

**Improved Connecting Link.**

This engraving represents a new and most useful fastening- which can be applied to a great variety of purposes. It is principally designed for teamsters' and farmers' use. It is intended to take the place of the old-fashioned lap-ring. This ring consists of an iron link, not welded at one end, but having the same flattened so that they pass each other. When this ring is used, the flattened ends must be pried open, the parts to be connected inserted, and the ring hammered together again. Of course, this is most troublesome; not only this, but from constant opening and shutting, the flattened ends get broken off so that the thing is useless.

With this link it is only necessary to swing one part past the other, and then shut them together when the pieces to be connected are in place. This holds all snug and fast, beyond the possibility of detachment. Fig. 1 shows the link in one form, both open and closed. Fig. 2, another kind, both opened and closed. Figs. 3 and 4 are views of all other kinds, all being on the same principle. The strength of this link has nothing to do with the pivot—that is merely provided to keep the two parts together, the strain coming on the ends of the hook.

The demand for these links, by farmers and others, has been very great, and the inventor, who is a Texan, was receiving many orders for them at the breaking out of the Rebellion. The troubles which followed, however, deprived him of all opportunity and means to prosecute his business. He now desires to sell the right to the patent. It seems to be a most useful article. For further information address the patentee, John P. Kirk, Leggett's Hotel, 46 Chatham street, New York.

**The Photo-Miniature.—Beecher's Formula.**

First: Take the whites of two eggs and two ounces of water, beat well to a froth, and let it settle for two hours and pour off the clear solution.

Second: Coat your white plate with this solution (as you would with collodion), and set away to dry. When dry take in your dark room and coat the plate with the "opal solution," which is made thus:—

Plain collodion 8 oz. (thinner than you would use for iodizing), then dissolve in as little water as possible 60 grains nitrate of silver, and add this to the collodion and shake well. Then dissolve 16 grains of strontium in as little water as possible, and add this to the collodion, and shake well. Then dissolve 10 grains citric acid in as little water as possible, and add to the collodion. Shake well, and you have the opal solution.

When dry, put your negative in the printing frame—lay the opal prepared plate on the negative, and print from 10 to 15 minutes in the sun, and print much darker than you would a photograph.

Tone and fix as you would a photograph, only you need not wash before toning—and wash but little before fixing. The "opals" tone in one-tenth the time of a photograph.

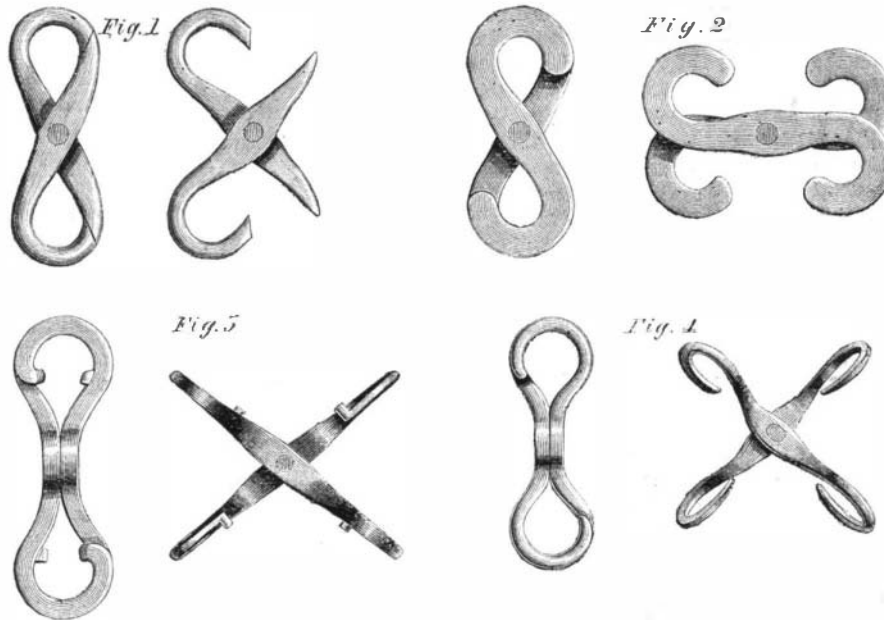
Keep the opal preparation in a dark room. Have your toning bath a little alkaline, and not as strong as for toning photographs.—*Humphrey's Journal.*

**Spider Silk.**

During the summer of 1864, the 55th Mass. Colored Volunteers were stationed at Folley Island, S. C. In August, Major Sigourney Wales was detached to command the outposts on the adjoining islands. There his duty obliged him to visit all parts of the island, day and night. During his rides he found great numbers of large spiders, whose webs, extending from tree to tree, often measured from six to ten feet, with threads of a silk-like texture, strong, elastic, and of a bright gold color. These webs were a source of annoyance, especially at night, when the most disagreeable sensations were experi-

enced by their tenacity and resistance to repeated attempts to brush them from the person. Speaking of this to the assistant surgeon, it led him to mention some curious experiments made by him the year previous, in which he reeled upon a pencil or quill many yards of web from a single insect.

Persons familiar with army life are aware that its leisure hours are many; these Major Wales had employed, at intervals, in carving mementoes, and in this connection it occurred to him, that if he could draw this golden thread upon a ring, it would make a valuable souvenir of war.



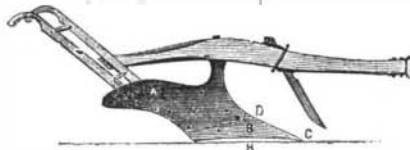
**KIRK'S CONNECTING LINK.**

Having satisfied himself of the practicability of his design, by securing several of the spiders and reeling their web upon an ebony reeler, he proceeded to carve out of hard rubber a ring, with raised rims on its outer surface; this he secured to a cork, through which a large shawl pin was thrust, forming a wheel and axle, and giving increased velocity.

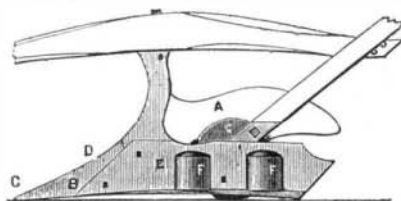
With a supply of spiders confined in a cigar box, he completed this ring; which, when finished, presented two black rims inclosing bands of gold, one-eighth inch in width, so much like gold as to be readily mistaken for the true metal.

**GREEN'S PLOWS.**

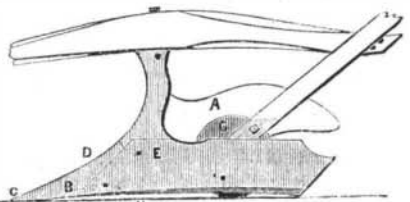
These plows, says the inventor, being constructed upon entirely new principles, are fast becoming the leading plows of the country. They are recommended



to work in a superior manner upon every variety of soil—sticky or otherwise. A friction-roller landside, F F, and center wheel, G, being attached for the pur-



pose of heavy sod plowing and easing the draft, which can be changed to plain, for plowing stubble, by the aid of an extra land side. The cutting angle of the



share, B, is about 28° or 30°, extending the entire length of the lower edge of the board, A, and in connection with the concavity, H, effects a quick and

easy entry. These plows are of light draft and easy control, turning the furrow in a superior style. They pulverize the soil finely, so that it is in a suitable condition to absorb fertilizing properties from the atmosphere.

A new subsoil plow is also manufactured with flat double-wing shares for the cultivation of all kinds of roots, corn, etc. A large size of this new plow is likewise made, with changeable share and flanges, for various purposes, such as under-draining, scarifying, and renovating old pastures and meadow lands.

Small plows are made which equal in size the Horton & Depiew—19 and 19½ inches.

These plows can be seen at Goodwin's, No. 31 Fulton street, or at E. H. Reeves's, Water street, New York; also at the Peekskill Plow Works, Peekskill, N. Y. For further information address L. Green, Peekskill, N. Y.

**Chloride of Lime for Vermin.**

Some years ago I read in a French scientific periodical, that chloride of lime would rid a house of all these nuisances. I treasured up the information until opportunity offered for testing its value, and this occurred some four years since. I took an old country house infested with rats, mice and flies. I stuffed every rat and mouse-hole with the chloride. I threw it on the quarry-floors of the dairy and cellars. I kept saucers of it under the chests of

drawers, or some other convenient piece of furniture; in every nursery, bed-room, or drawing-room. An ornamental glass vase held a quantity at the foot of each staircase. Stables, cowsheds, pig-sties, all had their dose, and the result was glorious. I thoroughly routed my enemies, and if the rats, more impudent than all the rest, did make renewed attacks upon the dairy in about twelve months, when, probably, from repeated cleansing and flushing, all traces of the chloride had vanished, a handful of fresh again routed them and left me master of my own premises. Last year was a great one for wasps; they wouldn't face the chloride; though in the dining-room, in which we had none—as its smell, to me most refreshing and wholesome, is not approved by all persons—we had a perpetual warfare. And all the comfort for eightpence!—*Cor. London Builder.*

**The New Cable.**

Birmingham (England) is again to have the credit of manufacturing the wire for the new Atlantic cable, and Mr. James Horsfall has commenced the work. Throughout the series of mishaps which occurred in laying the cable in August last, no fault has ever been found with Mr. Horsfall's homogeneous wire; and the new cable will be the same as the last in size, material and quality. We believe that the conducting copper wire will also be made by Birmingham manufacturers, and the hempen covering of the cable will again be made by Messrs. J. & E. Wright, of Garrison Lane. The manufacture of the cable will be undertaken by the Telegraph Cable Construction Company. The company intend to pick up the cable already laid, and complete it, and their engineers entertain no doubt whatever of being able to do so; and the new cable is intended for a second line of telegraph, the directors feeling convinced that one medium of communication between England and America will be altogether insufficient for the commercial requirements of the two continents. Both cables will be completed next summer.

A PARIS butcher has obtained authority to open a shop for the sale of horse flesh, on condition that he will construct a special slaughter-house for the horses, to be placed under the superintendence of an inspector. The opening of the shop is to be celebrated by a banquet, at which horse-meat will form the principal dish.