

About Plows and Husk Splitters.

MESSRS. EDITORS—On page 20, this volume of the SCIENTIFIC AMERICAN, an improvement in the common plow is called for. I should like to make a suggestion or two on that subject, for the consideration of some of your agricultural societies that are, as I perceive, wide awake to the duty of keeping one eye on the look-out for improvements, whilst the other is prying into the bad habits of careless husbandry.

In the fat black soils of the rolling prairies and the oak-openings in this part of the country, a cast-iron plow of Nourse & Mason's most improved long slim wedge-shaped pattern—such a one as would delight the heart of an "Eastern" farmer,—is of no use at all. Our old farmers tell me that they might just as well put handles to a log of wood and drag that through the ground. Such a plow will not scour here; the soil will stick to it like pitch to a monkey's paw. Now, to meet the wants of our farmers, the plow makers here make their plows of common steel hardened, and of cast-steel hardened; and these last are the best, and will scour in localities where the others will not. But all this is not enough—the favorite shape of the "Eastern" plow is as much at fault about scouring as the cast-iron material.

To make even a hardened cast-steel plow scour (although its surface is ground and polished) the mold-board must be brought up more nearly to a right-angle with the bottom of the furrow, and the off-side be brought forward more nearly to a right angle with the line of the furrow, than is the case in the cast-iron plows before referred to. This makes a blunt-looking stubbed plow, and always calls forth the exclamation from the "Eastern" farmer, at first sight, "it must draw hard." I suppose it will draw harder than the cast-iron in a gravelly or sandy soil, but here comes the point for the consideration of the agriculturists, whether they have not been using a bad-shaped plow, by pressing down their sub-soil harder and harder, year after year, with this long slim wedge, for the sake of saving some of the labor of their cattle. The blunt, stubbed, hard-drawing Western plow scarcely presses upon the bottom of the furrow at all; at all events, nothing like as much as the cast-iron plow referred to.

One of your correspondents wanted a hand husk-splitter for Southern plantations; I can easily furnish him with such an article that would not cost more in the manufacture than some of the straw cutters in common use. The husk business is carried on quite extensively here. Wm. D. ARNOLD.
Beloit, Wis.

Silvering and Gilding Metals.

MESSRS. EDITORS—I observed in your paper of Sept. 20th, page, 16, an article headed "Silvering Metal," patented by Adville, of Paris. I have discovered a process much more simple than his, and the articles to be silvered need not be freed of grease nor immersed in the liquid. This process I have given to several, among whom some are readers of the SCIENTIFIC AMERICAN, who will recognize it. I will state also that I have used it more than 18 months—long before Adville patented his process.

I will give my mode of making and using the silvering solution for the benefit of those of your readers who may be interested in such things:—

Take 32 grains of lunar caustic (nitrate of silver) and dissolve it in 4 oz., by measure, of rain water, add to this 128 grains of cyanuret of potash, shake for a few minutes, and it is ready for use. Apply this solution to the polished brass or copper, using a soft cloth, with prepared chalk.

This is a simple and quick way of preparing the cyanuret of silver in solution. It is very poisonous, and should be labeled *Poison*. If there is a sore on the hand or on a finger it should be protected before using this, otherwise there is danger.

It can be applied to many purposes, and is useful in polishing spoons, forks, and candlesticks, and, indeed, anything made of silver when it is necessary to clean them up.

The process of gilding is easy enough, but the articles have to be cleaned and immersed.

Dissolve gold filings, or in small pieces, in nitro-muriatic acid—made of one part of nitric acid and two parts of muriatic acid—with a gentle heat, and a strong solution of cyanuret of potash in water, till the acid is neutralized and an excess of the cyanuret solution added. It is better to throw in, also, a little carbonate of potash. The article to be gilded is put into this solution and clamped with a strip of sheet zinc. The zinc is cut into a strip four or five inches long and half an inch wide, and the ends bent together so as to hold the article, which should occasionally be taken out and polished. The gold solution should be kept in a dark place. B. F. REA.

Lafayette, Ala., Oct. 1856.

The New Old System of Tanning.

MESSRS. EDITORS—By the last steamer I received No. 67 of *Le Genie Industriel*, in which I find a long and flaming account of a new and wonderful invention in the tanning business, just made by Mr. Charles Knoderer, of Strasburg. The French and German journals are full of bombastic articles on the subject, and a large joint-stock company has been organized in Strasburg to carry out the wonderful invention, which consists in enclosing in large wooden cylinders the skins of various animals—tan liquor and ground bark; the cylinders are filled completely full, and closed by a man-hole, and are then revolved, and every few hours the liquors are changed, and in a few days the skins are found to be as well tanned as in the old way in as many weeks. The cylinders are of such size that when loaded they will contain of skins, bark, and tan liquor 10 to 20,000 lbs. in weight.

As long ago as 1846 the very same system was in practical operation in the Brooklyn Tannery of Mr. Jonathan Trotter. The cylinders were fully as large, mounted the same way, and to the smallest particular the whole French process is a repetition of the Brooklyn process. Mr. Knoderer will have to try again.

If the thing was put forward in a modest way it might be passed over without notice, but Knoderer has a book out, filled with such "high falutin," pompous language that I find it necessary to clip his wings. It may be a new thing in Strasburg, but it is certainly an old affair in New York and Brooklyn. Harlem, N. Y., Oct., 1856. J. T. T.

Dark Days.

MESSRS. EDITORS—That most delightful of all seasons, Indian summer, is upon us. The weather has been dry and pleasant, with constant sunshine, and a temperature of the atmosphere just warm enough, while the forests present a variety of colors most pleasing to the eye; but the great distinguishing feature of the scene, and that which marks it as Indian summer, is that the atmosphere is filled with smoke. Now I wish to ask where this smoke comes from. Some assert that it comes from the fires of clearings, others that the atmosphere gets so light that all the smoke settles to the ground. If Indian summer only occurred in New York City, that might do to talk about, but New York City could scarcely send up as much smoke in one day as is to be found covering two miles square around Dayton at this moment. Early this morning the smoke was not remarkably dense, but it has been thickening up all day, until daylight is almost shut out. When the sun shines everything has a bright yellow color, at least, I suppose it is the shining of the sun, for I do not know what else would cause it, but cannot be certain about it, for it is too dark for the sun to be seen.

You must not suppose that I mistake fog for smoke, for smoke produces a sensible effect upon both eyes and nose, and is readily distinguished from fog.

It is just half-past 2 o'clock, and is so dark that I can scarcely see to write while seated in a window of very large size. The room I am in is remarkably well lighted, and yet at this hour it is too dark to read ordinary print in the center of the room. The day is one that will be remembered as a very dark one. G.

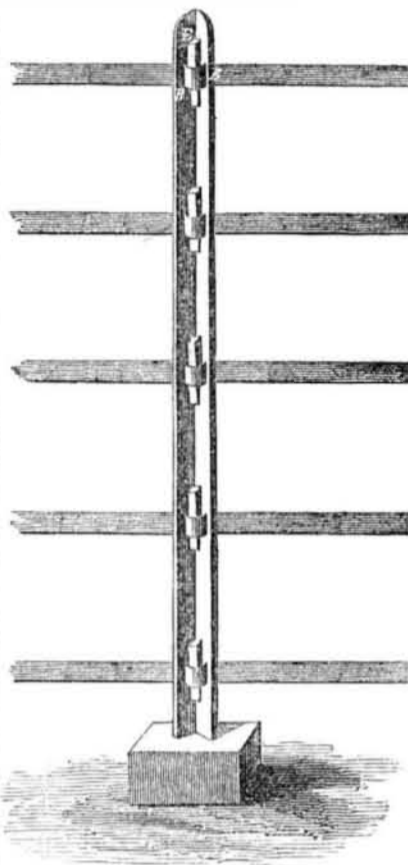
Dayton, Ohio, Oct. 13th, 1856.

The steamship *Perserverance* was burned at Galveston on the 3d inst.

Improved Construction of Iron Fences, Adapted to Farms, Railroads, &c.

The improvement relates to the mode of constructing a double-lipped post or tie, and also fastening, supporting, and taking up the slack of the rail, whether flat or round.

FIG. 1.



The post is bent or curved so as to form lips, B B. Each lip is mortised at various heights from the ground, corresponding to the position it is desired to fasten the rail. The rails are passed through the mortises, and a key, E, is then inserted, which fastens the rail to the tie. When it is desired to tighten or take up the slack of these flat rails, the key, E, is driven downward, and as it is made wedge-shaped and bears upon the corners of the posts as a fulcrum, it crimps the rail, and thus shortens it, and takes up the slack. At the same time it is held firmly, and the whole fence rendered very substantial.

FIG. 2.

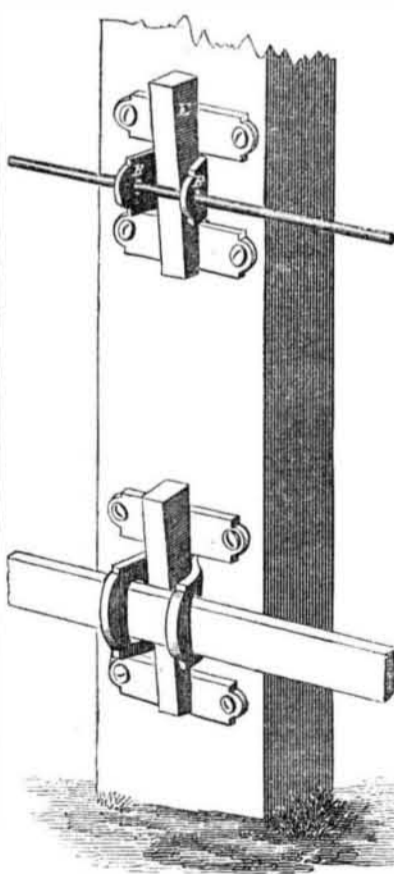


Fig. 2 shows a method of fastening, on the above principle, applied to common wooden posts, the lip parts, E, being screwed to the posts.

Flat iron for fences is a decided improvement over the common wire used for fencing purposes. The objection to invisibility is entirely removed by the use of flat rails, as the

broad side of the rail is exposed to view, so that cattle or stock easily perceive it, and thus avoid damage to the fence, as well as themselves.

The flat rails being placed edge up in the posts prevents the rails from sagging, as in the wire fence. The posts can be manufactured of very thin iron into the U-shape, thus making them strong, light, durable, and cheap. The rails can be manufactured of light hoop iron for farm enclosures, and where heavier fences are required, the size of the rail can be of any desired width.

The chief novelty consists in the manner of securing the posts and the rails together, and in taking up the slack in wire fences, or in the flat rail fence where it occurs, and holding all the parts rigidly and permanently together. For further information address J. B. Wickersham, 312 Broadway, New York. Patented Sept. 16th, 1856.

Trial of Fire Engines.

A correspondent at Lowell, Mass., sends us an account of a trial of fire engines, which came off in the city of spindles on the 2nd and 3rd of this month. Three prizes were played for: the first, for \$300, was won by the *Washington* engine, No. 3, of Medford, Mass., built by Hunneman, of Boston; the second, of \$200, was won by the *Tiger*, No. 1, of Haverhill, Mass., built by Jeffers, of Pawtucket, R. I.; the third, of \$100, was won by the *Eureka*, No. 1, of West Cambridge, Mass., built by Howard & Davies. Twenty-four machines entered the lists for the prizes.

The prizes were granted for the greatest total length thrown—the horizontal and perpendicular streams added together. The *Washington* threw a total length of 335 feet.

These trials of skill do not prove which engine is the best; they are not conducted to test this point,—they are simply feats of working,—more indebted for success to the ability of the firemen working the brakes than to the superiority of the machines. That machine is the best which, by a given number of strokes, in a given time, by the same power expended, discharges the greatest amount of water.

Steam Plows.

The Charlestown, Mass., *Advertiser* has been sent to us marked, in order to call our attention to an article in it, describing a steam plow stated to have been invented in the month of February last, by George Rumrell, an American gentleman who has resided for some years in Peru, and who made a contract with Messrs. Hettinger and Cook, of that place, to construct it. It is a locomotive or traction steam plow, designed for ten horse power, with two cylinders of five inch bore, each, and twenty inch stroke. It is intended to run six plows in a gang and turn over six furrows, measuring four feet wide altogether. It is to be steered so as to turn in a very small space, and is well adapted for the light soil of Peru, where it is to be used. The object of it is the plowing of sugar cane fields, which are very level, and the bagasse, or dry sugar cane stalks, are to be used as fuel. It will weigh four tons, carrying its own water.

We hope it will prove very successful; but the *Advertiser* is in error in stating that it is the first of its kind invented—that is, a locomotive to draw its plow after it. There have been two kinds of steam plows constructed and tried in England,—one having a stationary engine, fixed at one part of the field to be plowed, and dragging the plows through the soil by ropes passing over pulleys; the other being a locomotive, driving through the fields and dragging its plows.

Our opinion is most favorable to a locomotive traction plow; no other kind is suitable for agricultural purposes. A number of very successful experiments were made in England last month, at Chelmsford, at Hownslow, and Hanworth, with Boydell's steam locomotive plow, against horses, plowing in the same field, and the *London Engineer* states that the cost for steam plowing is not over one-fifth that of horses. If this is so, then a great revolution in plowing is at hand; and our farmers on the Western prairies, may indulge hopes of having their wishes soon realized, and an efficient prairie steam plow provided for them.