

G. I. WASHBURN.
WIRE STRAIGHTENING MACHINE.

No. 48,608.

Patented July 4, 1865.

Fig. 1.

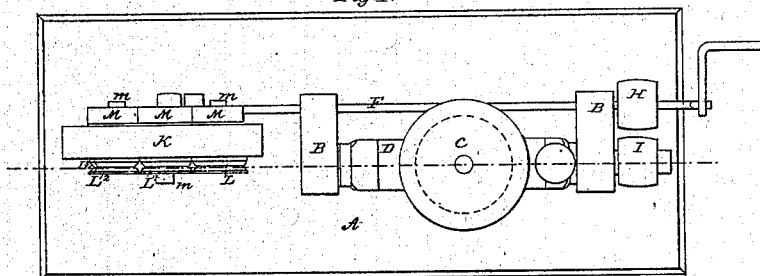


Fig. 2.

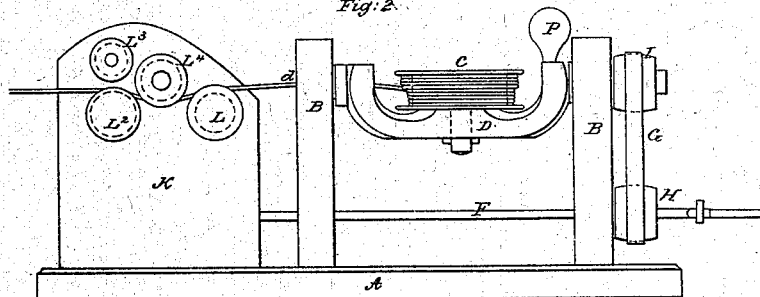


Fig. 3.

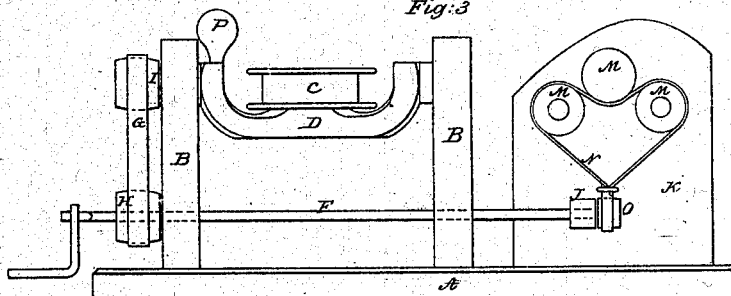
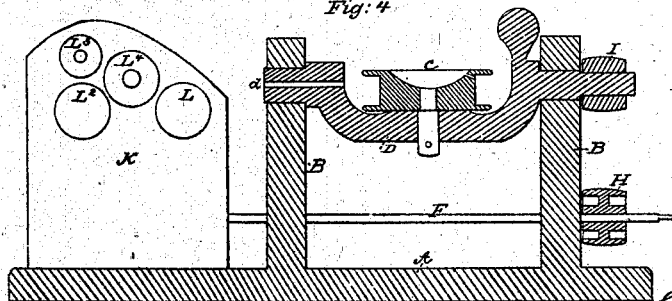


Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE I. WASHBURN, OF WORCESTER, MASSACHUSETTS.

IMPROVED WIRE-STRAIGHTENING MACHINE.

Specification forming part of Letters Patent No. 48,608, dated July 4, 1865.

To all whom it may concern:

Be it known that I, GEORGE I. WASHBURN, of the city and county of Worcester, in the State of Massachusetts, have invented a new and Improved Machine for Straightening Wire; and I do hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a plan of my improved machine. Fig. 2 is a side elevation of the same. Fig. 3 is a similar view, looking from the opposite side. Fig. 4 is a vertical longitudinal section in the line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a certain novel arrangement of devices whereby wire may be much more readily and effectually straightened than by machines hitherto employed for this purpose.

The chief or essential feature of my invention consists in causing the wire itself to revolve while being drawn between fixed points or rollers, the instrumentality heretofore resorted to to effect the object in view being a defective arrangement of rotating rollers through which the wire is drawn by pinchers.

In order that others skilled in the art to which my invention appertains may be enabled to fully understand and use the same, I will proceed to describe its construction and operation.

In the accompanying drawings, A may represent a table or bed, which supports upright standards B B.

C represents a reel securely pivoted within a yoke, D, and adapted to rotate therein and be revolved simultaneously therewith, for the purpose to be explained. The yoke D is journaled in suitable boxes in the upper ends of the standards B B, and is designed to be revolved at a very high velocity by steam or other power transmitted from the pulley H on the shaft F to the pulley I by a band, G. The rod F passes through apertures in the standards B B, which constitute bearings therefor, and has an additional bearing in a bracket or ear, J, which is rigidly secured to a frame, K.

M M M represent a series of pulleys secured

upon the ends of short shafts *m m m*; and L L' L² L³ represent another series of pulleys or wheels secured upon the opposite ends of the shafts *m*, all of said pulleys being adapted to rotate with the shafts *m*, the latter passing transversely through the frame K. The pulleys M may be rotated so as to impart a like motion to the pulleys L by a band, N, from a pulley, O, secured upon the shaft F.

d represents an aperture in the yoke, through which the wire is drawn from the reel C to the wheels L L' L² L³.

P represents a ball or weight employed to counterbalance the yoke D while the apparatus is in operation.

The following is the operation of my improved apparatus. The bent wire is first coiled around the reel C in customary manner. One end is then passed through the aperture *d* and disposed over the wheel L, under the wheel L', and between the wheels L² L³, as indicated in red lines in Fig. 2. Power being then applied as described, the yoke D, together with the reel C, is revolved in a vertical plane and the wheels L L' L² L³ rotated through the respective bands G N, and these wheels, between which the wire, in passing, is straightened, are designed to constitute feed-rollers, so that the employment of pinchers for drawing the wire between the straightening-points may be dispensed with. Pinchers may, however, if desired, be employed for drawing the wire through the straightening-points. By this arrangement it will be seen that the revolution of the yoke D causes the wire to revolve upon its own axis while passing between the straightening-points, which, as will be at once apparent, greatly promotes the work, and effects the straightening of the wire much more readily than where the wire is merely drawn between a series of fixed revolving points, as hitherto.

It is designed to attach to or employ, in connection with the above-described apparatus, an automatic device for cutting the wire into lengths as it comes from the machine.

Having thus described my invention, the following is what I claim as new and desire to secure by Letters Patent:

1. Causing the wire to rotate upon its own axis as it passes between the straightening-

points in any manner, substantially as set forth.

2. As an improvement in machines for straightening wire, the combination of the reel C, yoke D, and wheels L L' L² L³, arranged and operating substantially as and for the purposes set forth.

To the above specification of my improved wire-straightening machine I have signed my hand this 25th day of March, 1865.

GEO. I. WASHBURN.

Witnesses:

CHARLES D. SMITH,
EDWARD H. KNIGHT.