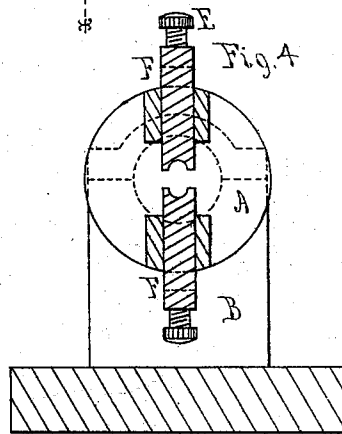
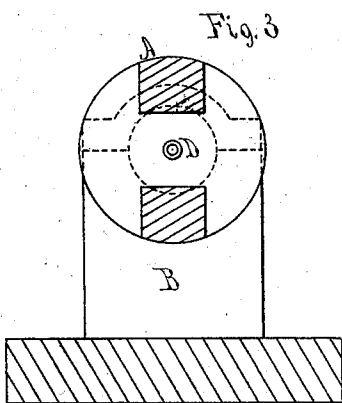
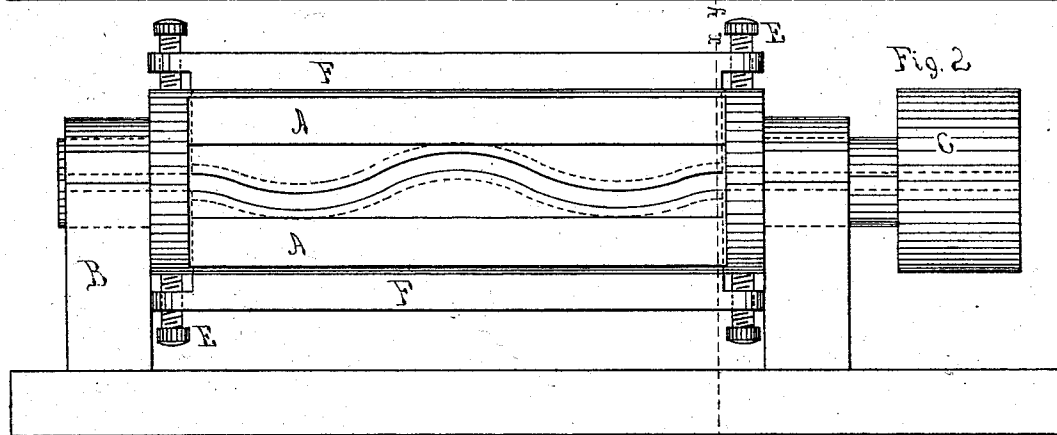
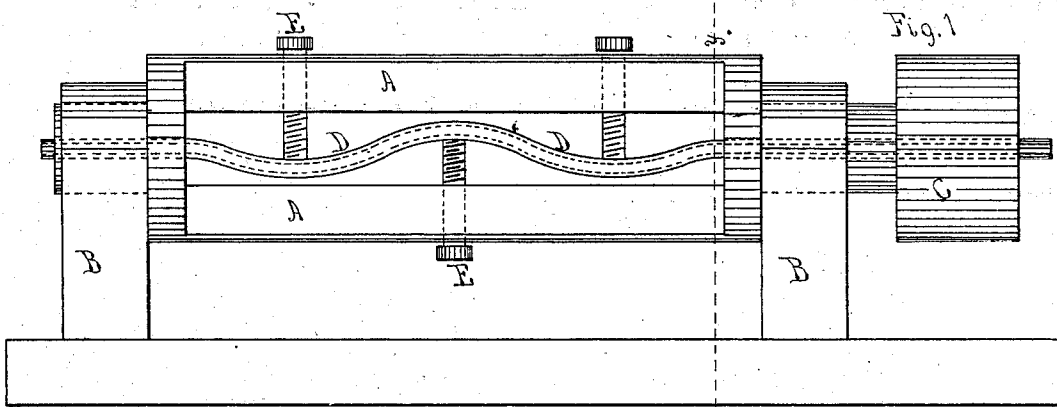


F. W. MALLET.

Machines for Straightening Wire.

No. 149,666.

Patented April 14, 1874.



Witnesses
John E. Gaul
C. W. Forbes

Inventor.
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UNITED STATES PATENT OFFICE.

FRANCIS W. MALLETT, OF NEWTONVILLE, MASSACHUSETTS, ASSIGNOR TO
THE COOK & PORTER NEEDLE COMPANY, OF SAME PLACE.

IMPROVEMENT IN MACHINES FOR STRAIGHTENING WIRE.

Specification forming part of Letters Patent No. **149,666**, dated April 14, 1874; application filed
December 29, 1873.

To all whom it may concern:

Be it known that I, FRANCIS W. MALLETT, of Newtonville, county of Middlesex, State of Massachusetts, have invented a new and useful Improvement in Machines for Straightening Wire, of which the following is a full, clear, and exact description, reference being had to the drawings accompanying and forming part of this specification.

The nature of my invention consists in the employment of an adjustable continuous surface as a guide and support for the wire while it is being passed through the rotating head of the machine in the process of being straightened.

In the accompanying drawings, Figure 1 is a view in elevation of one form of my improved machine, in which the adjustable continuous surface is obtained by the use of a flexible metallic tube; and Fig. 3 is a view of the same in section on the line *y y* in Fig. 1. Fig. 2 is a view in elevation of another form of my improved machine, in which the adjustable continuous surface is obtained by the use of adjustable plates; and Fig. 4 is a view of the same in section through the line *x x* in Fig. 2.

In these figures like letters refer to similar parts.

Machines for straightening wire, as usually constructed, consist of a rotating head or frame, A, having inserted therein, on opposite sides of the same, a series of adjustable pins, arranged as the set-screws E E in Fig. 1, said pins being so adjusted in relation to each other that when a wire is inserted lengthwise between their opposing ends it will have a serpentine form, as shown in Fig. 1, the extent of curvature being capable of being varied, as may be required by the adjustment of the pins. The machine operates as follows: The wire which is to be straightened is inserted between the ends of the pins, which are adjusted according to the deviation of the wire from straightness, and is carried through the machine, so as to project on the end of the same. The head or frame A is then rotated, and at the same time the projecting end of the wire is grasped, so that it is prevented from turning with the rotating head and drawn through

the same. The wire, being held stationary while the head is rotated, consequently receives successive bends in opposite directions throughout its length, and, therefore, is drawn from the machine perfectly straight.

The insertion of the wire between the ends of the pins before the head is rotated is a tedious and difficult operation, especially when the wire is much bent, and as a portion of the wire is required to project from the machine, in order that it may be readily grasped, that portion cannot be subjected to the straightening process, and is necessarily lost.

To obviate these defects in straightening-machines as usually constructed is the object of my improvement, as by the use of an adjustable continuous surface as a guide and support for the wire I am enabled to avoid the operation of inserting the wire through the whole length of the head previous to its being rotated, to insert the wire easily and quickly, even while the head is in rotation, and to subject all of the wire to the straightening process.

The manner in which I prefer to carry out this principle of construction is represented in Figs. 1 and 3, in which A is the rotating head, constructed in the usual form; B B, the supports for the same; C, the drum by which it is rotated; D, flexible tube of brass or other suitable metal, extending lengthwise through the head A; and E E, adjustable set-screws, bearing upon the tube which supports the same, and by means of which the desired curvature can be given thereto.

The wire to be straightened can be easily inserted into this tube D, even while the head is in rotation, and be pushed and drawn through the same, so that all of the wire will be subjected to successive bends in opposite directions, and be made perfectly straight. No time is lost in inserting the wire previous to its being straightened, and all of the wire is subjected to the straightening process.

In the machines of the unimproved form the wire was liable to be scratched by the ends of the pins, but in the improved machine the wire passes over a smooth metallic surface without injury.

Another method of carrying out my principle of construction is represented in Figs. 2 and 4. In this form, A is the rotating head, as before; and F F are two metallic plates inserted longitudinally in the head, and capable of vertical adjustment by means of the set-screws E E. The inner edge of each of these plates is of a serpentine form, the curve of one corresponding with that of the other, and is provided with a groove, so that when said plates are brought together a serpentine tube will be formed, while, by separating them at different distances apart, the amount of bend to which the wire will be subjected by contact with the plates can be varied, as may be required.

What I claim as my invention, and desire to

secure by Letters Patent of the United States, is—

1. In machines for straightening wire, the combination, with the rotating head, of an adjustable continuous surface, as a guide and support for the wire while it is passing through the machine in the process of being straightened, substantially as and for the purpose set forth.

2. The combination of the rotating head A, flexible tube D, and adjusting set-screws E E, substantially as and for the purpose as set forth.

FRANCIS W. MALLETT.

Witnesses:

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SAMUEL SNOW.