

R. F. S. HEATH.  
Binding and Wiring Hat-Frame.

No. 159,926.

Patented Feb. 16, 1875.

Fig. 1.

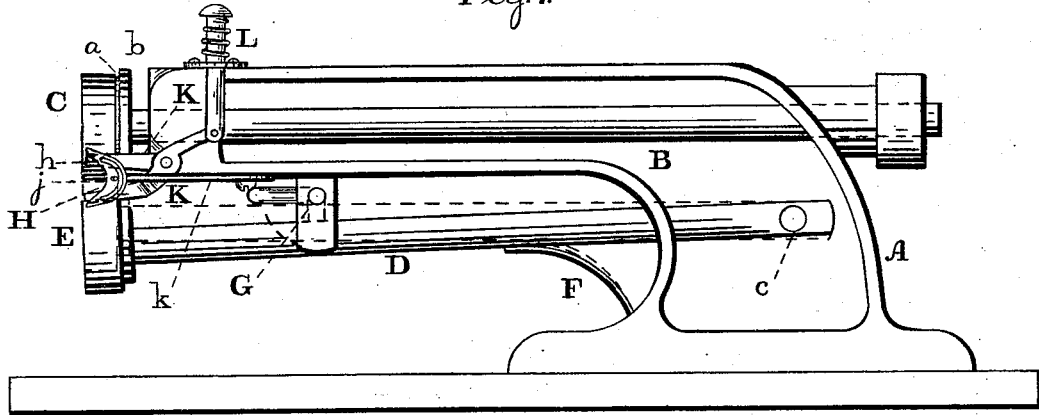


Fig. 2.

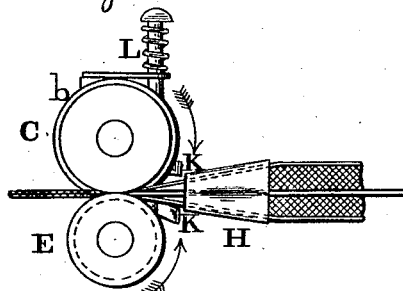
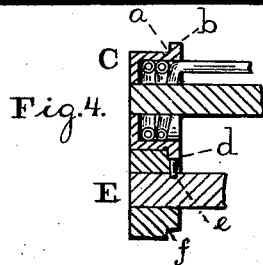
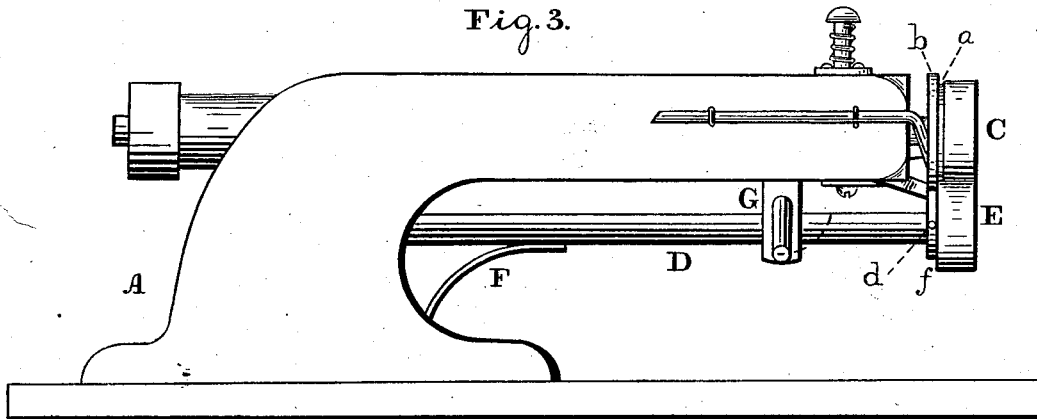


Fig. 3.



Witnesses:

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Fig. 4.

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Atty.

# UNITED STATES PATENT OFFICE.

ROBERT F. S. HEATH, OF CAMDEN, NEW JERSEY.

## IMPROVEMENT IN BINDING AND WIRING HAT-FRAMES.

Specification forming part of Letters Patent No. 159,926, dated February 16, 1875; application filed January 8, 1875.

*To all whom it may concern:*

Be it known that I, ROBERT F. S. HEATH, of the city and county of Camden and State of New Jersey, have invented a new and useful Improvement in Binding and Wiring Hat and Bonnet Frames; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figures 1 and 3 are side elevations of the device embodying my invention. Fig. 2 is a front view thereof. Fig. 4 is a longitudinal section of a portion thereof.

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

My invention consists in two pressing-rollers, one of which is fixed to a rotary shaft, and the other is journaled to a fixed shaft, having an axial or swinging motion. Against the swinging shaft bears a spring, by which the rollers are held together, and a cam, crank, or similar appliance is employed for separating the rollers. One roller is formed with a groove and flange, and the other roller with a shoulder for properly performing the wiring and binding operations. It also consists in a folder, which is constructed of a block closed in front and rear, and having a longitudinal groove, (in connection with the curved channel by which the fabric is folded,) so that the wire will not be displaced from the block. It also consists in means for cutting the fabric or wire, or both.

Referring to the drawings, A represents a frame, on which is mounted longitudinally a rotary shaft, B, on the front end of which is fixed a pressing-roller, C, whose face is grooved at *a* and flanged at *b*, the flange being at the inner end of the roller, and the groove at or about the point of junction of the flange and roller. D represents a shaft or arm, which is jointed at *c* to the frame A, and extends longitudinally under the shaft B, said shaft D having no rotary motion, but moving toward and from the shaft B on the joint or axis *c*. A roller, E, is journaled to the shaft D, and, in the present case, carries a pin, *d*, which en-

ters a groove, *e*, in the shaft D, so that the roller rotates freely on the said shaft, but is prevented from lateral displacement. A shoulder, *f*, is formed on the inner end of the face of the lower roller E, and the space thus produced is allowed for the passage of the flange *b* of the upper roller C. The roller C is somewhat hollowed for the reception of a coil of gas-pipe or other heating medium. F represents a spring, which is secured to a proper portion of the frame A, and bears against the shaft D, in order to keep the latter elevated, and consequently hold the rollers C E to each other. The shaft D is depressed by the action of a cam-piece or crank-arm, G, which is mounted on the frame in such position, and so operated that when it is turned in one direction the shaft is lowered, and when in the other direction said shaft is permitted to rise, due to the spring F.

It will be seen that the depression of the shaft D separates the rollers C E. H represents a block, in which is formed a longitudinal channel or passage, *h*, which increases in curvature from commencement to termination, as is well known, so that binding fabric passed in one end will emerge at the other end folded or turned. At or about the center of the folding-block H there extends longitudinally a groove, *j*, (see Fig. 1,) which is separated from the folding channel *h*, and adapted for the reception of the wire. The block H, secured to an arm, *k*, will be arranged in proximity to the two rollers C E, and said arm may be connected to the frame A by a fixed or axial joint. Aside of the two rollers, and between the same and the folding-block H, I arrange two blades, K, which are hinged to each other, and one of them is fixed to the frame. The other or movable blade is connected to a conveniently-accessible sliding rod, L, which is mounted on the frame A, and pressed upwardly by a spring, so that when the blades K are in their normal position they are open.

The operation is as follows: The binding fabric and wire are properly passed through the block H, and fitted to a point of beginning of the hat or bonnet. Power being applied to the shaft B, the roller C receives its rotary motion, and the hat or bonnet frame is then passed between the two rollers C E, so that

the binding material and wire are duly applied to the hat or bonnet, the binding fabric or material being previously moistened to cause the sizing thereof to adhere to the hat or bonnet, as is well known. The flange *b* serves to guide the hat or bonnet frame, and retain it properly in position between the rollers. The groove *a* provides for the swell of the binding due to the inclosed wire, and thus also guides and retains the binding and frame between the rollers. The flange *b* and shoulder *f* assist in steadying the two rollers C E. In the event of inequality of the frame, binding, or wire, the lower roller yields and compensates for said inequality. When the rollers are to be separated, the crank-arm G is operated or rotated, so as to press against the lower shaft or arm D. During the passage of the binding and wire through the block H, they cannot be displaced therefrom owing to the closed front and rear of said block. Just before the length of the fabric or wire, or both, necessary for the frame reaches the rollers C E the rod L is depressed,

thus closing the blades K, and cutting the binding and wire.

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

1. The separating-arm G and elevating-spring F, in combination with the non-rotating arm D, having an axis, *c*, journaled roller E, rotary shaft B, and the roller C, substantially as and for the purpose set forth.

2. The roller C with flange *b* and groove *a*, rotary shaft B, roller E with shoulder *f*, and axial arm D, in combination with the elevating-spring F and depressing-arm G, all constructed, arranged, and operating substantially as set forth.

3. The cutting-blades J K, in combination with the pressing-rollers C E, and binding-guide H, arranged and operating substantially as and for the purpose set forth.

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Witnesses:

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