

Digitized by the Internet Archive  
in 2012 with funding from  
LYRASIS Members and Sloan Foundation



Rare Bk.

S

!

.S68

v. 44

July-Dec.

1883

SOUTHERN PLANTER (1882)

Vol. 44  
July- Dec. 1883

Missing: no. 8, 12



# 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.

JULY, 1883.

No. 7.

## CONTENTS:

Farmers and Farming in Virginia and the Olden Time.....	317
Southside Virginia.....	320
Rotation. By H. M. DEFFORD.....	321
Tuckahoe Farmers' Club Paper, published for Farm Life, 323; No. 2—New Industries for Middle.....	326
Ensilage, Hedges, Ground Lard.....	336
Rotation. By A. L. STORGES.....	338
Floats.....	342
Rotation. By WARNER HALL.....	349
Corn Culture.....	350
Theory and Practice.....	351
Experiments in Ensilage.....	353
Four-Field System.....	354
Cooking Eggs.....	354
The Hampton (Va.) Normal and Agricultural Institute.....	355
Aid to State Agricultural Society.....	358
The Grape Phylloxera.....	360

### EDITORIAL:

Wheat.....	363
------------	-----

### EDITORIAL NOTES:

Sweet Potato Seed, 366; Talbott & Sons, 367; Henry T. Miller & Co., 367; Large Sale of Horses, Cattle and Sheep, 367; Extra Special Issue of the Agricultural Review, 368; Seven Decades of the Union, 368; Magazines, 369; Reports..... 369

# LARGE SALE AT AUCTION

— OF —

## HORSES, CATTLE AND SHEEP,

On THURSDAY, JULY 5, 1883.

At HAWFIELD, ORANGE CO., VA.

---

I have on my farm, "Hawfield," over 90 Horses and Colts, 200 head of Cattle, and 1,000 Sheep, and having determined to change my operations and put down a large portion of my land into meadow for cutting hay. I have determined to reduce my stock, by offering for sale at auction, at Hawfield, on Thursday, 5th July next, beginning at 12.30 o'clock P. M.

### 50 HORSES, MARES and COLTS,

Nearly all by thoroughbred stallions, and including six thoroughbred mares and stallions by Kentucky, War Dance, Springbock and Harry Bassett.

### 130 Head of Cattle,

Including over 20 thoroughbred Short Horns. of fashionable families, and nearly all the balance grade Short Horn Cows and young cattle.

### 800 Head of Sheep,

Mostly Western bred, including some choice thoroughbred Cotswold and grades.

---

The sale will take place at Hawfield, four miles from Rapidan Station. 75 miles south of Washington, on the Virginia Midland Railroad, and two miles from Nason's Station, on the Narrow Gauge Railroad, between Fredericksburg and Orange Courthouse.

### TERMS—Cash on Delivery.

For Catalogue, giving full description of the stock, and pedigree of the thoroughbred horses and cattle, address me, by mail, at Nason's Station, Orange Co., Va., or Richmond, Va.

**WM. G. CRENSHAW.**

Conveyances will be sent to either station to meet those from a distance, if they will advise me at Nason's Station, by postal card, in advance, on which train they will arrive.





Keep your bed clear of weeds by constant workings, scraping down the ridges, moving the earth and so on. You may raise at the rate of five or six hundred bushels per acre, and they will fatten an ox or hog as well as corn. You will not be long in discovering their great superiority over the common turnip, both for feeding cattle and hogs and for the table. I consider them invaluable. I have tried them two years, and shall take care never to be without them.

I shall endeavor to send you some other seeds in a few days.

With great esteem, your obedient servant,

C. PORTER.

---

RICHMOND, July 20th, 1820.

*Dear Sir,*—“Immediately upon receiving your favor, I chose proper iron, and sent it down to my farm near this place, where my blacksmith and plough-maker were, with orders to have one of *the horizontal ploughs*, which I have used since 1808, constructed for you, in the best manner they could. I fear it has not been completed, for an addition to my barn and repair of my threshing machine, which they had to perform before the harvest came on, in order to secure the crop, caused a delay in the execution of my orders. Having been twice with my family since June came in, and for ten days once, I have not been at Varina for some time. If the plough has not been, and cannot be, immediately done by my people, I will gladly instruct Watson. I assure you that this tardiness in having the implement made, and exhibited to the public, has not proceeded from any doubt whatever about its utility, or any defect which I have discovered in its operation. On the contrary, I am more pleased with it than at first. It is the lightest plough, for first breaking, which I have ever used. It certainly does cut eight and ten inches deep, with two horses, and I have completely buried a crop of *Erigeron Canadeuse*, seven feet high, as thick as wheat, at one ploughing with it, so that I had a thoroughly clean fallow where a horse was scarcely visible, and on a hill too steep for one to go up, when loose, without tacking about. A studied description of this plough is contained in a MS. of many sheets, written in 1813, \* \* \* upon the subject of horizontal ploughing, in reply to some remarks of ‘Arator’ thereupon. The description is too long to copy here, but would have secured a trial of the instrument by the public if I had never returned [from the army], which I thought most likely to be the case.

“On the subject of *horizontal ploughing*, I cannot refrain from saying that *the thought must have occurred to numbers*, and only required a practical farmer of industry and reflection, occupying a gullied, hill-country farm, and possessing some little geometrical knowledge, to put it into practice. Persons entirely destitute of geometry could not understand, although they might imitate the new operations. Geometry, without a great deal of experience in ploughing, and observation and reflexion upon actual tillage, must ever have revolted at the suggestion of curvilinear furrows. Lord Kames takes pains to shew the inadmissibility of such an idea; and Mr. Jefferson still rejected it in 1796; *both*, from prejudice in favor of rectilinear furrows. Mr. J. made one experiment in 1794, but dropped the practice entirely, and did not even mention it to Liancourt, when he shewed him his farm in 1797, that it had occurred to any person. I commenced in 1793 with my corn crop, extended the practice in 1794, and have adhered to it—except in 1799, when I made one experiment of the old mode—from 1793 to this day. Mr. Slaughter, of Culpepper, commenced sixteen years since. In 1801, I gave a lease of hilly land, with a promise from the tenant to plough always as I did, which lease was immediately transferred to a gentleman of the name of Slaughter, who visited Culpepper every year, I know.

“Your goodness in lending me your books, makes the stronger impression on my mind from the great rareness of that favor now. The harvest prevented my sending my servant to Edgewood with them during my last visit to my family, and I had neither him nor any other at command before. You shall receive them at home in a few days.

“Most sincerely and cordially yours,

“TH. M. RANDOLPH.”

---

BALT. POSTOFFICE, 21ST October, 1820.

*Dear Sir*,—In casting about to devise the means of ameliorating agricultural improvement (as I often do), it has often struck me that the want of *regular farming accounts* of *income* and *expenditure* is a very glaring defect in the present habits of our agriculturists. I wish to awaken their attention to the indispensable importance of keeping strict accounts, but are far from having digested any *form* to be recommended. If you could conveniently lend me your assistance, giving me your ideas and reflections on this subject, you would most particularly oblige me. The forms in the English books do not suit us on account

of the great difference in the systems of the two countries, as well as to labor, as with respect to the tenure and all the relationships of land cultivators.

A book is in course of publication here, recommending the connection of the waters of the Chesapeake, Susquehannah and Potomac. I have subscribed for several copies, and will ask you to accept one of them, knowing your zeal on the great subject of internal improvements. I have no means of judging, by anticipation, what will be the merits of the book. A pamphlet containing what has been, and is projected to be, done in South Carolina has been sent me by Mr. Poinsett, and will probably (being short) be copied, entire, into the *Farmer*, where all that has been done by Virginia will also be soon considered in the shape of history and review.

To hear from you at any time, will be very gratifying to,  
Yours, with great respect, J. S. SKINNER.

---

#### SOUTHSIDE VIRGINIA.

We have here a fine country, but it is not half appreciated by its people. There is a great variety of soil, and much that is rich, but it is not yet half-way improved and cultivated. We have a mild and salubrious climate, yet many of our own people think it is not half as good as they could make it, and are constantly running off to foreign parts to accept a worse one at last. A man can start here without a dollar, and if he is industrious and saving, can, by working at day labor for a year or two, build him up a comfortable house in five years' time; yet many think this is not half as well as they can do elsewhere. We have a settled, industrious, religious community, the most of whom mind their own business and make money, and yet their moral and social worth is but half appreciated by some, even to "the manor-born." We are within thirty hours' steam of the best markets in this country, and our facilities for fruit- and truck-raising are of the first order, and yet, alas! alas! even this advantage counts for nothing, "the country is but half made and provided for, and never can be made much better." What a country! and what a people! Will anything satisfy a dissatisfied mind?

We call upon our native white people to be content with their country and remain here. Don't let your freehold in this fair land slip from you, to be grasped and held by foreign or colored settlers. Hold on to the old Southside.—*Weekly Index-Appeal*.

---

---

### ROTATION.

In answer to "Thankful Subscriber," on page 239, of the May number of the *Southern Planter*, concerning *rotation*, I beg to suggest the following for five fields, and, for the sake of demonstration, will consider fifty acres in each field, numbered as follows, viz.: Nos. 1, 2, 3, 4 and 5. Take No. 1. *First*, Plow and prepare it thoroughly, and put all the field in corn, except ten acres of the best and most suitable land for tobacco. On the tobacco land use a compost in the hill of the following compound and proportion, viz.: 100 pounds of Nova Scotia plaster freshly ground, 100 pounds of wood ashes, 100 pounds of very rich stable, or, any other very rich manure, 20 pounds of Liverpool salt, and 100 pounds of very rich river earth, and 100 pounds of some good standard fertilizer, such as Allison & Addison's Star Brand, or the Anchor Brand, or, the Pacific guano. I have used these, and know they are good. Others may be equally as good, but I have not tested them. Mix this compound thoroughly and let it remain in bulk three weeks, and then put 250 pounds to the acre, in the hill, for tobacco. With this compound, on suitable land, any ordinary year, you may expect to make from seventy-five to one hundred dollars per acre, gross. Next fall sow all this tobacco land in wheat, at the rate of one and a-fourth bushels per acre. The middle of the following March, sow equal parts of clover and timothy seed on the land and harrow it well with a sharp harrow. Sow five quarts of the seed equally mixed to the acre. The rest of the corn land, sow the same spring in rust-proof winter oats, one and a-fourth bushels per acre, commencing the tenth of March, and on the freshly prepared oat land, after the oats are sowed, and before it rains on the land, sow the same mixture of seed and in the same quantity as on the wheat lot. Let all this land remain in clover and grass two and a-half years from the time it was sown, and every spring, about the middle of March, top-dress this grass with 200 pounds to the acre of the same mixture as used above, leaving out the standard fertilizer simply because too expensive these hard times, but would pay well if one felt able to afford it.

*Field No. 2.*—Fallow and prepare thoroughly in summer and fall, and in October, if the land is not very rich, sow in the "little red purple straw" wheat one and a-fourth bushels per acre. If very rich, sow any kind of wheat you choose. The next spring (middle of March), sow the clover and timothy; mixture above indicated, and same quantity, and harrow the field with a sharp harrow. Let this field stand two and a-half years in grass from the time sown, and top-dress every

year with the same mixture, same time and quantity per acre as described above.

No. 3, we will consider, was thoroughly prepared last year, and sown in oats, clover and timothy as above described, and the grass top-dressed this spring, and the field to be mowed this summer for hay. This field, also, to remain two and a half years in grass from the time it was sown, and when fallowed, which should be done in August or September, ten acres of the best and most suitable land to be reserved for tobacco the next spring. The rest of the field to be put in wheat the fall it is fallowed. The same compost to be used in the hills for tobacco as described above; quantity, &c.

No. 4 may all be cleared up well, and put in corn, and then put in oats, clover and timothy as above described, &c.

We will imagine that twenty-five acres of No. 5 was, a few years ago, well prepared and sown in oats and fenced separately, with shade trees and water running through it, and was then sown in equal parts of clover, timothy, Orchard grass, Red-top and Kentucky Blue grass at the rate of five quarts per acre, and is now used as a good, permanent pasture, to be top-dressed every year with the above named compost, and to remain a permanent pasture, and will continue to improve as long as treated in the right way; not to be overstocked at any time, and give the grass a chance to come out every spring before stock are put on it. After several years (if like this county), the Kentucky Blue grass will take possession of the field, and it is the best grazing grass we have.

The twenty-five acres of No. 5 left, can be used as "*pet lots*," for cabbage, Irish and sweet potatoes, orchards, &c., and can be kept rich all the time by judicious management. And when we get the plantation fixed up as above cursorily sketched, we will know enough about "*rotation*" to *rotate* the farm as we may think best.

All the clover and grass fields can be profitably grazed by turning hogs in the fields the middle of June, but do not let them remain on the grass too long, so as to injure it.

Most respectfully,

H. M. DREWRY.

[We are thankful to our correspondent for his communication. It continues the discussion of *rotation*, which, with the system of manuring incident thereto, is the most important subject connected with practical agriculture. We might say that he is right *here* and wrong *there*, but we prefer to have *comments* from farmers who, like himself, are making intelligent efforts to improve the agricultural practices of our State.—Ed. S. P.]

TRUTH is as impossible to be soiled by any outward touch as the sunbeam.—*Milton*.

---

## Tuckahoe Farmers' Club Papers—No. 1.

---

### A PLEA FOR FARM LIFE.

To us who love the country and are striving to do our part, humble as it may be, to make productive, green and inviting some portion of the barren and waste places of our State, it is a sad reflection, forced upon us, that rural life seems to be losing, rather than gaining, its hold upon the interest and affections of the people generally. To escape the labor and loneliness of the field and the flock, and with the delusive idea of a speedy road to fortune, the young men of our land are deserting the ancestral home and rushing to the cities, where they find but insufficient living and precarious employment among the overcrowded shops, stores and offices of our towns.

This is not because the love of the old home has been lost, nor the substantial enjoyments of country life forgotten. No, the green fields of childhood and of youth, the broad and well cultivated acres of waving grain, the once wide-opened doors of every house, the cordial greetings everywhere, which for you means a stay of days (not of hours), under such hospitable roofs, can never fade entirely away. From such scenes and early impressions, and even from the now dismantled roof of the stricken, blighted and war-impoverished home, the fleeing man—if leave he will—draws after him, ever, but a lengthening chain.

And even if there be no tender memories of home, yet, among thinking and educated people, one is rarely found who does not possess, deep down in the heart, a love and yearning for the country. Only a hope, it may be, yet quietly cherished, a longing of our nature to go back to its first great cause, and amid earth's quiet but wonderful scenes, when glad spring is bursting with life, or when the falling leaves of autumn speak of decay and death, to there "lie down and quietly breathe our life away." Among all of my acquaintances, to this innate desire of man, I know of but two exceptions—two cultured lawyers of Richmond—(though the temptation be strong to speak, yet, for their sakes, let them be nameless) who admit they can find no pleasure in the country. Nature has not the charm of sweet communion for them, and amid all the beauties and miracles of life wrought by spring time, there is no happy suggestiveness or satisfaction. They prefer the glitter of the gas lamp and the heated, crowded, dusty city. And when I expostulated and said to one of them (what *possibly he might not know*) that God made the wheat of the then golden

harvest, he replied, "Yes, but man made the flour, and he liked that best." But such examples—of hardness of heart—are few. As said before, we are daily losing ground. What, then, is demanded of us? I answer, that we must make our farm life more attractive; keep our children at home, and influence our neighbors and friends to remain with us.

There is no professional or mercantile employment higher or nobler than farming. It is purer and better than either. It was the first and the only calling of man that received Divine sanction. Don't say that it is a hard lot. Not one of us give the hours to labor on our farms that are given by the merchant to his counting-room, the active professional man to his unceasing, perplexing demands, nor the tired mechanic to his laborious vocation.

Not subject to the caprice of man for employment, nor his exactions of every minute of ten long hours per day. For our daily bread, we are independent of him, but dependent only upon that merciful Father, who will surely "give us seed-time and harvest."

It is said of Boston, what may be relatively said of other cities, that ninety-five men out of every hundred that have there gone into business, have failed sometime in their career. Take one hundred farmers, and see how many of them have failed. Try to inculcate contentment, curb the ambition for great wealth—by the examples of a few in the cities—by the precedent of the thousands that go to destruction and die miserably there. As the late President of the Massachusetts Agricultural College says, the fathers are to blame; they should keep the boys on the farm; learn them and others around you that "a thing pays in proportion to what you can get in return. In the country you can get a beautiful landscape which God has made and which He paints every spring. You can get trees and flowers; you can get the free air and delicious fruits; you can get for your children freedom from the enticements and temptations of city life." In private and in public we must become teachers and encouragers of agriculture, and help also to arrest that current of public opinion that always speaks of the farmer's life as "hard, unprofitable and unsatisfactory," and show to our children and others the difference between the true and the false life.

In what way can we better do this than by the formation of Agricultural Clubs. There should be such an active organization in every county of this State. Between each of them there should be regular correspondence, and through such agencies the interest of the farmer should be closely watched, and this warned and advised of everything to his interest. I would have regular annual State Conventions of



delegates, chosen from these various Clubs, and to secure co-operation and unity of purpose and of action, I would bind them in the close bonds of the most formidable "League."

Farming must never become a mere drudgery. By the improved machinery and modern domestic improvements, we can lighten the task of all and find time for recreation and enjoyment. So we must make it easier and more pleasant, that none will grow up disliking it. As said by Colonel Ingersoll, I believe, in one of his agricultural lectures, we must "decorate our rooms, have plenty of books and papers, have good gardens, plant trees and beautify our grounds, come together often, live nearer together, and cultivate sociability." And with us here, how seldom do we practice that sociability so attractive and so desirable to man? Its neglect and absence makes our country homes lonely and our children and friends dissatisfied, and so often desert us.

Why should it be sought for only in the cities, unless it be that we, like hermits, love to shut ourselves up in our dark castles of unfriendliness. Why cannot, with us, the beautiful nights of spring, summer and fall be given to reciprocal unceremonious visits, and with music and innocent games dispel this cloud of loneliness that hangs over our country homes?

Go where you will in our country, and how sad the neglect in all these respects. See how idle man sits down upon some barren spot of ground and all around him uncared for and unattended (not even appreciating the value of a white-wash brush), no grass, no garden, no rich milk and butter; cursing the country because there is no spontaneous growth of comforts, and lying down in the shade, or at the country store, he rails at the fiat—that "by the sweat of the brow ye shall earn your bread."

It is said of the great Webster, that he loved his farm, and from his place in the Senate, seldom permitted a day to pass without writing his overseers, telling them what to plant, &c. One day he asked his son and a friend to go with him to his barn. He fed his cattle with delight, and, turning to his companions, with a smile, said, "I like this. I had rather be here than in the Senate. It is better company."

Yet some of us would croak and complain, and rather live in a tenement-house in the city. There are blessings and benefits and receipts daily from a well-worked and regulated farm that is never set down to its credit—the blessings of health, pure air and water, and exemptions from doctors' bill; fresh vegetables and fruits; pure milk, butter and eggs, and a horse to drive where you will without a livery bill to pay. I am no theorist. Look around you here to-day, and tell me at what

cost I could purchase all these benefits in the city of Richmond. And then, is it not something to learn to believe in sun-rise and see what sun-set means, and, as substantially said by some writer, "To be where the sky is not divided off into strips by rows of chimneys, where one sees hills instead of factory-roofs, and where, if there be a steeple, it actually seems to point to Heaven. To have overhead, at night, a great dome spangled with stars, such as citizens never see." To tread on grass instead of stones and to watch the green things of the earth growing and unfolding, and in their life speaking to the heart of man a lesson that all the scientists and infidels of our time can never explain away.

J. A. LYNHAM.

No. 2.

**NEW INDUSTRIES FOR MIDDLE AND TIDEWATER VIRGINIA.**

BY TH. POLLARD, M. D.

My more recent attention has been called to this subject by a paper read before the "Tuckahoe Farmers' Club," a few meetings since by Capt. J. A. Lynham, and published in the *Richmond Dispatch*. Capt. Lynham is alive to the desirability of the farmers raising more profitable crops, but confesses to the difficulty of finding out what these crops should be. He suggests the trial of broom-corn. All must be aware that the present crops raised in portions of Virginia are attended with little profit, save the "trucking" of Tidewater Virginia, which is adapted to only very light soils, and to lands lying very near to railroads, or navigable water courses. The farmers have frequently heard of the introduction of more profitable industries, and confess the importance of the subject, still they travel along in the same old paths trod by their forefathers, and rely on wheat, tobacco and corn as their money crops, the latter, however, being raised principally to feed their stock and furnish bread for their families. They still need "line upon line, and precept upon precept" to arouse them from their lethargy. It is true they occasionally seize upon something that is creating an epidemic excitement, or listen to humbug advertisements, such as fruit trees of wonderful productiveness and admirable qualities, or of cheap and worthless fertilizers which are to double their crops. I can well remember when almost every farmer in this section of the State was planting out "*Morus Multicaulis*" on his lands, carried away by speculative demands, without reflecting where he was to find a market for his mulberry leaves. The only cocoonery I heard of in all this region

was one inaugurated by the late Curtis Carter, on the Mechanicsville Turnpike. Before the mulberry trees had had time to grow, this establishment had collapsed, and even before this, the mulberry fever had subsided. I am reminded here of another mania, of milder character, however, and confined mostly to New England and some of the Northern States further south. I refer to the muck mania, which Dana, chemist to one of the Lowell factories, by his work "Muck Manual" (to be found in our library) inaugurated. By muck the crops were to be greatly increased and the lands made rich. After nearly twenty years' use of muck, hauled at great expense, I suppose millions of dollars, from the swamps and marshes, it is now found the stuff has little or no fertilizing property. Chemical analysis, only resorted to in recent years, proves that muck contains a very moderate amount of nitrogen and potash, and that *not in an available form*. But we must come to our immediate subject.

Capt. Lynham speaks of the destructive competition of Western grain with ours. That is true, also, in a considerable measure, of the tobacco raised in Kentucky. This teaches us that we must resort to something more profitable than grain and tobacco. Mr. Edmund Atkinson, of Boston, the great statistician, in a paper read some time last year before one of the Northern Agricultural Associations, says that this competition of Western products should not impair, and was not, in fact, impairing the value of lands in the Eastern States. He states that recent assessments of land in Massachusetts and New York prove their increased value since the commencement of the transportation of large quantities of grain to the Eastern States from the Western. He accounts for this by the farmers being driven to more profitable pursuits than grain raising, and instances the production of more grass and cattle, dairying and fruit-raising. He suggests that the cheap breadstuffs and the comparatively cheap pork will enable farmers in the Eastern States to feed their families and hands at less cost, while they devote their labor to something more profitable. Our farmers should, in the first place, devote more of their lands to clover and grass, where it can be grown successfully, and as a necessary sequence to the raising of more stock, which of course will be attended with the production of more manure. The old Belgian proverb, though frequently quoted, will bear repetition: "No grass, no cattle; no cattle, no manure."

We are met, when we talk about more grass and stock, with the statement that the sections under consideration are not grass regions, and that these industries belong to Piedmont, the Mountain and Valley

divisions of the State. This is to a certain extent true, but any land either in Middle or Tidewater Virginia, made moderately rich, will produce good clover, orchard and other grasses, and all the moist lowlands will produce herd grass (or red top); subject to this exception, that the very light lands of Tidewater will not successfully produce them, and these are the very lands that can be much more profitably put in "trucks." Almost every portion of Middle Virginia will produce good clover and grass with moderate improvement, particularly if preceded by lime. Mr. Wm. Holman, of Cumberland, a very intelligent, practical and observant farmer, stated to me that he had frequently observed clover growing spontaneously on the lands of his county. And all along the valley of the upper James as good clover and herds grass can be grown as anywhere else. Some years since Dr. Crenshaw and myself had twenty-five acres in clover adjoining the present new reservoir, just above "tide," and indeed a part of the reservoir itself, and its adjacent grounds, embrace a portion of this twenty-five acres. This land, the second year in clover, though we had put no improver of any kind on it, yielded us in money \$310, though a considerable portion of the clover put in a large rick spoiled from its not being carefully and intelligently constructed, and another considerable portion was harvested and cured one-half for the other. The *third* year the same land yielded us \$710 in money. Clover is rarely kept on land longer than the second year for fear of deterioration. This clover was baled and sold in the Richmond market by wholesale.

As to Tidewater, the Club will remember the fine field of clover we saw at Mr. J. B. Davis' farm in King William (Lester Manor), twenty to twenty-five miles below Richmond. Last fall, passing in private conveyance by "Seven Pines," seven miles below Richmond, we saw a remarkably fine field of clover, not the result of blood effused, or animal decomposed remains left on the land in the memorable conflict that occurred there, as it was not the immediate spot of battle, but of a naturally good soil, level, and tenacious of rainfalls. Many years ago the writer owned a farm in the lower end of Henrico containing a fine marl bed, which he used freely, and wherever the marl was applied he was enabled to get a good stand of clover, which was usually seeded immediately after spring oats. We feel confident that marl or lime, with peas or some vegetable matter, will usually, on the lands of these sections of the State, procure a stand of clover. And if to the use of lime we add *fine* South Carolina phosphate say 300 pounds, and kainit 250 pounds, per acre, and sow the land in peas, we can then have a good crop of clover to follow, and even if the lime be dispensed

with we can have a quite rapid and sure improvement of lands, which will in a moderate time procure almost any crop. The late St. Julian Ravenel, of South Carolina, some years since told the writer that on his farm on the coast of his State, which I presume is light land, for these coast lands are described as light, he applied the South Carolina phosphate and kainit, his "ash element," as he called it, and seeded on it peas, and that the growth was so luxuriant that he could not well plow it under, and was in the habit of burning it. He said he lost by this no mineral matter, and only the ammonia of the vines, retaining all that of the roots, probably at least equal that of the vines. This was followed by wheat, and at the time of our conversation he said he was harvesting the crop, which he believed would yield thirty-five bushels per acre.

Besides clover and grass, there are forage plants which may be profitably raised through this section as a means of maintaining stock. Prominently among these is corn-fodder. More of this per acre can be raised than of any other forage plant, unless it be "prickly comfrey," and probably more than of this on land of the same quality, the latter requiring rich land to make a full yield. The first will produce well on land on which the latter will produce an indifferent yield. Of late years fodder-corn has been subjected to the process of *ensilaging*, which preserves it in its fresh state without loss by leaching in the weather, loss of leaves by handling and the wind, and loss by rotting if it is attempted to be stored away. Of all plants it is the most difficult to cure, owing to the stalks containing so much water, and to the long nights and cool days of the fall when it is cut down for curing. Dr. Bailey claims that it will cost no more to store it in pits than in sheds above ground, in fact he says less. Those who decry ensilage appeal to chemical analyses as showing that the dried plant contains as much nutritive value as when green. But there is something about the nutrition of ensilage not explained. This food undergoes slight alcoholic fermentation, and while this is attended with some loss of sugar, it may act as a stimulant to the animal, keeping up heat in the winter and stimulating the appetite. I have no doubt that cider after fermentation better sustains animal life than in the sweet, unfermented condition, though the temperance people say alcohol contains no nutritive material; this cannot be so, for we see hard drinkers live for months on very little food, and fatten on it, though ultimately the alcohol produces chronic inflammation of the stomach, and ultimately a breaking down of the whole system. Another consideration is the fact that animals thrive and fatten better on green food than on dry. A ton of

green food will improve and fatten more than a ton of the same article cured into hay. We all know how animals who have been kept during the winter on the best hay, will improve as soon as turned on grass in the spring—the coat becomes fresh and sleek, and fat is gained. Be all this as it may, we have seen or heard of no one who has tried ensilage, but what he is pleased with it, and keeps it up; to use an old homely adage, “the proof of the pudding is in the eating,” and we are constantly seeing in the journals articles strongly commending this system. In the May number of the *Southern Planter* there is an article on this subject by Capt. Richard Irby. He quotes from the *American Cultivator*, of Boston, which stands very high as an agricultural journal.

An attempt has been made to decry ensilage by the assertion that it had been known and practiced in Germany a long time, and was not popular there; but the present system is very different from the German system. They put away green food in trenches (it is not probable that corn-fodder was ever raised in Germany), I think without covering or pressure but dirt. Of course there was active fermentation, and indeed the Germans called it “sour food,” almost as sour, in all probability, as the “saur kraut” on which they regale themselves. It is not probable that M. Goffard, of France, bordering on Germany, should not have known of ensilage, if the Germans had practiced the present system. Goffard says he had been studying and perfecting ensilage for twenty-five years before he published his book on the subject.

Besides corn-fodder, other forage plants may be successfully and profitably raised in Virginia for stock-feeding. Every one knows of the value of *pea-fodder* as a food, and this may be very profitably put with corn-fodder in pits, for the latter is not a complete feed of itself, lacking, as it does, a sufficient quantity of the nitrogenous element. This the pea supplies. Then *rye* seeded last of August comes in early in April, when stock are requiring something green, and *winter oats* seeded last of August may be grazed in all the open weather in the winter, and until last of March, without injury to the oats, if not trampled by cattle when the ground is wet. *Lucerne* is considered by some as a valuable feed for stock. I tried it at one time seeded in drills, as did my friend Dr. Crenshaw. I found that pigs and horses turned on it preferred it to clover, and would always seek the lucerne first, though clover was near to it. My lucerne was after about four years overrun with wire-grass, and I had to plow it up. It requires rich, light, dry land, and clean land, and it is said does best if seeded broadcast, quite thick, twenty pounds to the acre. One advantage of it is that it will last for years on the ground, if not overrun with wire-

grass and weeds. When Dr. Crenshaw seeded it, a German who superintended his dairy, was very much pleased, and told him he would never need, according to his experience with it in Germany, any other forage than this. But Dr. Crenshaw's experience with it was not very favorable, as he found the quality of his milk was not so good as when he used clover, and I think he stated also that the quantity was lessened with the lucerne. His became infected with grasses and he gave it up.\* Lucerne is very much raised in France and Germany, I think the Southern portion of the latter—also considerably in Georgia and the Southern States, and I have been under the impression that Virginia was too far north for its successful culture. But I was surprised some years since, on writing to Mr. Crozet, of Long Island, a great butter raiser, who gets 75 cents per pound for all his butter, to know of him whether he used any "butter coloring," and if he thought it advisable to do so, to be told by him that lucerne was the only butter-coloring he used. Probably the salt atmosphere on each side of him modified the temperature, and at the same time promoted the growth of the lucerne. Stephens, in his "Farmers' Guide," says it thrives well near Edinburgh, exposed to salt breezes. He quotes from Mr. Pepper, of Falcon Lodge, Warwickshire, Eng., who says he sometimes gets twelve tons to the acre cut three times a year on light, dry soil, and better if it is calcareous, sown broadcast. The second year he harrows it with light grass-seed harrows, and the third and afterwards with heavy harrows to destroy the grass and weeds. He says it comes in two weeks earlier than clover. Stephens quotes from another writer who says he cultivates it profitably near London, in drills six feet apart, and cultivates potatoes, cabbages, &c., between to keep the land clean, as it will not thrive amongst grass and weeds. He says his crop paid him £20 (\$100) the first years, and after the plants got fully grown £30 (\$150) per annum. Lucerne has a long tap-root extending six feet in the ground, and stands drouths admirably. From this testimony we think it would be well for farmers having dairies and light, rich, dry soils, to raise lucerne on account of its earliness, its large yield, its frequent cuttings, and its resistance to drouth.

*Sorghum* is another forage plant which may be profitably raised for stock. It grows well wherever Indian corn succeeds, and its cultivation is not more costly than that of corn, scarcely as much so; it requires one weeding, and may then be worked with the cultivator, two

\* Stephens, in his "Farmers' Guide," gives an analysis of the ash (mineral constituents) of lucerne and of clover. The latter has about double as much potash as the former. Clover has 8 per cent. phosphoric acid, lucerne 13; clover 32 of lime, and lucerne 50, leaving out decimals; nitrogen not given.

workings being sufficient. Its yield is large, and it almost defies drouth. Hogs are very fond of it, chewing it up thoroughly and extracting all the sugar. Cows eat it freely, but it should be cut for them before the stalk gets flinty, or it may injure them. The yield of seed is, on good land, about forty bushels per acre, and is of equal nutritive value as oats, probably more so. The seed may be suffered to get in the dough state before feeding to hogs, and at that time it contains more sugar than earlier. The seed are sometimes ground and made into cakes, resembling buckwheat, and in the ground state it makes a good feed for cows and horses.

The last forage plant for stock-raising (but not the least in value) which we shall mention, is "*prickley comfrey*" of the Caucasus (*symp- tum asperimum*). This was introduced into England from the Caucasus not very many years since. Though I consider it of much value, I have not learned that it has made much headway in England. Why, it is not hard to conjecture, for the English, of all people, are the last to depart from the ways of their ancestors and to adopt anything new. Many instances might be given of this. Up to 1851 they harvested all their wheat with the sickle. That year I saw their wheat being thus reaped, and the cradle or reaper were then unused. But in 1851 McCormick exhibited his reaper at the great "World's Fair" in London, the first "World's Fair" that was held. This reaper was tested on the wheat fields around London, and attracted much attention, and a good many English farmers ordered them. Whether the sickle is entirely abandoned, I do not know, but expect not. At the time mentioned, the English farmers were plowing generally with their horses "tandem," frequently a man leading the front horse. Another evidence of the "old fogyism" of these people, or what some persons would call "conservatism," is said to be the fact that for 100 years after the introduction of the Irish potato into their island, they stuck to the "Jérusalem artichoke," as being a preferable culinary vegetable to the potato. These things show how hard it is for the farmers to adopt new industries. The prickly comfrey was introduced into this section some six years or more since by Mr. Ashburner, an Englishman, with very glowing accounts of its great productiveness and value. He sold roots through an agent in Richmond, but from some cause, probably from the plant being too much divided, pieces being thus left without roots. I bought some, and not more than two in a dozen vegetated. Persons buying them were much disappointed, and pronounced the thing a humbug, particularly as they got no result for the first year from the plants that did live. I was ready to join in this verdict, but still I held



on to my few plants, divided them each year, and now have four rows growing in my garden, and yielding largely for the number. Very few have propagated this plant, I suppose from the same "conservatism" that exists among our English ancestors. Mr. Bolling Haxall has an acre of it, and tells me he cuts it four times annually, each cutting he thinks yielding twenty tons. He feeds it to his cattle and hogs and prizes it highly. The quantity I have is so small that I feed it to my hogs alone, though I have fed it to a cow as an experiment until she became very fond of it. Hogs and cows at first eat it sparingly, from a slight bitter taste it has, but soon become very fond of it, hogs seeming to prefer it to clover. I have seen no analysis of it, but I have no doubt it is equally as nutritious as clover. I cut mine five times a year, each time just before it comes into bloom. It requires rich land, and unless the land is rich each hill should be manured as for tomatoes. This is troublesome and expensive, but when your planting is done there is no need of a repetition for years, but it should have a yearly dressing of manure. I would rather have an acre of comfrey on rich land than two acres of any other forage plant. Its advantages are its great productiveness, its nutritive qualities and its great resistance to drouth, which has little effect upon it. The objections to it are: 1st. The expense of planting, which, however, is no greater than the planting out of tomatoes, which our "truckers" do not regard as much, except it be the cost of the roots; how much that is, I do not know, nor do I know who has them for sale. The planting may be done in the fall or spring, three feet by two, or nearer if the ground is very rich and its fertility is kept up. 2nd. The trouble of harvesting; this is done by a large knife, such as the butchers use, or a sickle; the plants are gathered in a hamper and put in a cart, where the quantity is large, then the feeding is easy and quickly done.

Our farmers, then, should first embark as freely as they can into cattle raising, and the grasses and forage plants as a means of carrying this out. I have said nothing of fattening beeves as one of the profits of this system. The Messrs. Haxall, on their farm near mine, are fattening cattle profitably on ensilage and meal and mill offal, and at the same time making large piles of manure; and Mr. Bolling Haxall, on his Orange farm, is engaging largely in the same system, and with much satisfaction.

I have not left myself much time for discussing other industries which our farmers should essay, for I am afraid I have already tired you. There are two other industries I would advise you to try, viz: grape-growing and manufacture of molasses from sorghum, and the

extension of "trucking" wherever the lands are suitable and the location convenient for shipping.

Some years since I had occasion to obtain the statistics of grape growing in Virginia for my third and fourth Annual Reports as Commissioner of Agriculture of Virginia, and you will find them published there, and in the fourth Report quite a long article on grapes. The vineyards in Virginia are mostly in Piedmont, though there are a considerable number in this vicinity and in Lunenburg county, the latter planted mostly by a German colony. There are vineyards scattered through the Tidewater counties, and in the vicinity of Norfolk and Portsmouth. The reports from the vineyards were universally favorable, except from lower Tidewater, where the opinion prevailed that the grape matured too early to contain sufficient saccharine matter to make good wine, though we do not think the matter has been sufficiently tested. This information or opinion was obtained through the late Dr. Briggs, an experienced fruit-raiser. The source of profit from the vineyards was generally estimated at \$100 or more per acre. The vineyards in the vicinity of Richmond have succeeded remarkably well, and in the markets of Richmond the grapes from them are seen in profusion at the proper season. Dr. Gilmer and Dr. McCarthy have manufactured from their grapes some excellent wines, some of them equal to good French clarets. Dr. McCarthy has made some excellent imitation of foreign Madeira. We saw it tested by some "connoisseurs" with some Madeira sent the Doctor from France by a friend. He has also made some quite good champagne from the Concord grape. Dr. Gilmer, besides other wines and good brandy from grapes, has made a delightful straw-colored wine, slightly sweet, from the Salem grape. In seeking the statistics of the vineyards in this vicinity, one vineyardist said his son, who was engaged in the business with him, objected to giving any statement, on the ground that he did not wish his business made public. I replied, "My friend, I see through this; you are making the business profitable and do not desire to invite competition." "Silence gave consent." In my fourth Annual Report will be found a letter from Mr. or Dr. A. Hatchett, giving an account of the gratifying success of the vineyards in Lunenburg, a locality a little farther west than ours here, but further south, and which can scarcely be more favorable to grape-growing than ours; and in the April number of the *Planter* will be found a very glowing account from the pen of Mr. R. J. H. Hatchett, of Lunenburg (the son, I think, of Mr. A. or Dr. Hatchett). He says, "What shall we do on the Southside to restore her wealth? \* \* \* There is a remedy at hand—a nostrum if you

will—a sort of panacea for the many ills that our section is heir to. Of course I mean my hobby, the grape. \* \* \* From several years' experience and observation I am entirely satisfied that the Concord grape is the most profitable crop we can make, and the most certain of all our fruits. \* \* \* My vines the last year, with no further cultivation than a single plowing, made one gallon of pure juice to each vine. Then let us get out of the 'old rut.' Abandon the culture of a non-descript tobacco, which requires the services of a newly made 'sovereign' all the year round, and when made and shipped to market nobody wants it except at a very low price. \* \* \* Raise more cattle and of better grades. Plant a good sorghum patch, and above all, plant out 500 Concord grape-vines on trial. You will soon wish it had been 5,000. But 500 will pay the expenses of an ordinary family, and you will have your grain, grass, and cattle as a surplus. The brandy made from the grape in this county sold readily at \$4 per gallon and the wine \$1.50." Now if Concord vines are planted 8x10 feet, as Downing advises, we shall have nearly 700 on an acre, which would, by Mr. Hatchett's experience, yield 700 gallons of juice. But I think 10x10 is a better distance, and then this would yield 440 gallons of juice, which juice will yield more than that number of gallons of wine, as some water and sugar are usually added to the juice. Grapes will pay a good profit at five cents per pound. But we need in Richmond a large wine company, and then we should always have a quick and ready market for our grapes, as they have in Albemarle furnished them by the Monticello Wine Company and Hotopp, and probably others. This company and Hotopp are making excellent wines (principally claret) from the Concord and Norton seedling, equal, I think, to the French claret.

Of sorghum we cannot here speak at length. On good land 100 gallons of molasses can be made from an acre, and in New York and Minnesota 400 gallons have been made. This will command 50 cents per gallon, and then the seed and refuse will nearly pay for the expense of cultivation. Some persons think it an exhausting crop, but it can not be much so, as all the plant is returned to the soil except the molasses, which being a carbo hydrate, has scarcely any manurial value. Maj. Venable, of Prince Edward, told me two years ago that he had made 120 gallons of molasses per acre that fall from sorghum, and was getting 60 cents per gallon. Some farmer in Culpeper reported to the United States Department of Agriculture that he had made 160 gallons to the acre, and was selling it at 60 cents per gallon. One farmer in Tennessee reported to the United States Agricultural Department that

he made from 40 acres 6,500 gallons, which he wholesaled in New York at 35 cents per gallon, which, he adds, was more than he could make from 100 acres of wheat. (Vide Report on Sorghum from the U. S. Commissioner of Agriculture, I think in 1880.) And I may add, with much more certainty, there is no crop more certain than sorghum. As an evidence of the interest which is being taken in this subject in the West, I bring you to-day some copies of Colman's *Rural World*, published in St. Louis. Each number always contains on the first page a considerable number of articles on sorghum.

As regards "trucking," it is assuming in Eastern Virginia a large importance, not to supply a local demand only, but the Chesapeake and Ohio railroad is distributing melons and sweet potatoes to all the Western cities. I visited the trucking region of Hanover last fall and found that the truckers were readily making \$100 per acre, and they are becoming moneyed men. I would advise all in our section who have light, friable soils (none other will answer), to go into this business.

Capt. Lynham advises a trial of broom-corn as a crop. Like himself, I at one time obtained all the information I could get on the subject. That year I made experiment of a small crop, and though I sold it at a fair price, I was not satisfied with it. The curing of it is so difficult, and makes it expensive.

---

### ENSILAGE, HEDGES, GROUND-LIMESTONE.

---

*Mr. Editor :*

As I have remarked a while ago, in the pages of your worthy neighbor, the *Industrial South* the region of country around Kernstown is classic. The associations, past and present, crowd upon us, and we could fill columns in giving expressions to them.

But it is of the progress that agriculture has made since the war, in the immediate vicinity of Kernstown, that we wish to write. We have been disposed to believe that Col. Dulaney was the first to enter upon the untried field of making ensilage. To our surprise—we had often asked ourselves the question why some intelligent farmer in the Valley had not ventured on the experiment—we found here that one of them had done so, and had anticipated Col. Dulaney a few months. We refer to Rev. Wm. A. Crawford, less than a mile South of the village. He and Col. Dulaney entered upon the experiment near the same time, but Mr. Crawford began to feed it perhaps two months or more in advance of

the Colonel. He utilized an ice-house as his first silo, building and filling a second at the same time, and a third one and much the largest, the next season.

I do not doubt that Mr. Crawford will appreciate the suggestion in your last number, of the tobacco, or similar screw, as a substitute for handling so many stones.

He showed me a half dozen or more young cattle that a neighboring butcher had placed with him, and they would be there ten weeks in a few days after I saw them. Besides the ensilage fed to them thrice a day, it was sprinkled with meal, I forget the quantity to each, for the day. Such was the improvement, and so well was the butcher pleased, he did not object to \$12.50 per head for the ten heads. Who, let me ask, Mr. Planter, can beat that among our Rockingham or Augusta stall-feeders?

*Osage Orange Hedge.*—Inasmuch as I claim to have been the pioneer in the Valley, thirty-five or more years ago, setting the first hedge of this kind, I feel that I can with safety commend or disapprove, as facts require. I should have placed mine around an orchard, instead of a small yard and garden.

Mr. Crawford has written himself up in most unmistakable characters a public benefactor, and I do not hesitate to day to hold up his son "Clarence Grattan Crawford," now just coming to the front, as the farmer, and deserving high commendation, at the hands of his brother farmers in Virginia, for setting them an example in this direction. I do not hesitate to say, and do carefully weigh my language in doing so, that looking at the expense, amount of force, and labor expended, the Crawford farm of about 200 acres has more to show in thorough, substantial improvement, and economy of management, than any one of the said extent in Virginia, I care not where situated. Left destitute of timber by the camping on it of both armies, an old stone mansion, erected in 1790, and hardly equal to half the wants of the family, was added to by another of equal size, and from the stones gathered up from huts built by Federal soldiers, for chimneys, &c. These they hauled a mile or more from the Barton stone fencing on the Opequan, as the farm was bare of any. It is handsomely enclosed by the most carefully planted, tidiest, and most tasteful hedges, of about four miles in extent, I am perfectly sure, to be found in the State. But it is the *economy*, in the broadest and most comprehensive acceptation of that term, that I wish the farmers of my old county first, and the State at large to be impressed with. When I tell you that from the purchase of the sets, the running one or two furrows with the plow, the setting them, up to,

and including *all* that has been done to the moment at which I looked at them the *last* time, *the expense per mile is covered by eighty dollars*, you will ask in bewildering astonishment, can this be so?

I was so favorably impressed with all I heard and saw, on the subject of this heavy, troublesome, and always expensive problem, everywhere, to the Virginia farmer, that I resolved, Mr. Editor, to ask, through you, that President Wickham will, at the ensuing meeting of the State Agricultural Society, see to the appointment of a committee of, say three gentlemen, one from Tidewater, one from Piedmont, and one from the Valley, to visit Mr. Crawford, view his farm, and confer with him and his son on the subject of the osage orange as a hedge, and give the results in a full report for the benefit of the State and the country at large. Why, sir, before I had reached this place, but within eight miles of it, I found that our Circuit Judge had just decreed \$700 to a gentleman as damages in fencing in a new road, that I am sure could not have involved one of anything like two miles.

*Ground Limestone.*—I found that Mr. Crawford and two of his neighbors, Mrs. Nelson and Mrs. Jones, had sown a considerable quantity of it. I never saw a more uniform or prettier stand of clover than each had; yet I am not prepared to say it was attributable to the limestone.

I intended to have mentioned that Mr. Crawford handled this winter a flock of about a hundred ewes, that with their lambs looked, on an average, as well as our Augusta sheep. They were fed ensilage thrice a day, and turned out through the day on a ten acre lot for exercise, where there was some picking.

I am sure the prospect of wheat from Winchester to Staunton can't be surpassed in any other part of the State, for the same distance.

McC.

---

### ROTATION.

---

*Editor Southern Planter:*

In the March number of the Planter I noticed a communication from "Friendly Subscriber," asking for information and advice in regard to rotation, saying that he is inexperienced as a farmer, has 800 acres of land, divided into seven fields, woodland not included. Some of the fields in fair condition, others poor. He wishes to adopt some system of rotation and work intelligently, with the end in view of improving his land. A very laudable ambition truly. Would that every farmer in the State thus situated would make the same inquiry with

the same end in view; then we would see the Old Dominion enter upon an era of prosperity, such as few of us here ever dreamed of.

Now my sympathy goes out for my brother, and I am quite willing to give him my experience and advice, for he finds himself in a position where it would seem to require the ripe experience of a practical farmer to ensure success. But he can succeed if he possesses the essentials to success, which are pluck and perseverance, capital, and common sense. With these and the adoption of a proper system of rotation he will meet with success; and the experience which he now lacks, will come as the years go by. I think the system of rotation as usually followed is quite too narrow.

No system is complete unless it includes cow-peas and clover, orchard grass and fall meadow oat grass. A farm should be divided into ten fields; five fields kept under the plow, and five fields in grass. One field in grass to be plowed up every spring, and one field seeded to grass every spring.

I would begin the rotation by sowing field number one to cow-peas from the twentieth of May to the fifth of June, with a drill with hoes eight inches apart, with every alternate spout shut off—putting the peas in drills sixteen inches apart; at the same time drill in 100 or 200 pounds of fine ground South Carolina phosphate rock, called S. C. Bone. This will give a larger growth of vines and a bountiful crop of peas. If the land is in fair condition, three quarters of a bushel will be sufficient seed; if poor, put on one bushel when the peas begin to ripen, gather enough to keep yourself in seed, and plow under the remainder and sow to wheat.

If the soil is a light gray, or sandy and thin, apply 100 lbs. gypsum, 100 lbs. S. C. phosphate, 200 lbs. kainit, per acre. Mix and apply broadcast before sowing or drilling the wheat. If the soil be red clay or chocolate, reduce the kainit one half or omit entirely.

In the following August plow under the wheat stubble and sow one bushel of rye per acre, to be fed during winter to sheep and calves, which may be allowed the run of the field when the ground is not too soft. Turn the rye under in April and prepare the field for corn, by applying all the barnyard and stable manure made during the winter; and right here let me say a word about preparing stable manure.

Every farmer should buy a few hundred pounds of gypsum or land plaster in the fall, to be kept in or near the stable, and every few days scatter some over the manure heaps and in the stalls, if manure is allowed to accumulate there: for without this precaution much of the most valuable part of the manure, the ammonia, will escape and be lost.

The manure heap should be protected by some sort of a shed or cover be it ever so cheap, as manure exposed to the storms of winter, is not near so valuable as that which is protected. Make all the manure you can, and six or eight weeks before planting you can buy for each acre to be planted 100 lbs. gypsum, 100 lbs. pure fine ground S. C. phosphate rock, 100 lbs. kainit or German potash salts; costing about \$2.00 per acre. Now haul up to your yard or shed enough earth from ditch banks or any convenient place and spread it out ten feet wide and six inches deep, and long enough to hold your manure, piling it six feet high. Now spread on a layer of kainit, then a layer of manure, then the phosphates; another layer of manure, then the gypsum, so continue until you have your manure all in the heap. Then cover it all with a good coat of gypsum, and over this three inches of earth, and whiten that well with gypsum. You will now have a heap in which rapid decomposition will take place, without the loss of scarcely any fertilizing material, and in six weeks will be in capital condition to apply to corn ground, and should be applied broadcast after plowing and dragged in. This ought to give a good crop of corn, if the field is well tended; and the field will be left in condition to turn out a good crop of oats, which should follow the corn.

Plow the corn stubble under in November or December, and sow oats in February or March.

Immediately after harvesting the oats, sow a bushel of black peas per acre on the stubble and plow them under three or four inches deep. The peas are to be turned under the early part of October, and wheat drilled in with some good commercial fertilizers to help the wheat and to insure a good catch of clover, orchard grass and fall meadow oat grass, which should follow the wheat, and completing the rotation.

It will be noticed that by this system there will be five fields in grain crops, viz.: peas, wheat, corn, oats, wheat, and five in grass if you have ten fields, four if you have nine, and three if you have eight, which is the least number the farm ought to be divided into, as each field ought to lay in grass at least three years. You will notice also that there is three green crops plowed under, two of peas and one of rye, which will furnish the nitrogen in abundance—one of the most costly of ingredients in the fertilizers which we buy. I cannot recommend a five-field system to "Thankful Subscriber," as I cannot see how he can raise paying crops and at the same time improve his land without laying it down to grass, and keeping stock to make manure,



unless he depends largely upon commercial manures. We must raise more grass. "There are millions in it" for the farmers of Virginia. Ding it in their ears, Mr. Editor, until every field not under the plow, shall be clothed with a rich green turf trod by thousands of sheep and cattle, bringing prosperity to the people and wealth to the State.

*Hopewell Farm, near Richmond*, May 8, 1883. A. L. STURGES.

[We desire to say that the author of the foregoing article is one of the *new settlers* in Virginia, and by his intelligence and practical knowledge is showing how worn-down lands can be made to rapidly recuperate. If there could be hundreds of such men in different portions of the middle and tide-water sections of the State their, example and influence would be of great advantage to our slow-thinking and slow-acting native farmers.—Ed. S. P.]

ROBINSON CRUSOE'S ISLAND.—The Island of Juan Fernandez, which De Foe has made immortal as the scene of the adventures of Robinson Crusoe, was some time since leased by the Chilian Government to which it belongs, to a man named Von Rodt, the son of a Protestant clergyman at Berne, Switzerland. The career of Von Rodt has been almost as adventurous as that of Crusoe himself, and in that respect he is worthy to be the successor of De Foe's hero. At the age of twenty-one Von Rodt entered the Austrian service as Lieutenant of Cuirassiers, and fought valiantly during the campaign of 1856, receiving at Nachod a wound so severe that he was obliged to quit the service. After the termination of the war he went to live at Paris on a small pension allowed him by the Austrian Government. When the Franco-Prussian war broke out he enlisted in a French regiment of the line, and distinguished himself by his bravery at Champigny. In 1871 he emigrated to Chili, and engaged in trade with so much success that he was able to lease the Island of Juan Fernandez. He purchased a steamer and transported thither a small colony of agriculturists. He raised on the island cattle and vegetables, which he sells to the whalers who revictual there. He governs his subjects after the fashion of Crusoe, distributing to them rations in person, and keeping a patriarchal eye on their morals and education. His affairs prosper marvellously, and he has already succeeded in putting in cultivation more than the half of the island.—*Summerside Journal, Prince Edward Island, Nova Scotia.*

WELCOME disappointment! Thy hand is cold and hard, but it is the hand of a friend. Thy voice is stern and harsh, but it is the voice of a friend. Oh, there is something sublime in calm endurance, something sublime in the resolute, fixed purpose of suffering without complaining, which makes disappointment oftentimes better than success!—*Longfellow.*

NATURE can do much to render a countenance attractive, but character accomplishes far more. The beauty which is of feature merely catches the careless, wandering eye. The beauty which is the reflex of character holds the eye, and eventually wins the heart.—*E. P. Roe.*

## FLOATS.

[Continued from June Number, and Concluded.]

Now for the *disproof* of this.

It is well known that with any grinding, however coarse, there will be produced some impalpable powder or floats—that if a rock be cracked but once with a hammer, some dust will result. Now, it must be borne in mind that the ordinary product of buhr stones is only coarse by comparison—that it is indeed a fine powder, with a considerable amount of dust or floats resident in it. It is safe to say that there is hardly less than twenty-five per cent. of floats in the ordinary product of our mills, and the remaining percentage consists of particles of varying degrees of fineness, from impalpable dust up to the coarsest grains, which latter are themselves only relatively coarse, and are, indeed, practically fine.

Now, assuming, as above, that in the ordinary rock product of our mills there is twenty-five per cent. of floats,—that is, 500 pounds to the ton,—and since, according to the float theory, this 500 pounds contains as much available phosphoric acid as 1,000 pounds of acid phosphate, one ton of ground rock should give as good immediate results as 1,000 pounds of acid phosphate; and this is upon the assumption that only one-fourth of the ground rock, the impalpable part, is to render service. Now, this assumption is hardly fair, for it is quite reasonable to suppose (and indeed it is an admitted fact) that the remaining three-fourths, in the order of its fineness, will undergo gradual disintegration by the ordinary agencies of weathering, and will thus, particle by particle, be reduced to the required fineness, and thus acquire the activity of the finest particles. We should thus, therefore, have not only the immediate services of the 500 pounds of resident floats, but we should have also the accruing action of the 1,500 pounds of coarser material, which would be ever undergoing reduction and rendering itself to the plants in such quantities and at such times as they may require it.

From this view of the case, therefore, the action of ground phosphate should be immediately marked and continuously apparent. It should be at least as efficient as acid phosphate, and it should be even superior to floats, having sufficient material for immediate wants, and ever holding in readiness and affording a reserve supply for the plants, according to their daily recurring and ever changing demands.

But that there are no such outspoken and desirable results in practice is attested, as already stated, by the common voice of the people;

for their cry is always and increasingly for the acid or dissolved phosphate and not for the ground or insoluble phosphate.

Furthermore, we maintain that the very floats, the impalpable product, is no new thing, and that floats have actually been in use, and have, therefore, been speaking for themselves, for a good many years past. For, as we have already said, in the process of all grinding some floats are produced, and, notwithstanding that the purpose is to prevent their escape from the mill, the product is so exceedingly fine that it has been found impossible wholly to do so; and, as the escaped dust was blown about the building and finally out of the window and lost, dust chambers, so-called, were devised, into which this escaping material was directed by a draft and thus it was collected and saved. The quantity of this material was quite considerable, and, as it was accounted of extra manurial value, it was in active demand and commanded a full price. It did not seem, however, to fully meet expectations, and although, for economic considerations, the accumulation of it was continued, the demand became gradually indifferent, until finally, of late years, the practice, in the main, has been simply to return this product to the common bulk of ground rock, to be used in the ordinary manufactures.

And, in addition to the above source of supply, one of the largest phosphate companies in this city has for about three years past been operating the Duc atomizer, and has been offering to the public the product of this mill—the very floats itself; and yet, so far as is generally known, the demand has been so limited as to render necessary the operation of the atomizer only at intervals.

And again, can we have a more emphatic and significant answer to the question in point than is to be found in the large number of huge sulphuric acid chambers that have been erected and are continually being erected, at the cost of millions of dollars, all over the country?

Would they be in existence if they were not imperatively wanted? Would capitalists—the most sensitive (and sensible too) of all people—invest their money in producing an article that is of doubtful merits and value? Do these chambers not indicate in unmistakable terms that it is the dissolved phosphate that our farmers want and will have?

For the last fifteen years our Southern farmers have been using both the insoluble and the soluble phosphates. They have been intensely interested to find out the comparative merits of these two products. Without bias, and exercising their best judgment, they have applied themselves to the matter. Their success or their failure financially depended upon the true solution of the question. And what has been

the result? The almost universal verdict is in favor of the dissolved (or so-called acid) phosphate.

We have thus consulted the experience of the past, and have shown, as we think, that it expresses itself in no equivocal terms in favor of the soluble or acid phosphate and against the insoluble or ground phosphate.

We could now go on and adduce (as it was our purpose to do) the opinions of the foremost agricultural chemists of the day, as moulded by the experience of the past and the lights of the laboratory—such men as Drs. J. B. Lawes and R. Warington, of England, George Ville, of France, J. F. W. Johnston, of Scotland, Dr. J. R. Nichols, of Massachusetts, Professor S. W. Johnson, of the Connecticut Experiment Station, Dr. G. A. Liebig, of Baltimore, (to all of whom we are in large measure indebted for such technical and scientific information as we have been able to get on this subject) and of others hardly less distinguished, certainly not less meritorious, nearer home—nay, even some of them in our very midst—whose daily advice and practice very plainly declare the views that they hold.

But this article has already been drawn out to much greater length than was intended by the writer, or was probably contemplated by the honorable instigator of it, and we must forbear.

Before leaving this branch of the subject, however, it may be pertinent to call attention to the fact that in neither North Carolina, South Carolina nor Georgia—in fact, in no State, so far as we know, having a Bureau of Agriculture publishing the analyses and the valuations based thereon of fertilizers admitted to sale in their respective jurisdictions—is any value allowed to insoluble phosphoric acid, showing the estimate in which this article is held by the highest constituted authorities, *and officially so announced*.

And when it is remembered that the Commissioner of Agriculture in the several States and the chemists, their professional advisers, have been chosen and appointed to their respective offices solely because of their known fitness and acknowledged accomplishments, this fact becomes a most significant one.

In North Carolina, in fact, insoluble phosphoric acid is classed with the worthless and accidental ingredients, water and sand, and that, too, by the very able Director of the Experiment Station and State Chemist, Dr. Charles W. Dabney.

(*Par parenthesis*, please excuse us for saying just here, with all due deference, that we do not approve of this exclusion of insoluble phosphoric acid from the table of valuations. Although not as valuable as

the soluble and reduced, it certainly has value; and especially so in the associations in which it is found in the usual compounds offered by the trade, and more particularly in the "Ash Element." And in presuming to offer these views as to insoluble phosphoric acid, we have reason to think that we have the honor to be in accord with at least some of the chemists of the day.)

And it may also be worthy of remark that in the last two years two new phosphate companies have been started in Charleston, one in Beaufort, one in Norfolk, one in Baltimore and others elsewhere; another in this city was burnt down and rebuilt, and certain old companies have doubled their capacity. Yet in all of these cases cited, with one exception only, although the Duc process had been previously introduced, and its merits well understood, the old system of grinding by buhr stones was adopted. And in two of these cases alluded to above, the one a new company and the other a powerful old company doubling its capacity, a distinguished chemist of our own city, known to be a staunch friend of the Duc mill and an advocate of the floats theory, was the chemist and professional adviser—a gentleman, too, held exceptionally high regard, not only by the three large phosphate companies which he represented as chemist, but also by the entire community in which he lived. And, what may be of still further significance, in each and all of the above cases, exactly in proportion to the grinding facilities provided, a due complement of acid chambers was appended, ample provision being thus made for the treatment of every pound of rock that is ground with sulphuric acid.

And still further, to show the present status of this question, one of the oldest and largest companies in this city, itself interested in and operating the Duc mills for several years past, has lately enlarged its acid chambers to such degree as to greatly increase, if not double, its capacity for producing sulphuric acid; and its effort and pride have always been, and are now, to produce a grade of acid phosphate superior to any on the market—that is, having the largest percentage of soluble phosphoric acid.

All this goes to show, in ways that admit of no misconstruction, the opinions that are to-day held on this subject by farmers, chemists, capitalists and manufacturers, when such opinions are backed by common sense and unbiased judgment, scientific research and hardly earned treasure—and not by time-worn theories.

Having thus imperfectly shown what floats or ground phosphates are, and the uses to which they may *not* be put, we will now endeavor, as briefly as possible, to show *what are their uses*.

George Ville, of France, the eminent agricultural chemist under Napoleon the Third, whose lectures in 1867 have been so admirably translated by Miss Howard, of Georgia, conducted at Vincennes, under the auspices of the government, a long series of experiments, which were so exhaustive and conclusive that, by common consent, they have been accounted authoritative in all parts of the world.

Similar experiments have been conducted by Messrs. Lawes and Gilbert, at Rothamsted, England, for a good many years past, and by Professor S. W. Johnson, of the Connecticut Experiment Station, Professor Atwater and others, all verifying in the main the findings of Ville.

Mr. Ville, among other important discoveries, clearly demonstrated that of the ten mineral elements necessary to plant life, only three need be applied in the most natural soils in order to the perfection of crops, namely, phosphoric acid, potash and lime, the remaining seven being almost invariably present; and that by the addition to these three minerals of what he calls azote (ammonia or nitrates in some form) a complete fertilizer is produced, adapted to all soils and to all crops.

He also demonstrated that of plants there are two orders, both alike demanding for their perfection all four of the above elements, but differing in this: that the one order (cereals, grasses, cotton, &c.,) requires that the azotic or nitrogenous matters be present in the soil; while the other order (peas, vetch, clover, lucerne, &c.,) is indifferent to such presence, finding their azote in the air, &c.

He further demonstrated that the latter order of plants would greatly enrich in azotic or nitrogenous matters the land on which they grew, and would thus put it in excellent condition for succeeding crops of wheat, oats, grasses, &c.; and that thus, by simple rotation, the fertility of the soil could be kept up indefinitely—it being only necessary to supply the above named minerals from time to time in such proportions as they may have been removed in crops or in animals sold from the farm.

Mr. Ville frequently recurs to this beautiful provision of nature by which one order of plants is made to furnish food for another; and he dwells with great stress upon the importance of a strict observance of it in order to successful agriculture.

We cannot forbear making one quotation from Mr. Ville: “Plants which draw azote or ammonia from the air, such as peas, clover, vetch, lucerne, &c., flourish in a soil deprived of it if they find the three minerals of the complete fertilizer present, namely, phosphate of lime, potash and lime. On the contrary, plants which demand azote or ammo-

nia in the soil, such as the cereals, grasses, cotton, &c., become diseased and give but a poor produce if they find the azote missing. The secret of successful culture consists, therefore, in alternating those plants which draw ammonia from the air with those which require it in the soil, and in reserving for these latter all the nitrogenous materials we can procure."

Now for the application of all this :

The three minerals chiefly required are phosphoric acid, potash and lime. By a most beneficent Providence, two of these elements exist in abundance at our very doors. The phosphoric acid is found in our phosphate rock and the lime in our marl, and the third element, potash, is furnished in most suitable form by the natural German salt, kainit.

It only remains to combine these three products in such manner as to secure the best results, and, with the azotic matters furnished in exhaustless quantities by green crops, as shown by Ville, and by cotton seed, we are provided with the means of bringing our lands up to such degrees of fertility and production as we at present have little conception of.

With the value of the phosphate rock we are all well acquainted ; with the value of the marl, although well known and appreciated by scientific men and manufacturers, our farmers are less familiar. We will say, therefore, that it is not only one of the four essentials of a fertilizer as determined by Ville, but that it is in just the condition deemed most valuable by him—a carbonate of lime.

And to show what is thought of this marl by a highly-gifted scientist of our own State, Professor F. S. Holmes, we make the following quotation from his valuable book on the phosphate and marl beds of South Carolina, published in 1870 :

"The time is not far distant when the Ashley marl will be extensively quarried and as much sought after by the planter and farmer as the phosphates are at the present day."

And we know that the late Dr. St. Julien Ravenel made the same prediction as to the future recognition of the value of our marl beds.

And to show the estimation in which our phosphate rock is held by Professor Holmes, we again quote from his book :

"There is little doubt that an application of the raw ground phosphate will be to a great extent beneficial, and possibly the native acids in the soil will gradually cook a sufficient quantity annually to aid and support the crop, or, in other words, gradually convert in Nature's laboratory the *raw* phosphate into the *super* phosphate of commerce. And of this our marl experiments in 1844 give reasonable proof—the

upper layers of the Ashley marl producing greater effects on crops than the lower, owing, no doubt, to the larger percentage of phosphate of lime in the former than in the latter."

Now, Dr. Ravenel had the sagacity to see that, by the association of these two home products with kainit, he would have three of the essentials of a complete fertilizer, as discovered by Ville, in their most active and available forms; and that in green crops and cotton seed are to be found in exhaustless quantities the only remaining essential of a complete fertilizer, the azote. He therefore combined the three above named products in a formula which he called "Ash Element"; and which variously modified, from time to time, as suggested by experience and observation, has been most favorably known to our farmers ever since, and with constantly increasing popularity.

We thus see that, although ground phosphate, when used alone, is of tardy and remote utility, when properly associated with certain active materials it becomes at once prompt and pronounced in its action.

For want of space, we must forbear to say upon what soils and crops ground phosphate or floats used alone will give best results; and how that it can be used to best advantage in compost and manure heaps, and more especially in stables; the comparative merits of the Duc atomizer and the buhr stone; the present estimation in which sulphuric acid is held as a fertilizer in its direct, indirect and remote relations; and other matters, which, though not directly pertinent to the subject of floats, are of intense interest and importance.

With a few conclusions, directly deducible from what has been said above, we will close.

For prompt and outspoken results, use acid phosphate.

For slow but sure and continued results, use ground phosphate.

For a combination of the above two, with the added virtues of potash, lime, magnesia, soda, &c., use ash element *as at present compounded*.

And for the most complete and crowning results to the land and to the crops, use, in connection with the ash element, green crops (peas and vetch pre-eminently the best for our Southern States) and cotton seed.

All this is *practice*; not *theory*, except as verified by practice.

With much respect and esteem, yours truly,

F. L. FROST.

Charleston, S. C., October 14th, 1882.

---

TALKING and eloquence are not the same; to speak, and to speak well, are two things.—*Ben Johnson*.



---

---

**ROTATION.**

*Mr. Editor*,—In the May number of the *Southern Planter*, I noticed an article under “Rotation,” in which “Thankful Subscriber” (after returning thanks for articles which you had previously published, in regard to the six- and seven-field system) asks for further information in respect to the five-field rotation. You can no doubt remember, Mr. Editor, when the three-field system prevailed in this State; first, corn, then wheat, then pasture; under which our lands in Eastern Virginia became overworked and greatly reduced. The interest which I have always taken in agriculture from my early boyhood and my association with my father in more mature years, enables me, from practice and experience, to “speak by the card”; and I have the firm conviction that the five-field system (with the judicious use of lime and clover or peas) is the best method in the way of recuperating worn-out land and promoting its productiveness. In 1833, my father purchased an estate in one of the Tidewater counties in this State, bordering upon salt water. It was then cultivated (as it had been for several years) under the ruinous old “three-field-shift” system, and had consequently been worn out and exhausted. He soon found a change very necessary, and adopted the five-field system. Having a good supply of marl upon the estate, with which he thoroughly marled each field the first year it was to be put in corn, he never used any fertilizer other than such manure as was produced upon the farm, marsh mud (from cleaning up the coves along the river), the cleanings from ditches and clover seed, with the exception of a half ton of Peruvian guano (as an experiment), and concluded that the latter was not worth the price—at that time eighty dollars per ton. The result of his system was that his fields greatly improved, and became so foul that he found it necessary, after five rotations, to adopt the four-field system. Under the five-field rotation, he broke up the old pasture (or that portion intended for corn, previously well marled). The next year, this field (the corn having been removed) was seeded in wheat, and upon which clover was seeded in February or March, as season permitted. The next year this field was allowed to “rest in clover,” and not a hoof or tooth to touch it. The next summer (the fourth year) this field was clover fallowed, and in the fall seeded in wheat. The fifth year this field became the pasture, as soon as the wheat was secured. Hence, you observe, the rotation was as follows: 1st. Corn (land previously marled). 2d. Wheat, seeded in clover. 3d. Rest, in clover. 4th. Clover fallow and seeded in wheat. 5th. Pasture. I especially recommend sheep in this system as “cleaners” and for grazing wheat.

WARNER HALL.

---

**CORN CULTURE.**

---

*Editor Southern Planter :*

By some accident an article in the *Planter* of October last, "A new method of growing corn," escaped my observation until a day or two since; and now it would seem to me scarcely worth commenting on, but for the accompanying editorial note requesting that some of your "Virginia readers would try an experiment," etc.

Without doubt this matter has been fully tested, and the best distance for planting corn long ago ascertained as far as it could be settled by experiment. When there is a further purpose of sowing ameliorating crops along with the corn, of course another question is opened up. Only last year I planted quite a considerable surface in corn in what I considered *wide* rows—not *fourteen*, but *eight* feet apart. This was done with no expectation of a full crop of corn—I knew better than that, or thought I did. It was designed as a compromise between a pea fallow and a corn crop, by sowing peas in the corn to get some of the benefits of both crops and the full benefit of neither, and I was not disappointed!

As to planting in fourteen feet rows, who will can try it, but I will go bail he will make, other things being equal, just one-half the corn—no more, no less, that he would make with the rows seven feet apart and the same distance in the step. If there is no ulterior object, such as sowing peas or millet, it were better to turn one-half the land out, cultivate only the other half, and save labor.

Very large crops of corn can be made only by thick planting. I know, Mr. Editor, your hobby of thin planting of corn, and thin seeding of small grain; and in regard to corn, I am sure that this is safe practice in general, because of the unknown factor that should govern our calculations—the amount of rain-fall in July and August. If certain that there would be plenty of rain, then I would plant twice as thick as I do; but with the fear of a drouth before my eyes, I never plant for a maximum crop.

At various times in the thirty odd years of my farming life I have tried experiments with all our staples in the line under consideration, and believe I have lost more by sowing small grain too thin than by sowing too thick, and the contrary with corn, for the reason mentioned—drouths coming so often. Yet the best crop of corn I perhaps ever made, was by far the thickest—planted  $4\frac{2}{3}$  feet by 15 to 18 inches, two stalks in the hill generally. Fortune favors novices; there was abundance of rain that year and I made a ten-strike. The next year I tried

the same game and made a complete failure. Really good corn years are not frequent in this climate, and so it is safer to plant for a dry than for a wet year; better to get a moderate crop every year than a large one at long intervals, and failures for the rest.

But there is a limit beyond which it does no good to give more space, and that limit is reached, I am sure, at about five and a-half or six feet; after that I believe it would not increase the size of stalk or ear if you increased the distance to fourteen feet or fourteen rods. All that theorizing about light and air is fanciful; if there was anything in it, outside rows of corn would be the best, whereas they are no better, in general, than the inner ones, if as good, even in a thickly planted field.

RANDOLPH HARRISON.

---

### THEORY AND PRACTICE.

---

*Editor Southern Planter :*

Much of the prejudice existing against book farming, so called, has doubtless arisen from the fact that mere theorists derive their information mainly, if not wholly, from reading agricultural publications; hence the farmer who reads such publications, and refers to them as authorities, is very apt to be dubbed a "book-farmer" by some of his neighbors. This is unfortunate, as it leads such persons to ignore and deprive themselves of such sources of information as might materially benefit them.

It is readily admitted that mere theoretical knowledge can never make a good or successful farmer. At the same time, theory, if it be an intelligent and sound one, is good in its place. Even those who do not read have their theory, and often not a very good one. Every one who follows farming, or intends to engage in it, ought to spare no pains to inform himself well in everything pertaining to it. This is regarded as necessary to success in every other calling in life. Why should farming be an exception? Some will say it must be learned by practice, and so it must be; but, at the same time, practice may be greatly aided by information and correct theory, derived from reading and other sources.

The sensible farmer will aim to steer clear of two extremes which many fall into, viz: blindly following some theory derived from reading, or from some unpractical book-farmer, on the one hand, or utterly ignoring all information to be gained from reading on the other. I

cannot better illustrate this matter than by giving two examples coming under my own observation. The one was that of a young friend of mine who left his father's in the country and went in his boyhood to engage in business in the city, where he continued till his father's death, which occurred when the son was perhaps thirty years old. At his mother's request, or prompted by a sense of duty, he determined to return to the old homestead, manage the farm, and take care of his mother, sisters, and younger brothers then in their minority. I saw him when about to undertake this charge, and never saw one more sanguine in the belief that he was going to revolutionise matters on the farm, and as he expressed himself to me, "to give a fresh impetus to farming in that community." He had no practical knowledge of farming, but had from reading and other sources formed a vague theory in his own mind by which he would enrich the farm, ensure plenty to the family, and "astonish the natives." But what was the result? The next thing I heard of him a year or two after, was that he had left the farm in disgust and disappointment, saying that he was going to the "far West" to look for bread.

The next illustrative example was that of a youth, who, until thirteen or fourteen years old, lived at his father's on a country farm and wrought as a laborer as he was able. He was then placed in a village store, where he remained some four years, going to a good school some six months in the time. At the end of the four years, not fancying commercial employment, he returned to his father's intending to follow farming. But as there seemed to be no opening for profitable farming, he was persuaded to engage in school-teaching—a business he had never thought of engaging in, and for which he did not think he was qualified. However, as nothing better seemed to offer itself, he was induced to undertake it for a while at least. The undertaking being more successful than he had expected, he continued for some twelve consecutive years. He then married and settled on a small farm, which, inexperienced as he was, he cultivated as best he could, availing himself of every opportunity for information by reading and counseling with practical farmers. In this way he not only secured a competency, but accumulated, and was regarded by those capable of judging, to be a good, practical farmer; and while he did not rely upon the information gained by reading, he doubtless owed much of his success to this cause.

These two examples, I think, clearly illustrate the difference between mere theory and intelligent theory, coupled with persevering practice. The one will generally be found more or less successful,

while the other will most likely be attended with failure, if not with utter ruin.

At the risk of being thought needlessly tedious, I cannot forbear to express my surprise that so few of our farmer friends take an agricultural journal. It seems to me poor economy not to take at least one. Many a single number is worth more than the subscription price for a whole year. No one need swallow, so to speak, everything he reads. He should exercise his judgment about this. If he will read attentively, he will find enough in the selected articles, and in those by intelligent practical farmers, to doubly compensate for the trifling expense of the paper.

*Fluvanna county.*

M. B. S.

### EXPERIMENTS IN ENSILAGE.

Prof. Henry, of the Experimental Farm of the University of Wisconsin, has published a report of an experiment in ensilage that was made last year under his direction. A pit was made, thirty feet long by fifteen wide and fifteen deep, with thick stone walls, at a cost of \$412.12, and was filled to near the top with a crop of fodder-corn that had been raised and cut up for the purpose, weighing 150,222 pounds, and at top with second crop clover just as it came from the field, all under the inspection of many visitors who had been invited to witness the process. "The contents," says Prof. Henry, "were as varied as the visitors." As the weather was very warm the ensilage heated rapidly, and when the visitor would run his hand down into the mass of damp cut fodder, and find it so hot as to be uncomfortable, there would sometimes come a shake of the head and predictions of failure of some sort: "It will burn the barn up"; "May keep below, but will not on top"; "Think it will be all right above where it can get some air, but below it will make a nice manure heap." The silo was loaded down with an unusual weight of stones, in order to bring the more pressure to bear upon the long and matted clover stalks; for the efficacy of the operation depends upon the prevention of heating by cutting off the access of fresh air. After the pit was closed, but little evidence of the change within was seen, only occasionally a just discernible but not at all marked odor. When the silo was opened November 26th, the clover was partly decayed for about a half inch down, and mouldy for two or three inches below and around the sides of the pit. This was thrown out to be put on the manure heap. The cows were a little shy at first of eating the ensilage, but after four or five feeds all ate it as

naturally as they would hay. Then the clover that had been thrown away attracted their attention, and they ate greedily even of that which was mouldy. A small extemporized silo was tentatively made in the natural ground where it was well drained, without walling, and was filled with green clover. The ensilage came out in perfect condition and entirely palatable. The result of the last experiment shows how persons living where the subsoil is very compact might make a silo with either very light walls or with none at all. M.

---

#### FOUR-FIELD SYSTEM.

---

*Editor Southern Planter :*

Possibly one of the four-field systems in vogue in King William may meet the wants of your correspondent. We have three, under any one of which land steadily improves: First, for very light lands—1st year, corn; 2nd year, peas; 3rd year, wheat; 4th year, pasture. Second—1st year, corn; 2nd year, peas, sown at last working and turned under for wheat last of September or 1st of October, just as soon as the corn can be gotten off, which is the difficulty. Third—1st year, corn; clover sown after last working and fallowed the next summer for wheat. Fourth—Clover again or pasture. In the first and third systems the peas or clover may be run down by hogs with great benefit (certainly to the hogs).

Respectfully yours,

*Aylett's, Va., May 5, 1883.*

J. H. GWATHMEY.

I have just rebuilt an arbor which had been standing twenty-six years (built by my father), and the only post not decayed at the bottom was one put in with the little end down, which is yet very sound. All were cedar.

J. H. G.

---

#### COOKING EGGS.

---

*Editor Southern Planter :*

Let me supplement your article in June number on "Eggs as Food," by saying that an egg to be eaten should never be cooked in *boiling* water. This may surprise you, but it is nevertheless true. To cook an egg properly, it should be put in boiling water and the vessel *immediately* removed from the fire and placed on the stove or range where it can be kept *hot* but not permitted again to come to the boiling point. The time it should be kept in the water is not over *twelve*, nor less than *ten* minutes. When opened it will be found that the white of the egg

will be thoroughly cooked, but in a *semi-fluid* condition, and very digestible. The white of the egg, when boiled *hard*, is one of the most indigestible substances that can be eaten. To be appreciated this mode of cooking must be tried.

*New York.*

A. B.

---

### THE HAMPTON (VA.) NORMAL AND AGRICULTURAL INSTITUTE.

[This came to us from an esteemed friend, who has been associated with educational institutions for thirty years, or more. As a noble-hearted Virginian, his discriminating judgment can be trusted for anything that affects the welfare of his State and of the country at large. The agricultural features of his communication can, at least, be commended to the readers of the *Planter*.—ED. S. P.]

The writer has thought that a few notes, relating to this school, may interest the readers of the *Southern Planter*. In visits to the institution, he has met not one Virginian (including Governor, professional men, farmers, and others), who have not become surprised and interested in the work done there, both in moral and intellectual education and in training the students for engaging in industrial pursuits in after life, as well.

The history of the institution is briefly this: In 1868, a Northern Christian Association opened a school, on the old Segar farm, between the Soldiers' Home and Hampton, for the instruction of colored pupils, with only two teachers and fifteen students. In 1882-'83, the Catalogue shows 882 pupils, 507 of whom are colored young men and women, and 75 are Indians, of both sexes. Soon after the inauguration of the enterprise, its friends enlarged its operations, so as to include training in industrial pursuits; and, from time to time, have added real estate, amounting to about 700 acres, in two tracts some five miles apart. The real estate and buildings make the whole "plant," valued at \$350,000, in 1883. There are now 35 teachers, *exclusive* of other officers in the several departments. About 1870, the State of Virginia incorporated the institution, and annually gives it the interest on one-third of the sum held by the State, resulting from the proceeds of the sale of the "Land Scrip" donated by Congress in 1862, in aid of colleges whose course of study shall include instruction in agriculture, the mechanic arts, and military tactics; the other two-thirds of this fund are appropriated to Blacksburg College, Va. The Hampton School thus receives from this Congressional donation about \$10,000 annually, and educates one hundred State pupils gratis. The trustees are gentlemen mainly of New York and Boston—Judge R.

W. Hughes and F. N. Watkins, of Virginia, being also trustees. The Governor, every four years, appoints six curators of the fund, who annually supervise and examine the proceedings of the trustees, to see that the appropriation is expended as provided by law. The requirements of the act of Congress are thoroughly and honestly executed at Hampton.

The friends of the institution are unstinted in the most generous endowments of the college. As an illustration: President Huntington, of the Chesapeake and Ohio Railroad, gave nearly \$25,000 to the erection and making complete the equipment of so much of the Mechanical Department as includes carpenter's work. It is a very extensive establishment, well officered, and fills large orders for work. The students, and other paid employees, conduct and operate the shops, and all the improved and new machinery are introduced. Students may and do become skilled mechanics. To the same industrial department, some three years or more ago, Mr. Corliss, of Rhode Island, gave a \$4000 steam engine. Or, rather, he placed it in the building; Mr. Huntington gave his check to Mr. Corliss for \$4000, which Mr. C. turned in to the treasury. Mr. C. has (in 1882) given another eighty horse-power "Corliss" engine.

If Hampton accomplished no other good, the systematic habits, the order, method and progress in the practical mechanic arts and industries are of great value to the colored race.

Gen. Armstrong, the principal, is really a most wonderful man, and is, most emphatically, the right man in the right place. He is a cultivated Christian gentleman—a very live, wide-awake, broad guage and progressive man; and he has not one drop of old-fogy blood in his veins. His knowledge of the negro character ("Negro" is the only word used by teachers and pupils at Hampton) is just marvellous, and of human nature as well. In a word, in energy, far-sightedness, and administrative and executive ability, he has no superiors and few equals.

You will receive herewith a copy of a folio edition of the ten closely-printed pages of the Report of the Principal to the Trustees. The Report of Gen. Marshall, the admirable treasurer, will fill a pamphlet of seventy five or more pages, not yet printed, which will be sent you. A few facts and extracts from these documents, will enable the readers of the *Southern Planter* to learn *something* of the results of the work of the school, since 1868. If any of those readers will at any time visit the school, they will be surprised and interested in the extraordinary progress and results so manifest on the beautiful grounds, and



the skilled management of the very productive farms and other industries, such as carpenters, harness, shoe, tin, blacksmith, wheelwright, tailor, printing, sewing, house work, cookery, laundry and other work. He will find a large Yankee "barn" (costing \$12,000), and under its roof large numbers of cows, hogs and horses of approved breeds, with its well-constructed and profitable silo, in which the ensilage experiment is a complete success; and all under a manager of large practical experience, and fully up to the age in progressive agriculture.

In his report, Gen. Armstrong well says, that "the growth of the negro population, and its power for good and evil, for themselves and the country, creates the most serious social and political fact of the day."

The limits of this communication do not permit full extracts from Gen. A.'s report. Let the following, with other facts, be made and stated:

"A surrounding civilization is, after all, the best educator of our backward races. Our own has given the negro the English language, a priceless advantage, industrious habits, and many ideas, but no moral strengthening; it was not, however, a growth from within, which is the only real one, but it is gradually working in. Commerce, the law of supply and demand, the necessity of labor, are all educational; railroads, the best of civilizing institutions, are doing a great work for the South. Schools are, however, a paramount need to teach the multitude to read and write, so they can think and act for themselves."

"The Hampton School is more vitally efficiently related to the work for negroes than ever before. Our reports indicate it. The period of curiosity and of popular enthusiasm for the race, is passed; the work appeals to principle, to the patriotism of thinking men, as one that must be carried through. The negro race contains a proportion, perhaps ten per cent., of excellent material for an education beyond the rudiments, and these should be fitted to teach, and lead the rest."

"Make the teachers," says the General, "and you make the people."

"The mental capacities of the best class of negro youth, whatever those of the average may be, are best shown by the high attainments and unchallenged success of colored students scattered in many Northern colleges, and by those compassing the higher studies in not a few of the Southern institutions. The question is not one of mind but of character."

Let it be here stated, that *ninety per cent.* of the graduates, heretofore, of Hampton, are teachers in the public schools. The testimony of superintendents and trustees, of their fidelity and aptness to teach, and success, is full.

At the risk of making this communication, too long, let a statement be added, which is most creditable to the teachers and pupils of Hamp-

ton. One of the departments is known as the "Night School." *Labor* is required of every student, for the sake of discipline and instruction. But there are a large number of students who are unable to "pay their way." The various industries on the farms and in the mechanical departments require the employment of many laborers (in this school, of far larger proportions than the average reader supposes.) Employment, on good wages (\$15 a month), are given to such who work during the *day*, and are under teachers two hours *at night*. Their wages accumulate till they enter college, and is then appropriated to their expenses. From the Catalogue Appendix, we learn:

"The object of this class for day work and night study, is not to give an opportunity to make money, but to create a chance for those who have little or no means and very limited education, to acquire skill in labor, wholesome discipline, character, and a good English education, the school accepting their labor as payment for board and clothing."

All girls do and learn house-work. One hundred and forty pupils attended this "Night School" in 1882-'83.

The total average from the industrial system of the school was, last year, \$31,530.56.

We might say much more; we could not say less. A VISITOR.

---

### AID TO STATE AGRICULTURAL SOCIETY.

---

RICHMOND, May 19th, 1883.

*Editor Southern Planter*,—Your editorial in the May No. of the *Planter*, upon "The State Aid to the State Agricultural Society," induces me to write you something on the subject.

You expressed the hope that the next Legislature would be composed of men who would not hesitate to follow the example of some other States that have made handsome appropriations to their agricultural fairs. It will be a shame if they should refuse to do so; but, from the present aspect, it will be composed of enough material to defeat anything asked for, organized as the Society is and has been for years. So you may consider it idle to look for any aid from that quarter, and it is equally certain that no change will be made in the organization or make-up as to the managers of the Society; for those who *have had* control, show an unaccountable degree of tenacity that is wonderful, and will always win. You can never look for any material aid from the city of Richmond, as long as they hold a deed of trust upon the Fair Grounds. It is a notorious fact, that the world has but little re-

spect, confidence or sympathy for any party that is forced to encumber themselves in this way. They lose all care and interest; both they and the property are appreciated only at half of its real worth. For years most of the Richmond people have taken no interest in its success. I have heard them say that they "would not give a copper to take the trouble to ride out to the grounds to see a parcel of horses and old cows; better ones they could see on the streets," &c. *These things* have ceased to attract them. If, however, you can by any means *draw a crowd* of country people, nearly every man and woman in Richmond will want to go to see it. City people (in particular) will always go to any entertainment if they are sure to see a crowd. They care but little for the entertainment; to see and be seen by the crowd is all they care for.

It is necessary, then, to resort to some means to induce the country people, all over the State, to attend the Fairs. We are fortunate in having General Wickham as president. He is a big railroad man; and, through his influence, I am sure that he can get all of the roads leading into Richmond, to agree to grant a *free* ticket to all life members attending the next *two* Fairs. I have always known, even in better days, when they had a plenty of money, nothing would sooner induce a country man to indulge in a trip than the privilege of a *free* ride on the cars (both ways). To get them away from home is the trouble; and if it can be done in this way, it will be the means of swelling the receipts, that will be ample to pay every dollar the Society owes, at the close of the Fair of 1884. The railroads have very unjustly charged *our own* people, proportionally, four times as much on *local freight* as they do on *through freight*. For instance: The Cincinnati shipper is favored with *low* freight and the Virginia farmer with a *high* freight. The same applies to the other roads. By these *high* rates, the companies have made a vast amount of money; and surely, to accomplish a most laudable object, and no very great loss or outlay to these companies, General Wickham can induce them to extend the privilege. If he can, let him issue a circular addressed to the farmers, and all of the papers in the State will gladly publish it, and with your paper reaching many of them, you will have ample time to put in your appeal, which you know how to do. Parties should canvass the State by the first of August, soliciting those who will likely be induced to pay their \$20 for life membership, and it will be found that these will compose those who are large shippers over the roads. All cattle dealers are always, I believe, given a free ride for a car load of stock, *whenever* shipped. The grain and tobacco shipper might be granted a free ride once a year,

provided he gives the State Fair \$20. Don't forget that *free lunch* business either; it will be a good thing. Nothing but life members to be admitted, and *no tickets* to be furnished to invited guests, be they high or low.

I have hastily written what I have thought might be for good, and I think it is with General Wickham and his associates to carry out this plan, to make a success of it. W.

[The author of this communication is a life member of the State Agricultural Society, and has always manifested a deep interest in its affairs.—ED. S. P.]

---

### THE GRAPE PHYLLOXERA.

[For the Southern Planter.]

This tiny foe to the grape-vine has attained great celebrity during the past few years, and much attention has been paid to the study of its life, history and habits, in the hope of devising some practical measures for its extermination. The destruction it has occasioned in France, has been so great that it has become a national calamity, which the government has appointed special agents to inquire into; large sums of money have also been offered as prizes, to be given to any one who shall discover an efficient remedy for this insect pest. At the same time it has made alarming progress in Portugal, also in Switzerland, in some parts of Germany, and among vines under glass in England. It is a native of America, whence it has doubtless been carried to France. It is common throughout the greater portion of the United States, and in one of its forms in Canada; but our native grape-vines seem to endure the attacks of the insect much better than do those of Europe. Recently, it has appeared on the Pacific slope, in the fertile vineyards of California, where the European varieties are largely cultivated; and hence, its introduction there will probably prove disastrous to grape culture there.

This insect is found in two different forms—in one instance, on the leaf, where it produces greenish-red or yellow galls of various shapes and sizes, and is known as the gall inhabiting; in the other and more destructive form, on the root, known as root inhabiting, causing at first swellings on the young rootlets, followed by decay, which gradually extends to the larger roots as the insects congregate upon them. The first reference made to the gall-producing form was by Dr. Fitch, in 1854. Early in June, these appear upon the vine leaves—small, globular or cup-shaped galls, of varying sizes. On opening one of the

freshly-formed galls, it will be found to contain from one to four orange-colored lice, many very minute, shining, oval, whitish eggs. Soon the gall becomes over populated, and the surplus lice wander off through its partly-opened mouth on the upper side of the leaf, and establish themselves either on the same leaf or on adjoining young leaves, where the irritation occasioned by their punctures causes the formation of new galls, within which the lice remain. After a time the older lice die, and the galls which they have inhabited, open and gradually become flattened and almost obliterated; hence, it may happen that the galls on the older leaves on a vine will be empty, while those on the younger ones are swarming with occupants. These galls are very common on the Clinton grape and other varieties of the same type, and are also found to a greater or less extent on most other cultivated sorts. The number of eggs in a single gall will vary from fifty to four or five hundred. They sometimes occur in such abundance as to cause the leaves to turn brown, and fall. There are several generations of the lice during the season, and they continue to extend the sphere of their operations throughout the greater part of the summer. By the end of September the galls are usually deserted. When on the roots, the lice subsist also by suction, and their punctures result in unnatural swellings on the young rootlets. These eventually decay; and this decay is not confined to the swollen portions, but involves the adjacent tissues, and thus the insects are induced to betake themselves to fresh portions of the living roots, until at last the larger ones become involved, and they too literally waste away.

During the first year of the insect's presence, the outward manifestations of the disease are very slight, although the fibrous roots may at this time be covered with the little swellings; but if the attack is severe, the second year the leaves assume a sickly, yellowish cast, and the usual vigorous yearly growth of cane is much reduced. In course of time the vine usually dies; but before this takes place, the lice, having little or no healthy tissue to work on, leave the dying vine, and seek for food elsewhere. During the winter many of them remain torpid, and at that season they assume a dull brownish color, so like that of the roots to which they are attached that they are difficult to discover. With the renewal of growth in the spring, the young lice cast their coats, rapidly increase in size, and soon begin to deposit eggs. These hatch, and the young ones shortly become egg-bearing mothers like the first, and, like them, also remain wingless. After several generations of these egg-bearing lice have been produced, a number of individuals about the middle of summer acquire wings. These are all

females, and they issue from the ground, and, rising in the air, fly, or are carried with the wind, to neighboring vineyards, where they deposit eggs on the under side of the leaves, beneath the loosened bark of the branches and trunks, or in crevices of the ground about the base of the vine. Sometimes individual root-lice abandon their underground habits and form galls on the leaves.

This is an extremely difficult insect to subdue, and various means for the purpose have been suggested, none of which appear to be entirely satisfactory. Flooding the vineyards, where practicable, seems to be more successful than any other measure, but the submergence must be total and prolonged to the extent of from twenty-five to thirty days. It should be undertaken in September or October, when it is said that the root-lice will be drowned and the vines come out uninjured. Bi-sulphide of carbon is stated by some to be an efficient remedy. It is introduced into the soil by means of an augur with a hollow shank, into which this liquid is poured. Several holes are made about each vine, and two or three ounces are poured into each hole. Being extremely offensive in odor and very volatile, its vapor permeates the soil in every direction, and is said to kill the lice without injuring the vines. This substance should be handled with caution, as its vapor is very inflammable and explosive. Alkaline sulpho-carbonates are also recommended. These are gradually decomposed in the soil and give off sulphuretted hydrogen and bi-sulphide of carbon. Carbolic acid mixed with water, one part of the acid to fifty or one hundred parts of water, has been used with advantage, poured into two or three holes made around the base of each vine with an iron bar to the depth of a foot or more. It is stated that the insect is less injurious to vines grown on sandy soils; also, to those grown on lands impregnated with salt. Since large numbers of these insects, both winged and wingless, are known to crawl over the surface of the ground in August and September, it has been suggested to sprinkle the ground about the vines, at this period, with quick lime, ashes, sulphur, salt, or other substances destructive to insect life. The application of fertilizers rich in potash and ammonia, such as ashes mixed with stable manure, or sal ammoniac, has been found useful. A simple remedy for the gall inhabiting type, is to pluck the leaves as soon as the galls appear, and destroy them.

To guard against its introduction into new vineyards, the roots of young vines should be carefully examined before being planted, and if gnats and lice are found upon them these latter may be destroyed by immersing the roots in hot soap-suds or tobacco water.

Our native American vines are found to withstand the attacks of this insect much better than do those of European origin; hence, by grafting the more susceptible varieties on the hardier sorts, the ill effects produced by the lice may in some measure be counteracted. The sorts recommended to be used as stocks, are those of Concord, Clinton, Herbemont, Norton's Virginia, Cynthiana, and Taylor. The Clinton, one of the varieties recommended, is particularly liable to the attacks of the gall-producing type of *Phylloxera*; but the lice are seldom found to any great extent on its roots, and the vine is so vigorous a grower, that a slight attack would not produce any perceptible injury.

---

## Editorial.

### WHEAT.

---

Before this issue of the *Planter* reaches its readers the wheat crop of the State will have been harvested, with now a prospective yield in excess of former years. This is encouraging; so that the farmer should enter upon his preparation for the next crop with renewed energy and a determination to bring to it all the skill he can command.

A year ago we had, in the pages of the *Planter*, a friendly discussion with Ex-Commissioner Pollard on the subject of this crop. We made a plea for it, whilst the Doctor thought—taking the State at large—money was lost by its cultivation, with individual exceptions where location and soil justified them. In our opinion there should be but few, if any, exceptions; for the general character of the soils and climate of our State is adapted to the crop, and all that is required is proper care in cultivation and manuring.

Too much is added to the wealth of the State by its wheat production to think of reducing it. Our efforts should be to increase it, and it can be *increased* largely on a much *decreased* acreage. The Government Reports, the last we have at hand, put the value of wheat raised in Virginia in 1881, at \$9,529,450; tobacco at \$2,677,907; Indian corn at \$19,312,000; hay at \$4,898,960, and potatoes at \$1,159,520. This shows the relative values of our principal crops, and wheat is second in the list.

We have no occasion for losing faith in the crop, but every incentive to press it to a higher production. This can be done by careful attention to the following points, and others which the mind of an earnest and intelligent farmer will suggest:

First. A clover fallow is the best to precede wheat, and should be

completed in August, if possible. If the growth of clover has been good on fertile land, then nothing more is needed except preparation for the reception of the seed. When the time of seeding arrives, say from 25th September to 25th October—the commencing and concluding days we mean—the land should be put in thorough condition by harrowing and cross-harrowing, and by rolling, if necessary. So that *time* and *manner* are essential elements in the preparation for this crop, as of others, and proper fertilization precedes both. If the growth of clover is light, and a lack of fertility is indicated, then manures must be applied. There are many ways of doing this, and, under varied circumstances, equally efficient. In most cases we should recommend several hundred pounds of ground bone, or what is better, by reason of cheapness, finely ground phosphatic rock (floats) and a hundred or so pounds of *kainit*, or potash salts, to be applied broadcast when the ground is being harrowed previous to seeding. If the wheat is drilled, which it should be, a hundred or more pounds of the same compounds may be put in by the drill, with the seed, in proper proportions—say three to one.

It is too late in the season to speak of the pea-fallow, which is a most excellent and the cheapest preparation for wheat and for land improvement, but farmers are beginning to learn its value, and its use is increasing. We may caution those who sowed their peas not to *turn them under* until vines and peas are matured, and a sufficient number of peas have been picked for seed another year. Pea-vines turned under when they are in full growth, green and watery, are of but little value. It will be far better to let them mature and rot on the land for the benefit of a spring crop than to *hasten a fallow* with unmatured vines.

Second. The next most important matter in connection with the wheat crop is a *careful attention to seed*. If you have no good wheat of your own raising, buy the best you can get after selling your own in the general market. Do not, however, be satisfied with this, but run the seed you get through your fanning mill, “all sails set,” and afterwards put enough for a day’s sowing in a tub of water strongly impregnated with salt. This can be most conveniently done at night, or rather in the evening. Take out the next morning, having taken off the floating grains when first put in the tub, and spread on a floor, and the wheat may be dried out quickly by sprinkling over it slacked lime, ashes, or plaster. So dried it may be sown broadcast, or with a drill, and the benefits will be that it will *prevent smut* and give vigor to the early growth of the plant.



Our system is one of *intensiveness*, by which one acre is made to produce more than two—aye, five.

In this connection we will quote from the *American Miller* what is said of methods of culture in *Belgium* :

“Belgium produces on its small unfenced farms the largest crops per acre that are raised in any part of the world. Farming is there a species of gardening. The wheat crop receives an attention commensurate with its importance. The seed is sown broadcast and thick in the fall, in carefully prepared beds of rich soil, and comes up thick, rank and strong, remaining all winter, covering the ground like a mat. In the spring the field is deeply plowed, harrowed and drilled, in rows from ten to twelve inches apart. The plants are pulled up, carefully separated and dropped singly at distances of from four to six inches. The planter follows the dropper with a trowel or paddle, makes holes and sets out the plants as one would strawberries. This is a tedious process, not adapted to one-hundred-acre lots or one-thousand-acre farms, but on the five-acre Belgium farm amply repays the labor. The plants branch into stools, producing several stalks, each with heavy heads of grain, and yielding at harvest from one hundred to one hundred and fifty bushels to the acre.”

We have made this extract with no purpose of advising the Belgian system in this country, except on small surfaces. Large *field culture* should, however, approximate the principles of the small areas in their intensiveness as nearly as possible.

We are tempted to mention how, several years ago, we were *transported in a dream* to the city of Brussels, and to the agricultural districts surrounding it; how we witnessed the thorough cultivation of all crops, mainly the small grains, grass and roots; and with what genuine hospitality we were received by the farmers. This *dream* made such an impression on our mind that we sought after the best books we could get treating of Belgian agriculture, and were surprised to find an accurate conformity with what we saw.

---

WEBSTER'S WISDOM.—Daniel Webster once said: Small is the sum that is required to patronize a newspaper, and well rewarded is the patron. I care not how humble and unpretending the gazette which he takes. It is next to impossible to fill a sheet with printed matter without putting something into it that is worth the subscription price. Every parent who has a son away from home at school, should supply him with a newspaper. I well remember what a marked difference there was between those of my schoolmates who had and those who did not have access to newspapers. Other things being equal, the first were always decidedly superior to the last in debate, composition and intelligence.”

# 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
Two inches.....	3 00	8 00	14 00	24 00
Three inches....	4 00	10 50	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.

 Reading notices, 25 cents per line, of brevier type.

## EDITORIAL NOTES.

### SWEET POTATO SEED.

During the recent session of the Virginia Baptist Association, we were very pleasantly associated for a few days with a genial and intelligent gentleman, who was a member of the body from Northampton county. Of course much of our conversation was directed to agricultural topics. The narrow peninsula in which he lives, embracing the counties of Accomac and Northampton, is a garden spot in our State. Only a few months ago we had occasion to mention the large production of potatoes—sweet and irish—in Accomac, amounting to more than a *million* of dollars *annually*. The production in Northampton, a smaller county, is in the same proportion. In addition to their potatoes and other garden trucks, they have their oysters and fish on the bay-side, with small fruits, which, together, make it a land of "creature comforts;" and, under proper culture and management, one which gives large pecuniary returns.

But we started to write of *Sweet Potato Seed*. Our friend communicated to us a new idea on this subject. It is this: The plan, which prevails elsewhere, of selecting seed from the general crop by taking out the largest and best roots for food and for sale, and thus leaving the small potatoes *for seed* is not practiced there. But after the main crop is planted out by slips or drawings from seed-beds, which is done as early as the spring weather will permit, another portion of land is prepared similar to the first, and when the vines of the first planting have grown about two feet long, say from the middle to last of July, some of these vines are cut from the hills, and then cut into lengths which will give *three eyes or buds* to each. These cuttings are then planted in the ground prepared for them with two *eyes, or buds, under ground and one* out. The distance of planting and method of culture is the same as with the main crop, and the roots thus raised are preserved for seed. Our friend told us that this plan gave better seed, which matured better crops several weeks earlier than when the seed used were the small potatoes taken from the general crop.

This plan is new to us, but still it may not be to experienced potato growers in Hanover, Nansemond, Norfolk and other counties this side of the Bay, and we have endeavored to find some reason for it. We think we see it in several respects by comparison with methods of seed selection of other crops. First: The small potatoes of the general crop are the *runts*, the last formed, or most feeble, and therefore, least able to produce early and vigorous roots. Second: In respect to corn, the *nub* or end of the ear last formed, is always rejected. Third: In respect to wheat and other small grains the largest and best grains are to be chosen.

We are not prepared to say that the largest and best potatoes of a crop, if used for seed, would not be the best, but we feel sure that the refuse roots of the general crop are not.

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

We are pleased to receive the Catalogue for 1883 of *Talbot & Sons*, of this city, their works being long known as the *Shockoe Machine Works*.

Their skill in the construction of steam engines, saw-mills, and general foundry work, has established for them a national reputation. They have branch houses in Charlotte and Goldsboro, N. C., Charleston, S. C., and Macon, Ga. It is the oldest establishment of this kind in the city, and has earned a character of which it may be proud. One fact we well remember, that after the panic of 1873, which seemed to fall especially hard on the iron foundries, and all were languishing, the Talbotts had all the work they could do or wanted.

Their Catalogue is, as we would suppose, filled with testimonials of the value of their machines.

HENRY T. MILLER & CO.—We have just received from this firm a package of half a dozen shirts of which we are proud by reason of perfectness of fit, quality of materials, and beauty of stitching. On the day we gave our order, our friend Miller invited us into his factory, and it was pleasing to see the order and good management which prevailed. As we approached the door, we heard the notes of a pretty ballad which was being sung by a number of female voices, and when we entered we saw a long table around which about thirty females, neatly attired, were seated, and in front of each was a *sewing machine*. These machines were propelled with rapid motion by a small engine, conveniently placed, the driving shaft being located under the table, so that no effort was required of the operators except to guide their work under the rapidly moving needles. Each machine was independent of the other, and each operator could stop or start at will by a simple contrivance. No physical labor was therefore required, and the operators seemed to be happy and contented.

Besides a large amount of custom work, this firm are turning out a large amount of

work for the trade, of a character which does their factory credit.

It should be patronized in every possible way, as one of the most interesting and useful industries of our city.

LARGE SALE OF HORSES, CATTLE AND SHEEP on the 5th of July, at *Hawfield*, the farm of W. G. Crenshaw, Esq., in Orange county.

We call especial attention to this important sale, as advertised on the first inside cover-page of this issue of the *Planter* which will reach the most of its readers in time for attendance.

No better opportunity has been presented in Virginia for a long time, if ever, for procuring good stock; and we urge all who desire to improve their stock of horses, cattle and sheep, to attend the sale.

We may be pardoned for saying a word or two of Mr. Crenshaw as we know him. In *ante bellum* times we were associated with him in the Executive Committee of the State Agricultural Society, together with such men as the Ruffins, Cocke, Edmonds, Newton, Ravenscroft Jones, old Buck Scott, Dick Irby, and a host of other leading farmers of the State in the order of their succession to the office. Mr. Crenshaw was always active, intelligent and efficient; and we heartily congratulate him on his *post bellum* farming success, although many of his old compeers now living have, under the troubles consequent on the war, almost, if not quite, gone to the wall.

HARRISBURG, PA., Nov. 18, 1880.

DR. B. J. KENDALL & Co.—Gents,—I have a very fine mare that has had a bone spavin for a long time. I tried everything man could devise to cure it, but all in vain, and was about to give it up when a friend, of mine in this city came to me and recommended Kendall's Spavin Cure, which I tried with grand results, removing that bane clear and clean. Then I sent 25 cents to you for one of your illustrated horse books, and I think there is no better book printed on the horse and his diseases. I have taken great interest in it, and have since sold eighteen copies for you to my neighbors, and will try and do what good I can by getting them for others.

Yours truly, G. W. MILLER.

EXTRA SPECIAL ISSUE OF THE AGRICULTURAL REVIEW, containing Proceedings of the Great Agricultural Convention at Chicago. In one volume of 300 pages.

This Extra Issue of the Agricultural Review embraces the full proceedings of what is destined to rank as one of the greatest conventions ever held for the discussion of practical topics. Held in the heart of the great agricultural producing section of the United States, it was made up of the best representatives of this great industry from all parts of the Union, and its deliberations were characterized by a degree of interest and intelligence such as few gatherings possessed; it presented the statemanship of agriculture. The subjects discussed were the most practical and important in the whole range of thought and experience, and embraced stock raising and feeding, ensilage, expositions, protection, free trade, marketing products, transportation, forestry, irrigation, fertilizers, reclamation of waste lands, under-drainage and other topics, while the writers and speakers included men of the highest reputation and the greatest ability. It is not too much to say that no more valuable publication has ever been issued in connection with agriculture than this extra number of the Review. Certainly none have contained a wider range of important subjects, nor abler discussion of them, while in the expense of gathering the information, preparing the matter, printing and publishing, no volume of the same size has cost so much. This issue will be long preserved by all who receive it.

FOR THE MISERIES of Dyspepsia, and they include almost every unpleasant feeling that belongs to physical disease and mental wretchedness, this potent remedy, Simmons Liver Regulator, is a certain and speedy cure.

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

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

SEVEN DECADES OF THE UNION.—The Humanities and Materialism, illustrated by a memoir of John Tyler, with reminiscences of some of his great contemporaries. The Transition State of this Nation—its Dangers and their Remedy. By Henry A. Wise. With a portrait. Cloth, \$2; sheep, \$2.50. The sale of this book is for the benefit of the widow of Governor Wise. J. W. Randolph & English.

The title of the book above announced brings to us a *work of love*. We had the personal acquaintance of Gov. Wise for more than twenty years, and we never knew a more genial, cultivated, and noble man. The book is on sale by Messrs. Randolph & English for the benefit of the widow of the Governor, and for this reason merits consideration. As a political history of the country from 1790 to 1860, it must be valuable and interesting.

For twenty years or more, the author was a prominent actor in the politics of the State and Country. He was withdrawn from political life from the commencement of the civil war, and we presume the book was written during the period intervening between the war and his death, and after the asperities of partisan strife had been softened down. We trust the book will have a good sale, not only for the benefit of the esteemed widow, but as an attestation of the noble character, great intelligence and forcible eloquence of the deceased Governor, as evidenced by his private intercourse with friends, and his public speeches.

HAVE you a lame horse? Call for Kendall's Spavin Cure. Read advertisement.

FARMING IMPLEMENTS IN DEMAND.—See the new advertisement in another column of this paper of the celebrated Newark Hay Rake and Improved Keller Force Feed, Grain, Seed and Fertilizing Drill, built by the Newark Machine Co., Newark, Ohio.

IMPURE BLOOD can be made pure—boils, pimples and other eruptions removed—the skin assuming a clear and healthy appearance—all by taking Simmons Liver Regulator, purely vegetable.

ATTENTION! every one. Have you heard of Kendall's Spavin Cure? See advertisement.

## MAGAZINES.

*The Popular Science Monthly* for June would have been an excellent number but for the article advocating the repeal of all laws forbidding the intermarriage of whites and negroes. This is a monstrous idea. It is somewhat surprising that a monthly of such high standing should publish such an article to be sent out to the public. The writer of the article, it is evident from its contents, was not entitled to be heard upon this or indeed any subject. It is looked upon as a very discreditable article, and the publication of it reflects no credit upon the Editor.

*The Harper Papers—Monthly, Weekly, and Young People*—evince, as usual, the enterprise and taste of the *Harper Brothers*. One or the other of these Journals should find its way into every family.

*The Century* and *St. Nicholas* are valuable family Journals, and the last issues received (June) contained an unusual supply of interesting and valuable reading. Parents should have them in their families for the edification of themselves and their children.

*The North American Review* for June has been received. The article on American Manufacturing Interests gives a concise and comprehensive account of the development of American manufactures. The writer of the article speaks in high terms of Alexander Hamilton, who recommended a vigorous system of protection and encouragement of American industries; in other words, he advocated a tariff system. "The Present Aspects of College Training," "The Abuse of Citizenship," "Incidental Taxation," are good articles; indeed the same can be said of all the pieces in this number of the *Review*. It is much to be regretted that this number mars its pleasant reading in the advertising of a remarkable story, in order to show the efficacy of a *Golden Medical Discovery*, the receipt for which we are informed was found in the luggage of a dead Zulu chief. If quacks are sincere and really wish to benefit the human family, why don't they give to the world the ingredients of their very surprising remedies that always cure and never kill. Supernatural ideas are as prevalent as ever, now in one form and again in another, which have clung to the science of medicine. Men who in every other respect are men of learning and good judgment, here, of all other places, seem to lose their common sense. The more of mystery about a man, or a drug, or a mode of treatment, the more does it develop this latent superstition, and hence so many find it to their interest to indulge in the myriad deceptions of quackery. "Put money in thy purse" is their motto.

## GOFF'S HAND-BOOK OF READY REFERENCE FOR ADVERTISERS—N. Y.

This is a book of 96 pages, and contains a list of all the principal literary, agricultural and other Journals in the United States, together with the principal dailies and weeklies, with their location, circulation, &c.; so that it is a ready hand-book of reference.

DYE'S GOVERNMENT COUNTERFEIT DETECTOR, office 1338 Chesnut street, Philadelphia, opposite the U. S. Mint. This is a curious and interesting book, and is of value to Bankers, and interesting to all who have an inclination to study the currency and coinage of the country.

THE BALTIMORE EPISCOPAL METHODIST says: "Simmons Liver Regulator is acknowledged to have no equal as a liver medicine, containing those Southern roots and herbs which an allwise Providence has placed in countries where liver diseases prevail."

## REPORTS, &amp;c.

*Meadows and Pastures*.—A compendium of the grasses of Tennessee. By J. B. Killebrew, A. M. Ph. D.

This is an interesting pamphlet of 136 pages, and is valuable to the farmers of Tennessee and other States. It is published by A. J. McWhirter, Commissioner of Agriculture. Thanks for it.

*Report of the condition of winter grain, the progress or cotton planting, &c.* May 1883. From Dep't of Agriculture.

*The Tennessee Crop Report* for April '83

*Annual Report of the North Carolina Agricultural Experiment Station*, for 1882.

*The Rowley Springs, Virginia*.—We have the Report of this most excellent watering place. We visited it with our family last year, and found it all that is claimed for it.

*This Hog of Mine*.—By H. W. Hill & Co., publishers, Decatur, Illinois. This is an interesting little publication on the subject of the hog, and gives the production in each State for the year 1880, in which we see the number in Virginia put at 956,451, or an increase of 42 per cent. in ten years.

*Illustrated Catalogue of, and Price List of the Eureka Incubator*. By J. L. Campbell, West Elizabeth, Pa.

This little book tells all about the subject of Incubation and the management of the Eureka machine.

# 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, Con-  
tagion 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 impercepti-  
ble 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 bot-  
tles, \$1. nov 1y

**\$1000 REWARD**  
For any machine hulling and cleaning fit for  
market as much Clover Seed in one  
DAY as the **VICTOR** **NEWARK** **MACHINE CO.**  
NEWARK, O.



Double  
Huller. It  
has made  
\$100  
often  
IN  
ONE  
DAY

**VICTOR**  
ILLUSTRATED  
Pamphlet mailed FREE.  
NEWARK MACHINE CO.  
NEWARK, O.

W. N. STAGE,

General Southern Traveling Agent,  
jy 4t Louisville, Ky.

**FEARLESS.**



**VICTORIES** The **only** machine that received an award on both  
Horse-power and Thresher and Cleaner, at the Centen-  
nial Exhibition, was awarded the two last **Gold**  
**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 Cyclopaedia of Applied Mechanics," re-  
cently published, thus adopting it as the **standard**  
machine of this country. Catalogue sent free. Address  
MINARD HARDER, Cobleskill, Schoharie Co., N. Y.

**UNEQUALED**

my3t

*"Texas Siftings!"  
The Great Humorous Weekly  
Illustrated = 5¢ a copy =  
Sold by all NEWSdealers.*

## Are you DEAF?

FERRIS' PECTORATIVE will INVARIABLY CURE  
YOU. It is endorsed by all home and foreign physi-  
cians 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 FER-  
RIS & CO., Piker Building, Cincinnati, O. july



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 circu-  
lar and price-list. fe 1y

**A YOUNG LADY** of some expe-  
rience, who is capable of giving in-  
structions in the English Branches, Mathe-  
matics, French, and rudiments of Latin  
and Music, desires a situation. References  
exchanged. Address, stating terms,  
jy 3t Miss L. D., Petersburg, Va.

## MT. VERNON INSTITUTE,

BOARDING AND DAY HOME SCHOOL FOR  
GIRLS. No. 46 MT. VERNON PLACE, BAL-  
TIMORE, MD Healthy and beautiful loca-  
tion. Mrs. M. J. Jones and Mrs. Mait-  
land, Principals, assisted by able profes-  
sors, languages practically taught. The  
twenty-third school year will begin Sep-  
tember 21st, 1883.

jy 3t

## Fast Potato Digging!

The Monarch Lightning Potato Digger  
Saves its cost yearly, FIVE  
TIMES OVER, to every  
farmer. Guaranteed to  
Dig Six Hundred Bush-  
els a Day!

Sent on  
30 Days'  
TEST TRIAL.



**Agents Wanted.**

Write Postal Card for Free Illustrated Cir-  
culars. Mention this paper. Address

Monarch Manufacturing Co., 163 Randolph St., Chicago, Ill.  
jy 3t

# H. M. SMITH & CO.,

MANUFACTURERS AND DEALERS IN

## AGRICULTURAL MACHINERY

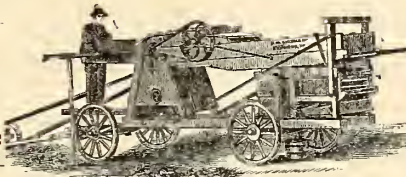
—AND—

## IMPLEMENTS.

### RICHMOND THRESHER, SEPARATOR and CLEANER

LIGHT DRAFT,

LOW PRICE,



THRESHES RAPIDLY

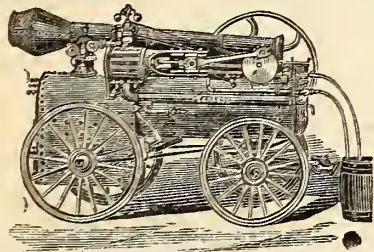
CLEANS PERFECTLY

THE SIMPLEST THRESHER IN THE MARKET.

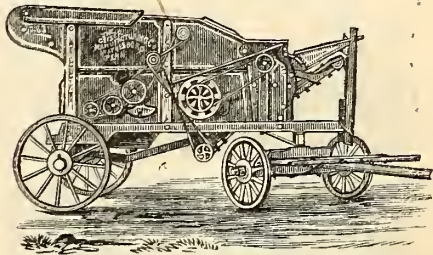
### RICHMOND HORSE-POWERS.

Especially adapted for running RICHMOND and GEISER THRESHERS AND CLEANERS. These Powers are furnished Mounted or Down, and warranted to give entire satisfaction.

### GEISER'S PATENT SELF-REGULATING



Perfect Steam Outfit.



### Grain Separator, Cleaner and Bagger

For 6, 8, and 10 Horses, and Steam Power.

### PORTABLE STEAM ENGINE.

THE PEERLESS—the most perfect agricultural engine made.

SATISFACTION GUARANTEED. Send for SPECIAL CIRCULAR.

## H. M. SMITH & CO.,

P. O. Box 8.

RICHMOND, VA.

# 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.

This large and splendidly illustrated newspaper is published **WEEKLY** at \$3.20 a year, and is admitted to be the best paper devoted to science, mechanics, inventions, engineering works, and other departments of industrial progress, published in any country. Single copies by mail, 10 cents. Sold by all newsdealers.

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 trial or seeing, and swindle 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.

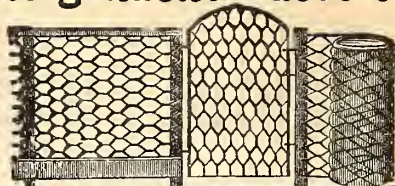
## JERSEY RED PIGS

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.

mh 1y

## Sedgwick Steel Wire Fence



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**. **Best Wire Stretcher and Post Auger**. Also manufacture **Russell's excellent Wind Engines for pumping water**, or geared engines for grinding and other light work. For prices and particulars ask hardware dealers, or address, mentioning paper, **SEDGWICK BROS. M<sup>rs</sup>. Richmond, and fe ly**

**\$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 every where 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.**

**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.** jan1f

## 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 Anlman & 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.

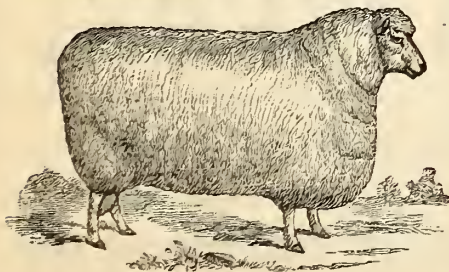
SAMPLE sent by mail upon application.

de12m

**DIPHTHERIA**

**ROUP, ASTHMA, BRONCHITIS.**  
JOHNSON'S ANODYNE LINIMENT will positively prevent these terrible diseases, and will cure nine cases out of ten. Information that will save many lives, sent free by mail. Don't delay a moment. Prevention is better than cure. I. S. JOHNSON & Co., BOSTON, MASS.

delyeot



**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.  
my—6t

**J. W. FERGUSON & SON,**

Book and Job Printers,

Cor. Fourteenth and Main Sts., RICHMOND, VA.

# 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.

FLCATS—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, Hand-Books, Agricultural Primers, and good Articles on Floats, Peas and Ash Element, Kainit, &c., address the

ASHLEY PHOSPHATE COMPANY,

N. B.—Special inducements for Cash Orders.

[6m]y]

ESTABLISHED 1865.

STANDARD GUARANTEED.

## ALLISON & ADDISON,

MANUFACTURERS OF

# FERTILIZERS

### “STAR BRAND” SPECIAL COMPLETE MANURES

FOR EACH OF THE FOLLOWING CROPS:

### TOBACCO, WHEAT, COTTON, CORN, OATS, VEGETABLES AND GRASS.

*Pure Flour of Raw Bone, Acid Phosphate, Ground Phosphate Rock, Sulphuric Acid.*

—DEALERS IN—

*German Kainit or Potash, Nitrate of Soda, Plaster, &c.*

OFFICE—1322 Cary Street,  
FACTORY—Opposite Rocketts, }

## RICHMOND, VA.

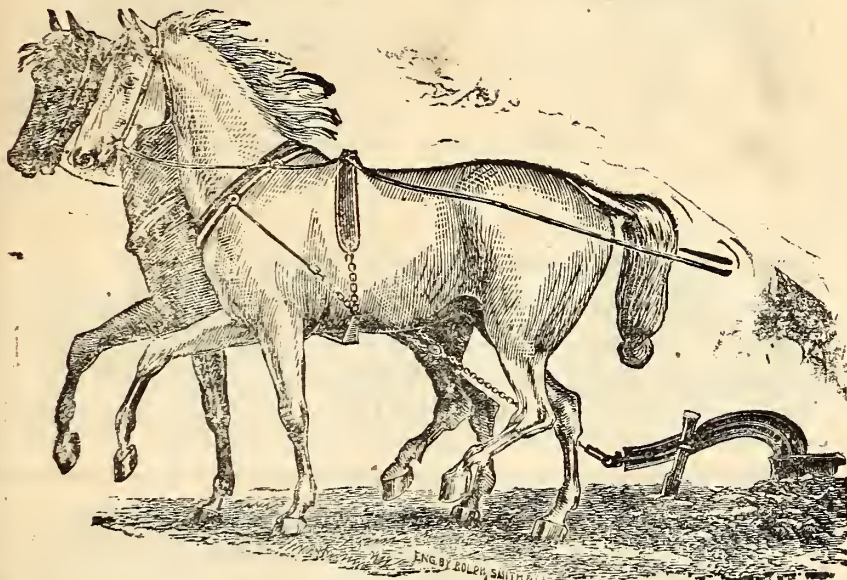
~~165~~ All orders and communications promptly attended to.

fe tf

# Coleman's Celebrated Plough Harness.

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

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



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. GARRESTER, 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,**  
**822 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.

# ELKHART CARRIAGE AND HARNESS MANUFACTURING CO.

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

No. 1. Team Harness

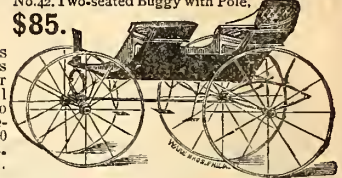
\$25.



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 \$130. Top Buggies at \$90 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.

ap 4t

Send for Catalogue and Prices.

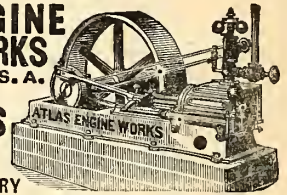


## ATLAS ENGINE WORKS

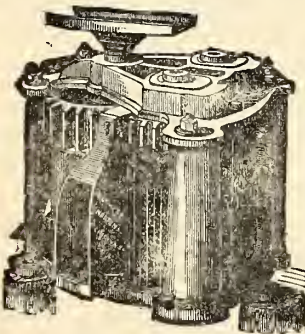
INDIANAPOLIS, IND., U. S. A.

MANUFACTURERS OF

**STEAM ENGINES AND BOILERS.**



CARRY ENGINES and BOILERS IN STOCK for IMMEDIATE DELIVERY



jelt

## 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.)

**BLMYER MANUFACTURING CO.,**  
CINCINNATI, O.

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

# LANDRETH PEDIGREE SEEDS!

THE U. S. MAIL BRINGS US TO YOUR DOOR!

The most extensive Seed Growers in America. Founded 1781. Drop us a Postal Card for our PRICED CATALOGUE. Address simply LANDRETH, PHILADELPHIA.

**REST**

not, life is sweeping by, go and dare before you die, something mighty and sublime leave behind to conquer time. \$65 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

Pamphlet free. Awarded Centennial Medal and Diploma, and other gold medals. **FRUIT DRIER** Best and Cheapest. Fortune to all who have Fruit to dry. Capacity, 50 lbs. to 10,000 lbs. Evaporated per day.

**AGENTS WANTED.** Chambersburg, Pa.

# MANHOOD



**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

THOROUGHbred

## SHORTHORN CATTLE.

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

**WISE** 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

## COAL and WOOD

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 spigot.

BENEDICT & CO.,

mytf

RICHMOND, VA

## Angelo Pearl Painting!

A WONDERFUL

### TRIUMPH OF ART!

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

Angelo Portrait Co.,

inyly

DETROIT, MICH



Address, TAYLOR MFG. CO.

(Please Mention this Paper.)

Chambersburg, Pa.

my—6t

— IT CURES —

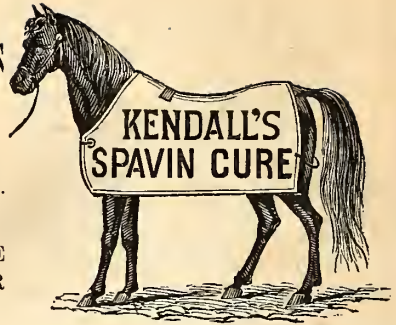
## SPAVINS, SPLINTS, CURBS, RING-BONES

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 got 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 gall, 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.

---

## 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.**

fe tf

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

---

## 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

BUY THE BEST!

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.,

MANUFACTURERS,

Cor. Ninth and Main Sts., Richmond, Va.

[ap 6t]

CHESAPEAKE AND OHIO RAILWAY

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,  
Gen'l Manager.

H. W. FULLER,  
Gen'l Pass'r Agent.

DR. HENRY FRÖHLING,

ANALYTICAL & CONSULTING CHEMIST

Laboratory: 17 South Twelfth Street,  
RICHMOND, VA.

**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

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 standing 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,  
Exchange Hotel.

mh 6t

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.

jan

# SIBLEY'S SEEDS

OF ALL PLANTS, FOR ALL CROPS,  
FOR ALL CLIMATES.

We are the largest farmers, largest seed growers and largest seed dealers anywhere; hence have greatest facilities for producing Best Seeds. All our Seeds are tested, and only the best sent out. Our Annual Catalogue and Price List brings THE GREATEST SEED STORE IN THE WORLD TO YOUR OWN DOOR. It includes all the desirable new and standard varieties of Flower, Vegetable, Field and Tree Seeds, and Plants. Sent FREE to any address.

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

Received Medal  
AND  
HIGHEST AWARD



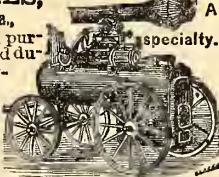
OF MERIT  
AT  
CENTENNIAL  
Send for Catalogue.  
SAWMILLS

## 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 gener-  
ally. Inquiries promptly  
answered.



specialty.

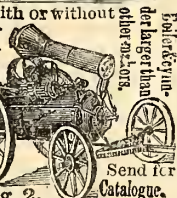
Fig. 1. Vertical Engines, with or without wheels, very convenient, economical and complete in every detail, best and cheapest Vertical in the world. Fig. 1 is engine in use. Fig. 2 ready for road.

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.

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



Send for Catalogue.

## The Farquhar Separator

(Warranted)

Penna.

Agricultural

Works,

York, Pa.

Lightest draft,

most durable,

simplest, most

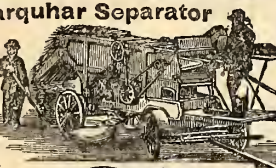
economical

and perfect in

use. Wastes no

fuel, cleans it

perfectly for market.



Steam Engines, Horse Power and Thrashers of all kinds. Also, Ploughs, Cultivators, &c.

AND  
HIGHEST PRIZE  
AWARDED  
SEPARATORS.



THE  
SILVER MEDAL,  
AT  
Paris Exposition.

Send for Catalogue. Address A. B. Farquhar, York, Pa.

sep 1y



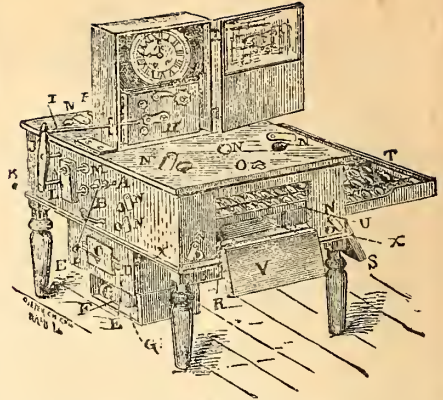
## ELASTIC TRUSS

Has a Pad differing from all others, is cup shape, with Self-Adjusting Ball in center, adapted self to all positions of the body, while the Ball in the cup presses back the Intestines, thus preventing hernia with the Finger. With light pressure the Hernials held securely

Day and night, and a radical cure certain. It is easy, durable, and cheap. Sent by mail. Circulars free.

EGGLESTON TRUSS CO., Chicago, Ill.

fe 1y



## EUREKA!

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

## MEN, WOMEN, BOYS AND GIRLS!

A liberal cash commission, besides a chance to win a 750-acre Texas Farm, a New Upright \$500 Piano, and a number of other valuable prizes, given to agents who solicit subscriptions for *Texas Siftings*, the Celebrated Humorous Illustrated Weekly. Send name on postal for specimen copies and instructions.

SWEET & KNOX,  
Publishers, Austin, Tex.

## 26,999 NOW IN USE.



All persons say their goods are the best. We ask you to examine our Improved Keller Positive Force Feed, Grain, Seed and Fertilizing Drill and our Hay Rakes. They are as good as the best, and can be sold as cheap. All are warranted. Circulars mailed free. Newark Machine Co., Newark, Ohio, Eastern Branch House, Hagerstown, Md.

W. N. STAGE,  
General Southern Traveling Agent,  
Louisville, Ky.

## 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

## ELLERSLIE FARM. THOROUGH BRED HORSES, Shorthorn Cattle, Cotswold Sheep, AND BERKSHIRE PIGS

FOR SALE. Apply to R. J. HANCOCK  
June 1y Overton, Albemarle county, Va.



# 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 J. M. Blanton, have recently undertaken the analysis of every brand of Fertilizer, in the State. The Report of the work done in that respect, by Prof. W. I. Gaspe, the well known Chemist of the Department, during the Fall Season of 1882, has 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:

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

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. Mallett, 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 \$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.

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

---

# TRIUMPHANT EVERYWHERE

---

The Famous Butterworth Patent

## THRESHER AND SEPARATOR.

HAS MORE GOOD POINTS,

LESS COMPLICATION OF PARTS,

IS MORE DURABLE

And does more and better work than any other Thresher now in use

It was awarded the Highest Premium at Virginia State Fair, 1882, by actual test of work, in competition with sixteen of the most noted Threshers of the United States. It also received Highest Award, a Silver Medal, at South Carolina Industrial Exposition 1882; also, Silver Medal and First Premium at North Carolina State Fair, three successive years, 1880-'81-'82.

---

### THE BUTTERWORTH DOUBLE-PINION HORSE-POWER.

This Power is acknowledged to be the most simple, substantial, and easiest running Lever Horse-Power made. Its durability is beyond all question, the various parts being specially and carefully constructed to that end, and the distribution of gearing, journals and boxes, is such as to give the greatest accessibility to all its parts, so that every bolt, nut, part and piece is easy to get at to repair or replace.

ILLUSTRATED CIRCULARS OF THRESHERS AND HORSE-POWER SENT ON APPLICATION.

**WHEN YOU PLOW** Try **WATT'S CHILLED PLOW**  
Guaranteed to be the Best General Purpose  
Plow in Use.

SOLD SUBJECT TO APPROVAL BY TRIAL.

FARM WAGONS with Truss Rod Axles. THE STRONGEST MADE

WALKING AND RIDING CULTIVATORS. IRON FRAME CULTIVATORS.

CORN SHELLERS, STEAM FODDER AND ENSILAGE CUTTERS

— PLOW CASTINGS OF ALL KINDS. —

FARMING IMPLEMENTS GENERALLY.

SEND FOR CATALOGUE.

**WATT & CALL,**

1518 and 1520 Franklin Street, RICHMOND, VA.

---