

H. W. BURR.
MACHINES FOR COVERING WIRE WITH RUBBER FOR WRINGER-
ROLLS.

No. 180,194.

Patented July 25, 1876.

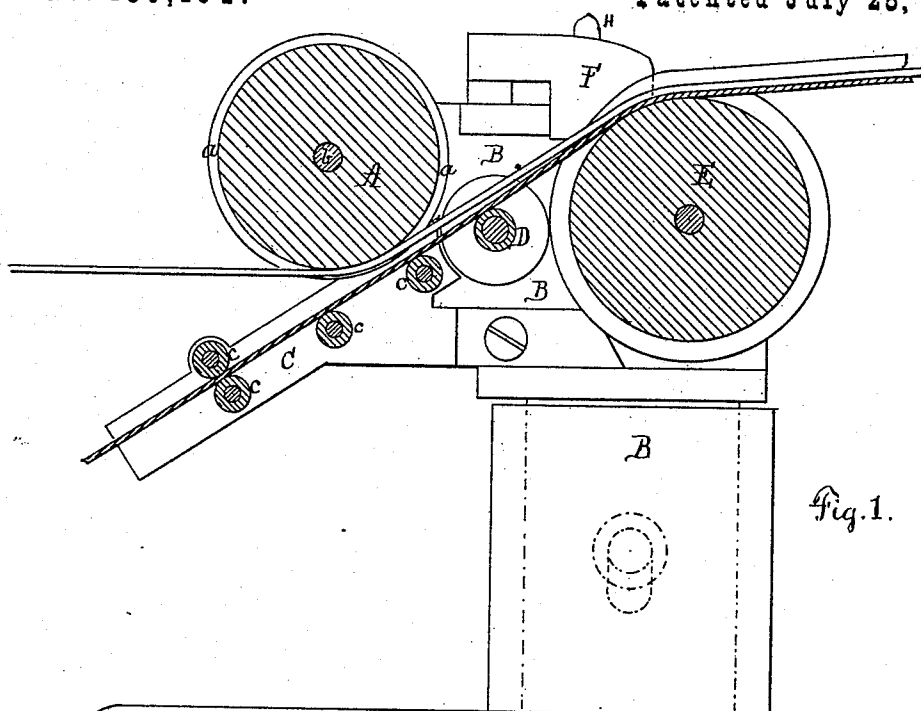


Fig. 1.

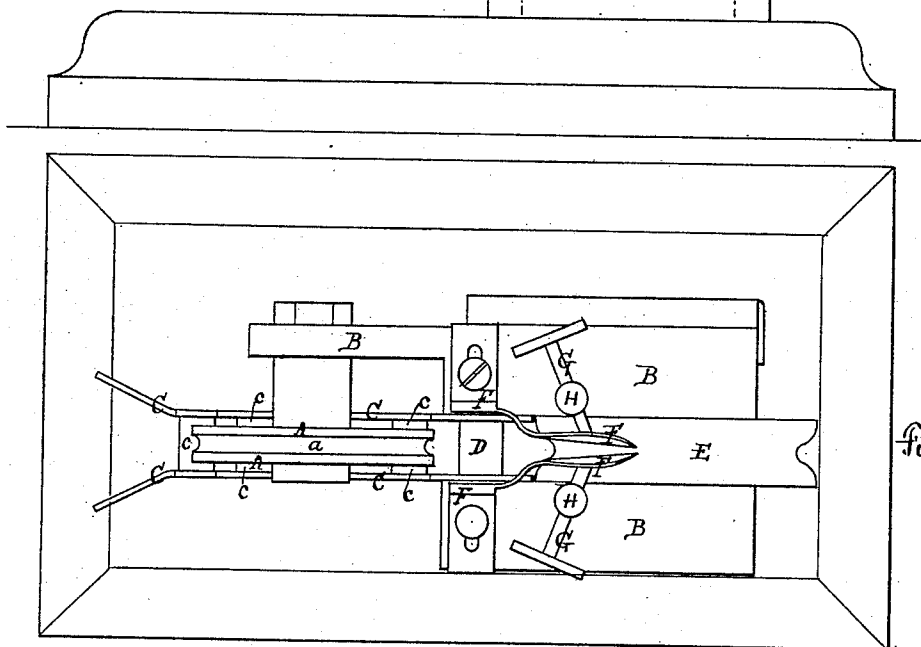


Fig. 2

Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY W. BURR, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN MACHINES FOR COVERING WIRE WITH RUBBER FOR WRINGER-ROLLS.

Specification forming part of Letters Patent No. **180,194**, dated July 25, 1876; application filed April 8, 1876.

To all whom it may concern:

Be it known that I, HENRY W. BURR, of Boston, Massachusetts, have invented an Improved Machine for Covering Wire with Rubber Compound, &c., in Forming Wringer-Rollers, &c., and for other purposes, of which the following is a specification:

This invention relates particularly to a machine for use in the construction of wringer-rollers of that class having a composite body or core, made up of strips of rubber compound and fiber wound edgewise and secured upon the shaft by a wire wound spirally, with the core-forming material, around the shaft.

My invention consists in the combination of a grooved wheel for guiding the wire to be covered, with a channel or raceway for the plastic strip, serving to bring the strip into a proper relation to the wire before folding; also, in the combination, with such guiding means, of a grooved or U-faced folding-wheel, adapted to fold the yielding strip upon the wire, and to embed the wire well in the center of the fold; also, in the combination, with the folding-wheel, of two adjustable wings or springs, so shaped and located as to press together the adjacent sides of the folded strip and cause them to cohere and to embrace the wire closely, with their edges projecting equally above it; also, in the means described for adjusting the height of the guiding and folding devices with relation to the shaft and its winding mechanism.

In the drawings, Figure 1 is a vertical longitudinal section through the center of my machine—the base in a side view. Fig. 2 is a plan or top view.

In practical use, the machine herein described receives the wire, under considerable tension, from a wire-straightening machine—preferably such a one as is fully described in my application for Letters Patent therefor, of even date herewith—and delivers it (wrapped in the folds of the elastic strip) to the roll-winding mechanism.

A is the guiding wheel, having the circumferential groove *a* to receive the wire as it is drawn from the straightening-machine by the winding-machine elsewhere referred to. This wheel A is mounted on a prolongation of the frame B, and rotates upon a fixed axis, *b*, as

the wire is drawn beneath it. C is the channel through which the rubber strip is drawn over the rollers *c*. The groove *a* is directly over the center of the channel which the strip of rubber is to fill, and by this means the wire is laid precisely in the center of the strip. The entire channel may be detached from the frame B by removing a single screw. This is done, and another channel substituted, when the size of the roll requires a strip of different width. At the upper end of the channel is a spool, D, over which the strip and wire pass in the proper relative position to fold. The folding is effected by the folding-wheel E, the face of which (best shown in Fig. 2 of the drawing) is, in contour, between a U and V in shape. As the strip and wire are drawn together upon the periphery of this wheel, the center of the strip is forced by the wire into the bottom of the groove, and the edges of the strip are turned equally upward by the peculiar shape of the wheel. The line of movement of the wire is changed, as it passes the folding-wheel, from a sharp inclination upward to a direction nearly horizontal, and as it is drawn, under heavy tension, by the winding mechanism, the wire is deeply embedded in the yielding strip. At the same time the upturned edges of the strip are pressed together, from the wire upward, by the springs F F, which are secured to the frame adjustably at one end, and are regulated, as to the extent of their play at the other ends, by the adjusting-screws G passing through the uprights H and bearing against the outside of the springs. The wheel and the springs compact the strip upon the wire so as to deliver it in the best condition to be wound upon the shaft as the manufacture of the roll proceeds.

That the wire and the plastic strip which it controls may be presented to the shaft under the most favorable circumstances, I prefer to give them a very slight upward tendency as they move from the wheel E to the shaft, and to accomplish this uniformly in all cases it is necessary to adjust the machine or the wheel E at a greater or less height, according as the shaft to be wound onto may be larger or smaller. To accomplish this I make the standard B of the machine in two parts, and adjust one upon the other by a slot and set-screw, or

in any other convenient manner. The foot of the machine is firmly secured to the floor, to prevent any bodily movement by reason of the tension of the wire.

The shaft may be rotated by a lathe, or by the machine ordinarily employed in coiling the core of a roller of this class, consisting, essentially, of a lathe with a series of bunters for compacting the roll laterally, or by any other convenient mechanism.

In a wire-covering machine, I claim—

1. The combination, with guides for the wire and the plastic strip, of a folding-wheel, constructed and operating substantially as described.

2. The combination of the folding-wheel and the lateral pressing-springs, co-operating together, substantially as described.

3. The combination of the wire-guiding wheel and the strip-guiding channel, arranged to operate substantially as described.

4. The combination, with mechanism for guiding the wire and the strip, and for folding the strip upon the wire, of an adjustable support or standard, substantially as described.

HENRY W. BURR.

Witnesses:

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