

New Inventions.

Reward to a Telegraph Inventor.

The Bavarian government has decided to give a sum of money to Professor Steinheil, of Munich, as the original inventor of the electric telegraph. This gentleman had a telegraph in operation between Munich and Bogenhausen, a distance of 12 English miles, in July, 1837, and this the Bavarians think entitles him to priority. They fully acknowledge Morse's improvements, however, but wish to give honor where honor is due.

Something New on the Strength of Boilers.

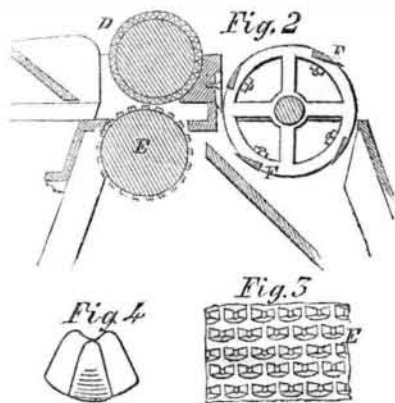
A contribution of great importance, has lately been made to our knowledge of the laws regarding the strength of boilers, by W. Fairbairn, C.E., Manchester, England. From experiments he has found that the intensity of pressure required to make a flue or other thin tube collapse, is directly as the square of the thickness of the metal, inversely as the diameter, and also the length. The new point of discovery, is that which relates to the diminution of strength as the length of a flue is increased. Such a law was not hitherto suspected; it was always supposed that the extended length of a flue did not, in the least, affect its strength, but that this was determined alone by the thickness of the metal, and the diameter of the flue in the boiler. The following is the rule which has been laid down for computing the pressure in pounds on the square inch, which a wrought iron flue can sustain. Multiply the constant factor 806,000, by the square of the thickness of the metal in inches, and divide the product by the diameter of the flue in inches, and of its length in feet. It is necessary to the strength of the flue that it should be exactly cylindrical. This is a most important question for boiler makers and engineers. The discovery throws much light on the frequent collapsing of long flues, most of which are made of too thin metal to withstand the great pressure to which they are exposed. By strengthening long flues as recommended by Mr. Fairbairn, with rings of T-iron placed at certain distances apart, they can be made at a little extra cost as strong as short flues.

Improved Straw-Cutter.

All the usual and most economical cattle feed, such as corn stalks and sugar cane, have their fibers so strongly bound together that before giving them to the cattle it is well to prepare them by separating their fibers, and in some measure masticating them, without, however, depriving them of any nutriment. The masticator which is the subject of our illustrations can also be used as a straw-cutter, and it will be fully understood by reference to the accompanying gravings.

Fig. 1 is a perspective view of the machine, and Fig. 2 is a section of the feed rollers and cutters.

To a frame, A, is attached a feeding spout or trough, B, and a delivery incline, C.

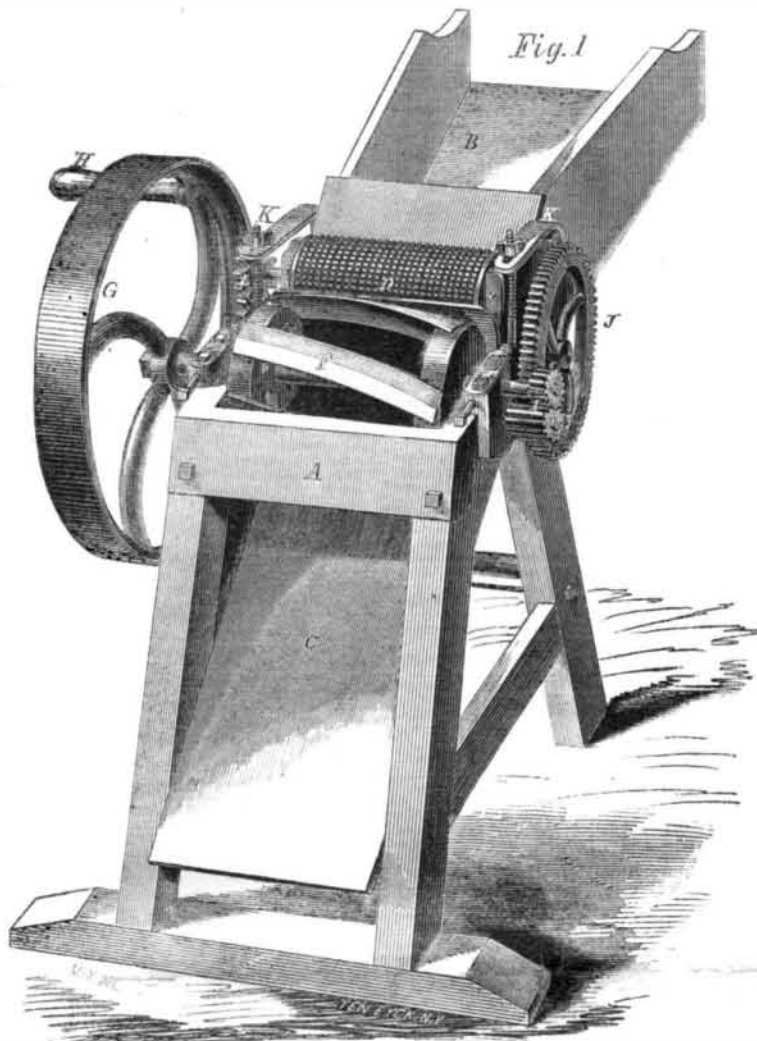


Between these the feed rollers, D E, are placed. The lower one, of which E has upon its surface a number of teeth shaped like the molar teeth of animals, running in a zig-zag line, which masticate and thoroughly break

up the stalks and fodder as it feeds them to the cutters. The arrangement of these teeth will be seen in Fig. 3, which is a plan or projection of part of the cylinder, E, and Fig. 4, which is a view of a single tooth (enlarged in proportion) seen from its convex side. The cutters, F, are arranged spirally on the shaft

of the fly wheel, G, that is rotated by the crank, H, on which shaft is also the gearing, I J, that moves the feed rollers or masticators. The feed rollers are kept in contact by spring, K, and they are connected at their ends by cog wheels, L. This machine making four cuts, and having the power directly

SINCLAIR'S STRAW-CUTTER AND MASTICATOR.

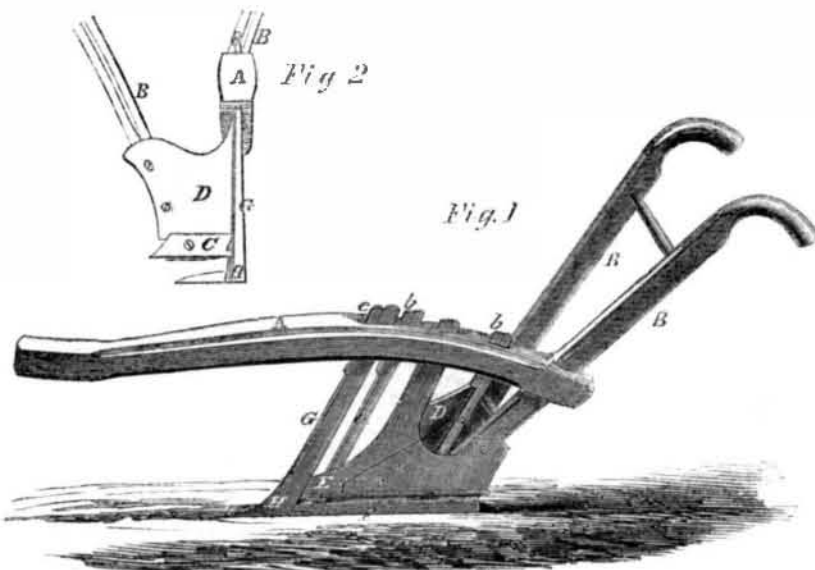


applied to the cutters it can be worked with great rapidity, and is altogether a great improvement on the "screw-propeller cutting machine" made by the same individual. The knives are provided with a cover to protect them from rust and also to prevent acci-

dent when they are in motion, and it is held in position by springs, and can be easily removed.

The inventor is Robert Sinclair, Jr., of Baltimore, Md., who will be happy to furnish any further particulars or information. The patent is dated July 20, 1858.

DICKSON'S IMPROVED PLOW.



ordinary surface plow available when necessary as a sub-soil one. To effect this, a supplemental land-side and a coulter attached to the plow are used. Fig. 1 is a side, and Fig. 2 a front view of the improvement.

A is the beam, B B the handles, C the share, D the mold board, and E the land-side of an ordinary surface plow. F is a supplemental land-side, having two upright bars, a a, attached to it; they pass through the beam, A, and are secured in proper position by the keys, b b, the land-side, F, being at

G is a coulter, the upper part of which passes through A, and is secured by a key, c, and the lower end of G has a share, H, formed upon it, and a groove is made in the back of the coulter, that the front of F may fit therein.

The share or lower end of G is about on a line with the land-side, F; and the coulter and land-side, when adjusted below the upper and side, E, as seen in Fig. 2, forms a sub-soil plow. The supplemental land-side, F, may be detached at any time with the coulter

G, and the implement may be used as an ordinary surface plow.

The beam and handles can be constructed of wood, as usual, and the share, C, mold board, D, and land-side, E, as well as the coulter, G, and supplemental land-side, F, are of metal. The implement may be constructed very cheap, and it will work in either of its double capacities as well as one constructed for the special application.

The inventor—Alexander Dickson, of Hillsboro, N. C.—will be happy to furnish any further particulars upon being communicated with. A patent was obtained June 22, 1858.

Sewing Machine Patent Cases.

The following exceedingly useful information to patentees and others, relates to important patent suits instituted by O. B. Potter and N. Wheeler against Stedman & Holland, for infringing the re-issued patents granted to Allen B. Wilson a the feeding device for sewing machines by which the operator can turn the cloth while the machine is in operation, so as to sew a seam of any desired curvature.

Several months since, on applications for injunctions to the United States Circuit Court, sitting at New Haven, Conn., the defendants in these cases raised the objection that the re-issued patents were void, because Wilson made the surrender of the original patent, and took the re-issues while he was not the sole owner of the patent, and that it required the concurrence of all persons interested in the original patent to make a valid surrender under the act of Congress.

It appeared, by the record of the cases, that at the time Wilson made the surrender of the original patent for a re-issue, there were some States which he had disposed of, and for which he did not own the whole interest in the patent.

The cases, on this question of law, were afterwards argued at Hartford, Conn., by Messrs. Baldwin and Ingersoll, of New Haven, and George Gifford, of New York, for the complainants, and Messrs. Dickerson and Brady, of New York, for the defendants, before Judges Nelson and Ingersoll; after which a decision was rendered by Judge Ingersoll, concurred in by Judge Nelson, in favor of the complainants, and sustaining the patents, and in which it is decided:—

First, That a surrender of an original patent, to be operative, may be made by the patentee alone, where there is not an outstanding assignment, or by the assignees of the whole patent, and by no other party.

Second, That an assignee, in the sense of the patent law, is one who has had transferred to him either the whole patent or an undivided interest in the whole patent.

Third, That a purchaser and owner of a patent for a specified territory, as for a State, is only a grantee, and not, in the sense of the patent law, an assignee, and need not join or concur in a surrender of the patent for a re-issue.

Fourth, That persons holding interest under the patent, other than as assignees or grantees, thus defined, are only licensees, and have nothing to do with the surrender.

Fifth, That a surrender and re-issue of a patent does not necessarily destroy the original patent, but that, on the contrary, grantees and licensees may claim and hold under either the original, after surrender, or the re-issue as they shall elect; but that after electing, they are bound by their election, and cannot in any case claim under both.

Sixth, That where a surrender is made by the patentee, and there is an outstanding assignee, the surrender may, at any time be made operative by a ratification by the assignee.

These cases have since been argued on the merits by the same counsel, before Judge Ingersoll, and a decision has not yet been rendered. All these questions of decision are of great interest, especially the first, fifth and sixth, which embrace novel features; and they will be precedents for future action.