25 00	45 00	80 00

☞ Special rates for cover.

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## EDITORIAL NOTES.

### TUCKAHOE FARMERS' CLUB.

We give place in our present issue for a Report from this Club, which is the second in a series which we hope will continue.

We have, on several occasions, been invited to attend the meetings of this Club, but untoward circumstances have prevented until the last meeting at the house of Prof. Puryear, at the Richmond College. So far as we could see from the proceedings which then took place, there were two fixed and prominent duties: *First*, The examination of the farm on which the Club meets by a committee appointed for the purpose, who should report at the next meeting all the *pros and cons* as to good or bad management; and *Second*, One of its members is designated to read an essay on a given subject at the following meeting. This subject, after the reading of the essay, would then be a question for a free and easy discussion, or talk. The question for this meeting was *Home Adornment*, and was assigned to Mr. J. Lynham who was ab-

sent for causes a letter satisfactorily explained.

Just here, our friend, George Watt, a member, called on us to say something on the subject. Without the foundation which Mr. Lynham's essay would have laid, and unexpectedly called on, we could say but little. But this we did say, and can stand by it; that *home adornment* and *farm improvement go hand-in-hand*. In other words, no man can be a good farmer who neglects his home surroundings.

The entertainment of Prof. Puryear was all that his guests could desire.

WATT & CALL'S CATALOGUE OF AGRICULTURAL IMPLEMENTS AND MACHINERY FOR 1883:

This catalogue, printed by Messrs. J. W. Fergusson & Son, is one of the neatest and most complete of a large number which have been sent to the *Southern Planter's* address. It contains illustrations of the *Watt plow* in all its varied sizes and adaptations, with prices and instructions for management in the field. It has also a long list of harrows and other cultivating tools made by the firm at their well-arranged factory in this city. To their own manufactures they have added the *best* they can select from other establishments; and so we see every variety of tools, or machines, needed on a farm or in a garden, from a hand-rake, hoe, or wheel-barrow, to a steam engine.

This firm is too well known in Virginia and other States for any word of commendation from us to be of any value. We claim, however, the pleasure and the right to speak. We obtained all, or the most, of our cultivating tools from Mr. Geo. Watt for twenty years prior to 1868, and then we came to Richmond, and for five years went into partnership with him. This long personal acquaintance, of more than the third of a century, enables us to say that no man breathes who possesses a better heart or nobler instincts which ensure fair and just dealings. The impulsiveness of his *true* nature may sometimes bring him in unpleasant contact with his fellow-man, but what he may say, or do, under such cir-

cumstances, are only the scintillations of an honest and earnest mind and heart with the *rough edges* of human nature with which he meets.

His son-in-law and partner, Mr. Call, is quiet and modest, intelligent and cultivated, watchful of his business, true and careful in his dealings; so that we may say that no firm for business better blends together for the good of itself or the farmers whom it serves.

#### AN USEFUL INVENTION FOR THE FARMER.

The advertisement of Mr. John Tribble, the owner for Virginia of *Coleman's patented harness*, brings to the attention of farmers a new and useful contrivance. We have inspected the model, and examined the mechanical arrangement, which appears perfect to secure the objects aimed at. These are: *First*, To dispense with double and single trees which weigh down the beam of a plow, and, when slack, dangle against and bruise the legs of the horses; *Second*, By dispensing with the *trees*, the team may be brought nearer to the draft, and thus very much diminish it; *Third*, The abrasion to orchard trees when plowing is to be done among them is avoided; and so when plowing in a field of corn when the stalks are several feet high and brittle, none can be broken down; *Fourth*, The leading pair of horses to a wagon with this harness are brought nearer to their draft, made more effectual, and, divested of cruppers and hip-straps, have freer action; and, lastly, whenever horses are to be hitched as a pair, except at the tongue of a wagon, this harness will prove useful and beneficial over that in common use.

As to cost, we learn from Mr. Tribble that it will, for plow harness, be but little more than that now used, and for leaders to wagons, there will be a large saving in cost. Mr. Tribble is now manufacturing his harness in this city.

MAGAZINES, &c.—Our usual notices of magazines, books, &c., are omitted, as there is an unusual press on our columns this month.

MAP OF THE STATE OF SOUTH CAROLINA  
ISSUED BY THE DEPARTMENT OF AGRICULTURE OF SOUTH CAROLINA, 1883. A. P. BUTLER, COMMISSIONER, COLUMBIA.

The Commissioner deserves credit for issuing such a very beautifully colored map of the State. The coloring is in reference to the population, that is, the per centum of white over black, or the reverse, as may be the case, in the different counties. The various minerals, as gold, copper, silver, lead, iron, manganese, zircons, corundum, bismuth, &c., are properly indicated—the railways in operation as well as those projected, the limit of pliocene marls, of Ashley and Cooper marls, of Santée marls, of burrstone, of cretaceous marls. Two sections of the State are given—one section from Ridgeway, C. C. & A. Railway, to where Broad river crosses the North Carolina line. The other section from Charleston to Ridgeway, on the Charlotte, Augusta and Columbia Railway. So that at almost a glance one can see the resources of the State. The Commissioner is congratulated on his successful effort. It is much to be regretted that other Southern State Commissioners have not published similar maps. We recommend them to go and do likewise. Thanks are returned for the map.

#### SOUTHERN INDUSTRIES.

We wish to whisper in the ear of our brother Saunders, that the *Industries* is copying from the *Planter* without credit. In its *May* number, the last issue, we find an article headed thus: "Plow deep, but wisely, by George Watt, the plow-maker." This article appeared in, and was written for the *Planter* several years ago. As it now appears in the *Industries*, it would seem to have been recently written for that paper. So as to some other articles which were originally written for the *Planter*. Though editor of the *Planter* when some of these articles appeared, Col. Saunders has no right to appropriate them in the *Industries* without proper credit. The ethics of journalism forbids such conduct.

THAT husband of mine is three times the man he was before he began using "Wells' Health Renewer." \$1. Druggists.



## MESSRS. H. M. SMITH &amp; CO.

It gives us pleasure to refer to the advertisements, always in the *Planter*, of this old and enterprising firm. The senior member has been a manufacturer of agricultural implements and machines in Richmond for more than half a century. His name is associated with a long list of his own invention and make, which farmers too well know to need specification. He still stands at his post, venerable in appearance, but still strong and efficient. His son-in-law, Mr. Tower, and his sons, all members of the firm, make a young and active association. Their foundry, workshops and sales-rooms furnish every implement or machine needed on a farm, and customers are served with politeness and promptness. They are also agents, and keep in stock the best implements of other factories, so that a farmer or gardener will never fail to find what he needs.

We may add that, in addition to the facilities of the firm heretofore, they are now making large additions to their establishment by the erection of a large warehouse—five stories, 150 feet long, by thirty feet front, with all the latest improvements, elevators, &c.

HOOD'S COMBINATION RAKES, HOES, &C.,  
MANUFACTURED BY J. R. HOOD, PHILADELPHIA, PA.

We have received from T. W. & W. R. Evans, general agents for Eastern Virginia, a lot of tools for garden purposes. We have donated them to a young friend in our office who has a garden and works it in his odd hours, *con amore*, or as an amateur. After several weeks' experience, he reports the tools good and very convenient, by the ready changes that can be made in the different tools worked on the same handle.

Address the Messrs. Evans at Concord Depot, Campbell county, Va.

DON'T DIE IN THE HOUSE.—"Rough on Rats." Clears out rats, mice, roaches, bed-bugs, flies, ants, moles, chipmunks, gophers, 15 cents.

A WONDERFUL DISCOVERY—Kendall's Spavin Cure. Read advertisement.

THE POULTRY MESSENGER is published monthly at Cuckoo, Louisa county, Va., by M. H. Pendleton & Co. Price, fifty cents per annum.

We receive this publication occasionally, but always with pleasure, as it is very creditable to an interior village of the State. It is well illustrated with different breeds of fowls, and its matter is valuable to families and poultry-breeders.

We have noticed that this, and other poultry journals, say but little, and have expressed no decided opinion in respect to artificial incubation. Why do they not enlighten the people on this subject? We have been pressed with enquiries, but as the question is not directly in our line, we think the poultry journals should respond.

CATARRH OF THE BLADDER.—Stinging, irritation, inflammation, all Kidney and Urinary Complaints, cured by "Buchu-paiba." \$1.

How to invest a dollar and make five: Buy a bottle of Kendall's Spavin Cure. See advertisement.

EUREKA INCUBATOR.—We call attention to the advertisement in this issue. We are unable to speak now of its merits, as the illustrated catalogue and price-list was received too late for examination. In our next we hope to be able to do so.

If you are a miserable sufferer with constipation, dyspepsia and biliousness, seek relief at once in Simmons Liver Regulator. It does not require continual dosing, and costs but a trifle. It will cure you.

Boy, what ails the horse? It needs Kendall's Spavin Cure. See their advertisement.

TO OUR CORRESPONDENTS.—We must again say that all communications designed for the next issue of the *Planter*, after their date, should be received by or before the 10th of the month preceding the date of issue.

CAMPAIGN is over, and those who were up in arms against each other in the political tussle now join hands and march to the druggists for a bottle of Kendall's Spavin Cure. See advertisement.

**INSECTS INJURIOUS TO FRUITS.** By Wm. Saunders, F. R. S. C., illustrated with 440 wood cuts. Published by J. B. Lippincott & Co., Philadelphia Pa., and London, 16 Southampton, St., Strand.

We have received from the publishers, through Messrs. West & Johnston, of this city, a copy of this interesting and valuable book. It contains 436 pages; is beautifully bound in cloth. price, \$3.

Every grower of fruits should have a copy. The annual damage done to fruits and to the trees may be reckoned almost by millions of dollars, so that it behooves every one interested in fruit-production to guard their interests by information so cheaply gained in respect to depredations of insects.

If your horse has a spavin, use Kendall's Spavin Cure. See advertisement.

OLIVER DITSON & Co, Boston, Mass., are at their accustomed work of providing, weekly, a dozen or two choice pieces of music for circulation. They send us the following:

"Jamie's ganged awa," (30 cents) by J. M. Jolley.

"O, Jamie dear has ganged awa'  
And sailed far o'er the deep blue sea."

"The Speaker's Eye," (30 cents) comic Song, by G. Grossmith; "Dreaming of Home," (35 cents) for violin and piano, by Winner; "Song of Love," (30 cents) piano piece, by Bohm; "Slumber Song," (50 cents) for violin and piano, by Ries; "April Song," (35 cents) by Bizet.

"Awake, sweet maid awake.  
The dawn begins to break,  
The birds are singing 'n' atins,  
And the daffodils appear."

"Heart and Hand Galop," (30 cents) by Le Baron; "One Sweetly Solemn Thought," (25 cents) by C. A. Havens.

The music has been sent to an estimable young lady.

THE care, precision, neatness and perfection exhibited by the very appearance of Simmons Liver Regulator proves that it is the best prepared medicine in the market, fully carrying out the motto: "*Purissima et Optima*" (purest and best).

OH SAY, young man, if you want to take your girl for a ride, and can't on account of the lameness of your horse, you should procure a bottle of Kendall's Spavin Cure at once, for nothing is better for man or beast. See advertisement.

"WELLS' ROUGH ON CORNS."—Ask for Wells' "Rough on Corns." 15c. Quick, complete, permanent cure. Corns, warts, bunions.

**MONEY** CAN BE MADE without hard work if YOU ONLY KNOW HOW TO DO IT. Thousands of men and women are dragging out a miserable existence in factories and mills, breathing poisonous fumes, enriching their employers and then dropping quietly into the grave, leaving their children to the same fate. WE CAN and will relieve you. We wish to employ ten or more young men and women in every town in the United States. We pay good wages and give you light, profitable employment. No picture, painting, receipts, canvassing or other expensive humbugs. You will not have to pay out a dollar to test the work. All that we require of you is that you send us your name and address plainly written, and TEN CENTS. Now, don't cry humbug because we ask you for ten cents. If you really are a worker and mean business, you certainly can find no fault. We only ask it to protect ourselves from "Dead Beats" and curiosity seekers. In return we will promptly send you by return mail a box of goods and full directions, terms of payment, etc., that will enable you to earn a handsome living with but little exertion. We do not promise you riches but something that will bring you in more money than you ever made before in your life. If you are satisfied with present occupation, work for us during your spare hours. IT WILL PAY YOU. Write now, as it may not appear again.

Address, plainly,

EMPIRE M'F'G CO.,

[Box 63.] BROOKLYN, E. D., N. Y.

je 4t

## MT. VERNON INSTITUTE,

BOARDING AND DAY HOME SCHOOL FOR GIRLS. No. 46 MT. VERNON PLACE, BALTIMORE, MD. Healthy and beautiful location. Mrs. M. J. Jones and Mrs. Maitland, Principals, assisted by able professors, languages practically taught. The twenty third school year will begin September 21st, 1883.

je 3t





**VICTORIES** The only machine that received an award on both Horse-power and Thresher and Cleaner, at the Centennial Exhibition, was awarded the two last **Cold Medals** given by the New York State Agricultural Society on Horse-powers and Threshers, and is the only Thresher selected from the vast number built in the United States, for illustration and description in "Appleton's Cyclopedia of Applied Mechanics," recently published, thus adopting it as the **standard** machine of this country. Catalogue sent free. Address **MINARD HARDER, Cobleskill, Schoharie Co., N. Y.**

**UNEQUALLED**

my2t

**PECK'S COMPENDIUM OF FUN**

Has a Joke in every paragraph, and a laugh in every line. Contains the escapades of

**PECK'S BAD BOY AND HIS PA,** and all the master-pieces of the greatest humorists of the day. A Literary Marvel. 100 illustrations. Price, by mail, \$2.75. **AGENTS WANTED.** Terms and Laughable Illustrated Circular free, or to save time, send fifty cents for outfit and secure choice of territory.

**FORSHEE & McMAKIN,**  
Cincinnati, Ohio.

je It

**YOUNG MEN.** Now is the time to learn TELEGRAPHY.

Written guarantee given to furnish paying situations. For terms, address

**COMMERCIAL & R. R. TELEGRAPH COLLEGE,**  
je Ann Arbor, Michigan.

*"Texas Siftings!"*  
*The Great Humorous Weekly*  
*Illustrated = 50c copy =*  
*Sold by all Newsdealers.*

**Are you DEAF?**

**FERRIS' RESTORATIVE** will INVARIABLY CURE YOU. It is endorsed by all home and foreign physicians and scientists. It cures where all other means fail. Don't neglect to send for circulars; it will pay you. **ASK YOUR DRUGGIST FOR IT. EDWIN FERRIS & CO., Piker Building, Cincinnati, O. jaly**



Premium Chester White, Berkshire and Poland China Pigs, Fine Setter Dogs, Scotch Shepherds and Fox Hounds, bred and for sale by **ALEX. PEOPLES, West Chester, Chester county, Pa.** Send stamp for circular and price-list. fe ly

**AGENTS**

can now grasp a fortune. Outfit worth \$10 free. Address **E. G. RIDEOUT & CO., 10 Barclay St., N. Y.**

janly

**SOME GOOD REASONS**

WHY THE

**SOUTHERN PLANTER**

SHOULD BE

Taken and Read by Farmers

AND

**USED FOR ADVERTISING**

BY

**Business Men.**

1. Because its form is such that it can be conveniently bound and preserved.
2. Because it is the oldest agricultural journal in Virginia—now in its forty-fourth year.
3. Because it has an able class of practical correspondents.
4. Because it admits no political topics in its columns.
5. Because, in its long career, it has received the kindest consideration from the Press.
6. Because its editor, for *forty years*, has been engaged in practical agriculture.
7. Because its subscription has been reduced from \$2.00 to \$1.25 per annum, to bring it to the means of all farmers who desire to read.
8. Because it has a circulation in all the States of the Union.

**SEED CORN**

**SIBLEY'S PRIDE OF THE NORTH**

Ninety-day yellow-dent, the earliest Dent Corn grown, 16-rowed. Originated in Northern Iowa. Ripened perfectly in 1882, the worst Corn season in 25 years, in Northern Iowa, Nebraska, Illinois, New York, Connecticut, Vermont, etc.; in some sections where Dent Corn before has been a total failure. **GOOD SEED CORN IS SCARCE; SECURE THE BEST**

Our *Grain and Farm Seeds Manual* contains histories and directions for culture of Corn, Wheat, Barley, Rye, Oats, Potatoes, Grasses, Roots, and all Farm Crops, with descriptions of all new and standard varieties. Only **10 cents.**

*Sibley's Farmers' Almanac*, with valuable essays on special crops, **10 cents.**

*Annual Catalogue and Price List* of Flower, Vegetable, Field and Tree Seeds and Plants, **FREE.**

**HIRAM SIBLEY & CO. Seedsmen,**  
Rochester, N. Y. and Chicago, Ill.

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# HIRAM SIBLEY & CO. TURNIP SEED



NEW CROP  
READY  
IN JULY.

SEND FOR  
CATALOGUE  
AND  
PRICE LIST

**HIRAM SIBLEY & CO**  
179-183 MAIN STREET,  
ROCHESTER, N. Y.  
200-206 Randolph St. Chicago, Ill

Received Medal  
AND  
HIGHEST AWARD



OF MERIT  
AT  
CENTENNIAL

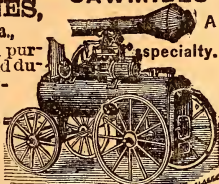
Send for Catalogue.  
**SAWMILLS**

## STEAM ENGINES,

A. B. FARQUHAR, York, Pa.,

Cheapest and best for all purposes—simple, strong, and durable. Also Horse Powers and Gin Gear.

SAW, GRIST AND COB MILLS, GINS, PRESSES AND MACHINERY generally. Inquiries promptly answered.



**Fig. 1.** Vertical Engines, with or without wheels, very convenient, economical and complete in every detail, best and cheapest Vertical in the world. **Fig. 1** is engine in use. **Fig. 2** ready for road.

## The Farquhar Separator

(Warranted)

Penna.

Agricultural

Works,

York, Pa.

Lightest draft,

most durable

simplest, most

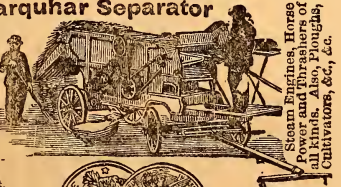
economic and

perfect in

use. Wins no

fraud, cleans it

ready for market.



AND

HIGHEST PRIZE

AWARDED

SEPARATORS.



THE  
SILVER MEDAL  
AT  
Paris Exposition.

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## ELASTIC TRUSS

Has a Pad differing from all others, is cup shape, with Self-Adjusting Ball in center, adapts itself to all positions of the body, while the Ball in the cup presses back the Intestines, just as a person would with the Finger. With light pressure the Hernia is held securely there certain. It is easy, durable and cheap. Sent by mail. Circular free.

EGGLESTON TRUSS CO., Chicago, Ill.

fe 1y

# DARBY'S PROPHYLACTIC FLUID.

For the prevention and treatment of  
DIPHTHERIA, SCARLET FEVER,  
SMALLPOX, YELLOW FEVER,  
MALARIA, &c.

The free use of the Fluid will do more to arrest and cure these diseases than any known preparation.

DARBY'S PROPHYLACTIC FLUID, a safeguard against all Pestilence, Infection, Contagion and Epidemics.

Use as a Gargle for the Throat, as a Wash for the Person, and as a Disinfectant for the House.

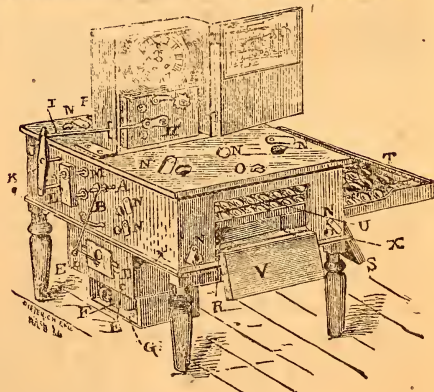
**A CERTAIN REMEDY AGAINST ALL CONTAGIOUS DISEASES.**

Neutralizes at once all noxious odors and gases. Destroys the germs of diseases and septic (putrescent) floating imperceptible in the air or such as have effected a lodgment in the throat or on the person.

**PERFECTLY HARMLESS USED INTERNALLY or EXTERNALLY.**

J. H. ZEILIN & CO., Proprietors,  
Manufacturing Chemists, Philadelphia.

Price. 50 cents per bottle. Pint bottles. \$1. nov 1y



# EUREKA!

Is the Standard Incubator the world over. Made by J. L. CAMPBELL, West Elizabeth, Allegheny Co., Penn. jely

A. T. BURR'S  
STANDARD

# CARRIAGE REPOSITORY

1505 FRANKLIN STREET.

Custom-made work. Buggies, Phaetons, Carriages and Farm Wagons at wholesale factory prices. All work warranted. ap 1y

# Coleman's Celebrated Plough Harness.

Patented April 2, 1878, and now made and sold in this State by

**JOHN TRIBLE, - - Richmond, Va.**

*Cut will be shown in next issue.*

This invention supplies many advantages which cannot be enumerated in an ordinary advertisement. There being no whiffletrees or traces to load down the beam of the plow, no counter-balancing pressure on the handles is required. Orchards ploughed without bruising trees. For Gins, Threshers, Lead of Wagons, &c., it can be used to advantage.

## CERTIFICATES.

ROCHESTER, N. Y., October, 1881.

J. R. GARRESTEE, Editor of the Empire State *Agriculturist*, says: We saw it work and can speak of its merits; we never recommend any implement to our farmers until we know it to be good from actual trial.

NORTH EGREMONT, MASS., Jan. 3, 1881.

Mr. A. G. COLEMAN, Charleston, S. C.:  
Dear Sir,—Yours received regarding Coleman's Patent Harness; it works well; the plow runs more steady, is easier to handle and much easier on the team. I like it much. Have used it two years.  
Respectfully yours, B. F. LOOMIS.

BYRD FARM, May 3, 1883

This is to certify that we have tried Mr. John Tribble's (Coleman's Patent) Harness, and are well pleased with it; so much so we expect to use it.  
JNO. M. BUTLER, W. P. BOWLES, W. S. BOWLES.

ELK ISLAND, VA., May 3, 1883.

This is to certify that we have tried Mr. Tribble's (Coleman's Patent) Harness, and are very much pleased with it, so that we have ordered a set. Will be pleased to exhibit it to any one interested in it.

Very respectfully,

W. L. WARING SON & CO.,  
JOSEPH HOBSON, W. W. HOBSON.

SEND FOR CIRCULAR AND PRICE-LIST.

---

## JOHN E. DOHERTY,

322 EAST MAIN STREET,

Solicits an examination of his

## Fine Stock of Foreign Goods FOR FALL AND WINTER.

UNEXCELLED FOR VARIETY, STYLE AND QUALITY by any offered in this market. Will be made by skilled workmen in the LATEST AND MOST APPROVED STYLES at PRICES THAT MUST SUIT.

N. B.—SHIRTS, COLLARS and CUFFS made to order as heretofore and satisfaction guaranteed.



# ESTABLISHED 1846 MUNN & CO. PATENTS NEW YORK

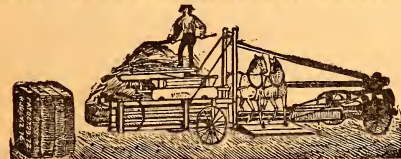
We continue to act as solicitors for patents, caveats, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries.

Thirty-six years' practice. No charge for examination of models or drawings. Advice by mail free.

Patents obtained through us are noticed in the **SCIENTIFIC AMERICAN**, which has the largest circulation, and is the most influential newspaper of its kind published in the world. The advantages of such a notice every patentee understands.

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Address, Munn & Co., publishers of Scientific American, 261 Broadway, New York. Handbook about patents mailed free.



**DEDERICK'S HAY & COTTON PRESSES.** are sent anywhere on trial to operate against all other Presses, the customer keeping the one that suits best. No one has ever dared show up any other Press, as Dederick's Press is known to be beyond competition, and will bale with twice the rapidity of any other. The only way inferior machines can be sold is to deceive the inexperienced by ridiculously false statements, and thus sell without sight or seeing, and wrindle the purchaser. Working any other Press alongside of Dederick's always sells the purchaser a Dederick Press, and all know it too well to show up. Address for circular and location of Western and Southern storehouses and Agents.

**P. K. DEDERICK & CO., Albany, N. Y.**

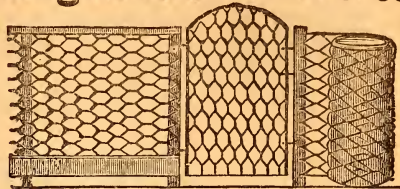
## JERSEY RED PIGS

From largest herd South, which took eight premiums and great sweepstakes as finest herd in Virginia at State Fairs, 1881-'82. This hog is free from disease, a natural grazer, prolific and early to mature, and in the Western markets brings a higher price than any other breed.

**T. LOVELOCK,**  
Gordonsville, Va.

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## Sedgwick Steel Wire Fence



It is the only general purpose Wire Fence in use, being a **Strong Net-Work Without Barbs.** It will turn dogs, pigs, sheep, and poultry, as well as the most vicious stock, without injury to either fence or stock. It is just the fence for farms, gardens, stock ranges and railroads, and very neat for lawns, parks, school lots and cemeteries. Covered with rust-proof paint (or galvanized) it will last a life-time. It is Superior to Boards or Barbed Wire in every respect. We ask for it a fair trial, knowing it will wear itself into favor. The **Sedgwick Gates**, made of wrought-iron pipe and steel wire, defy all competition in neatness, strength and durability. We also make the best and cheapest **All Iron Automatic or Self-Opening Gate**, also **Cheapest and Neatest All Iron Fence.** For Prices and Particulars ask Hardware Dealers or address the Manufacturers. **Best Wire Stretcher and Post** **Attention. SEDGWICK BROS.,**

Mention this paper. **Richmond, Ind.**  
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**\$72** a week made at home by the industrious. Best business now before the public. Capital not needed. We will start you. Men, women, boys and girls wanted everywhere to work for us. Now is the time. You can work in spare time, or you can give your whole time to the business. No other business will pay you nearly as well. No one can fail to make enormous pay, by engaging at once. Costly outfit and terms free. Money made fast, easily and honorably. Address **TRUE & Co., Augusta, Me.** janly



Dana's White Metallic Ear Marking Label, stamped to order with name, or name and address and numbers. It is reliable, cheap and convenient. Sells at sight and gives perfect satisfaction. Illustrated Price-List and samples free. Agents wanted.  
**C. H. DANA, West Lebanon, N. H.**

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**SOUTHERN ACCLIMATED REGISTERED JERSEYS** for sale at fair prices. Eight registered Jersey cows, from 4 to 8 years old, bred to choice registered bulls. Also imported bull **JERSEY EXPRESS No. 5771**; solid color, black points; dropped December 20th, 1879; and several registered bull calves, from 6 to 9 months old, two from imported sire and dams, and both solid, fancy colors. Also, 6 pure-bred unregistered Jersey heifers, from 6 to 16 months old, all from good butter stock. Address **ROWE'S CO-OPERATIVE STOCK FARM,** Fredericksburg, Va. jantf

## WATER-PROOF BUILDING MANILLA

This water-proof material resembles fine leather, is used for roofs, outside walls of buildings, and inside in place of plaster. Catalogue & samples free. (Estab. 1866) **W. H. FAY & CO.** Camden, N. J.

"THE BEST IS CHEAPEST."  
**ENGINES, THRESHERS SAW-MILLS,**  
Horse Powers  **Clover Hullers**  
(Suited to all sections.) Write for **FREE** Illus. Pamphlet and Prices to The Aultman & Taylor Co., Mansfield, Ohio.

ap 4t



ESTABLISHED IN 1870.

STONO-PHOSPHATE COMPANY,  
CHARLESTON, S. C.

WE OFFER TO THE PLANTERS

SOUTH CAROLINA PHOSPHATE ROCK

GROUND TO A POWDER AS FINE AS WHEAT FLOUR—

“PHOSPHATE FLOATS,”

FOR APPLICATION TO

GRAIN, GRASSES, AND FOR COMPOSTING.

The Rock is subjected to FREQUENT ANALYSIS by the Company's Chemist, and is of the BEST QUALITY.

For TERMS, etc., address the Company.

SAMPLE sent by mail upon application.

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ASHLEY PHOSPHATE CO.

—:CHARLESTON, S. C.:—

SOLUBLE GUANO— ... .. Highly Ammoniated.

DISSOLVED BONE— ... .. Very High Grade.

ACID PHOSPHATE— ... .. For Composting.

ASH ELEMENT— ... .. For Cotton, Wheat, Peas, &c.

FLOATS—Phosphate Rock, reduced to an Impalpable Powder by the Duc Atomizer, of Highest Grade. SAMPLE sent on application.

SMALL-GRAIN SPECIFIC—Rich in Ammonia, Phosphoric Acid, Potash, Magnesia and Soda.

GENUINE LEOPOLDSHALL KAINIT.

The above FERTILIZERS are of very high grade, as shown by the *Official Reports* of North Carolina, South Carolina and Georgia.

For TERMS, ILLUSTRATED ALMANACS, &c., address

THE COMPANY.

N. B.—Special inducements for Cash Orders.

[6mjy]

# ELKHART CARRIAGE AND HARNESS MANUFACTURING CO.

Manufacturers of all Styles of Carriages, Buggies, Spring Wagons, Single and Double Harness.

No. 1. Team Harness

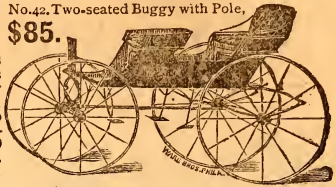
\$25.



We have no agents, and if what you order is not satisfactory we pay all expenses. No. 42 Buggy (see cut) is just the same as others sell at \$30. Top Buggies at \$40 fine as usually sold for \$125 to \$140. Our Harness are all No. 1 Oak Leather. Single, \$8.50 to \$20. Everything fully warranted. Before buying send for our Illustrated 50 page catalogue FREE. Address **W. B. PRATT, Sec'y, ELKHART, INDIANA.**

No. 42. Two-seated Buggy with Pole,

\$85.



**We Retail at Wholesale Prices, Ship anywhere with privilege of EXAMINING BEFORE BUYING.**

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Send for Catalogue and Prices.

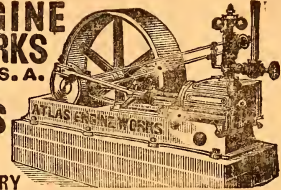


## ATLAS ENGINE WORKS

INDIANAPOLIS, IND., U. S. A.

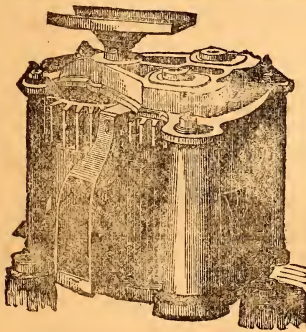
MANUFACTURERS OF

**STEAM ENGINES AND BOILERS.**



CARRY ENGINES and BOILERS in STOCK for IMMEDIATE DELIVERY

## SUGAR CANE MACHINERY



Our list of Sugar Cane Machinery comprises the largest and most complete line of Cane Mills, Evaporators, etc., made by any establishment in the world, and includes:

*Victor, and Great Western Horse Power Mills, Victor, and Niles Steam Mills, Cook Evaporators,*

**Automatic Cook Evaporator,**  
Far Ahead of all Others.

(Patented Sept. 26, 1876, Sept. 23, 1879. Manufactured only by ourselves.)

**BLYMYER MANUFACTURING CO.,**  
CINCINNATI, O.

Manufacturers of Portable and Stationary Steam Engines, Boilers, Circular Saw Mills, Steam Sugar Trains, etc.

jelt

## Zimmerman Fruit & Vegetable Evaporator

Made of Galvanized Iron.

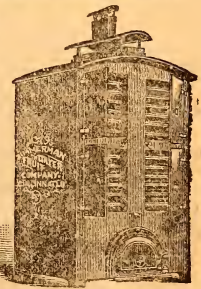
Over 13,000 in Use.

*Portable, Economical, Durable and Fire Proof.* The products of this Evaporator are unsurpassed as to quality or color, and command the highest price. The racks are made of Galvanized Wire Cloth and the Dryer is first-class in every particular.

**Our Nos. 1 and 2 are Excellent Bakers,** will bake bread in less time than a stove, and for roasting meats, turkey or game cannot be excelled. *Full Instructions* how to dry, bleach, pack and market the products accompany each machine. Send for Illustrated catalogue. Address

AGENTS WANTED,

**ZIMMERMAN FRUIT DRYER CO.,**  
Cincinnati, Ohio, U. S. A.



1838 1883

## Pomona Nursery.

5,000 KIEFFER'S HYBRID PEARS in Orchard, and

50,000 in Nursery, propagated exclusively from Standards.

No Buds or Selons taken from DWARFS.

NIGHT'S SUPERB Strawberry. HANSELL Raspberry, Blackberries, New Grapes and Currants. Fruit, Shade, and Ornamental Trees, Vines, and Plants in variety. Catalogue free.

**WM. PARRY, Parry P. O., New Jersey.**



ap 3t

## REST

not, life is sweeping by, go and dare before you die, something mighty and sublime leave behind to conquer time. \$66 a week in your own town. \$5 outfit free. No risk. Everything new. Capital not required. We will furnish you everything. Many are making fortunes. Ladies make as much as men, and boys and girls make great pay. Reader, if you want business at which you can make great pay all the time, write for particulars to **H. HALLETT & Co., Portland, Maine.** Jan'y



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MILLER'S  
"ACME"  
SHIRTS AND DRAWERS

FINE DRESS SHIRTS a specialty.

UNDERWEAR of all kinds ready made or to measure at short notice. Write for printed blanks for self-measurement.

READY-MADE SHIRTS at from 75c. to \$1.75 each. Sent by mail on receipt of price, and six cents in postage stamps.

Our 75c. "Acme" is the best shirt ever made for the money.

TRY ONE.

H. T. MILLER & CO.,  
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SAMPLES AND PRICES MAILED FREE.

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ANALYTICAL & CONSULTING CHEMIST  
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ELLERSLIE FARM.  
THOROUGH BRED HORSES,  
Shorthorn Cattle, Cotswold Sheep,  
AND BERKSHIRE PIGS  
FOR SALE.  
Apply to R. J. HANCOCK  
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Superseded by

CRUDE PETROLEUM!!

KING OF FIRES!

No Sparks, Smoke, Cinders; No Labor or Attention; and Perfect Safety from Fire.

Hydro-Carbon Gas from natural Crude Petroleum, generated by Carter's patented process, which is owned by E. G. Booth, produces the most intense heat of any element known, and for economy and safety for domestic purposes, locomotives, stationary and portable engines, bear no comparison to it; and for agricultural engines it is a desideratum long needed.

The public are invited to visit the Pioneer Steam Mills, No. 3 Fifteenth street, and examine the merits of this most useful invention in daily operation, generating steam for a 20-horse power steam engine.

As the Hydro-Carbon Retort requires no draught, no smoke-stack, grate-bars or ash pit, consequently no sparks, cinders, smoke or dirt result from it. Perfect safety from fire places the Hydro-Carbon Gas far in advance of any other fuel for domestic or manufacturing purposes. The great variety of small industries to which motive power can be advantageously applied demands an economical and perfectly safe and clean fuel. This we claim for our Hydro-Carbon Gas Retort. We are compelled to make use of fire and steam, notwithstanding the great risk and dangers that are connected with its use; we cannot avoid it; go where we will, we must live and move by it, constantly exposed to the destructive and unlimited power it develops when unloosed, and uncontrolled by the use of Hydro-Carbon Gas produced. By this patent Retort, perfect safety is guaranteed, as the fire can be extinguished in an instant by simply turning the handle of a sp'got.

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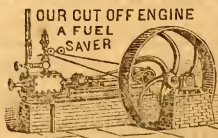
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A new and beautiful process of Portrait Painting. The most durable in the world. The Angelo Pearl is a new discovery of great importance to the world of art, and by its superior and marvelous cheapness is destined to supersede all other method of oil painting. For the purpose of encouraging art, we will mail to any person, so that they can easily learn this process of painting in a short time, full printed instructions on receipt of \$1, by addressing

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OUR CUT OFF ENGINE  
A FUEL  
SAVER



SAW MILL GAUGE  
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Address, TAYLOR MFG. CO.

(Please Mention this Paper.)

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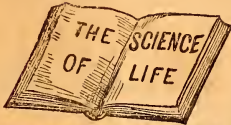
OPIUM Morphine Habit Cured in 10 to 20 Days. No Pay until Cured.

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**KNOW THYSELF.**  
**A BOOK FOR EVERY MAN.**  
**YOUNG, MIDDLE-AGED AND OLD.**

The untold miseries that result from indiscretion in early life may be alleviated and cured. Those who doubt this assertion should purchase and read the new medical work published by the Peabody Medical Institute, Boston, entitled the **Science of Life: or, Self Preservation.** It is not only a complete and perfect treatise on Manhood, Exhausted Vitality, Nervous and Physical Debility. Premature Decline in man, Errors of Youth, etc., but it contains one hundred and twenty-five prescriptions for acute and chronic diseases, each one of which is invaluable, so proved by the author, whose experience for twenty-one years is such as probably never before fell to the lot of any physician. It contains 300 pages, bound in beautiful embossed covers, full gilt, embellished with the very finest steel engravings, guaranteed to be a finer work in every sense—mechanical, literary or professional—than any other work retailed in this country for \$2.50, or the money will be refunded. Price, only \$1.25 by mail. Gold Medal awarded the author by the National Medical Association. Illustrated sample sent on receipt of six cents. Send now.

Address **PEABODY MEDICAL INSTITUTE**, or Dr. **W. H. PARKER**, No. 4 Bulfinch street, Boston, Mass. The author may be consulted on all diseases requiring skill and experience. ja 1y

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## SHORTHORN CATTLE.

**MERINO SHEEP** and **BERKSHIRE PIGS.** Bred and for sale, at moderate prices, by **S. S. BRADFORD**, Culpeper, Va. ja 1-y

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people are always on the lookout for chances to increase their earnings, and in time become wealthy; those who do not improve their opportunities remain in poverty. We offer a great chance to make money. We want many men, women, boys and girls to work for us right in their own localities. Any one can do the work properly from the first start. The business will pay more than ten times ordinary wages. Expensive outfit furnished free. No one who engages fails to make money rapidly. You can devote your whole time to the work, or only your spare moments. Full information and all that is needed sent free. Address **STINSON & Co.**, Portland, Maine. janly

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Opened through the beautiful **BLUE GRASS** region of Kentucky to Louisville and Cincinnati. Connecting at these cities with all of the Great Lines of Railways diverging for

**Indianapolis, St. Louis, Chicago, Kansas City, Nashville, Memphis, and all principal points West, South, and Southwest.**

**SOLID TRAINS** with **PULLMAN** Sleeping Coaches, run through daily between Washington, Richmond, Charlottesville, Waynesboro, Staunton, Clifton Forge and Louisville and Cincinnati **WITHOUT CHANGE.**

**SHORTEST & MOST DIRECT ROUTE** and the only route without transfers, Avoiding the uncertainty by other routes of making connections.

For rates and full information, call on the nearest Chesapeake and Ohio agent, or address

**C. W. SMITH,**  
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## The State Fair Grounds

Having rented the track and stables at these grounds, I will give personal attention to training of horses on the track, the breaking of colts and stallions to harness, and the sanning of stallions, both trotting and thoroughbred, for the season. There are good facilities for grazing and watering stock. I have had twenty-eight years' experience in these matters, and acknowledge no superior.

Address **A. E. SPRAGUE,**  
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## BELMONT

## Stock & Stud Farm.

I continue to breed Thoroughbred, Riding, Trotting, Light and Heavy Draft Horses. The best families of Shorthorn Cattle and Berkshire Swine for sale at prices and terms to induce sales without jockeying. Those stallions not sold early in the year may be farmed on sound business terms to suit clubs, individuals and patrons.

**S. W. FICKLIN,**  
 Near Charlottesville, Va.

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## ZIMMERMAN Fruit Evaporator

The **BEST** in the Market.

Over **13,000** in use.

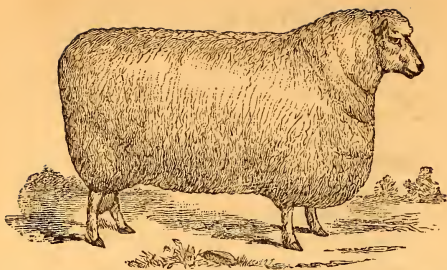
Four sizes, 6 to 50 bus. per day. Made wholly of **Galvanized Iron.**

Send for Circular.

**AGENTS WANTED.**

**ZIMMERMAN FRUIT DRYER CO.,**  
 CINCINNATI, OHIO.

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**H. A. S. HAMILTON,**  
Fishersville, Augusta County, Va.,  
Breeder and Shipper of pure  
**Cotswold & Southdown**  
**SHEEP.**

Stock of both breeds for sale.  
Write for Description and Prices.  
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The Planet, Jr., Seed-Drills, Wheel Hoes, Horse Hoes, Openers, Coverers, &c., positively have no equal. We show above, our Combined Drill; also the Horse-Hoe as a Cultivator and Hiller, and as a universal Coverer. We are very certain that farmers and gardeners cannot afford to be without our labor-saving tools. Study our Catalogue carefully, and agree with us. Our 32 page Catalogue, with 40 engravings and chapter on proper Cultivation of Crops, guaranteed to interest every one working the soil, will be sent to your own address, free, upon receipt of ten names of neighbors, most interested in farming and gardening. S. L. ALLEN & CO., Patentees and Sole Manufacturers of the Planet Jr. Goods 127 & 129 Catharine St., Philadelphia, Pa.

**MAKE HENS LAY**

An English Veterinary Surgeon and Chemist, now traveling in this country, says that most of the Horse and Cattle Powders sold here are worthless trash. He says that Sheridan's Condition Powders are absolutely pure and

immensely valuable. Nothing on earth will make hens lay like Sheridan's Condition Powders. Dose, 1 teaspoonful to 1 pint food. Sold everywhere, or sent by mail for 8 letter-stamps. I. S. JOHNSON & Co., BOSTON, MASS.

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— IT CURES —

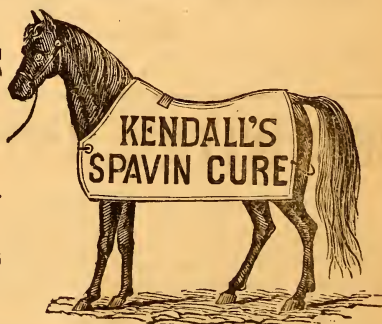
**SPAVINS, SPLINTS, CURBS, RING-BONES**

AND

**All Similar Blemishes.**

AND REMOVES THE BUNCH WITHOUT BLISTERING.

For man it is now known to be ONE OF THE BEST, if not THE BEST LINIMENT EVER DISCOVERED.



**SAVED HIM EIGHTEEN HUNDRED DOLLARS.**

DR. B. J. KENDALL & Co.:

Gents.—Having used a good deal of your Kendall's Spavin Cure with great success, I thought I would let you know what it has done for me. Two years ago I had as speedy a colt as was ever raised in Jefferson county. When I was breaking him, he kicked over the cross-bar and goi fast and tore one of his hind legs all to pieces. I employed the best farriers, but they all said he was spoiled. He had a very large thorough-pin, and I used two bottles of your Kendall's Spavin Cure, and it took the bunch entirely off, and he sold afterwards for \$1,800. I have used it for bone spavins and wind galli, and it has always cured completely and left the leg smooth.

It is a splendid medicine for rheumatism. I have recommended it to a good many, and they all say it does the work. I was in Witherington & Kneeland's drug store, in Adams, the other day and saw a very fine picture you sent them. I tried to buy it, but could not; they said if I would write to you that you would send me one. I wish you would, and I will do you all the good I can.

Very respectfully,

E. S. LYMAN.

Send address for Illustrated Circular which, we think, gives positive proof of its virtues. No remedy has ever met with such unqualified success to our knowledge, for beasts as well as man.\*

Price, \$1 per bottle, or six bottles. All druggists have or can get it for you, or it will be sent to any address, on receipt of price, by the proprietors.

**Dr. B. J. KENDALL & CO., Enosburgh Falls, Vermont.**



# — HARVEST 1883. —

The special attention of the farming community is called to our stock of HARVESTING MACHINERY for the season of 1883, comprising the following :

**Champion Self-Binding Harvesters,**

**Champion Combined Reapers and Mowers,**

**Champion Light Mowers,**

**Champion Single Reapers,**

**Buckeye Self-Binding Harvesters,**

**Buckeye Reapers and Mowers,**

**Coates Wheel Rakes,**

**Bullard Hay Tedders,**

**GEISER SEPARATORS and CLEANERS,**

**And PEERLESS STEAM ENGINES.**

Parties desiring this class of machinery can be supplied at a short notice and at the lowest prices. Every machine guaranteed. We invite correspondence, and will take pleasure in furnishing special circulars and prices on application. Do not purchase before examining our stock, as we are satisfied we can make it to your advantage to place your orders with us.

**H. M. SMITH & CO.,**

P. O. Box 8.

1532 Main Street, RICHMOND, VA.

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## BECKWITH'S ANTI-DYSPEPTIC PILLS

*The best and most reliable Anti-Dyspeptic Medicine ever offered to the Public.*

For more than seventy years this medicine has maintained its high reputation. No remedy was ever offered to the public sustained by such forcible certificates of wonderful remedial properties. Presidents of the United States, Judges of the Supreme Court, Governors of States, United States Senators and Physicians of the highest standing are among those who attest their value from personal tests.

E. R. Beckwith, Pharmacist, now manufactures these invaluable pills from the Original Recipe of his grandfather, Dr. John Beckwith.

**40 Pills in a Box—Price, 25 Cents.**

Sufferers from DISORDERED STOMACH or DERANGED LIVER, with their attendant complications, will find relief from these pills. SOLD BY DRUGGISTS GENERALLY.

**E. R. BECKWITH, Pharmacist.**

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*Cor. Market and Halifax Sts., Petersburg, Va.*

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## THE STATE OF MISSISSIPPI.

The Hand-Book of the State of Mississippi now ready for distribution, containing a Geographical, Geological and Agricultural Description of the State. Sent free of charge to all who desire to learn something about Mississippi. Address E. G. WALL, Commissioner of Immigration and Agriculture, Jackson, Hinds Co., Miss. ap 6t




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 ORDERS from Clerks of Courts, Country Merchants, Colleges and Schools promptly attended to.

 We have unusual facilities and many years experience in the printing of every description of TOBACCO LABELS, in plain black, bronze, and in colors.

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# Orchilla Guano for Corn!

## BEST AND CHEAPEST!

We desire especially to call the attention of farmers to the superior merits of Orchilla Guano as a Fertilizer for CORN. The advantages resulting from its use are not only an increased yield and better quality of corn, but its effect will be seen in the permanent improvement of the soil, and in its benefit upon future crops.

Orchilla Guano has been used for corn quite extensively in Maryland and Pennsylvania for several years past with the best results, and also, to a limited extent, in some portions of Virginia during the last year very successfully, and we offer it again this year, feeling fully satisfied that a trial is all that is needed to convince the most skeptical that it is *not only the cheapest but the best Fertilizer in the market.*

### THE CHEMISTS ENDORSE IT.

The Department of Agriculture of the State of Virginia, under the administration of Dr. J. M. Blanton, have recently undertaken the analysis of every brand of Fertilizer, sold in the State. The Report of the work done in that respect, by Prof. W. I. GASCOYNE, the well known Chemist of the Department, during the Fall Season of 1882, has just been published. It embraces the analysis of *seventy-five* different brands of Fertilizers, and certifies to the *actual value* of their several constituents as developed by the analysis. A reference to this Report exhibits the following remarkable results:

1. The actual value of most of these Fertilizers falls *below* the prices asked for them!
2. Where the actual value exceeds the price asked, the excess, in very few instances, reaches 10 per cent.

3. In the case of ORCHILLA GUANO, the certificate of the chemist is "**Actual value \$41.12,**" which is *more than 50 per cent.* over the price asked for it!

This official statement is only corroborative of similar results, furnished us privately by other chemists of high reputation in Virginia and elsewhere; notably Prof. Mallet, Dr. Dabney, Prof. Taylor and others. According to Dr. Dabney, the cash value of the sample analyzed by him, was \$43.97. Prof. Taylor's, by the same calculation, was \$44.32.

We are permitted to copy a portion of a private letter from PROF. JOHN R. PAGE of the University of Virginia, as to practical results:

UNIVERSITY OF VIRGINIA, January 23, 1883.

\* \* \* \* \* I have used Orchilla Guano very successfully on root crops, as you might expect from its high percentage of Phosphoric Acid. \* \* \* I repeat what I have said repeatedly, that high-priced ammoniated fertilizers cannot be used in a large majority of the worn-out lands in Virginia profitably, until those lands have been prepared by drainage, thorough tillage—the use of *lime compounds* and vegetable matter ploughed into the soil. Until the land is prepared thus, there is nothing to hold the nitric acid and ammonia in the soil, and it is carried off by the drainage and atmosphere before the crop can use it, which often results in no profit and no permanent improvement to the land. I have used the Orchilla Guano this fall on wheat. \* \* \*

Yours, &c., JOHN R. PAGE.

Send for our LITTLE BOOK containing the letters of scores of Virginia farmers, bearing testimony to the fact, that the **Lime Compound** which has done them the best service, is ORCHILLA GUANO, with its 40 to 50 per cent. of Bone Phosphate of Lime.

## WOOLDRIDGE, TRAVERS & CO.,

—IMPORTERS—

64 Buchanan's Wharf,

BATIMORE.

CHAS. G. SNEAD, Importers' Agent, RICHMOND. Va.



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MOWER or REAPER

— BEFORE YOU SEE THE —

**JOHN P. MANNY!**

THE LIGHTEST DRAFT, SIMPLEST, STRONGEST AND BEST.

No side draft: will cut the **HEAVIEST** and **WORST TANGLED**  
**GRASS** or **GRAIN**.

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All who expect to become purchasers of this class of machinery are invited to send for **LARGE ILLUSTRATED CIRCULAR**, containing full description of every feature. We carry a full stock of **REPAIRS** of all kinds.

**Every Machine sent out is Guaranteed to be as Represented in Every Respect.**

**THE DEMAND IS GREAT. PLACE YOUR ORDERS EARLY.**

The Manny Reaper received the **HIGHEST AWARD** at Virginia State Fair, 1882, as **THE BEST**, in competition with the leading machines now in use.

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One of the **Most Popular Implements** lately introduced in this section is the

**WALKING or RIDING CULTIVATORS,**

By which rows of corn or any other crop can be worked on both sides at once. Any farmer cultivating a hoed crop cannot afford to be without one a single season.

**THE NEW BUCKEYE**

Is everything that could possibly be desired. Their unparalleled success and immense popularity furnish positive proof that they are constructed on the most scientific principles, and contain more points of merit than any of their numerous competitors. In the first year of their introduction, they met with universal approval, but year after year valuable improvements suggested by changes in trade or actual experiments, have been made which have greatly increased their former value and superiority, and we now assert that we have, without the least shadow of a doubt,

**THE BEST LINE OF CULTIVATORS IN THE MARKET.**


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1518 and 1520 Franklin Street,  
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