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THE SOUTHERN PLANTER

DEVOTED TO

AGRICULTURE, HORTICULTURE, LIVE STOCK AND THE HOUSEHOLD.

T. W. ORMOND,	PROPRIETOR.
W. C. KNIGHT,	EDITOR.
A. J. BARRY,	ADVERTISING DEPARTMENT.

43d Year.

JULY, 1882.

No 12.

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—THE—
SOUTHERN PLANTER.

DEVOTED TO

Agriculture, Horticulture, Live Stock and the Household.

Agriculture is the nursing mother of the Arts.—XENOPHON.
Tillage and pasturage are the two breasts of the State.—SULLY.

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

43RD YEAR. RICHMOND, JULY, 1882. No. 12.

PRIZE ESSAY.

ON MIXED FARMING, INCLUDING THE KEEPING OF LIVE-STOCK, POULTRY
AND THE DAIRY, AND THE PRODUCING OF FRUIT FOR THE MARKET,
WITH RECOMMENDATIONS AS TO THE BEST ROTATION OF CROPS
FOR THE SOUTHERN ATLANTIC STATES FROM
MARYLAND TO SOUTH CAROLINA.

By AUBREY H. JONES, of ESSEX COUNTY, VA.

[One of three Essays awarded equal prizes by the *American Farmer*.]

In response to the very liberal offer of the proprietors of the *American Farmer* of prizes for a series of essays upon the various systems indicated in its December number, I have decided to write an article upon number one, as delineated above; but before entering upon the subject in hand, I must be allowed to say that no system can be recommended to apply to either of the States above named in their entirety, but must be restricted to soils of similar formation and character. No system adapted to the Tidal Section would be exactly suited to the Middle Division, far less the Piedmont Section of these States. I shall therefore confine my treatise to the first named—the Tidewater Section of this country.

In recommending a system for this section, it must be remembered that these lands, with few exceptions, though originally fertile, have been worn down by excessive tillage; and it should be the aim of every proprietor to so manage his farm as to keep up a steady improvement

consistent with reasonable returns. To this end, the farm should be so divided as to admit of frequent recurrence of green fallows as the most feasible mode of supplying vegetable matter. Take for example a farm of three hundred acres, forty acres of which should be in timber for fuel and building purposes, two acres for a vegetable garden. This may be set out at convenient distances in small fruits for family use without interfering with its proper cultivation, such as strawberries, raspberries, currants, gooseberries, dwarf pears, quinces, plums, and damsons. Six acres should be appropriated to a lawn. This should be well set in mixed grasses and a variety of shade trees tastefully arranged should be planted throughout its full extent. Nothing contributes more to the beauty and health of a homestead than such a lawn, while it may be made more profitable than a like number of acres in cultivation as a range for the poultry, and at times affording fine grazing for horses, calves and a few mutton. Two acres more should be appropriated to stock lots around the barn and truck patches, for farm use. Ten acres should be taken for an orchard of apples and peaches, and such varieties should be selected ripening in succession as best suited for market. This leaves two hundred and forty acres of land for cultivation, provided a standing pasture of fine grazing marsh is found on the tract, which is the case with most farms. On the water courses, where this is not the case, forty acres with a stream running through it, if to be had, should be set apart as a permanent pasture. The remainder should be divided into five fields as nearly as possible of equal size—say of forty or forty-eight acres each. The fields should all connect, if practicable, with the barn. This can easily be done if the buildings are in the centre of the farm, otherwise they should be divided as to be accessible as possible. The fields having been laid off should be fenced with a substantial enclosure, with gates at convenient points. To describe the system and mode of culture, I would number the fields 1, 2, 3, 4 and 5.

Field No. 1 comes in corn. I would recommend thorough plowing, but the soil should not be broken more than one-half inch deeper than the usual shallow plowing ordinarily pursued. While deep plowing is advantageous in most soils, it should always be very gradual. After the field is broken up it should have several thorough harrowings and be gotten in as fine tilth as possible, for it is far better that half the work of the corn crop should be done before it is planted. I would recommend after the first harrowing the application to the land, broadcast (if in good heart) fifty bushels of lime; if poor, twenty-five or thirty; the additional harrowing will incorporate

it with the soil. Oyster shells are to be had in Baltimore or Norfolk merely for the expense of removing them, and will be freighted along the bay or up the rivers contiguous as back loads by vessels for two cents per bushel. Nearly all the farmers in this Tidewater section have a surplus of wood; where this is the case I would recommend the purchase of these shells and burning them on the farm, which can be done in winter by the farm hands. A bushel of shells will yield, if properly burnt, one and one-fourth bushels of lime, so that the absolute cost would not exceed four cents per bushel for the lime slaked and ready for use. This, of course, would be recommended for farmers only on or near water courses. Where several miles distant, marl would probably be cheaper and answer as well. Marl abounds in almost every neighborhood throughout the Tidewater section of these States.

Lime is the basis of all permanent improvement for this region, and should be used regularly in the rotation. Field No. 1 should remain in corn stubble until the following spring, say May, then lightly flushed with the plow, and seeded the last of May or first of June (oxen may be used to facilitate the work, if desired) in peas, (black or shinney), broadcast, from one to one and one fourth bushels per acre. In the fall, when ripe, enough should be picked for the next crop, and the hogs intended for pork should be allowed to follow the pickers a few hours each day with a boy to watch and keep them together; they are very fond of peas, and in a few weeks will be nearly fit for pork, requiring very little corn to harden the flesh and fit them for the butcher. The field should then be fallowed and seeded in wheat, with mineral phosphate (non-ammoniated), as the peas will furnish sufficient ammonia for the crop of wheat. The following winter or spring clover should be seeded and allowed to stand until the next spring, which brings us to the fourth year, when I would advise the sowing of a bushel of plaster to the acre, say in February or March, and when the clover has made its full growth, which will be indicated by one third of the heads turning brown, I would cut enough for hay for farm purposes and graze the balance with beef cattle to fit them for the June market. This field should be fallowed for wheat in the fall; the next year, after the wheat is taken off, this field should be grazed closely by all the stock on the farm, and in July and August all the manure and coarse litter should be spread on the thinner portions of this field preparatory to its coming in corn the next year, which is the sixth year.

This completes the rotation for this field; the same rotation is to apply to each of the others. It will be seen that we have one field in corn, two fields in wheat, one which is on pea fallow, the other on

clover; one field on pea fallow and one on clover, a sufficiency of the latter to be harvested for hay, the balance pastured. It will be observed that this system gives us two green fallows in five years. The pea fallow is a very cleansing one, and fits the soil admirably for clover, which follows; this, together with the manure on the farm, will rapidly improve its condition. The corn fodder should be secured in good order and time, both blades and tops, for the stock on the farm, but when sufficient clover can be harvested, the pulling of fodder may be dispensed with and the corn cut up in the fall with the fodder on it. An oat crop should be raised every year as a change of feed for work teams. Eight or ten acres of the corn stubble may be seeded, and when harvested, this may be seeded in peas. By this system strictly carried out and by accumulating all the manure which can be raised, the farm will rapidly improve and the product increased from and at the beginning of the second rotation at least 25 to 50 per cent., and in some cases 100 per cent. When the farm has sufficiently improved to justify it, that is, the soil abounds in vegetable matter, the pea fallow may be abandoned and the corn stubble put in wheat, to be seeded the following spring in grass. This would give a two years' crop of grass, which would justify the mixing of the grasses, sowing orchard or timothy with the clover, which would greatly improve the hay as well as the pasture. It should be borne in mind that the most successful farming will always tend to the increase of the grass crop. It is an axiom which will not be denied, that where most grass abounds there most prosperity will be found, and *vice versa*. This being so, it should be the settled purpose of every farmer to bring his land up to that state where most of the land may be left in sod and but little cultivated. All the stock should be kept on the farm that can be properly cared for. Sheep are very profitable when well sheltered and fed in winter, while their flesh affords a delicate and healthy dish. When penned at night and the pens well littered, they will accumulate a large amount of valuable manure and are not so apt to be depredated on by dogs. Ten or twenty beeves should be fattened every winter and topped off in May on the clover field with corn, so as to fit them for the June market, as this is the best time to market them in this section, avoiding the flies and mosquitoes, which greatly annoy them later.

A large surplus of pork should be raised; the marshes afford them fine pasturage in winter and spring, and when the wheat crop is removed from the field they should have their noses ringed and turned in to glean the fields and allowed to remain until the pea fallow is ready for them, when they should go on this until the field is seeded

in wheat, when they should be penned and fed corn a few weeks. By this means one barrel of corn would suffice to make one hundred pounds of pork. It should be the object of the proprietor to consume all the corn raised, which, if judiciously done, will pay him handsomely, say twice as much as if marketed. Poultry should be raised to the full extent of the proprietor's ability to keep them and well cared for, as nothing pays better. The dairy should have the same attention, as the surplus from these sources help materially to swell the farmer's revenue. The fruit trees, especially when young, should have close attention, be pruned regularly, cultivated and examined frequently for insects, which should be effectually destroyed. It would be well when the orchard is young to sow it every spring in peas, to be turned in in the fall; this would serve as a mulch and rapidly improve the soil. In conclusion, will say, I have been enabled only to touch upon many subjects which should have been more fully treated, but for want of space. The thoughtful farmer, however, will be enabled to pursue them to their legitimate results.

AGRICULTURAL INVENTION.—A NEW PLOW ATTACHMENT.—Mr. Thos. P. Wise, of Gravel Hill, Buckingham county, Va., has patented a new and improved attachment to be secured to the land side of a plow, which will cut away a slice of surface of the soil, between the plow and the plants to be cultivated, removing the grass and weeds and carrying them into the furrow in the rear of the plow. The standard of the plow is of ordinary construction, and is provided with a series of recesses and holes, to which an inclined horizontal cutting blade provided with a shoulder on its inner end and a threaded screw may be attached by a corresponding nut, and may be adjusted up or down, as desired. The blade may be cast so as to be slightly elevated at its outer end when attached to the standard. The cutting edge of the blade projects out forward beyond the upper edge of the mould board and in line therewith. A wing is firmly secured to the outer end of the blade at right angles to it and parallel to the land side of the plow, and at its rear end is bent inwardly. The front end of the wing is provided with a downwardly projecting hook, adapted to run under vines and cause them to ride over the upper edge of the wing, the rear bent end carrying them into the furrow.—*Sci. Amer.*

A wise man who does not assist with his counsels, a rich man with his charity, and a poor man with his labor, are perfect nuisances in a commonwealth.—*Swift.*

LETTER FROM DR. POLLARD.

Editor Southern Planter :

You request an occasional contribution from my pen. I would be glad to comply if my health and time permitted, particularly if I could subserve the interest of the farmers by so doing, and advance the interest of your useful journal.* There is one subject that presses itself on my attention, or perhaps several, connected more or less with one another. Whether the farmers on the south-side of the State should extend the cultivation of cotton; whether they should not abandon or diminish their tobacco crops; whether they should not attempt to substitute some more profitable crops, and whether they should not raise more stock and grass, are the points to which I have reference. Where cotton and tobacco are raised the lands do not improve. It is true, if the cotton seed were returned to the land there would be no depreciation of the soil, but they are so valuable a feed, and bear such a good price, that the temptation to sell is often too strong to resist, and as their value becomes more generally known, the demand and the price will probably increase. Now, after oil is abstracted, they sell in Richmond (in the powdered state) at \$32 to \$33 per ton. Cotton requires clean land, and the planter looks on grass as his enemy. Frequently one crop of cotton follows another, and is never followed, as far as we know, by clover or the grasses. In a trip from Richmond to Atlanta last fall (November), we saw no grass except a little plot occasionally near some homestead. Even the rich valley of the Roanoke, where the railroad crosses, nothing greeted the eye but naked land, where wheat, we suppose, had been cut. If this land was sodded with good grass, it would support large herds of fat cattle, such as we see continually grazing on the meadow lands of Holland. The consequence of this want of grass is, that you see through all the country mentioned but little stock, and that of a scrubby character. Where tobacco is the main crop, every other crop must give way to its needs and require-

* Though an associate editor of the *American Farmer*, of Baltimore, I see no cause of rivalry between the two journals. I wish every farmer in Virginia and the United States could be induced to take them both. They are the old pioneer journals of this country. The *American Farmer* was founded in 1819, and the *Southern Planter* in 1840 by Chas. T. Botts, brother of J. Minor Botts. Every farmer who expects to prosecute his business successfully, should take several agricultural journals as a means of becoming acquainted with his calling. A successful farmer and stock-breeder, Mr. A. P. Rowe (near Fredericksburg) wrote me some time since that he took *twelve* agricultural journals, and that he believed each number of each journal paid for the year's subscription. A very intelligent gentleman of Richmond, who conducts successfully a farm in the vicinity, and who is a subscriber to the *American Farmer*, said to me recently that he never read a single number of a good agricultural journal that he did not think he was paid for the year's subscription.

ments. It must get all the manure raised on the land; it must be worked and worked, and suckered and topped and housed, regardless of the attention and labor other crops require. Like "time and tide, it waits for no man." Then, no other crop keeps the farmer so long out of his money—for twelve months from the time his labor commenced on it. It is true, that wheat generally succeeds well after tobacco, and that clover may generally be successfully seeded on the wheat, but very few farmers do this in the tobacco region, the land frequently going back to tobacco after wheat. Then wheat is not a profitable crop on the highlands of Middle Virginia. We think the returns by Census of 1880 show the average of the wheat crop for Virginia to be between eight and nine bushels per acre. Deducting cost of seed, putting in wheat, preparing and sending to market, which will be at least \$5, leaving out interest on land, cost of any fertilizers to be used, and where is the profit? This we shall use as an argument for attempting more profitable crops than those at present raised. Of late years tobacco has certainly not been a profitable crop, except to those who have the proper soil for "bright" tobacco, and have learned the art of making and curing it, which few have. If tobacco culture is to be continued, planters should turn their attention more to "bright."

The history of nations has been the history of soil exhaustion, and the only remedy for this is the raising of grasses and stock, liming as a means of raising clover and grass, green fallows, proper rotations and proper cultivation of lands. No part of the country, we are afraid, is repeating this history of soil exhaustion more emphatically than the tobacco and cotton regions. Many a farm in the old Cotton States has been exhausted, abandoned, and the fresher and more productive lands of Arkansas and Texas settled on, to be in turn exhausted. We should take warning from the history of the Eastern nation. We behold Egypt, once the "granary of the world," with its teeming population, in most of its territory, now almost a desert. So of all North Africa to Morocco. So of the peninsula of the Mediterranean, which once contained the power that ruled the world; that power departed with the fertility of the soil, and it now contains one-half the population it once fed. So of Spain, which the Moors found a paradise of fertility, but the exhausting process soon dispelled their Elysium, and their once productive fields teeming with food, now poorly repay the hard labor expended on them. Palestine, that once "flowed with milk and honey," has seen its glory depart, and its fertility exchanged for barrenness. The Anglo-Saxons of Western Europe, and the Chinese and Japanese (forced by dire necessity to support a teeming population) have been

wise enough to arrest in a measure this process of exhaustion, but still the fact stands out, as we have stated, that the history of nations, as a general rule, has been the record of the impoverishment of soils. We heard an intelligent farmer raised on lower James river, now living on upper James river, state a few days since, that formerly fifteen bushels of wheat was considered an *average* yield per acre of tolerable good wheat lands, but that now it is considered an *extra* yield. He attributed this to too thin seeding of wheat, of which he had at one time been an advocate, but now was convinced he was wrong. This may have been partly the cause. (We are an advocate of thicker seeding than that generally pursued, and believe the practice of farmers will change in this respect. The present admirable wheat crop is an argument in favor of thick seeding—almost *every* grain came up, and *none* has been killed.) But we think the main cause has been the exhaustion of soils, and particularly the loss of phosphoric acid by constant cropping, and of the want of nitrogen, which clover and grass fallows would furnish. The prosperity of a country may always be measured by the quantity of stock raised. Look at the Valley and Piedmont Virginia; at England, Ireland, Scotland, Belgium and Holland, with their fertile fields and teeming stock. The English farmers declare they could not keep up the fertility of their lands without sheep. (See Report to House of Lords of a commission instructed to inquire into the state of the wool trade, etc., in Great Britain in 1826.) But to return to the cotton, as a crop for Southside Virginia. The amount of nitrogen (ammonia) taken off in this crop is greater, perhaps, than in any other, and unless the seed are restored to the land the exhaustion must be very decided, and, as we have said, the temptation now is very great to sell the seed. A writer in a late number of the *Central Presbyterian*, who seems to be familiar with cotton culture, thus expresses himself (commenting on an article I wrote on this subject for the *Dispatch*):

“The want of adaptation of the climate is a very important consideration, unless there is some great advantage offered by better facilities for market or something of a kindred nature. I do not believe that any region, by nature less favorable, can compete successfully with another in the growth of a crop perfectly adapted to its climate. But even this is not the most important objection to cotton growing in the Southside. The absolute lack of proper implements for its cultivation, as well as manipulation, and the want of familiarity with, and skill in, all the operations connected with cotton on the part of labor in Virginia would, of themselves, for a long time, inevitably make it an unprofitable crop, if nothing else did. Those not familiar with the management of the crop will hardly appreciate this till they make an

experiment, but a long residence by the writer in the cotton country taught him that it took two or three seasons at least for Virginia negroes to become nearly so expert as those trained from youth. Then, too, in the matter of ginning and baling, there are absolutely no provision in this part of the country. The seed cotton would have to be shipped probably hundreds of miles to reach the nearest gin, and since there are two pounds of seed to one of lint, and freight would be charged at local rates, that of itself would consume a fair margin of profit. On the whole, as much as I am in favor of progress and opposed to unthinking conservatism, I think with Dr. Pollard, that the cotton idea is a railroad scheme, and would be found to be progressive in the wrong direction if undertaken in Virginia."

In a future article we propose to speak of some new industries which should be encouraged in Virginia—notably, sorghum for syrup, and grapes and winter apples for Piedmont, the Mountain and the Valley regions; with probably early and fall apples, particularly the old-fashioned Virginia cheese (the most valuable ever raised), for Middle and Tidewater. In these sections winter apples will not do, they mature too soon.

Henrico.

TH. POLLARD.

We commend the article of our valued correspondent to the careful attention of the readers of the *Planter*. Concurring in the sentiments expressed in their general substance, we wish only to add a *plea* in behalf of wheat. We are not willing to have it laid aside, as, under proper management, it is as sure of good results as any crop we can raise. It cannot be dispensed with under any system of good rotation. Clover precedes and follows it with better effect than any other cereal crop, and the results are the best in the improvement of the land and for increased yield of grain. Dr. Pollard accurately states the average yield of wheat in Virginia, according to the Census report of 1880, as between *eight* and *nine* bushels per acre. On this he bases his calculation that there is no profit in the crop, and we readily admit that with such a yield there is not only no profit, but really a loss. The *general average* is not the proper basis on which to found a calculation of the capacity and profit of this or any other crop. This would be notably unjust to those farmers who cultivate on sound and just principles. To illustrate: A is a farmer who puts no land in wheat which has not fertility enough to produce a good crop—this fertility arising from a previous rotation and fertilization, or some direct application of a proper manure. The land is thoroughly prepared, and the seed, in proper quantity and well selected, is sowed in good time, and his field is protected from the trespasses of stock. He has four or five neighbors who are regardless of the conditions he observes and enforces, and they *sow, when sowing time comes*, on poor and illy prepared land, and *blindly* think they have done their duty. A *reaps twenty-five* bushels to the acre, which pays him well, but his five neighbors have possibly *five* bushels to the acre, by which no profit is made. How, then, is the general average? A, one acre, twenty-five bushels, and the five neighbors five bushels each, or a total of fifty bushels, with an average of the whole of eight and one-third bushels. It is unjust, therefore, to measure A's profits by the united yield of his own and his neighbor's crops. This illustration will apply to a whole State, or States, and justly so, for every observer will see the large acreage in Virginia which properly fits the case of the *five* neighbors of our exemplary farmer A.

Our correspondent has said something about *thick and thin* sowing of wheat. We have

our theory, as well as practice, on this question also, and it does not accord with his views. Hereafter we may have something to say on this branch of the subject.—ED. SOU. PLANTER.

DR. J. L. M. CURRY'S LECTURE

BEFORE THE CONNECTICUT STATE TEACHERS' ASSOCIATION AT HARTFORD,
OCTOBER 28TH, 1881.

In May we received from the Secretary of this Association a copy of his report, entitled, *Prevention of Illiteracy a National Obligation*, and as courtesy demanded, gave it a brief notice in our issue of June 1. In this notice we made special mention of Dr. Curry's lecture, and rather dissented from the single expression, "that the South rejoices that the negroes are free." In its connection we regarded this expression as too broad and *unqualified*, and our dissent only amounted to this: That the South accepted the freedom of the negro and would protect him in the full enjoyment of it, and is in accord with all proper educational schemes for his benefit, but we do not think the South could rejoice in the manner of his freedom, or that, without education, he should have been *at once* thrust upon his section as a *voter* for partizan and political purposes. We think that all who read Dr. Curry's lecture can reconcile our criticism and see that there is no difference between us, and that our brief comment did the Doctor no injustice. Some of our readers who have seen our comment, may not have seen the full text of the lecture, and therefore we give it now, with the full belief that our readers will be interested and instructed by it, and that its classical and forcible style and substantial arguments will add to the reputation of the Doctor as an earnest thinker, and an advocate of all that will contribute to the welfare of his own section and of the whole country.

I esteem it a privilege to address an assemblage of Connecticut educators. Those who have achieved such distinguished success in their own State, are most likely to regard with kindness and patience the efforts of the friends of education in other States to place their school systems on an equally permanent and satisfactory footing. There is much false reasoning about education, as about other things, from ignorance of the facts. Prior to the war, the South was not a Botany Bay, nor a heathen land, nor wholly destitute of Academies, Colleges and Universities. By the census of 1860, the white population of the North was about 19,000,000, and of the South about 8,000,000. The North, at that time, had 205 Colleges, 1,407 professors, and 29,044 students, while the South had 262 Colleges, 1,488 professors, and 27,055 students. For these institutions, the North expended \$1,514,688, and on academic institutions, \$4,663,749. For similar institutions, the South expended respectively \$1,662,419 and \$4,328,127.

In war, diplomacy, jurisprudence and politics, the South had some share. Washington, Jackson, Scott and Taylor; Marshall, Taney, Legare and Rives; Calhoun, Madison, Clay and Polk; Henry, Forsyth

and Jefferson were respectable men and not the outgrowth of barbarism or of an inferior civilization. Some of our cities and towns, Charleston and Mobile for instance, had well-sustained and efficient public schools, but the admission is frankly made that in free public schools the South was deficient and very far behind the North.

It may aid in a proper understanding of the subject to inquire briefly why universal free education languished at the South before the war, and I have no hesitation in saying that African slavery was the chief reason. Slavery was not the offspring of yesterday. It was the slow and gradual growth of hundreds of years. The slave-trade was coëval with the settlement of the Colonies and was encouraged by statutes and by royal proclamations through the reigns of Elizabeth, the Stuarts and William III. Lord Somers declared the trade to be highly beneficial to England. In 1760, South Carolina passed an act prohibiting the importation of slaves, which Great Britain rejected with indignation. Massachusetts, at an earlier day, had fitted out a vessel, put aboard the Africans landed on her soil, and sent them back to their native land, and her early anti-slavery acts were frustrated by the Mother-country. As one of the justifications for independence, Jefferson introduced into the original Declaration of Independence, the refusal of Great Britain to heed the remonstrances of the colonists in opposition to the introduction of slaves. Several States of the Union continued the slave-trade until our government prohibited it. Few persons have any conception of the persistency and strength by which slavery was fastened and riveted upon the Southern States. While English courts, with a great flourish of trumpets, were declaring Somerset free, Great Britain was forcing slavery on the colonies of the New World. Old England and New England and the South are responsible for slavery, and diatribes and recriminations and legislation, unfortunately, cannot eradicate the mischiefs and misery of its introduction. A Greek historian advised his countrymen when they cast their mutual failings in one another's teeth, to go home, each with the burden of his own misdoings.

The Dutch vessel which, in August, 1620, six months before the Mayflower landed its noble cargo on Plymouth rock, entered James river with twenty negroes for sale, was a Pandora's box, full of dire calamities for the South and America. It is said that the same ship which brought the Pilgrim Fathers afterwards brought slaves to this country. However that may be, from small beginnings slavery grew, and from various causes slave labor was profitable in the South. Slavery sparsified our population, created a kind of aristocracy, among whom, as Burke said, "freedom was to them not only an enjoyment but a

kind of rank and privilege." Slave-owners held baronial estates, were surrounded by a host of menial dependents, lived luxuriously, dispensed a cordial and magnificent hospitality, "combined with the spirit of freedom the haughtiness of domination," and free public schools became unnecessary or impossible. Slavery retarded increase of population and diffusion of wealth. Norfolk was once larger than New York and had more exports. Free labor, governmental discriminations and general education reversed this condition. Slave-labor is more costly than free labor, concentrates labor and capital on a few products, discourages manufacturing and higher mechanical pursuits, and thus prevents dissemination of wealth and the development and growth of varied industries.

The sudden abolition of slavery was the most wonderful social and politico-economical revolution that ever occurred, and stands out on the historic page in startling isolation. The South rejoices that the negroes are free. The war decimated our white male population, paralyzed industries, closed schools and colleges. It was followed by a new and untried labor system, by the depreciation and ruin of securities, by bankruptcy of corporations, by harsh and irritating social and political frictions, and by some peculations and robberies that put to blush the "Prætors, Præfects and Quæstors, the host of plunderers" that came "at the heels of Lucius Muræna, the Proconsul,"—and these various causes brought universal depression and impoverishment. Take a few illustrations. The taxable property of Georgia in 1860 was about \$750,000,000; in 1880, \$238,000,000. In 1860 the wealth of the State, exclusive of the value of slaves, was over \$500 per capita. In 1880 the wealth per capita is about \$150. The taxable property of Virginia in 1860 was \$585,099,382.77; in 1880, \$324,955,980. Dexter A. Hawkins, Esq., says: "The assessed valuation for taxation of property, real and personal, in North Carolina, South Carolina, Florida Georgia, Alabama, Mississippi, Louisiana and Texas, in 1860, was \$3,244,239,406; in 1870, \$1,830,863,180—a shrinkage in ten years of 43½ per cent." We may epitomize the status of the South as ruin of landed interests, destruction of incomes, encumbered estates, heavy burdens, collision of races, mortification of defeat, disorganization of society, upheaval of everything regarded as fixed and stable, small immigration of permanent citizens, flocking of vultures, hopelessness and despair. This is descriptive of the intelligent and subjugated race. Add the negroes, suddenly emancipated, intoxicated by freedom naturally misunderstood and misapplied, deluded by false and wicked promises, inflamed into a suspicion and distrust of their former masters, and

in a state of abject poverty with nothing but physical health and freedom.

Macaulay, in graphically describing the inquiry by Parliament into the affairs of India while under the control of Lord Clive, represents the indignant officer, after stating the position in which his victories had placed him—princes dependent on his pleasure—opulent cities afraid of being given up to plunder—wealthy bankers bidding against each other for his smiles—vaults piled with gold and jewels and thrown open to him alone—as exclaiming, with an oath, “Mr. Chairman, at this moment, I stand astonished at my own moderation.” So after this recital of stubborn facts, the American patriot must contemplate, with devout astonishment and gratitude, the increasing harmony of the reunited States, the fellowship of feeling elicited by the patient fortitude and untimely death of the murdered President, the rapid recovery of lost wealth, and the marvellous transformation in habits, thoughts, educational systems and civil institutions of the lately belligerent and impoverished States of the South.

Notwithstanding the drawbacks and obstacles, the South has made cheering progress in the work of universal education. In the lapse of a few years every Southern State has incorporated into organic law and put upon the statute-book a system of free, public instruction. Every State has a Superintendent of Schools. Communities are supplementing by local taxation the State revenues. Educational journals are published in seven States, and Normal Schools are rapidly growing into favor. While a few “old fogies,” too rigidly conservative, honestly oppose gratuitous instruction, the general sentiment is healthy, as is evinced by the lack of organized opposition, by the generous and intelligent advocacy of the press, and by the decided expressions of approval in party platforms and by candidates for office.

In some localities there is an unequal distribution of the means of education. While there may be occasionally an accumulation beyond local wants, generally the educational districts are necessitous. In 1785 and 1803, Congress in organizing territorial governments reserved the 16th section of every township for schools in that township. In 1848, the reservation was doubled, but no Southern State gets the benefit of this princely increase.

From the school officers of every State comes up an earnest cry for more money. Sagacious purposes and patriotic endeavors are hampered, if not defeated, by deficiency of means.

The education afforded during a few brief months is insufficient and imperfect, far below what is required by the increasing intelligence of

the age for success in business, for the right discharge of the duties of citizenship and of true manhood and womanhood.

Much of the power used in schools is wasted from misdirection, from not being economically or scientifically applied. Schools need more efficient superintendence; school teachers are not recognized as public functionaries, nor adequately rewarded. Teaching is not duly appreciated as an art, a science. The utmost diligence, the wisest and most liberal efforts, need to be put, and kept continuously, in operation for training teachers, and fitting them in intelligence, accomplishments, tastes, habits, social respectability, and professional skill, for their peculiar and most important work. In the execution of their sacred trust, the Peabody Trustees, in pleasant coöperation with the State systems of instruction, are seeking to stimulate and aid the Southern States in the better preparation of teachers for public schools.

Of more importance is the fact that multitudes of our fellow citizens are in a state of perilous ignorance, perilous to themselves, perilous to us, for whose education there is, and in present circumstances can be, no adequate provision. This is a present and positive peril. Year after year, an ignorant and needy race, is "spawning in the prolificness of wretchedness." Swarms of neglected children are growing up "into hordes of ignorant, idle and, too often, depraved and vicious and godless men and women." We are committing political suicide to hide our heads or avert our eyes. Let us with searching gaze look upon the present and onward into the future, "with the prescience which requires no gift of prophecy"—only the employment of sober reason and enlightened patriotism.

What is now a *present* need will become heavier and more imperative to-morrow. How shall it be met?

(1.) Private and ecclesiastical benefactions have been munificent, but they are spasmodic, inadequate, not in continuous succession, and are liable to misapplication. It is chimerical to suppose that individual benefactors or churches can achieve the great and permanent work of universal education.

(2.) Grandly as the Southern States have done, it is impossible for them to supply sufficient funds for the daily multiplying demands. State resources are inadequate to maintain and perfect the machinery now in motion, to keep schools in activity for eight or ten months in the year, to build and equip houses, and train and pay teachers. The South has a school population of about 5,000,000, and pays annually for common school education over \$7,000,000. To educate universally and properly would require an annual tax of \$30,000,000 or \$40,000,000,

and it is absurd to ask or expect the South to raise for free education three times as much as Connecticut or New York does.

(3.) The sum, sufficient to maintain a comprehensive and permanent system of free schools—ever improving and flexible in its adaptation to shifting exigencies—must be furnished in large measure by the Federal Government. National aid is indispensable. The Government must deliberately and courageously determine, as an imperative duty of self-preservation, to aid the States in keeping alive and improving *their* systems of public instruction. The cost of the education of the people will be more than repaid in better regulated and more thoroughly developed industry, in fewer demands of poverty, in social order, in checks on improvidence, waste, pauperism and vice. The duty of the Federal Government to render prompt and substantial assistance can be placed on grounds higher than mere material good. This is an era of centennials. Review of the past, congratulations on the present, casting the horoscope of the future, engage million minds and tongues and pens. The growth of our country outstrips imagination. We smile complacently as we read Abbè Raynal's prediction, made at the beginning of this century, that our population would never exceed ten millions. In area, population, means of transportation, products, our growth has been immense. We felicitate ourselves that our experiment of self-government has been thus far a success, and yet the glory achieved only enhances the magnitude of the trust, the weight of the responsibility, to transmit unimpaired and fortified the representative institutions we have inherited. The basal idea of those institutions is the civil equality of man as man, independent of distinctions of race or birth or property. Suffrage is not an inalienable right but an accident, or, at best, a matter of wise expediency. It is not based on manhood, on mere physical attributes. Behind the ballot should stand intelligence, integrity, freedom, patriotism. Such writers on the English Constitution as Montesquieu and Blackstone, in writing on suffrage, concur that those should be excluded from voting whose situation is such that they cannot be presumed to have a will of their own, or, what is equivalent, an honest or independent or intelligent will. The elective franchise, as conferred by State and Federal Governments, is not likely to be withdrawn or restricted. Having been granted, it behooves us to see that the boon shall be an instrument of good and not of evil. It seems a truism that education and the privilege of voting should be coëxtensive. One invested with this prerogative of freedom, having such potencies, should obviously be able to read the names on the paper, which accomplishes noiselessly in America what in other

lands requires standing armies or a revolution. Mere suffrage is not a safeguard against oppression or dictatorship. It does not necessarily ensure peace, prosperity or a virtuous administration. A mass of ignorant voters awakens fearful apprehensions. The adult illiteracy in the United States is appalling. The aggregate vote of the United States at the presidential election in 1889 was 9,204,428. The vote in the Southern States was 2,763,508. Of the 1,580,000 illiterate voters in the United States, the Southern States furnished 317,281 white and 820,022 colored. In Connecticut no citizen unable to read his ballot is allowed to vote. That is for your protection, but the illiterate voter in Louisiana or South Carolina may affect you as seriously as an illiterate voter in Hartford. In the last presidential election, a multitude of the voters did not know whether their "tickets" contained the names of the electors for Garfield or for Hancock. A large portion of such men vote as dead machines, are the tools of demagogues, and are quite as likely to ostracise Aristides and sustain repudiation as to uphold the virtuous and rebuke dishonor. This illiteracy is a standing menace to republican institutions. It is a temptation to political profligacy and dishonor. It is a severe strain of what Heraclitus, according to Sir William Temple, called "the only skill or knowledge of any value in politics, *the secret of governing all by all.*" It summons every patriot, in every part of the Union, to take prompt and efficient steps for its cure or removal. This problem of national help, closely allied to Civil Service Reform, overshadows all questions of party politics, as "Free Governments must stand or fall with Free Schools." O that some broad-minded statesman, like your own Hawley, would espouse the cause of the imperiled Republic and consecrate unceasingly his noble powers to the cause of universal education!

Much of this illiteracy at the South is among the negroes. For it they surely are not culpable. The Government has made them its wards. The North gave them freedom. That is your unshared glory. We at the South rejoice as much as you possibly can in the emancipation of the slaves, but we had no part nor lot in the achievement. You had much to do in introducing them into the country. You liberated them, you made them citizens, you enfranchised them. If the Constitution gave power to free and enfranchise, then why "stick in the bark" about educating them and fitting them for freedom and citizenship? As I heard last week at Yorktown from one than whom New England has furnished none nobler and purer (Mr. Wintrop): "Slavery is but half abolished, emancipation is but half completed, while millions of freemen with votes in their hands are left without

education." During the civil war, gigantic sacrifices and limitless expenditures were made to save the Union. There are other enemies more insidious and dangerous than organized hosts in battle array led by experienced commanders. An influence, noiseless and unseen, poisons society, corrupts the fountains of justice, sits like a juggling devil over the ballot-box, makes elections a farce and a crime, causes demagogism and fraud to run riot, puts incompetence, conceit and villainy in high places and endangers the ark of our free, representative institutions.

Our last four presidents, looking over the whole country and speaking with broad patriotism and official weight, have united in urging the necessity of governmental aid. Gen. Grant, in his message, announcing the ratification of the fifteenth amendment, says: "I would call upon Congress to take all measures within their constitutional power to promote and encourage popular education throughout the country, and I call upon the people everywhere to see to it that all who possess and exercise political rights shall have an opportunity to acquire knowledge which will make their share in the government a blessing and not a curse."

President Hayes, in 1880, repeats and enforces a former recommendation. "The means at the command of the local and State authorities are, in many cases, wholly inadequate to furnish free instruction to all who need it. This is especially true where, before emancipation, the education of the people was neglected or prevented, in the interest of slavery. Firmly convinced that the subject of popular education deserves the earnest attention of the people of the whole country, with a view to wise and comprehensive action by the government of the United States, I respectfully recommend that Congress, by suitable legislation, and with proper safeguards, supplement the local educational funds in the several States where the grave duties and responsibility of citizenship have been devolved on uneducated people, by devoting to the purpose grants of the public lands and, if necessary, by appropriations from the treasury of the United States."

President Garfield, in his inaugural, uses these emphatic words: "All the constitutional power of the nation and of the States, and all the volunteer forces of the people, should be summoned to meet this danger by the saving influence of universal education."*

* Since this address was made, President Arthur in his message adds his voice to that of his predecessors.

"There is now a special reason why, by setting apart the proceeds of its sales of public lands, or by some other course, the government should aid the work of education. Many who now exercise the right of suffrage are unable to read the ballot which they cast. Upon many who had just emerged from a condition of slavery, were suddenly devolved the responsibilities of citizenship in that portion of the country most impover-

The Bureau of Education has through its accomplished head, ably and persistently pressed upon Congress this national duty. The Trustees of the Peabody Education Fund, through a committee, consisting of Hon. A. H. H. Stuart, Chief Justice Waite and Hon. W. M. Evarts, have, in a very able paper, memorialized Congress on the vital necessity of national aid for the education of the colored population of the Southern States.

A foreign traveler, in the early part of this century, predicted the universal adoption of the French tongue by civilized nations, thought it a not unreasonable requisition that the Americans should adopt the French as their vernacular. Our mother-tongue, as the vehicle of thought and feeling, as the record of what English-speaking people have wrought for literature and science, for popular and religious freedom, can not be readily surrendered, but we can strive to rise to the height of the great responsibility, and adopt, as our national motto and aim, the inscription upon the gigantic statue to be erected in the harbor of New York by some enthusiastic French admirers of our country—**LIBERTY ENLIGHTENING THE WORLD.** Let it be our high endeavor and exalted privilege to give new meaning and lustre to the sacred name of Liberty, by separating it from all crude notions of license, of lawlessness, of arbitrary dominion of mere numbers, of passionate and reckless individualism, and by identifying it with self-imposed restraints, clear recognition of the equal rights of others, Law, Justice, Truth, Honor enthroned and regnant, and Order as having the sanction of the Almighty. Let it be ours, as well to enlighten the world, not by fierce propagandism, not by making our conceits the standard for other peoples, not by Procrustean uniformity, not by unholy crusades, not by deeds of violence and blood, but by the mild and persuasive teachings of virtuous example, establishing the supremacy of man over mere accidents and contingencies of birth, race and fortune, the capacity of the people for just and honest government and liberal institutions, and demonstrating that popular will is legitimate and authoritative only when intelligently and freely expressed in accordance with preordained forms. Thus we may present to the world a people, moral, upright, frugal, industrious, truthful, vindicating the inalienable rights of man and walking in the liberty wherewith the Christ has made them free.

ished by war. I have been pleased to learn from the report of the Commissioner of Education that there has lately been a commendable increase of interest and effort for their instruction; but all that can be done by local legislation and private generosity should be supplemented by such aid as can be constitutionally afforded by the National Government. I would suggest that if any fund be dedicated to this purpose it may be wisely distributed in the different States according to the ratio of illiteracy, as by this means those localities which are most in need of such assistance will reap its special benefits."

HORSES SHOD AND UNSHOD.

BOTH SIDES OF THE QUESTION.

As there are always two sides to all questions, I desire to say in reply to G. F. N. in regard to horse shoeing, while I favor and practice using horses without shoes when practicable, suppose for his "two-fold" reason or any other, that shoeing be discontinued say for one year, who does not know, that knows anything about the matter, that the result would be disastrous in the extreme, and that rather than shoeing being a "mistaken kindness," the discontinuance of it would be cruelty intolerable. Who does not know how utterly unfit a bare-foot horse is for pulling any load over a frozen and icy road, while in deep soft snow the bare feet are all right? How long would the majority of our horses endure driving over any stony, gravelly, or any kind of hard roads without shoes? I venture to say not long, before the driver would be subject to arrest for "cruelty to animals." While a few of the best feet might stand ordinary driving on ordinary roads pretty well, and where they can stand it, it is all right, but where they cannot it would be all wrong. While shoeing in many cases may be injurious, not shoeing in many more would be more so. In the case of Dr. Perkins, he may have done just right and still be no argument in favor of discontinuing horse shoeing. His horses may have had excellent feet, and like many another Doctor's horses, but little driving, or even as is very common in Virginia, smooth nice roads. Some may say, if the horse needs shoes, nature has been very deficient in his construction. The same may be true of man, still he thinks he needs shoes. Nature evidently has not made the horse with a view to all the uses he is put by man with a harness on and a big wagon attached. I think if she had she would have put on shoes also. The horse in his natural state needs no shoes, nor will he venture on glare ice or very slippery places, but when man gets hold of the lines and forces him on such places, it stands to reason that short sharp corks is a kindness and the discontinuance of them a cruelty. There may have been "bold riding fox hunters" who enjoyed the dare-devil feet of galloping over ice with a barefoot horse, but if we could have the testimony of the horse, from my own experience of riding and driving, I believe he would say he did not enjoy it. Let's hear from the other side.—*C. C. L., Nicollet Co., Minn., in Farmers' Review.*

What will Dr. Perkins say to "smooth, nice roads in Virginia"?—Ed. S. P.

PLANTS WITHOUT EARTH.

SOMETHING ÆSTHETICAL, IF NOT PRACTICAL.

We have received a copy of the *New York Mail and Express*, with an article marked "with the compliments of L. S." It presents a subject which may be interesting to some of our readers, and we make the following extract. If our Journal shall fall under the eye of our unknown friend, *L. S.*, we hope he will be able to inform us on these points: first, what kind of moss is used; second, is the fertilization of it done by an artificial process; third, if so, what is the process, and if this is the inventor's secret, where can the fertilized moss be obtained, and at what cost?

To cultivate plants without earth had long been the dream of chemists; after years of patient study the gardener of Vasœuil has discovered a means of giving continued life and nourishment to plants, without their being brought in contact with the soil. All he does is to wrap their roots up in some moss to which he has imparted this life-giving power. This "fertilizing moss" is not only capable of affording nourishment to all kinds of vegetable life, but will do so indefinitely.

Since November, 1880, the date at which his researches proved successful, he has been constantly testing his process, and has never found the least interruption in the vegetative functions of the plants subjected to its influence; on the contrary, winter and spring plants have blossomed with a vigor he has never seen in his garden. With the shelter of a glass, hellebores taken up at the end of November and the middle of December have remained two and a half to three months in blossom. Other plants, primrose, daisies, violets, auriculas, have not only been in bloom for three months, but have thrown out new buds.

At Vasœuil we saw plants loaded with blossoms which had been in the fertilizing moss for weeks. The public in Rouen and Paris have, during the past year, had frequent opportunities of beholding again and again the process in full operation in the exhibitions of flowers and vegetables which M. Dumesnil has given.

It is manifest that this discovery will indefinitely increase the facilities for the floral decorations of interiors. There is scarcely any kind of vessel in which the plants cannot be arranged. Since M. Dumesnil perfected his discovery, he has had all kinds of ordinary flowers blooming in baskets containing the fertilizing moss. On the occasion of any fete, even Christmas, his tables have been covered with a profusion of spring flowers, and he has been able to decorate his rooms with a freedom impossible with plants growing in earth. Thus, while nature outside lay frozen and dead, the interior of his house has been a blooming parterre.

The practice of adorning rooms with plants is so agreeable a one, that few persons like to be told that it may prove a source of disease. A Russian lady suffering from intermittent fever was attended by Prof. Edward von Eichwald, of St. Petersburg. The disease readily gave way to quinine, but returned again and again in the most inexplicable manner. At last the cause was discovered: when she left her sick room convalescent, she went into the salon, a large room filled with plants. Prof. von Eichwal ordered the room to be entirely cleared, and the fever returned no more. Such malignant effects are impossible with the fertilizing moss, it cannot turn sour like earth and poison the plants or contain germs of malaria and poison their owners.

There appears to be no practical difficulties in carrying out the process. The one all-important point is to preserve the roots of the plant from being torn or otherwise mutilated, and from being brought into close proximity with the fertilizing moss. In taking a plant from the earth, M. Dumesnil removes the mould about the roots by placing it in slightly tepid water. Having prepared, in the basket or vase intended for the plant, a bed of fertilizing moss, the quantity being regulated according to the strength of the plant, he places over it a layer of ordinary moss of similar thickness. He then takes the plant and, spreading out the roots, fastens in the ordinary moss, covering the whole with another layer of the fertilizing moss. A little water is given at first and the moss always kept *slightly* humid. If the change from the earth to the moss is made with intelligence, the plant soon exhibits all the beauty and freedom of life, its satisfaction in its new conditions being shown by the quantity of rootlets it throws out.

Other gardeners besides M. Dumesnil have tested the process and testify to the same results. M. Cabos, director of the public gardens at Havre, has, since the 22d of November last, been cultivating in the fertilizing moss dracæni, alternantheri, crotons, and cocoonut trees, all hot-house plants; as well as palm trees, chamærops and the *Pteris Arguta* had developed numerous new roots in the moss. None of these plants had lost a single leaf, nor had even faded at the time of their transplantation. In a fortnight they had completely taken possession of the moss, and had thrown out new leaves. In the chamærops two or three long roots of the thickness of a quill had appeared—one of the best indications of the vigor of a young palm tree. The old roots had developed a quantity of fine rootlets. The *Cocos binoti*, and the various kinds of dracæna, all very delicate, had also produced new roots, and were in perfect health.

On December 9th he submitted a number of ordinary greenhouse

plants to the process with complete success. All the plants preserved their vigor, and their health continued as if nothing had happened.

On the 17th, he placed in the fertilizing moss a *Eucalyptus globulus*. This shrub has the reputation of not bearing transplantation; however, it scarcely faded. Two *Cuphea bazli*, equally difficult subjects, were put into the moss on the same day, and gave no appearance of suffering from the change. The culture in moss of the *Eucalyptus globulus* is the more important, as this celebrated shrub has the property of disinfecting the air, and is beginning to be used in sick rooms.

It will be observed that these perfect results have been obtained by practiced horticulturists. Amateurs must not expect that this process in any way dispenses with attention to the ordinary laws of vegetable life. Happy results will depend as heretofore on the degree to which the plants are loved and cared for.

The object in the cultivation of vegetables being increased, and regular productiveness the plan adopted by the gardener of Vasœuil is to place their roots, enveloped as above described, in an ordinary bed of mould. The results are most satisfactory. We saw at Vasœuil as many as thirty-five potatoes, the produce of one mother tuber. Thus the poorest land may be made to teem with rich crops, the soil being of no importance, the earth merely affording room and shelter for the plants. Seedlings and cuttings are raised in the same way. In fact, the process seems to have all the characteristics of a great discovery; perfection in principle and indefinite powers of further development.

The discovery of a nourishment applicable to all forms of vegetable life is the primary fact in the Dumesnil culture. The fertilizing moss agrees with every kind of plant, those that grow wild, as well as exotics, herbaceous or ligneous, ornamental, or for food. By its fostering power with plants, natives of the Pyrenees, the Alps, the Carpathian Mountains, the Caucasus, and the Himalayas, introduced, during recent years, into English gardens, will, by this process, flourish under a simple glass all the year round.

M. Dumesnil's innovation rests on an idea justified by physiological laws, the extremely abundant development of the rootlets of plants when permitted to spread themselves out in a medium less dense and as rich as the most fertile earth. All the applications of the discovery are derived from this truth, proved by experience. This explains the increase in the returns of vegetables grown in the earth and of their powers of vital resistance against frost and inclement weather, when their roots are covered with a bed of fertilizing moss.

Thus, as this new discoverer has said in summing up the work of

Palissy: "Not only does science manifest herself to those who seek her, but she gives more than the knowledge they seek. Palissy sought white enamel; he found a new art, the art of enameling in color. It is the confirmation of the maxim—'Give, and it shall be given unto you.'"

COWBOYS.

Who they are and what they are.

"PONY BILL" GIVES A GRAPHIC DESCRIPTION OF THE WESTERN CATTLE BUSINESS AND THE MEN OF "GRIT AND LEATHER" WHO CONDUCT IT.

[Written for the *Georgia Telegraph and Messenger*.]

Very general interest in cowboys and their calling being excited by recent events in Arizona, possibly you may find space for some explanations under the above caption. Having for some years been a cowboy himself, drawn cowboy's pay, and endured the vicissitudes of cow-camp life, the writer knows practically whereof he writes.

On returning to his native South to enjoy for a time what Eastern people are pleased to call civilization—though you'll find a very high type of the latter article in settled regions west of the Mississippi also—the cowboy in nearly every paper picked up finds some abusive article about cowboys. It reminds one of the time when the people of the West were edified daily by the productions of the "Outrage Mills" and their account of "Southern Outrages" on colored voters.

Only a few weeks since, your own *Telegraph and Messenger* in "skinning" some writer who had been "shooting-up" a little, over the signature of "Jayhawker," used the word cowboys as figurative of all that was infested and contaminating. Every hum of the telegraph wire flashes eastward to the Associated Press some electrical bosh about outrages by Arizona cowboys. Even good motherly old President Arthur has deemed it necessary to issue a couple of manifestoes concerning them.

Not in defence of Arizona cowboys particularly, nor yet of any violators of law and order, but for the sake of thousands of respectable cowboys earning honest and useful livings in the cattle business, which adds millions yearly to our national income, the writer is impelled to this screed.

Who, then, are cowboys? The name cowboy originated in Texas, and is applied to those hired to herd and handle cattle raised wild on

the prairies. The life being outdoor and full of hardship and danger, requires a healthy, wiry, active man to endure it. Nearly all those following it for wages are young men, hence the name cowboys. Cattle-man and stock man is the more dignified term used in referring to cattle owners and live stock raisers. In Old Mexico, California, Nevada and Arizona, where Spaniards are largely employed in the business, and where Spanish is more or less spoken, the cowboy is called a *Vaquero*, *bar kay ra*, a cowherd. In Buenos Ayres and the vast Pampas of South America, on account of his nomadic life, he is called a *Guacho*, *gwah-cho*, a motherless, fatherless, homeless one. In Australia he is called a stockrider. In Colorado, Wyoming, and nearly all the Rocky Mountain grazing region, he goes by the ridiculous name of cowpuncher.

Cowboys working on the range are called rangemen, those hiring to drovers to drive herds over the trail to market or some shipping point, are called trailmen. The main duties of a rangeman is to break broncos (tame wild horses), lasso, trim, brand, mark and herd cattle.

The principal duty of a trailman is to herd and drive cattle on the trail. This in large herds requires experience and judgment, so that cattle may reach their destination in good condition.

A full range outfit consists of a foreman (in California called *Padron*), a cook, day horse-herder, night horse-herder, and from four to eight cowboys. This force is sufficient to handle from 3,000 to 8,000 head of cattle on the range, according to the smoothness or roughness of the country.

A full trail outfit consists of a foreman, cook, horse-herder, two pointers, two flankers, and four drivers. With this force from 1,000 to 1,500 of Western cattle, and from 2,000 to 3,000 head of Colorado natives or Texans can be driven over the trail at an average speed of eight to ten miles per day and to a distance of 500 to 1,600 miles. For shorter distances a speed of twelve to twenty miles per day is often attained. Whether on range or trail, the cowboy has sufficient always of danger and hardship to endure, but it is on the long "drives" over the trail, often lasting over six months, that all the grit and sand in his nature are needed to enable him to "stay with it" till the drive is done. Between hard riding all day, sleepless hours on guard around the herd at night, rain, hail, snow, frost, blistering hot days on the treeless plains, blinding, suffocating dust, half-wild bucking ponies, stampedes, the possibility of losing his scalp, sometimes short rations, and almost daily stagnant and alkaline water, the trail-man needs to be made of good leather to last well.

Whether on range or trail, each cowboy has "spotted" out to him, for his own exclusive riding, from three to six ponies. These, like the cattle, are raised wild and free on the range till caught to be broken. They seldom become entirely gentle, but are always more or less wild and intractable. Whenever needed for use they have to be "roped" (lassoed), and every mother's son of them will buck whenever it feels fresh and lively. This bucking is a vice peculiar to the Western horse. The writer has never seen a horse bred east of the Mississippi river buck. Bucking consists of bowing up the back, lowering the head, and jumping stiff-legged, just as a buck deer does when killing a snake, hence the name. If an inexperienced rider is subjected to a severe bucking, he is apt to wish he had never been born. The jar is simply agony, and riders have sometimes suffered concussion of the brain, bleeding of the lungs, and died from bucking. From 50 to 125 head of ponies, according to size, are sufficient for one outfit. They are small, and it is simply astonishing how the diminutive little grass-fed ponies will carry a rider and riding rig—about 200 to 250 pounds—all day long in a sweeping lope that covers easily forty to sixty miles. There are several breeds of them, prime favorites among which are the Mustangs of California and Texas, and the Indian pony of the Northwest.

The method of raising and handling wild cattle may be stated thus: In winter the cattle, unherded and uncared for, run loose wherever they please. In the spring the various outfits go out on a general round-up. Every day all the cattle within a radius of ten miles or more are driven together and "rounded-up" at one place. Each outfit "cuts out" and herds separately its own brand of cattle. The calves and short yearlings are trimmed, branded, and marked. If contracts have been made to drovers, the required number are gathered, classed, tallied, and turned over to them at the date promised. Day by day the round-ups move on, often working over a scope of country 200 miles square (40,000 square miles), till the inclement weather of fall begins. Then the round-up season is done. Wherever the outfit moves, it carries its bedding, grub and cooking utensils in wagons, where the country is smooth, and on pack animals where it is rough. At night the boys sleep, soldier-fashion, on the earth in their blankets, very seldom possessing the luxury of a tent.

Life on the trail is mainly monotonous drudgery of driving the cattle by day and herding them by night. This is varied sometimes by a stampede, when the frightened herd rush fractically away with a noise like rolling thunder, and a tramp that makes the earth tremble. Stam-

pedes are caused by some of the herd becoming frightened and the contagion spreading throughout the herd, they rise to their feet quick as a flash, and rush off in aimless terror, carrying death and destruction to every living thing that falls under their hoofs. Sometimes a band of wild horses with floating long manes and tails fly by in the distance, and their easy graceful movement stirs up the blood of the trailman, and causes him to send after them a pistol ball or two and a regular Indian yell. Buffalo, bear, elk, antelope, mule-tail deer, sedge-hen and prairie chickens also afford him a little sport now and then, and add a savory dish to his "grub pile." Most generally, however, he has to shoot the despised jackass rabbit, or else "run his rope" over some "maverick" for fresh meat. Cowboys are decidedly materialistic. They appreciate the material good things of life. But few of them have any admiration for the grand and beautiful scenery through which the trails often lead. If the average cowboy has any love for the beautiful at all, it is for his silver-mounted horse-rig, his gaudy sash and tassels, and for the buxom prairie girls, of whom he sings songs every night on herd around the cattle. Poor Lo! the Indian, is becoming rather suppressed and harmless, but still in the far away regions of the Northwest and Southwest there is sometimes just enough possibility of his raising hair, to keep cowboys interested and awake on guard. However, he is never sorry when the drive and its terrible hardships are over. The ponies are either sold or sent back to the range on hoof in care of some of the most trusty boys. The cattle are either sold outright or shipped by rail to the great cattle markets of St. Louis, Kansas City, and Chicago. Most Texas and Southwestern cattle go to the two former, and all Northwestern and many Texan go to Chicago. One cowboy to every five car loads is required to go along with the cattle and keep them "punched up" from lying down in the cars and being tramped to death by the other cattle. This is how the "cow-puncher" obtained his Colorado name. Every twenty hours the cattle in transit are unloaded at immense stock yards where they are permitted to rest, feed and water for four hours. This is done both as a humane act and to prevent shrinkage and loss of flesh. Arrived at market the cattle are unloaded finally at the stock yards and pass into the hands of the stock commission man, who sells them. Some are re-shipped to points farther eastward, some go to Europe alive, some to packing houses and beef canneries, some to wholesale butchers, some to Illinois and Iowa farms to be corn fattened, some to distilleries to be slopped, a few are sold for work oxen, and if it be cold weather, many are slaughtered and shipped abroad in refrigerators. Some idea of

the magnitude of this business may be formed, when it is known that in Chicago alone about 1,500,000 cattle are annually sold for cash, netting their owners, the stockmen of the far West, not less than \$45,000,000. This is one of the results of cowboy work.

After "doing the town" for a few days, the cowpuncher, being provided with return passes, rolls out for his old range, maybe 2,000 miles away. Most of the Southwestern roads run a rough kind of emigrant sleeper free, especially for him.

In a region where competing railroads are largely dependent on their live-stock traffic, cowboys and stockmen are carefully fostered by them.

Arrived back on his old stamping grounds, he seeks some kind of work for support during the winter, and generally swears never to "punch up" another bovine quadruped while he lives, but in spring he is sure to hire out as a cowboy at the very first opportunity, and joyously gives himself up to the free, reckless life of the range, or endures again the hardships and romantic incidents of the trail.

Having shown who the cowboys are, we will now endeavor to describe what they are. Being made up of such mixed material the task is difficult. One writer has said they are half angel, with hearts compassionate, and tenderly liberal with comrades in distress; and half devil, indifferent to the sufferings of a wounded enemy, cruel in the use of girth and spur on their ponies, and totally unmindful of the agonizing bawls of cattle enduring the bloody edge of the knife and red hot torture of the branding iron. Another writer, mindful of some gallant cowboys who have stamped their names indelibly on border history, has said that the now unwritten up hero of the coming novelist will be a cowboy. Many cowboys, and they are the best, are bred to the business from childhood, but the majority are simply wild young fellows from all callings and grades of society, brimfull of romance and energetic force, and a thirst for adventure on the plains. With present facilities for reaching the border by rail, thousands such are pouring there daily. Some ten or twelve years ago, the cowboy was an ignorant, brutish lout from Texas, but to-day, the man who tackles the average cowboy in conversation will find him quite up to the modernism of the age. The cowboys are made up of just such adventurous elements as armies are recruited from in time of foreign war.

Classically educated young men cut loose a little too early from the galling restraints of college life, young mechanics, embryo medicos, tooth butchers, young railroaders, youths with souls above office work and counter-hopping, very many young men from the South who were never taught anything to be self-sustaining—all these and many others ar-

rive out West find no room for non-producers in that land of rush and rustle, and gladly turn to the free and romantic, but terribly hard life of a cowboy.

When round-ups and trail work is over, rangemen and trailsmen congregate in the towns of live-stock regions to have, as they express it, "a little time of their own."

It is then that occur those bloody tragedies which, glaringly sub-headed, blazon the columns of sensational sheets. The cowboy, as a rule, possesses abundance of physical courage. A few days work with bronco ponies and wild cattle thin out all those who scare easily. When the cowboy fights, he fights desperately, and generally having a forty-four calibre pistol at his hip, he uses it too often rather freely and effectually on the impulse of the moment. When he shoots he shoots to kill; but seldom shoots at all unless wrongfully dealt with. We do not defend him in this, nor in his shameful orgies, nor reckless waste of his hard earned money. We simply wish it known that it is the few and not the majority who do this. Very many cowboys ride the range all summer and return East and South to spend the winter in quiet enjoyment with friends and relatives. Very many cowboys are from the South proper, especially Tennessee, Kentucky and Georgia.

The business of herding and handling cattle is an honest one, and it is unfortunate that a lot of cattle thieves infesting Arizona have brought the name of cowboy into notorious bad repute. It should not be so, as the following clipping from the *Drovers' Journal*, of Chicago, will explain:

"A correspondent, a resident Arizonian, writes to the *Sun* as follows: 'I notice in the Washington dispatches that the President, on the advice of the Cabinet, has determined to issue a proclamation calling upon the cowboys of Arizona to disband, and in the event of their refusal, to turn loose the army on them. Being myself an Arizonian, and knowing the situation, also to whom the epithet cowboy is applied, I was much amused at this threatened pronunciamiento. The term cowboy is a Texas name applied to men employed on cattle ranches. In Arizona every man who wears big spurs, a broad hat and the legs of his pantloons stuffed in his boots is called a cowboy, and for the most part they are employed on ranches as vaqueros, herding cattle. There is no organization among them. Yet the President orders them to disband. What does he mean? Is it that they must put on white shirts and engage in other pursuits? The proclamation will be directed against one of the most important industries of the Territory—stock raising. If the army is to be used to hunt down criminals, why not say so, and not by proclamation, insult and slander hundreds of law-

abiding citizens engaged in cattle raising? In conclusion, permit me to say that this whole thing is claptrap and buncombe.'”

In the suppression of Indian outbreaks and swift annihilation of border outlaws, the cowboy has proven always a most reliable and effective instrument. The Texas Rangers are nearly all cowboys, and cowboys of grit and leather at that. The writer has a very dear friend a cowboy, who was last heard from as a government scout near the White River (Ute) agency in Colorado, pay \$150 per month and a royal good time during peace.

As population increases, and the grazing regions are settled up, there will come a time when the raising of cattle on government lands, as at present, will be impossible. Then the cowboy, like Othello “his occupation gone,” will have to seek his living in some other industry. Natural inclination will lead him to outdoor camp life, and as long as he can secure such work, he will prefer freighting and packing to the drudgery of hiring out as a ranche hand. Stripped of his rig, than which there is none more becoming and picturesque in the world, all his marked peculiarities of manner and language ground off smooth, he will be reduced to the common level of commonplace people. Possibly the change may better his happiness and usefulness, for it is a truth that mounted men, leading a nomadic life, are bad when bothered—witness Arabs, Bashi-bazouks, Tartars, our own horseback Indians, and ya-as, our cowboys. Too often the most daring criminals are from horseback people. Possibly it were better to unhorse the cowboy, but you can never get him to part his hair in the middle, wear plug silk hats, and rig himself out in dog-eared collars, bald-faced shirts, and other toggery affected by our vast horde of useless cityfied non-producers. He is made of other stuff.

Respectfully,

PONY BILL.

MANY farmers throw away the old brine in beef and pork barrels and fish packages. Sometimes they throw it on a grass patch, or under a tree and kill the vegetation. If they desire to kill vegetation with it, they should pour it on patches of burdocks or thistles, or around trees that are worthless. It is better, however, to use it for manure, in which case it should be applied with judgment. It may be applied to asparagus beds or quince trees liberally, but to other things sparingly. Ordinarily, the best disposition to make of it is to pour it on a manure or compost heap, and allow it to be absorbed.—*Exchange.*

WEEDS IN AGRICULTURE.

The relation of weeds to agriculture is so intimate that farming has almost come to be a business of weed killing. It is therefore to the point to show how this destruction can best be done, and not spend any time on that old and trite growl of showing up a weed in its worst light. It can be taken for granted that a weed is a bad plant and one that is not desired, and the vital part of the matter is to know how to best rid the land of the pests.

In the first place it should be understood that a weed is not so different in constitution from a useful plant as to be killed by any agent, or in any way that will not also destroy the crop plants. There has frequently been a cry for some substance that could be put on the soil that would make it clean of weeds. This reminds us of the man that we saw not long ago that had a kind of manure to put around the apple trees to keep the coddling moth from the apples. There is nothing that can be dropped in a hill of corn that will make it weed proof, and at the same time permit of a vigorous growth of the corn. No panacea can be applied to a field of wheat that will destroy the Quack grass, and leave the crop unharmed. When a farmer has to deal with weeds, he must adopt methods which if applied to useful plants would lead to their destruction.

Weeds have seeds! This is not a new fact by any means; but it is here stated that the following part may be made the more impressive. Weeds grow from seeds just as other plants do; they may have other methods of propagation, but they go from place to place in the seed form more generally than any other way. Many of our seeds came from Europe and then crossed the sea as seeds. Many of our weeds are spreading Westward, and they do it by being carried in various ways in the form of seed. The first measure to be taken against weeds is therefore to not sow their seeds. Clover seed has probably been the vehicle by means of which scores of kinds of weeds have become widespread. For example, a farmer in Michigan buys clover seed from New York or Massachusetts, and sows his fields with it; he may at the same time introduce into his mellow soil the narrow-leaved plantain, the ox-eye daisy, or some one or more other obnoxious plants.

The easiest way to kill weeds is while they are in seeds, provided the weed seeds are recognized. Every farmer cannot examine every seed he sows; but he can be very guarded in buying seeds, especially of those kinds that from their small size may be the means of introducing untold trouble into otherwise comparatively clean land.

Next to the keeping of the weed seeds out of the ground is the killing of weeds soon after germination. There are a number of reasons for this. First, they can be killed with greater ease while young. Take for example, the weeds in a root crop; if they are destroyed as they first make their appearance, the work is light to what it is a few weeks later. In the second place, the effect on the crop is not so bad. If weeds are left to grow until they are of considerable size, they extract a great deal of nourishment from the soil that the crop plants need, and in not getting it they are enfeebled. Every weed that grows takes the food from the soil, and as weeds are better able to survive in a struggle with cultivated plants, they will, if left to themselves, come out masters of the situation. The ancestors of the weeds have had to steal a living so-to-speak, and it has become a second nature for weeds to get into the ground as quickly as possible.

The weeds are very sure to look out for their own kind of kindred and will ripen and spread a large field of seeds. Look at the Canada thistle, one of the worst of weeds. It not only ripens a host of weeds but provides each one with an airy balloon by means of which it is taken far away by the wind, thus securing a wide dissemination of the seeds of this pest. One farmer may keep his thistles from growing while an adjoining neighbor lets his thistles seed down the whole region round about. Then there are the tick seeds and "beggar's lice," and "pitch forks"—all weeds and bad ones, that leave their seeds provided with hooks to catch unto the hair and wool of animals and are in that way carried far from the plant that produced them.

If weeds can not be killed in the seed, and it is out of the question to kill them when young, the next best thing is to keep them from going to seed. This is a difficult thing to do, and whatever may be said on weed-killing, it will be a long time before we have no weeds. Does it look like extermination when by actual count a single "Passley" plant has been known to produce a million seeds! and that in the short space of a few weeks.

Weeds are thoroughly bad! In one sense they are and in another they are not. Indirectly they improve our agriculture, making it more systematic, offering a bounty or premium for labor. Without weeds the lazy man would stand more nearly on a par with the worker. Without weeds the soil would not be tilled as much as it now is, when properly tended; they may be just that sort of a spur to industry that it is well for every farmer to feel. This is certainly looking on the bright side of the matter; the side that says to the eternally vigilant that theirs is the victory.

Weeds may be like sins, or rather the temptations to sin, which overcome the weak but add strength to those that come off conquerors. This is a closing argument in favor of being a strong fighter in the battle against the weeds.—*Southern World*.

AN IMPROVED HARROW.

An ingeniously constructed harrow, in which all its parts in its movements in any direction will conform to the undulations of the ground, is patented by Messrs. Henry R. Burger and Joseph B. Simpson, of Fincastle, Botetourt county, Va., and is quite clearly shown in the accompanying engraving.

The outer beams of the harrow to which the teeth are attached, form a square harrow. Each beam is formed of angle iron, the flange, of the iron projecting upward on the outer edge of the beam, thus making a harrow beam stronger and lighter than the ordinary construction. The ends of the beams are perforated to receive hooks that project upwardly from opposite corners of a triangular metallic block. This block has a central socket extending its entire length, into which is inserted an adjustable rod, which passes thence through a hole in a flange projecting downward from the metallic plate, (provided with a series of adjustable holes), into any one of which the threaded inner end of the rod, may be inserted and secured by a nut. The inner end of these plates are formed into downward projecting hooks, each of which engages with the side of a central opening made in a metallic block placed at the center of the harrow. Clevises are secured to the outer ends of the two rods, lying in line with each other. In the normal condition of the harrow the four beams form a square; but if it is desired to widen the harrow in one direction it may be readily accomplished by adjusting the inner ends of the rods, along the line in which the harrow is to be widened and placing them in holes nearer the outer ends of the plates. By this construction it will be seen that the outer harrow beams are pivoted to each other at the ends, and will conform to the undulations of the ground. The tooth of this harrow is triangular, the triangle being formed of sides of unequal length, and is attached to the side of the tooth holder by a bolt and nut passing through holes in the tooth that hold it at either of its angles, and the tooth holder is bolted to the frame of the harrow.—*Scientific American*.

He that is honest from policy is not an honest man.

 INQUIRIES ABOUT GRASSES.

Editor Southern Planter :

I have this spring sown a field in clover, also one in clover and herds grass, or red top. Will you be kind enough to give some advice as to the best treatment of these two kinds of grass, both of which are meant for hay, or meadow purposes, and hence my desire is also to keep them as such as long as possible. Some farmers say that clover should be allowed to ripen its seed the first year, and neither to be grazed or mowed; and that after the first year, the seed should never be allowed to ripen, but the grass should always be cut before maturity of seed, and in this way clover can be made to be almost a perennial. Is this so? And how, likewise, should the Red Top grass be treated in order to have it last as long as possible? Does cutting of grass before maturity of seed make long lived?

Campbell county, June 9th.

SUBSCRIBER.

We give place, with pleasure, to the inquiries of *Subscriber*, and hope that some of our readers, better informed than we are, will respond through the columns of the *Planter*. That which will be most interesting and profitable to the readers of any agricultural journal is the exchange of ideas in an informal manner by question and answer. There are a great number of agricultural methods which may be improved, and if experiences could be easily compared, faults would be developed and the best practices established.

Relying, then, more on what may hereafter come from better sources, we will briefly give our views on the questions propounded by our correspondent. In the first place, we will say that he has made a bad combination by sowing together clover and herds grass. The last named will only thrive on *moist*, or even *wet* soils, whilst clover needs a moderately stiff and dry soil. All good wheat land is good clover land, but this cannot be said of herds grass. If *Subscriber's* land is sufficiently dry for wheat, then the combination should have been clover and orchard grass, or timothy. These grasses grow well together, but the clover will, after a season or two, be eaten out by the orchard grass or the timothy. The first mowings of the combined grasses make the best of hay. The spring sowing of any grass will not make hay the same year, even if the stand should be perfect, and it should be left untouched and ungrazed, or but slightly in the fall, until the next spring, when, if the land be good, a good crop of hay may be expected. If the mixture be clover and orchard grass, it should be cut as soon as the two grasses are *well in bloom*, and the same rule will apply when they are not grown together. No grass will make good hay if the mowing is put off until the seeds ripen. The second growth may, and ought to, be suffered to go to seed; and this may do something towards perpetuating the stand, or sod, but we doubt it. On this question we refer our correspondent to an article in our last number of 15th June.

When a good stand of grass has been obtained, it should be mowed regularly each year, but the permanency of the crop will depend on various conditions, such as the gradual occupancy of the land by weeds, broom sedge or other pests. When the hay crop begins to fail, the land should be put to fallow, and cleansed by a crop of corn followed by wheat, or oats, and again re-seeded to grass. Herds grass can only be grown profitably, as we have said, on moist land, which is generally too wet for other crops, and if a

good stand of this grass is gotten on such land, it will hold out for hay many years, but weeds, &c., will ultimately demand a new seeding.

We have so often urged on the attention of the farmers of the Southside the importance of the culture of the grasses, that we feel encouraged by the interest manifested by our correspondent, and hope to hear of many others who will follow his example.

To all we would say, do not be discouraged by the failure of one effort, but get all the information you can, and persist until you can rejoice in success.—Ed. S. P.

VIRGINIA STATE AGRICULTURAL SOCIETY.

A special meeting of the Executive Committee assembled in the Rooms of the Society on the 8th of June. There were present:

Col. R. H. Dulany, of Loudoun, retiring President; Gen. W. C. Wickham, of Hanover, President elect; Col. Robt. Beverley, of Fauquier, 1st Vice-President; Thos. Watkins, Esq., of Halifax, 2d Vice-President; Maj. A. H. Drewry, of Charles City; Maj. A. R. Venable, of Prince Edward; Jos. Wilmer, Esq., of Culpeper; Maj. Thos. W. Doswell, of Hanover; Isaac Davenport, Jr., Esq., of Richmond city; Jno. P. Branch, Esq., of Richmond city; Col. C. R. Barksdale, of Richmond city; F. T. Glasgow, Esq., of Richmond city; I. S. Tower, Esq., of Richmond city; Col. W. C. Knight, of Richmond city, Ex-President and honorary member.

The following members were necessarily absent, but sent letters of regret:

Maj. Burr P. Noland, 3d Vice-President, of Loudoun; Geo. W. Palmer, Esq., Saltville; Dr. A. N. Wellford, Richmond county.

The meeting was called to order by President Dulany, and after the reading of the proceedings of the last meeting, he surrendered the chair to Gen. Wickham, who made a very sensible and practical speech, which won for him the full confidence of the Committee, if, indeed, such confidence was in any way lacking, for his election had been unanimous. After returning thanks for the honor conferred on him, he said, in substance, that he had delayed accepting the presidency in order that he might clearly understand the financial condition of the Society, and ascertain whether certain measures necessary in his opinion to success—notably the loan asked from the city and steam transportation to the Fair Grounds—could be carried out before committing himself to so important a step.

He was pleased to say that the loan had been tendered by the city, and that whilst no definite arrangement for the desired steam transportation had as yet been made, he had good ground to hope from assurances from the railroad authorities that their co-operation in this arrange-

ment will be perfected in time for the Fair in October. He believed that, with this help and the help that he was satisfied the people of the State and people outside the State, especially Virginians residing in other States, would now lend by becoming life members or annual members and otherwise, the Society would be re-established on as firm a basis as in *ante bellum* times. In his opinion there were the best reasons to suppose that all the needed help will be given. It will come from farmers, merchants, manufacturers, and from all classes and conditions of people, as in the olden and brighter days of the Society.

Col. Knight then offered the following resolutions, which were adopted unanimously :

The Executive Committee of the State Agricultural Society having received the Resolution of the Council of the City of Richmond agreeing to loan to the Society the sum of \$30,000 on terms specified in the resolution, by which means the Society will be enabled to fund its debt for ten or more years, therefore

Resolved by this Committee, representing the Society, That the loan of the city is accepted, and that the President is authorized to cause the proper papers to be executed and arrange for the payment of all the debts of this Society to the present holders thereof.

Resolved further, That this Committee expresses the confident opinion that this aid from the city will restore the Society to a position which will enable it to prosecute its beneficial work in the future, and its permanent success will be assured.

Vice-President Watkins offered a resolution, which was adopted, and to the effect, that if arrangements can be made to secure steam transportation to the Fair Grounds on the line of Broad street as low as 8th street, the President, with the aid of the local committee, shall issue a *premium list* for a Fair to commence on the 25th of October next and continue three days, and make all necessary advertisements and arrangements therefor. The Committee then adjourned to 10 o'clock A. M. the next day.

The Committee met pursuant to adjournment, and looking hopefully to the holding of a Fair in October, were chiefly occupied in revising the premium list and in consulting as to the best measures to be adopted to make the Fair attractive, should it be determined to hold one. As tending to this it was decided that special premiums in silver plate be offered for the best drilled military companies of the volunteer forces in the State; provided a sufficient sum can be obtained from outside contributions, the rules not permitting the offer of a premium in the ordinary way for such a purpose; and also, with the like proviso,

as to outside subscription for the best drilled company from any military college or school in the State.

The President and Local Committee were empowered to adopt, if in their judgment advisable, a system of tickets good for three days of the Exhibition—the length of time allotted to the Fair of 1882 should one be held. This system contemplates the issuance of admittance tickets to the grounds at 50 cents each, or of coupon tickets good for the three days, at \$1, and for an arrangement by which railroads will issue such coupon tickets in conjunction with their own tickets to the Fair; and also of reduced prices of admission to the grand stand; that is to say that while 50 cents will be the price for single tickets—as was the case last fall—coupon tickets to the stand, good for the Fair, will be sold for \$1, or three tickets, good for the day only, at the like sum.

After other routine business the Committee adjourned to meet at the Greenbrier White Sulphur Springs, Tuesday, August 15.

We place before our readers, as promised in our last issue, the proceedings of the Executive Committee of the State Agricultural Society. Having been a member of the Society from its organization, and also an officer for nearly the same length of time, we may be permitted to express an earnest interest in its affairs. We love and cherish it for all that it has done in the past for the promotion of the agriculture of the State, and for what it is still capable of doing.

Much of its quiet work and influences may, possibly, be unseen and unrecognized, but its Fairs bring tangible evidence to the popular mind of what is being accomplished in all the fields of production—agricultural, horticultural, mechanics, mining, manufactures, stock-breeding, and the domestic household. By a Fair all these elements are put in motion. It stimulates a laudable ambition in localities and the whole State, and has the effect to organize the working powers of every community. It is an advertisement for every person who participates. If the general display is good it gives reputation to the State, and in detail every exhibitor has the opportunity for showing his skill in the production of the article or commodity he represents. Each exhibitor meets hundreds of others, and all learn of each other and profit by the results of honorable competition. And then, the visiting farmers are brought together, and all are afforded the opportunity for social intercourse and for acquiring information, which imparts new vigor to their minds and confidence in the great pursuit they represent. More than this, Fairs operate to make men and women better, larger hearted, more liberal, and give better views of life and labor, and help to make farming appear to be what it is, the most independent and honorable of all professions.

We may add that in former years the Richmond and Fredericksburg Railway gave cheap and rapid transportation to visitors to and from the State Society's Fair Grounds from the heart of the city, but two years ago this railroad was prevented, by an *injunction* of the court, from running trains propelled by steam beyond a fixed point at the western end of Broad street, and thus the usual method of conveying the great mass of visitors to the Grounds was suspended.

It is now the purpose of President Wickham to make every possible effort to get this *injunction* so modified as to permit the cars to run as before during three days of the Fair. On his success depends the question of holding a Fair in October, or any on the same grounds in the future, and we trust he will be supported by the voice and influence of all the citizens of Richmond and of the State.—Ed. S. P.

IMPROVING WHEATS BY SELECTION.

I am certainly greatly indebted to you for the very flattering editorial made upon an extract of my essay "Cross-breeding and Hybridization of wheats," in the last issue of the Rural Press of May 6th. If I may be allowed, I will add a word suggested by a remark you make in closing your editorial, viz: "While our richer grain growers are importing new varieties from all parts of the world," etc.

It is the prevailing opinion among farmers that "imported" wheats will do better than any of their native or acclimated standards, which opinion is true in most cases, when the imported are compared with their own. But when the farmer selects his seed wheat with as much care as he does his seed corn and gives it any reasonable amount of attention, he will find all importations far in the back-ground. In three years ninety-nine hundredths of the farmers will permit their seed wheat to retrograde at least an eighth and even a fourth, whereas, if half as much care as neglect should be bestowed upon its improvement *by selection* alone, not one would ever import to procure better seed.

Importations should never be made except for two purposes—for experimental work and a supply where no seed is to be had in the country. It takes two years to make a wheat No.1 and pure by selection, and 3 to 10 to made a successful hybrid. The mere operation of crossing one wheat upon another to produce a new variety can be learned in a very short time; but the knowledge required to select varieties with proper elements, that they, when combined, may produce an offspring better than either parent, both for the field and the mill, is some thing very few attain. It is not necessary for the farmer to obtain this knowledge; he can and should, however, understand the rules and laws of improvement *by selection*.

For 10 years, and more, I have found wheats made upon the soil where they are to be raised far better in every respect than any others, native or imported. I am now improving all your California varieties, and find, after two years, they improve so materially that your own farmers cannot recognize them in sheaf or shelled. I take the liberty of sending you a few samples—numbered—for your farmers to "guess on." They are sent you just as they came into my room from the thresher; they have not been re-cleaned nor graded in the least—only improved by *selection* for two years.

I have sown—and they are growing nicely now—this spring 181 different varieties, the seed of which I obtained from every country in the world and from many islands. Many I receive are winter wheats, which

I have converted into spring wheats. Of all the samples received, not one was as good, or begun to be as good, in any respect as the very poorest I now have. The wheats that are nearest those I have improved came from Oregon.

I took with me 33 varieties to Washington last January. They were analyzed by the chemist and found to be "the best he had ever received or tested." I would very much like to have your Prof. Hilgard see the analyses and my wheat, too.

I have not written this letter for publication. You may, however, when an opportunity presents itself, extract some portions of it. We have just had three inches of rainfall—an unprecedented occurrence.

A. E. BLOUNT, Stafe Agricultural College, Fort Collins, Col.
Pacific Rural Press, San Francisco.

TREES AND THEIR USES—THE ELM.

The Elm, or Ulm, as they call it abroad, is a fine tree, and well-known to us all. It lives a long time, but its timber is most useful when it is cut down at about the age of seventy years. It has hard wood, but not so durable as oak or fir. The trunk is straight and strong. One tree in Switzerland is said to have been seventeen feet in diameter. The leaves differ very much in different sorts of elms. Some trees have very small and numerous leaves; the leaves of others are large and long. The smaller the leaf the longer it remains on the tree in autumn.

The elm is one of the most useful of all trees. It grows quickly, and is content with almost any soil, except a very wet one. It likes best a stiff, strong land.

A French king, Henry IV, made elm-planting very common in his country. His great minister, Sully, caused these trees to be planted in church-yards and hedgerows, and many old trees used to be called Henri Quatre, or Sully. No tree forms so beautiful an avenue as an elm. There are some fine elm avenues at Cambridge and Oxford. Some say the elm was not grown in England until some of the crusaders brought it here from abroad. Nor did the English elm find its way into Scotland until the two kingdoms were united. The magnificent elms at Madrid are said to have been transplanted from English soil by Philip II, the consort of Queen Mary.

Elm wood is used in ship-building, especially for the keel of the vessel. The naves of wheels are also formed of it. It is man's last home, very frequently, being much employed by the undertaker in

coffin-making. The cabinet maker is very fond of those great knobs or warts which grow on ancient elms. When polished they look very handsome. Elm timber may be made like mahogany, when boiled and stained with a red dye. One valuable quality of the elm is its resistance to the rotting action of water. Pipes for conducting water from one place to another are almost always made of this wood. The tree is useful, too, in other ways. The leaves will feed cattle, and, when boiled, are good for swine. The Russians make tea of one sort of elm, and the Norseman dries the inner bark and grinds it up with his corn.

In wine-producing countries, young elms are generally chosen as props to the vine. The poet alludes to this when telling us how Adam and Eve employed themselves in Paradise:—

“ They led the vine
To wed her elm and to adorn
His barren branches.”

Many insects spoil the timber of the elm, especially the goat moth, and another little creature about half an inch long. This latter pest bores holes through the bark and lays her eggs. When the beetle comes out of the egg it does immense harm to the tree. As many as 80,000 have been found in one elm.

The tree is also subject to a disease somewhat like cancer, and this often happens when it grows in a soil that does not suit it.

The Crawley elm, between London and Brighton, is hollow. It forms a room, floored with bricks; it has a door with lock and key. In the hollow elm of Hampstead there was a staircase leading to a turret on the top, where six people could sit. There were sixteen clefts in the trunk which gave light to the staircase. Perhaps the finest elm ever known was one which grew in Ireland, county Kildare. Its two principal boughs fell suddenly one calm night, and they fetched five guineas in the market. The gigantic tree was uprooted by a violent hurricane, and when the sawyers got to work, it was found to be quite hollow and of small value as compared with its two great branches.

The wych-elm is the Scotch, or mountain elm. Its trunk soon divides into long and somewhat drooping branches. When long bows were in use, many were made of the wood of this tree. Very good ropes can be formed from strips of its bark. It is also highly valued by the carriage-maker. Its wood is nearly as good for shafts as that of the ash. The milkmaid, too, in the midland counties, likes a bit of wych-elm wood in her churn. She says it helps the butter to come quickly.

The wych-elm is considered more picturesque than its English sister,

but this is a matter of taste, which each of our young readers may like to decide for himself.—*Chatterbox*.

The beauties of the elm are not so noticeable in the forest as in open fields, parks, yards, avenues, and the streets of towns and villages. It should be planted and protected in all these positions. For the purposes of shade and beauty it excels all of our native trees. There are several varieties, but what is known as the *red elm*, such as seen in our State Capitol square, is the kind which should be transplanted into pleasure-grounds and around the farmer's dwelling.—Ed. S. P.;

Live-Stock Notes.

HORSES.—Of course the number of animals used by the farmer must depend upon the size of his farm. I shall simply give here what I deem the most practical and cheapest way for the farmer to breed the most profitable farm horse. Where a man is able to keep a driving team, especially for use on the road, he can very profitably breed and train roadsters. In this case, he should procure two well-bred mares of good style, which in their prime were known to be good travelers. I have known such mares to have been in some way disqualified for road use, and to be sold at low prices. These mares should be bred to the best roadster, or trotting stallion, in the vicinity, and turned out to pasture, where they are of no trouble to their owner, and the cost of their keep, including a fair quantity of grain, with their hay during winter, will be less than twelve dollars per year. Each year you will receive two fine colts, and, if no unusual reverses are met with, when these colts get to be five years old, after having driven them one year, in which undoubtedly they have paid the cost of raising, from \$250 to \$500 is obtained from city men who desire a kind yet fast-driving team. If the mares be nearly matched, and both be served by the same stallion, the colts must necessarily be pretty nearly alike. The cost of raising these colts until they are three years old, is trifling, and the care bestowed on them up to that time is of little value. But throwing aside the matter of profit, every one likes a good traveler; though here let me advise the man who contemplates raising one or more road horses each year, to let the race-track severely alone, for it is but one in a thousand of these trotting-bred horses that ever makes a trotter of value, and many men have staked and lost their all to produce a trotter. If you breed this class of horses, stick to the road horse, and you will come out on the top of the heap. While it is only the farmer with some means that can afford to raise the above kind of a horse, the draft horse is within the reach of every farmer. Obtain as many mares as

your feed and pastures will allow you to keep, selecting as most valuable those that are large and strongly built. My plan would be to let them remain idle, except in the very busy season; but, of course, with the smaller farmers this would not be practicable. Breed these mares to the very best draft stallion that can be found in your neighborhood, even if it cost an additional five or ten dollars. I should prefer that the mares be bred to a Clydesdale stallion, that breed, in my opinion, making the most marked improvement of any. I know French horse-breeders who admit that the body of the Clydesdale far exceeds in beauty the French draft horses. And I regard their limbs, style and action as unapproached in beauty, soundness, hardness and endurance, by any rival breed. Although sailing under a different name, the English draft horses are virtually the same as the Clydesdales.

It is an incontrovertible fact that the legs which a Clyde stallion will beget on its first cross with the common mares, are so much superior to the other breeds that the half-blood Clydesdale horses fetch the same prices as the three-fourths or seven-eighths Norman or Percheron. But, giving due consideration to the opinions of others, I pass on.

To raise a draft colt is little more trouble than to raise a steer. On western soil, the cost of raising a draft horse until he is four years old, is about \$30, say with service fee and keep of mare from time of coupling until she drops her next colt, \$70 to \$80. During the last two years the colt has, by working at all sorts of farm labor, earned his feed; and, averaging his two years' work at a value of 25 cents per day, he has earned over \$150. This will amply repay the cost of raising. A pair of colts like this, at four years old, are worth, at very lowest estimate, \$350; and I want to know what there is on the farm that is more profitable than this.

But the farmer who follows this course will find it difficult to retain his teams until they are four years old, for by the time they are two years old, buyers are continually after them; but, when once fairly settled, stick to them for four years; get cost of raising and a little more, out of their labor, and then sell and realize a handsome profit. It requires no experienced salesman to dispose of these horses, as buyers will be incessantly boring you to sell. It is not so with the roadster, although there is a good profit in raising them. Yet it costs more to break the latter, and in the end he brings the least price.

The following are my reasons for calling the Clydesdale the farmer's horse: He is more easily reared. He matures a year earlier. He is docile and breaks easier, and sells easier at a larger price than any other horse the farmer can produce.

But the farmer who follows the course of horse-breeding laid down above, must not make this branch of farm stock his sole business. It is a system of mixed husbandry that makes a large profit in farm industry.—*Exchange*.

BLOAT.—A Pajaro man, in Santa Cruz county, went home the other day and found his cow puffed up like an angry hop-toad. Several remedies had been tried on the cow before the arrival of the owner, but to no good purpose. Her speedy death was prophesied, and would no doubt have taken place had not her owner cast his eye upon a piece of three-fourth inch rubber hose. He grasped that hose, smoothed and greased the end of it, pushed it down the cow's throat as far as her first stomach, and that bloated cow immediately collapsed to her natural size. The bloat gas escaped through the hose, and the cow escaped death. The man's name is Easterday. Let him be remembered as a bovine benefactor.—*San Francisco Pacific Rural*.

UTILIZING CARCASSES.—A cheap lot of manure may be made of an old carcass of a horse or cow, etc., which are often drawn away to the woods, to pollute the atmosphere. Do not do this, but put down four or five loads of muck or sod, roll the carcass over it, and sprinkle it over with quick-lime, covering over immediately with sod or mold sufficient to make, with that already beneath, twenty good-sized wagon loads, and you will have \$25 worth of the best of fertilizers in less than a year, and no fears need be felt in applying to any crop. One beauty of this plan is, the animals need not be moved far away, there being not the least stench. All animals which you are unfortunate enough to lose, can be utilized in this way, and be made to go a great way towards replacing them. Smaller animals, such as sheep, calves, dogs and cats, can be treated in the same manner, with about the average amount of sod or muck proportionate to their size. When possible, place three or four in one pile, as the labor of covering would be proportionately less; but it is not much work to make a heap of any animal, however large or small.—*Turf, Field and Farm*.

LAUGH at scientific or book farming just as much as you please, yet the man who takes advantage of air, soil and fertilizers, studies how to manufacture grain and roots, meat and fruits, out of these raw materials, is the one to succeed.

WE moderns must empty ourselves of a vast deal of conceit. We have been going on at a wonderful rate, without always knowing upon what wheels we are rolling, and with no infrequent temptation, in the most garrulous and fidgety of the riders, to think that their prattle and that their legs keep the train in motion.—*Rev. Samuel Osgood*.

FOOD VALUE OF STRAW.

Mr. J. W. Sanborn, Superintendent of the New Hampshire College Farm, has been experimenting on the feeding value of oat straw as compared with timothy hay and the results are quite important, showing as they do that straw as a food for cattle has generally been underrated.

In discussing this subject, Pro. J. W. Sanborn says that the value of oat straw has not been unduly lauded, as the following trial, one of several each year for five years, will show: Lot 1 ate of timothy for 40 days per day 43.6 pounds, and gained 1.42 pounds per day. Lot 7 ate 6 pounds cotton-seed meal and 19.8 pounds oat straw per day, and gained 2.75 pounds per day. Both lots were of two steers each, of like ages and weights. This particular trial shows better than the average result of straw and meal against good timothy hay, yet I have universally found for all periods (and some were of 98 days) and in all trials, that straw and meal, especially where the right meal has been used, are much more economical than hay. No skillful feeder can afford to waste oat straw, and I am of opinion that it is far too valuable to use for bedding. Some of the straw will be left, and this may be cut and used; when cut it will last as bedding longer than the whole straw. I regard oat straw, when rightly fed, as worth over three-fourths as much as good hay.

If I take fish meal, the most costly food I have fed (\$50 per ton), the account will stand as follows in a period of 49 days: Lot 1 4 pounds fish and 1 of corn meal, 11½ cents, and 33 pounds straw at \$7.50 per ton, 12.37 cents per day; total cost, \$23.62 cents. Lot 2 ate 50 pounds hay at \$15 per ton, 37.5 cents per day. There was but two pounds difference in the gain, 90 pounds and 92 pounds respectively. Now readers who believe in mathematics for the farmer of exact facts, may figure something like this: the cost of the meal for lot 1 subtracted from the cost of hay for lot 2 will leave 25.25 cents for 33 pounds of straw, or \$15.30 per ton, or 30 cents more per ton than the hay is valued at. An important phase of the ration is the purchase of a manure food at \$50 per ton, and the sale of it to farm stock at cost. As it is usually assumed that at least 80 per cent, of nitrogen fed is left in manure, we then have \$40 of manure value left. I have not attempted in this manure question to make accurate figures from previous data, but simply to state them by the common practice as approximations and worthy of consideration. Nor do I mean to endorse the purchase of nitrogenous foods for plant nutrition in heavy amounts unless one is engaged in a skillful rotation, involving the use of mineral fertilizers.

The reasons why oat straw and swale hay have been so meanly rated by farmers are clear to me, as shown by the result of much weighing. I only wish now to reinforce the growing good feeling toward this much abused food. Analyses of the foods fed have been made and tabulated, and they show, as you have already quoted me, that the combinations are not only of organic matter. In other words, as stated with partial correctness by your reporter of the Massachusetts meeting,

65 pounds of organic matter in oat straw and cottonseed meal have often been as successful as 100 pounds in hay. I think I was reported as saying: "Sixty-five pounds of straw and cotton-seed meal were equal to 100 of hay." Of course there is a difference between pounds of hay and pounds of organic matter of hay, and same of straw, yet in this case the difference is not material. The variations that I get under careful trials by analyses of foods for me by Professor Collier show so wide and important variations from the conclusions drawn by German experimenters, so much relied upon in America, as to warrant me in questioning their absolute reliability for our conditions.—*Ex.*

THE RAZOR-BACK HOG.

To the traveler through Texas one of the strangest and most peculiar features of landscape is the razor-back hog. He is of Swiss cottage style of architecture. His physical outline is angular to a degree unknown outside of a text-book on the science of geometry. His ears, or the few rags and tatters of them that the dogs have left, are curled back with a knowing, vagabondish air. His tail has no curl in it—but it hangs aft, limp as a wet dish-rag hung out of a back window to dry. The highest peak of his corrugated back is six inches above the level with the root of his tail. He does not walk with the slow and stately step of the patrician Berkshire, but usually goes in a lively trot. He leaves the impression that he was late starting in the morning and is making up for lost time, or that he is in no doubt about the payment of that check, and is hurrying to get it cashed before the bank closes.

The country razor-back prowls around in the woods and lives on acorns, pecan nuts and roots; when he can spare time he climbs under his owner's fence and assists in harvesting the corn crop. In this respect he is neighborly to a fault, and, when his duty to his owner's crop will allow, he will readily turn in and assist the neighbors, even working at night rather than see his crop spoil for want of attention.

He does not know the luxury of a sty. He never gets fat, and from the day of his birth, sometimes two years roll into eternity before he is big enough to kill.

Crossing the razor-back with the blue-blooded stock makes but little improvement. The only effective way to improve him is to cross him with a railroad train. He then becomes an imported Berkshire, or Poland-China hog, and if he does not knock the train off the track, the railway company pays for him at the rate of one dollar a pound, for which they are allowed the mournful privilege of shoveling the remains off the track. The ham of the country razor-back is more juicy than the hind leg of an iron fire-dog, but not quite so fat as a pine knot.

Western Plowman.

The Southern Planter.

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EDITORIAL NOTES.

FARMERS AND FARMING IN THE OLDEN TIME.—We propose in the next number of the *Planter* to commence a series of short articles under the above heading. Having in our possession a number of letters and other manuscripts in the handwriting of the authors, bearing upon the agricultural resources and practices of Virginia from early colonial times, and extending into the present century, we shall cull therefrom all that we hope will prove interesting to our readers. This work may be continued for many months, but we shall not tire in it as long as it may be appreciated by the readers of the *Planter*.

MILLET.—We are asked whether the *Pearl* and *Egyptian* millet are the same grasses?

The millets best known in Virginia are the *Pearl* and *German*. They are of the same genera, but different in variety. The *Pearl*, or commonly called *American*, is designated in botany as *Penicillaria spicata*, but we fail to find the exact botanical

name of the *German* species. The first has a smooth, or cat-tail head, and the latter is inclined to *double-heading*. *Egyptian* millet, we think, though of the same generic species, is what is generally known as *sorghum*, or *Egyptian corn*—*Sorghum vulgare*. It is not, therefore, a hay-grass, as are the *Pearl* and *German* varieties. We would, however, suggest that some investigating farmer sow thickly sorghum seed, as we do what we know as millet, and note results.

COMMISSIONER LORING'S CIRCULAR.—We have received from the Hon. George B. Loring, Commissioner of Agriculture for the United States, his circular offering premiums for the best process of making sugar from sorghum cane. We append his propositions, and invite the attention of all persons interested in this source of sugar production to it.

“Each manufacturer is requested to submit an account of his work to this Department, covering the following points, viz :

1. An accurate account of the number of acres of sorghum brought to his mill; the number of tons of cane manufactured; the yield of sorghum per acre; the mode of fertilizing; the time of planting; the time required for maturing the plant; and the value of the crop as food for cattle after the juice has been expressed.

2. The amount of sugar manufactured; the amount yielded per ton of cane; the quality of the sugar; the amount of syrup manufactured; the process of manufacturing; the machinery used; the success of the evaporator, the vacuum-pan and the centrifugal in the work of manufacturing.

3. The number of hands employed in the mill; the cost of fuel; the cost of machinery; the wages paid for labor; and the price of sorghum at the mill if not raised by the manufacturer.

The returns when received will be submitted to a competent committee for examination, and in order to compensate the manufacturers for the work of making these returns, I propose to pay for the ten best returns the sum of \$1200 each—the decision to be made by the aforesaid committee. Each return must be sworn to before a competent officer.

SUGAR BEETS.

I have distributed to ninety persons a supply of the best sugar beet seed which I

could obtain; and I would request each person having received this seed to send to this Department a statement of the amount of land planted by him; the yield per acre; the fertilizers used; the value of the crop in the market. I also request each person making this experiment to forward to this Department a sample of the crop for analysis. The directions for this will be issued hereafter. An accurate statement of the process of manufacturing beet sugar in this country is of great importance, and I propose to compensate the manufacturers for preparing such statement by the payment of the sum of \$1200 for each of the two best returns submitted to a committee as in the case of sorghum.

"How do you manage," said a lady to her friend, "to appear so happy all the time?" "I always have Parker's Ginger Tonic handy," was the reply, "and thus keep myself and family in good health. When I am well I always feel good natured." See another column.

WE call attention to the "*special notice*" of our old friend Ficklin of the general advertisement of his improved stock. His Percheron-Norman horses are the best in the country, and should be bred from by all who need horses for heavy draft. His cattle and hogs are also of the best breeds.

Clover HAY.—A "subscriber" from Charlottesville asks an explanation of the last paragraph of our article on curing clover hay in our issue of June 15. It seems to our mind easily understood, but we infer that the impression is created that the cock when completed is *flat on top*. Probably our language was loose enough to convey this idea, but really the cock has a *cone shape* at the top, the point of the cone corresponding with the upper end of the stake. In general outline the cock should resemble a lady's thimble.

REVELATION suggests the idea that from Woman comes the power to "bruise the serpent's head." The words take a new meaning to-day since this is precisely what Mrs. Lydia E. Pinkham's Remedies do for the physically diseased patient. Her Vegetable Compound reaches the ultimate sources of the evil. Its action is gentle and noiseless, but it is more powerful than the club of Hercules.—*Bazar*.

CATALOGUE OF THE UNIVERSITY OF VIRGINIA FOR 1882, being the fifty-eighth session.

We have examined this Catalogue with much interest, and have endeavored to compare the present course of instruction in the University with that which prevailed forty-four years ago, when we left it.

We notice the following additions:

1. Applied Chemistry and Pharmacy.
2. Analytical and Agricultural Chemistry
3. Agriculture, Zoology, and Agricultural Botany.
4. Mathematics Applied to Engineering.
5. Practical Astronomy, with the aid of the McCormick telescope and observatory.

These are important additions to the course, and cover much of the field of *technical* knowledge, which fits the student for the *practical* employments of life, to be selected according to the bent of his mind.

The liberal and thorough course of the institution places it in the front rank, if not at the head, of all the universities of the world.

Looking at it, however, from our standpoint, we have one complaint to make—not of the institution—but of the parents who send their sons there, and, it may be, of the sons themselves. We see that the students of law and medicine embrace nearly *one-half* of all the matriculates, and if *divinity* were in the course, probably *two-thirds* would be pursuing what are commonly, but erroneously, in an exclusive sense, termed the *learned professions*. Where do agriculture and zoology stand? The *summary* shows the sixty-fifth part. How about the other technical branches? The reply is, *one-tenth*. Now, we do not want to raise a hurrah about this thing, but we earnestly call the attention of parents to the fact that it is their duty to encourage the mental developments of their children, and if these should point to agriculture, mechanics, mining, engineering, or any other similar special pursuit, encourage it, and give them all the educational facilities attainable for its prosecution. And we beg, further, that they will abandon the idea that law, politics, medicine, and even preaching the gospel of

Christ—the highest of all callings when the mind and heart are in it—are the only professions which may be termed *learned*, and that there are other wide fields of knowledge from which come professions equally learned, honorable, useful, and respectable.

We can call to mind men, now too old to correct the errors of early education, who have failed in the business of their lives chiefly from the fatal error of their parents in forcing them into one or the other of the so-called learned professions. The country is now filled with briefless lawyers and doctors without patients, and yet this University Catalogue discloses the startling fact, already mentioned, that about one-half of all the students are preparing for these professions. This cannot be because the instruction at the University is peculiarly adapted to law and medicine, for its reputation is world-wide for the thoroughness of its teachings in mathematics, general science, ancient and modern languages, polite literature, as well as the technical branches we have already mentioned.

Our hope for the future of the country is based on the belief that the time is not far distant when agriculture and mechanics will be recognized among the learned professions, and that young men will not be ashamed to direct the operations of a farm or a machine shop, whereby the growth of the number of briefless lawyers and impecunious doctors will be checked.

HARPER'S MONTHLY, HARPER'S WEEKLY, and HARPER'S YOUNG PEOPLE, all published by the Harper Bro.'s, New York.

We have the *Monthly* and *Young People* so regularly each month, and the *Weekly* with each week, that we regard them as *fixed friends*, and have been negligent in noticing their visits. No words of ours can add to their reputation with those who *know* and *read* the best journals of the country.

We would be glad to send an occasional subscriber—yea, many, if by our influence we can procure them—and will club on liberal terms to accomplish it.

BEES AND HONEY; or the Management of an Apiary for Profit and Pleasure. By Tho. G. Newman, Editor of the *American Bee Journal*, Chicago, Ill.

This new publication, or rather the third edition of it, has been sent to us. The author says it has been carefully re-written for the information of many who are becoming interested in the pursuit of bee-keeping. It contains 160 pages, is beautifully illustrated, and is well up with the times in respect to improved management, construction of hives, &c. Among its new chapters are, "Bee Pasturage a Necessity," "Management of Bees and Honey at Fairs" and "Marketing Honey."

Price, bound in cloth, 75 cents; in paper covers, 50 cents, postpaid.

THE NORTH AMERICAN REVIEW.

The old and valued journal, now in its sixty-eighth year, is out for July. Its contents may be specified: "Emmerson as a Poet;" "The Business of Office-seeking;" "Hydraulic Pressure in Wall Street;" "The Ruins of Central America, Part xi;" "The Things which Remain;" and "False Taste in Art." These articles are written in a scholarly style, and cannot fail to interest men of cultivated tastes.

Publication office: No. 30 Lafayette Place, N. Y. city.

THE ORIGINAL CHATTERBOX.

We are in receipt of the May and June numbers of this publication, which is so fascinating and instructive to young people, and we may say, *old people*, as well. It is published by *Estes and Lauriat*, Boston, and issued to subscribers at \$1.00 per annum. It is beautifully *illustrated*.

THE CENTURY ILLUSTRATED MONTHLY MAGAZINE for July, 1882.

As we go to press we get this ever welcome visitor. Its contents and illustrations are varied and interesting. We have marked several extracts for future use.

Published by "Century Company," Union Square, New York. \$4 per annum—168 pages. We suppose we can combine the *Planter* with it to a new subscriber at \$4.25.

THE POPULAR SCIENCE MONTHLY. A. Appleton & Co., New York city. Pp. 144. \$5 per year.

This leading and most popular journal comes, as usual, in advance of time, and we have had opportunity to glance at the number for July. It is filled with many striking articles, of which none can be more interesting to an educated farmer than that on "Plant-Cells and their Contents," by Prof. McBride. "Porcelain and the Art of its Production"; "Problems of Property"; "Borax in America"; "Dr. Gunther on the Study of Fishes," are a few of the subjects treated, and will afford an idea of its adaptation to all cultivated tastes. We should be glad for the publishers to inform us on what terms we can send them new subscribers in connection with the *Planter*.

THE LAW JOURNAL for June is on our table. Geo. L. Christian and Jas. M. Matthews, Editors. J. W. Randolph & English, publishers, Richmond.

BOTH Lydia E. Pinkham's Vegetable Compound and Blood Purifier are prepared at 233 and 235 Western Avenue, Lynn, Mass. Price of either, \$1. Six bottles for \$5. Sent by mail in the form of pills, or of lozengers, on receipt of price, \$1 per box for either. Mrs. Pinkham freely answers all letters of inquiry. Enclose 3c. stamp. Send for "Guide to Health."

LIST OF PATENTS

Relating to Agricultural Implements and Machines, issued from the U. S. Patent Office, on Tuesday, May 30th, 1882, and prepared expressly for the *Planter*, by Messrs C. B. Steele & Co., Counsellors at Law, and Attorneys for inventors, Washington D. C.

Planter—Samuel W. Byers and Henry W. Knight, Nashua, Iowa.

Mowing Machine—Charles W. Cheney, Athol, Mass., assignor of part to C. W. Knowlton and Wm. C. Bowers, both of Brooklyn, N. Y.

Lifting Jack—Jas. Church, St. Louis, Mo.

Hub Fastener—Norman Clark, Sterling, Illinois.

Ditching Machine—Francis Pidgeon, Saun-

gerties, N. Y., assignor to M. E. Pidgeon, same place.

Watering Animals—Isaac Welty, Olney, Illinois.

Farm Gate—George J. Blynn, Memphis, Mich.

Wind Engine—Ephraim Howland, Pontiac, Mich.

Hand Cotton Gatherer—Benj. F. Lamb, Belvidere, N. C.

Churn—Wm. D. Leavitt, Cincinnati, Ohio, assignor one-half to G. B. Moore, same place.

Horse Collar Fastening—Alfred B. Robinson, Lebanon, Mo.

Grain Binder—Calvin Young, Auburn, N. Y.

Neck Yoke Adjuster—John A. Barnes, Laclede, Mo.

Convertible Crib—John W. Barton, Emporia, Kansas.

Barbed Fence—Jacob and Warren M. Brinkerhoff, Auburn, N. Y.

Colander and Fruit Press Combined—Loretta Brownlow, East Paw Paw, Ill.

Creaming Can—Edwin B. Clement, Barre, Vt.

Chicken Coop—David E. Davis, Mariou, Virginia.

Cultivator—Thos. C. Dodsworth, Ottawa, Kansas.

Apparatus for Separating Skins from the Pulp of Potatoes—G. E. Edwards, Chicago, Ill.

Self Opening Gate—Wm. R. Hambleton, Winchester, Ill.

Harrow—Edward P. Lynch, Davenport, Iowa.

Dumping Wagon—James Mills, Wilmington, Del.

Carriage Brake—W. R. Mortimer, Rogate Lodge, Rogate, Sussex Co., England.

Plow Mould Board—John Quin, Wakeman, Ohio.

Egg Tester—Thomas H. B. Sanders, St. Louis, Mo.

Seeding Machine and Cultivator—J. W. Thomas and A. R. Ludlow, Springfield, Ohio.

Windmill—Walter N. Trumble, Greenwood, Nebraska.

Portable Fence—Daniel B. Wagner, Mt. Blanchard, Ohio, assignor of one-half to Daniel M. Driesbach, same place.

Manger—Charles H. Willson, Mount Vernon, N. Y.

Gate Latch—Philip J. Winn, Fork Union, Virginia.

To promote a vigorous growth of the hair, use Parker's Hair Balsam. It restores the youthful color to gray hair, removes dandruff, and cures itching of the scalp.

THE KING OF THE PLOW.

The sword is resheathed in its scabbard,
 The rifle hangs safe on the wall;
 No longer we quail at the hungry,
 Hot rush of the ravenous ball—
 The war cloud has hurled its last lightning,
 Its last awful thunders are still,
 While the Demon of Conflict in Hades
 Lies fettered in force as in will,
 Above the broad fields that he ravaged,
 What monarch rules blissfully now?
 Oh, crown him with bays that are blood-
 less—
 The King, the brave King of the Plow!

A king! ay! what ruler more potent
 Has ever swayed earth by his nod?
 A monarch! ay, more than a monarch—
 A homely, but bountiful god!
 He stands where in earth's sure protection
 The seed grains are scattered and sown,
 To uprise in serene resurrection
 When Spring her soft trumpet hath
 blown!
 A monarch! yea, more than a monarch,
 Though toil drops are thick on his brow,
 Oh, crown him with corn-leaf and wheat-
 leaf—
 The King, the strong King of the Plow!

Through the shadow and shine of past ages
 (While tyrants were blinded with blood)
 He reared the pure ensign of Ceres
 By meadow and mountain and flood;
 And the long, leafy gold of his harvests
 The earth sprites and air sprites had
 spun,
 Grew rhythmic when swept by the breezes,
 Grew royal when kissed by the sun;
 Before the stern charm of his patience
 What rock-rooted forces must bow!
 Come! crown him with corn-leaf and wheat-
 leaf—
 The King, the bold King of the Plow!

Through valleys of balm-drooping myrtles.
 By banks of Arcadian streams,
 Where the wind songs are set to the mystic,
 Mild murmur of passionless dreams.
 In the storm-haunted uplands of Thule,
 By ice-girded fiords and floes,
 Alike speeds the spell of his godhood,
 The bloom of his heritage glows.
 A monarch! yea, more than a monarch,
 All climes to his prowess must bow;
 Come! crown him with bays that are stain-
 less—
 The King, the brave King of the Plow?

Far, far in earth's uttermost future,
 As boundless of splendor as scope,
 I see the fair angel, Fruition,
 Outspeed his high heralds of hope:

The roses of joy rain around him,
 The lilies of sweetness and calm,
 For the sword has been changed to the
 plowshare,
 The lion lies down with the lamb!
 O Angel majestic! We know thee,
 Though raised and transfigured art thou—
 This lord of life's grand consummation
 Was once the swart King of the Plow.
 —Paul H. Hayne in *Home and Farm*.

Editor Southern Planter:

Dear Sir,—We read your communication in the last issue of the *Planter* with mingled feelings of pleasure and regret. With pleasure at the assurance that on the 1st of July the *Planter* would assume its old form, but with regret that you think it necessary to take a step backward instead of two forward.

This is a progressive age, Mr. Editor; one in which we are required to keep abreast with the times; or be left behind in the race for popular favor.

This Mr. Saunders (a gentleman I never saw or knew except through the columns of the *Planter*) saw and appreciated, hence his effort to make it a weekly instead of a slow-going monthly paper. Can't you, Mr. Editor, add a tithe to your tariff of rates, and call on us weekly? I feel sure that there is no appreciative reader of your paper but who would willingly contribute to secure so important a change. What say you to the suggestions of

RYRIE.

As we go to press with the last form of our monthly issue for July, we receive the above communication. First, thanking our correspondent for the interest manifested in the *Planter*, we will briefly state the reasons which induced us to restore it to its original monthly form.

Col. Saunders, a former proprietor, in the December of the last year, announced his purpose to change on the 1st of January, 1882, from a *monthly* to a *weekly*. Before the end of the month in which this announcement was made he found that such a change would not be satisfactory to his subscribers; and for this, and perhaps other reasons, he abandoned the idea of a weekly and adopted the semi-monthly issue, with a radical change in the shape of the paper and a large reduction of contents. This proved equally unsatisfactory to the patrons of the paper, and the present proprietor was met at the threshold of his en-

trance upon duty by complaints from every quarter. It was our earnest wish to meet these complaints in a satisfactory manner, and our first conclusion was to increase the matter contained in the paper when it came to our hands by the addition of four pages, and continue the new form until the 1st of January, 1883, so that one complete volume might be made; but the pressure on us still continued, and so we decided to change back on July 1. We doubt whether this is a "step backwards," or that a weekly form would be "two forward," as our correspondent suggests. No other friend of the *Planter* has approved of the plan of a *weekly*, and besides, most of the agricultural journals with which we exchange are *monthlies*. All the *weeklies*, except the *Cultivator* and *Country Gentleman*, have the shape of a *newspaper*, and a large majority of our readers prefer the compact *octavo form*, which is easy to be read and convenient for preservation by binding. We suppose, moreover, that many of the subscribers to the *Planter* have their bound files for the past forty-two years of its existence, and for this reason they are opposed to any change which will break the uniformity of the file. We notice again that the *weekly* agricultural papers devote much of their space to the current news which falls within the province of an ordinary newspaper; and it seems to us that a *purely* agricultural journal will reach its readers sufficiently often if issued *monthly*.

If we had space we could mention a large number of subscribers who have sent us expressions of approval of the monthly form, and we take this to be the almost unanimous sentiment.

Scalloped potatoes make a nice dish for breakfast. Prepare in this proportion: Two cups of mashed potatoes, two table-spoonsful of cream or milk, and one of melted butter; salt and pepper to taste. Stir the potatoes, butter and cream together, adding one raw egg. If the potatoes seem too moist, beat in a few fine bread crumbs. Bake in a hot oven for ten minutes, taking care to have the top a rich brown.

We own to a fondness for Irish potatoes. The above recipe makes our mouth water.

Shall hope to see it some day, on the table of some lady-reader of the *Planter* when we visit her.

A Good Chicken Story.

An irascible sea captain settled down to Portland life by the side of a well-tempered man, and the two got along very well until the hen question came up. Said the captain:

"I like you as a neighbor, but I don't like your hens, and if they trouble me any more I'll shoot them."

The mild-mannered neighbor studied over the matter some, but knowing the captain's reputation well by report, he replied:

"Well, if we can't get along any other way, shoot the hens, but I'll take it as a favor if you will throw them when dead over into our yard and yell to my wife."

"All right," said the captain."

The next day the captain's gun was heard, and a dead hen fell in the quiet man's yard. The next day another hen was thrown over, the next two, and the day after three.

"Say," said the quiet man, "couldn't you scatter them along a little? We really can't dispose of the number you are killing."

"Give 'em to your poor relations," replied the captain gruffly.

And the quiet man did. He kept his neighbors well supplied with chickens for some weeks.

One day the captain said to the quiet man:

"I have half a dozen nice hens I'm going to give you if you'll keep quiet about this affair."

"How is that" said the quiet man. "Are you sorry because you killed my hens?"

"Your hens!" said the captain. "Why, sir, those hens belonged to my wife! I didn't know she had any until I fed you and your neighbors all summer out of her flock."

A good name is rather to be chosen than great riches, and loving favor rather than silver and gold.

HOUSEHOLD HINTS.

TO REMOVE GREASE SPOTS.—An excellent mixture to remove grease spots, from boy's and men's clothing particularly, is made of four parts of alcohol to one part of ammonia and about half as much ether as ammonia. Apply the liquid to the grease spot, and then rub diligently with a sponge and clear water. The chemistry of the operation seems to be that the alcohol and ether dissolve the grease, and the ammonia forms a soap with it which is washed out with the water. The result is much more satisfactory than when something is used which only seems to spread the spot and make it fainter, but does not actually remove it. If oil is spilt on a carpet and you immediately scatter corn meal over it, the oil will be absorbed by it. Oil may also be removed from carpets on which you do not dare put ether or ammonia by laying thick blotting paper over it and pressing a hot flat-iron on it. Repeat the operation several times, using a clean paper each time.

CLEANING BLACK SILK.—The Parisian method of cleaning black silk is very simple, and the result infinitely superior to that achieved in other manner. The silk must be thoroughly brushed and wiped with a cloth, then layed flat on a board or table, and well sponged with hot coffee thoroughly freed from sediment by being strained through muslin. The silk is sponged on the side intended to show; it is allowed to become partially dry, and then ironed on the wrong side. The coffee removes every particle of grease and restores the brilliancy of silk without imparting to it either the shiny appearance or crackly and papery stiffness obtained by beer, or, indeed, any other liquid. The silk really appears thickened by the process, and this good effect is permanent. Our readers, who will experiment on an apron or cravat, will never again try any other method.

SOME WAYS OF COOKING EGGS.—For an omelet, which is a favorite dish with many excellent cooks, use this rule: Beat the yolks of six eggs and the whites of three till they are very light; take one tea cup of cream, if you can get it (milk will answer if you cannot); mix with it very smoothly one tablespoonful of flour, add salt and pepper as you please; heat your frying-pan and melt in it a large spoonful of butter; when hot pour the eggs and cream in and set in a quick oven. When it is thick enough—which is a matter of taste—pour over it the whites of three eggs, which are beaten to a stiff froth. Let it brown slightly,

and then slip it out in a hot dish; this must be done very carefully, so that the whites of the eggs will be on the top. This dish may be varied by beating the six eggs all together and then adding the cream, etc. A good rule as to quantity is to use one egg for a person. One of the best ways, if not the very best, to cook eggs is to pour boiling water into a basin, set it on the hearth of the stove, or on the tank, and put the eggs into it; let them remain in it for five minutes; the egg will be cooked enough to be delicious, it will digest easily, and in this way the wonderful elements which go to make up the egg are best preserved. When done, break and drop on slices of buttered toast, or put in egg-cups in which you have first put a little lump of butter.

THE QUEEN OF PUDDINGS.—One pint of bread crumbs (not crumbs of stale bread unfit for the table), one quart of sweet milk, one cup of sugar, and the well-beaten yolks of four eggs, the grated rind of one lemon, and a piece of butter the size of an egg. Bake until done, but not watery. Whip the whites of four eggs, and beat in one cup of pulverized sugar, in which you have put the juice of the lemon. Spread over the pudding a layer of jelly or raspberry jam, or any sweetmeat you prefer; then pour over it the whites of the eggs. Set it in the oven to brown slightly. Serve cold with cream. This is an excellent dessert for an elaborate dinner, as it may be made early in the morning and so be out of the way.

COOKING POTATOES.—A tempting way to serve potatoes in the Spring is to boil them with plenty of salt in the water; then, when tender, turn all the water off; let the kettle stand on the top of the stove till the potatoes dry; mash them until they are free from lumps; add a little sweet milk or cream, butter, pepper, and salt, if this is needed; then put the potato in the dish in which it is to be served, and set it in the oven to brown over the top. If your potatoes are not very sweet this is an especially good way to cook them.

JELLY ROLLS.—Jelly rolls are delicious from this recipe: Three eggs, half a cup of butter, one cup of flour, one and a half teaspoonsful of baking powder, two thirds of a cup of pulverized sugar, a little salt; bake in shallow pans—a dripping-pan well buttered is good for this purpose; put in the dough till it is about half an inch thick; take it carefully from the tins when baked, and lay on a cloth; spread jelly evenly over it with a knife; roll while hot; if this is not done the cake will crumble.

PLANT FOOD IN AN ACRE OF CLOVER.

Let us see what is the actual value of red clover as an accumulator of plant food, and compare its treasures with the demands of other crops, or more especially with wheat, which has little power of accumulating plant food for itself

An acre of good clover will make 5,000 pounds of hay, containing 282½ pounds of mineral matter or ash. In this ash will be 97½ pounds of potash, 96 pounds of lime, 34½ of magnesia and 28 pounds of phosphoric acid. The hay will also contain 108 pounds combined nitrogen. These are the stores of available material which an acre of red clover can offer to any succeeding crop when it is ploughed under the soil, and is also available material which an acre of clover sod is capable of furnishing to a succeeding crop when a clover sod is ploughed up, for it is found that the scythe leaves to the field as much material, both organic and inorganic, as it removes in the hay it cuts.

Let us suppose that for every bushel of wheat we raise we have a 100 pounds of straw, and on this basis from the average composition of wheat and its straw, let us estimate how large a crop of wheat and straw we may have furnished in each of the leading manurial elements contained in an acre of clover hay or clover sod.

In two and a half tons of clover hay or in an acre of clover sod of corresponding quality there will be, both for grain and straw, enough phosphoric acid for a crop of 34 bushels, of combined nitrogen for 71 bushels, of potash for 102 bushels, of magnesia for 120 bushels, and of lime for 270 bushels. In other words, the clover hay or sod contains enough phosphoric acid for more than double an average crop, enough nitrogen for more than four average crops, and potash for more than six average crops of wheat! With such figures before you, do you wonder that farmers are surprised at the large crops they can raise on a clover sod? You see also why lands in rotation with clover can endure the heavy tax of two crops of wheat in succession without complete exhaustion. But when a body of clover is plowed in with sod we reach results that round out that figure of Oriental magnificence, "The pastures are clothed with flocks, the valleys also are covered over with corn; they shout for joy, they also sing."—*Pro. W. J. Beal, in Farmers' Friend.*

The wise men of old have sent most of their mortality down the stream of time in the light skiff of apothegm or epigram.—*E. P. Whipple.*

JOTTINGS.

One of the best things a farmer can do to advance himself is to carry in the field, or any place, or at any time, a memorandum book and pencil. What for? Take note of the *small things*—things to some unnoticed. These *small things* may finally lead to the large ones, and here is where the intelligent farmer will arise, while the careless one will fall. All creation is made up of small things. Our great financiers made the pennies before they made the dollars, and so on until they count their wealth by the thousands. Can not the farmer do this in a certain degree? He may not be able to make thousands in one year, perhaps not in five, but as surely as the water drop by drop wears the solid rock, so the small things help to make greater.

The farmer may watch the habits of the insects, whether they are harmful or beneficial to his crops. The same of the birds—and by this observation may know whether it is best to protect or destroy them.

He may watch and *jot* the growth and development of plants, whether they grow well under certain care and cultivation, whether the soil is adapted to the plant, or the plant to the soil, etc.

He may mark the bad spots of the farm (nearly every farm has its bad spots, sloughs, barren places, or some other defects), which he may take a memorandum of and correct in due time. There are so many corners to watch that it requires a good memory to retain all and look after in season.

The farmer may also lay off his work in black and white for another year, or for years ahead, as it occurs to him.

Then it's so handy to have blank paper and pencil to calculate acres of ground, bushels of seed, amount per acre of seeds to be sown, etc. When a man can take his seeder, a given amount of seed, have his land measured off and sow the seeds so as to come within a pint of a given amount, he has it down fine, and a man should be just this exact in order to succeed well.

The weather can also be noted in his memo., which is no *small matter*. A strict account of the wet weather will repay any farmer. A great deal of this jotting may be done, and probably would be done in the field (if Vennor's weather does not interfere too much).

This attending to the details and keeping a bright look-out on paper will benefit, and largely, the participant.

One self-approving hour whole years outweigh.—*Pope*.

STIR THE SOIL.

Agricultural Editor Cincinnati Commercial:

I am a young farmer, and would be obliged if you would tell me (1) what you think the best and cheapest way of making a good crop of corn and potatoes? I have no manure made and no money to buy fertilizers with. (2.) What ought the landlord do to help to fertilize the crops raised on the shares?

Hamilton county.

RENTER.

1. This is a difficult question to answer, not knowing the character of the soil, or how it has been treated. In general, we would say that *frequent stirring of the soil* is the cheapest and best method of raising such crops. We will give an example. We once put out a vineyard of two acres, on a thin clay hillside, on which corn or tobacco had been grown for forty-two years. It was poor as poverty, and we had no manure nearer than St. Louis, twelve miles away; yet we hoped vines would do well there, if well cultivated. To insure frequent cultivation of the vines, we planted two rows of potatoes between the vine rows. On the same day we planted our potatoes, we sent the man and horse and what seed was left to the next neighbor's to help him put in his potatoes. He had a piece of what he called new ground, separated from ours by a small ravine—his land sloping to the north and ours to the south. Our neighbor was a retired physician of more than three score and ten, and was a successful horticulturist.

After potatoes were planted he said: "Well, now, professor, let us see who will raise the best crop of potatoes." We at once declined to compete, as he had new ground and plenty of money and fertilizers, and we were as poor as our worn-out tobacco land. Nevertheless, on returning home with our hired man, we told him it would never do to let the Doctor beat us much on the potato crop; so our potatoes must be cultivated every week until they put out blooms, and that work was done and two hoeings extra given by us, one early in the season and the other at the close.

We worked the soil not to kill weeds, for there were none, but to make potatoes.

The Doctor had faith in his new ground, and cultivated but twice. Now for the result. His crop was hardly worth digging. Our crop was the best crop in the village, and netted up in St. Louis more than \$100 per acre.

The best crop of corn we ever made was plowed five times after planting, before the shoots put out. We broke the land thoroughly,

rolled and harrowed before planting. The average on thirty acres without manure was ninety-two bushels. Some old style farmers said we injured the crop by cultivating so often. If so, we can't tell what the crop might have been if we had stirred the ground less frequently.

When the corn crop is planted do not wait for the weeds to start before you start cultivation. Remember the good farmer does not cultivate to kill weeds, but to make a good crop, and in the making of the crop the weeds will be destroyed.

If the tenant is to stay on the farm but one year, he cannot afford to do as much toward fertilizing as he could if he were to remain five or ten years. We cannot say what per cent. of the fertilizer remains in the soil after a crop. So much depends on the kind of crop and kind of soil, kind of fertilizer and cultivation. We do not know of any established custom in regard to this in this country. We should say that if the landlord is to have half the crop, he should furnish half the fertilizer used, or in that proportion, and it should be of a kind, too, that will cause the promptest growth of the crop, and not that which longest benefits the land.

L. N. B.

CHEESE AS FOOD.

It is often remarked, says the *National Live Stock Journal*, that the value of cheese as food is not fully appreciated, or more of it would be used. The consumption of cheese in the United States is pretty small, being only about 250,000,000 pounds annually for over fifty millions of people, or about five pounds *per capita*. The analyses laid down for cheese show it to be rich in fats, and much richer in flesh-forming matter than even flesh itself, which is largely water. Yet a pound of cheese seldom brings more than a pound of meat. The prices of cheese and bacon have run nearly parallel for many years, and the price of the latter has, to a large extent, controlled that of the former. When bacon is lower than cheese, it is taken in preference by laboring people. In the United States, where nearly the whole community are able to select such food as their appetites prefer, cheese meets with much less patronage than meat, when the prices are equal, while chemistry would give the preference to cheese nearly two to one.

To induce a more liberal consumption of this article, there must be placed before the public a cheese which shall be so soft and soluble, so ripe and rich and inviting, that it will be preferred to meat, both for food and as a luxury. It will then need no chemistry or argument to extend its use. Pleasing the taste will accomplish more than logic.—

Maine Farmer.

WM. L. BRADBURY.

WM. GREEN.

R. J. FARRER.

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Jan 1—12t

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Send for Circular and see what farmers say.

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NORFOLK & WESTERN RAILROAD

Time Table in effect June 18, 1882.

WASHINGTON TIME.	WESTWARD DAILY.	
	No. 1.	No. 7.
Leave Norfolk.....	12.15 p. m.	.....
" Suffolk.....	1.05 "	.....
Arrive Petersburg.....	3.20 "	.....
Leave Petersburg.....	3.30 "	.....
" Burkeville.....	5.38 "	.....
" Farmville.....	6.23 "	.....
Arrive Lynchburg.....	8.20 "	.....
Leave Lynchburg.....	8.50 "	2.46 p. m.
" Liberty.....	9.50 "	3.33 "
" Roanoke.....	11.05 "	4.39 "
" Christiansburg.....	12.34 a. m.	6.00 "
" Wytheville.....	2.36 "	8.05 "
" Marion.....	3.42 "	9.06 "
" Abingdon.....	4.52 "	10.14 "
Arrive Bristol.....	5.25 "	10.45 "

CONNECTIONS.

At PETERSBURG, with R. & P. R. R. for Richmond and points on C. & O. Ry., Fredericksburg, Washington, Baltimore and the North and East. Through Pullman Car from Petersburg to New York. Solid trains Petersburg to Washington.

At BURKEVILLE, with R. & D. R. R. for South. At LYNCHBURG, with Va. Mid. R. R. to and from the South and North, and with Richmond & Alleghany R. R. for Lexington, Natural Bridge, Buchanan, Williamson's and C. & O. Ry. points.

At B. ISTOL, with East Tenn., Va. & Ga. R. R. for Knoxville, Dalton, Chattanooga and all points South, West and Southwest.

WASHINGTON TIME.	EASTWARD DAILY.	
	No. 8.	No. 4.
Leave Bristol.....	11.40 p. m.	5.00 a. m.
Arrive Abingdon.....	12.14 "	5.29 "
" Marion.....	1.25 a. m.	6.31 "
" Wytheville.....	2.33 "	7.31 "
" Christiansburg.....	4.29 "	9.28 "
" Roanoke.....	5.52 "	10.45 "
" Liberty.....	7.02 "	12.15 p. m.
" Lynchburg.....	8.00 "	1.15 "
Leave Lynchburg.....	8.20 "	.....
Arrive Farmville.....	10.14 "	.....
" Burkeville.....	10.57 "	.....
" Petersburg.....	12.55 p. m.
Leave Petersburg.....	1.05 "
Arrive Suffolk.....	3.18 p. m.
" Norfolk.....	4.05 "

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At LYNCHBURG, with Va. Mid. R. R. for Danville and North Carolina points, and for Washington and Eastern cities.

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W. A. CARPENTER, Ass't G. F. and Pass. Ag't.
Lynchburg, Va.

A NOTED BUT UNTITLED WOMAN.

[From the Boston Globe.]



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On account of its proven merits, it is recommended and prescribed by the best physicians in the country. One says: "It works like a charm and saves much pain. It will cure entirely the worst form of falling of the uterus, Leucorrhoea, irregular and painful Menstruation, all Ovarian Troubles, Inflammation and Ulceration, Floodings, all Displacements and the consequent spinal weakness, and is especially adapted to the Change of Life."

It permeates every portion of the system, and gives new life and vigor. It removes faintness, flatulency, destroys all craving for stimulants, and relieves weakness of the stomach. It cures Bloating, Headaches, Nervous Prostration, General Debility, Sleeplessness, Depression and Indigestion. That feeling of bearing down, causing pain, weight and backache, is always permanently cured by its use. It will at all times, and under all circumstances, act in harmony with the law that governs the female system.

It costs only \$1. per bottle or six for \$5., and is sold by druggists. Any advice required as to special cases, and the names of many who have been restored to perfect health by the use of the Vegetable Compound, can be obtained by addressing Mrs. P., with stamp for reply, at her home in Lynn, Mass.

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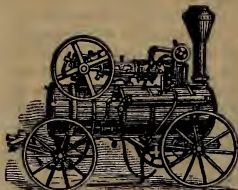
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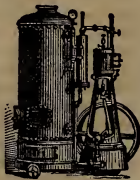
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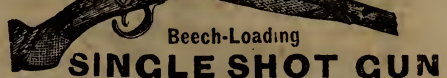
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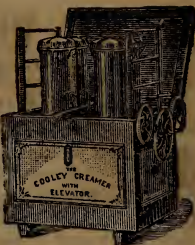
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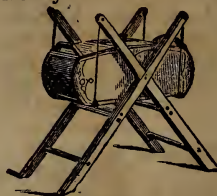
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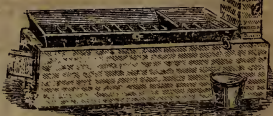
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It is remarkable for the small amount of power required to run it. The simplest in the world. The strongest in the market. Made of first class material. The only Thresher and Cleaner which will thresh and clean well 300 bushels per day with four ordinary horses. This Thresher works particularly well with our 4-horse "Peerless" Engine, which, with our to Brown Cotn Gin, our 18 inch Queen of the South Corn Mill (which makes first-rate meal), and a good Cotton Press, will fit any man up with a light outfit; which, if properly handled, ought to make him \$1,000 a year, as much as the whole outfit costs him; and that with the engine and thresher properly mounted, with which we will give the fullest guarantee. *Terms liberal.*

OUR GEISER THRESHER.



Mounted with on 2 or 4 wheels. This is the machine so well known and so much liked in all the States. This is the Thresher which will answer all requirements, and do well no matter what the circumstances or conditions—drive slow—drive fast, feed slow, feed fast—and give it power, it will do alike good work. It may well be said of it, that it will do good work under all circumstances. Our lightest Geiser is 5 horse, which will thresh, under favorable circumstances, over 30 bushels per hour, and has threshed over 40 per hour. This works well with our 5 horse "Peerless" Engine. We can furnish all sizes of this Thresher, to run either with steam or horse-power.

STEAM ENGINES—Traction, Portable and Stationary. The most improved, *safe*, most reliable and best in the country. **THRASHING MACHINES**—Steam and Horse Power—all practical sizes. The most simple, most durable, cheapest.

We try to make Prices and Terms to **SUIT ALL.**