

H. A. WHITING.

Machines for Binding and Wiring Hat-Frames.

No. 147,724.

Patented Feb. 17, 1874.

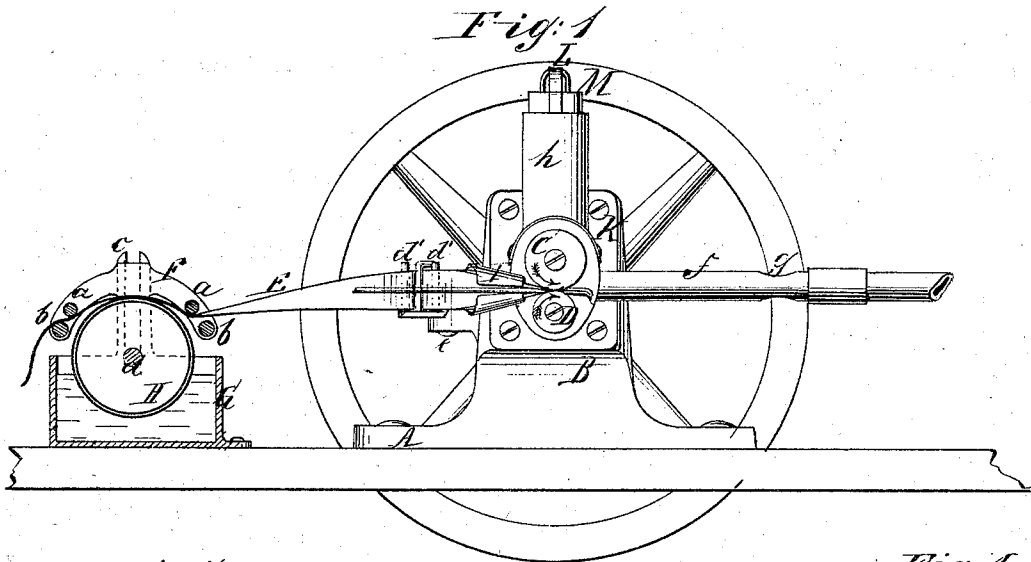


Fig. 3.

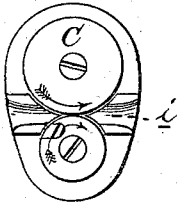


Fig. 2.

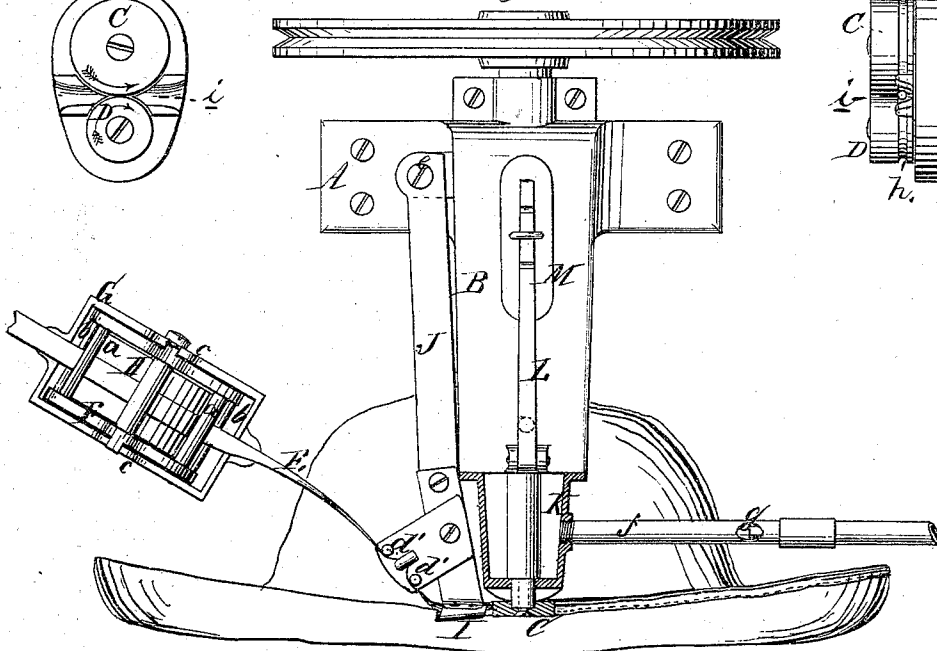
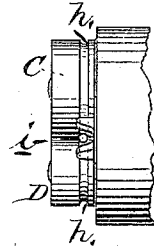


Fig. 4.



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HENRY A. WHITING, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR BINDING AND WIRING HAT-FRAMES.

Specification forming part of Letters Patent No. **147,724**, dated February 17, 1874; application filed December 20, 1873.

To all whom it may concern:

Be it known that I, HENRY A. WHITING, of the city, county, and State of New York, have invented a new and useful Improvement in Machines for Binding and Wiring Hat-Frames; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which drawing—

Figure 1 represents a front view of my invention. Fig. 2 is a sectional plan or top view of the same. Figs. 3 and 4 show detached views of the pressing-rollers formed with grooves and channels for receiving, guiding, and delivering the braid and wire.

Similar letters indicate corresponding parts.

This invention relates to certain improvements in that class of machines for which a patent was granted to me April 29, 1873, No. 138,459. My present improvement consists in combining with the braid-guide and the pressing-rollers a swinging arm, in such a manner that when a hat-frame has been finished the braid can be cut off between the guide and the rollers, and the braid-guide can be swung back, and thereby the operation of removing the hat-frame from the machine can be performed without drawing the braid out of the braid-guide, and much time is saved. It consists, further, in the combination of a tension-yoke and of a moistening-roller with the braid-guide and the pressing-rollers, in such a manner that by the tension-yoke the braid is depressed upon the periphery of the moistening-roller, and then carried to the braid-guide and pressing-rollers without wrinkles. It consists, also, in the combination of a heating-chamber with the pressing-rollers, the braid-guide, and the moistening-roller, in such a manner that the pressing-rollers are heated; and by the heat the moisture which the braid takes up from the moistening-roller is evaporated, and the braid is caused to adhere to the hat-frame with the requisite degree of tenacity.

In the drawing, the letter A designates the bed-plate of my machine, from which rises a standard, B, that extends outward a sufficient distance to give room for the introduction of the edge of the hat-frame between the pressing-rollers C

D. These rollers are secured to the ends of two shafts which have their bearings in the standard B, one above the other, and which are geared together so that the pressing-rollers revolve with a uniform superficial velocity in opposite directions, as indicated by the arrows marked on them in Fig. 1. The braid E is taken from a spool, (not shown in the drawing,) and it is passed through between bars *a b*, which are secured in a yoke, F, that is secured in slotted standards *c*, which rise from the sides of a cistern, G, containing water. Across the cistern extends an arbor, *d*, on which is mounted a roller, H, which dips into the water contained in the cistern, and which is covered with felt or other absorbent material capable of retaining the moisture. The yoke F straddles the moistening-roller H, and it can be adjusted in the standards *c* up or down, so that the braid which passes through between the bars *a b* is brought in contact with a greater or less portion of the circumference of the moistening-roller, as circumstances will require and experience dictate. As the braid is being drawn through between the bars *a b* of the yoke F it is prevented from wrinkling, and it imparts to the moistening-roller a revolving motion, so that the braid itself becomes moistened, and the sizing of said braid becomes adhesive. From the moistening-roller the braid is carried through between guide-pins *d'* to the braid-guide I, which is secured to the front end of an arm, J, that swings on a pivot, *e*, secured in a lug projecting from the side of the standard B, in such a manner that the braid-guide can be moved close to the pressing-rollers, as shown in the drawing, or that it can be swung back away from the pressing-rollers, for the purpose of cutting off the braid without drawing it out of the braid-guide. To the front end of the standard B is secured a box, K, of sheet metal, which communicates by a pipe, *f*, with a gas-burner, *g*, and from which rises a smoke-pipe, *h*. (See Fig. 1.) When the gas is lighted the box K forms a heating-chamber, and as the heat comes in contact with the shafts of the pressing-rollers the temperature of said rollers is raised to such a degree that the moisture previously absorbed by the braid is evaporated, and the braid is caused to adhere firmly to the edge of the hat-frame

by the pressure of the rollers, and by the sizing of the braid, which had been softened by the moisture.

When a hat-frame is finished the arm J, which carries the braid-guide, is swung back away from the pressing-rollers, and the braid is cut between said guide and rollers, so that no time is lost in readjusting the braid for the binding of a succeeding frame. The pressing-rollers are held in contact by a lever, L, from which is suspended a weight, M, and this weight is adjustable, so that the pressure can be increased or diminished to suit circumstances.

In Figs. 3 and 4 I have shown the pressing-rollers C D formed or provided with circumferential grooves *h h*, and on the box inclosing the shafts carrying said rollers is arranged projecting fingers or arms, which extend beyond the grooves *h* and form a stationary channel, *i*, by which means the wire and braid are received, guided, and delivered, and all

danger of the accidental slipping of said braid and wire from between the pressing-rollers is obviated or prevented.

What I claim as new, and desire to secure by Letters Patent, is—

1. The swinging arm J, in combination with the braid-guide I and pressing-rollers C D, constructed and operating substantially as and for the purpose shown and described.

2. The combination of the tension-yoke F and moistening-roller H with the braid-guide I and pressing-rollers C D, substantially in the manner set forth.

3. The heating-chamber K, in combination with the pressing-rollers C D, braid-guide I, and moistening-roller H, substantially as shown and described.

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Witnesses:

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