(No Model.)

T. C. ROBINSON.

BINDER GUIDE FOR SEWING MACHINES.

No. 378,904. Patented Mar. 6, 1888.

Fig. 1.

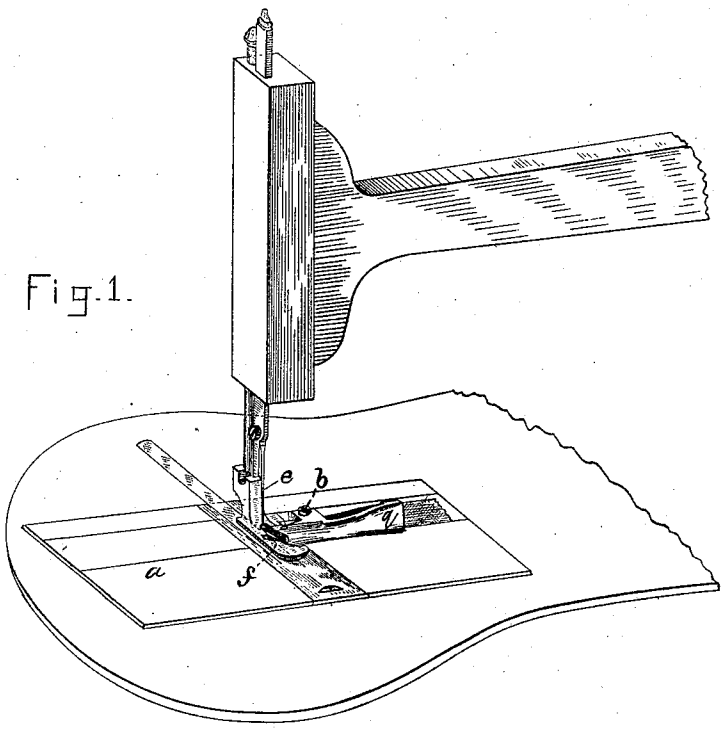


Fig. 2.

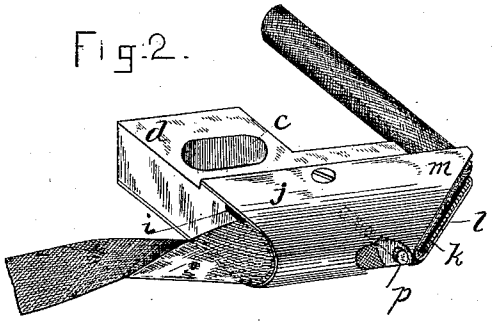


Fig. 3.

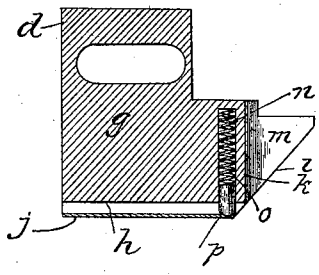
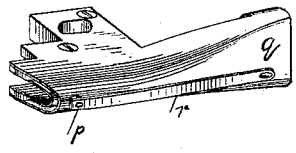


Fig. 4.



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UNITED STATES PATENT OFFICE.

THOMAS C. ROBINSON, OF BOSTON, ASSIGNOR OF ONE-HALF TO E. B. WELCH, OF CAMBRIDGE, MASSACHUSETTS.

BINDER-GUIDE FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 378,904, dated March 6, 1888.

Application filed April 29, 1886. Serial No. 200,509. (No model.)

To all whom it may concern:

Be it known that I, THOMAS C. ROBINSON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Binder-Guides for Sewing-Machines, of which the following is a specification.

My invention relates to binder-guides for sewing-machines, and particularly to that class of such guides which are adapted to be secured to the bed of the machine, and are provided with a U-shaped aperture or eye, through which the binding-braid is led, and from the exit end of which the braid is guided in a direction at a right angle to the line of its passage through the eye of the guide, and folded over the edge of the garment or article to be bound as the latter and the binding-braid are fed forward to the needle.

It is the object of the invention to simplify the construction of guides of the character mentioned, and to provide them with a tension device of such structure and arrangement in the guide-eye as will secure a proper folding of the braid over the edge of the article being bound, and obviate liability of the displacement of the braid in the guide by the action of the edge of the garment or cloth against the former as it issues from the guide-eye—a difficulty heretofore experienced in binder-guides of the class mentioned.

To the foregoing ends my invention consists in the binder-guide, which I will now proceed to describe, so that those skilled in the art may be able to make and use the same, the invention being particularly pointed out in the claims hereto appended.

Of the drawings accompanying and forming a part of this specification, Figure 1 is a perspective view of my invention, showing it as "threaded" and applied to the bed of a sewing-machine, so much of the latter as is necessary to illustrate the manner of applying my invention being also represented. Fig. 2 is a perspective view of my binder-guide inverted, on an enlarged scale as compared with Fig. 1, also showing it as threaded, parts being represented as broken out and the extension at the heel of the guide cut off, to better illustrate the nature and location of the tension device as well as the character of the guide-eye. Fig. 3 represents a horizontal section through the guide, as shown in Fig. 2. Fig. 4 is a representation of a modified form of the invention.

Similar letters of reference indicate similar parts in all of the figures.

In the drawings, *a* represents the bed of the machine, to which the guide is adapted to be secured by means of a thumb-screw (not shown) passing through an elongated slot, *c*, formed in an extension, *d*, of the guide, into a screw-threaded hole in the bed, the form of the slot *c* being for the purpose of allowing of an adjustment of the guide with respect to the needle *e* and presser-foot *f*.

g represents the body of the guide, having its face edge *h* rounded, as shown, and slightly reduced in thickness from its rounded edge a short distance rearwardly, where it is provided with an offset, *i*, on both sides, as represented in Fig. 2.

A strip of sheet metal, *j*, is bent to a form substantially conforming in outline to the shape of the body of the guide, and secured thereto in any proper manner, so as to form a guide aperture or eye through the guide between the sheet-metal strip *j* and the rounded edge *h*, and extending back to the offsets *i* on each side, the guide-eye thus formed being of sufficient extent to admit of the passage therethrough of a binding tape or braid of ordinary width.

The guide is provided with a U-shaped groove at its forward end, *k*, extending horizontally therethrough at a right angle to the direction of the U-shaped eye just described, said forward end, *k*, being formed at an angle to the rear edge, *l*, so that angular guide-ears *m* will be formed on the front end of the guide. If, now, a binding tape or braid be drawn through the guide-eye and turned rearwardly at the forward end thereof, it will be evenly folded, so that the edge of a garment or fabric may be laid between the folds, and the binding, with the fabric, be guided by the guide-ears *m* to the needle to be sewed on. To properly accomplish this it is necessary to apply a slight tension to the binding as it passes through the guide, and to keep the edges of said binding in such position that they will coincide or register above and below the edge of the fab-

ric, a little undue pressure on either side of the braid by the fabric being bound operating to throw the former out of line.

I have found by experience with light binding-braids that if the tension is applied at a point near the front of the U-shaped guide-eye—that is, near the point where the binding braid or tape issues from the guide-eye—and is bent at a right angle, as stated, this difficulty will be overcome and all liability of displacement of the braid avoided. I therefore form a hole, *n*, in the forward end of the body *g*, and place in this hole a spiral spring, *o*, upon which I set a pin, *p*, which is thus pressed outward, pressing the braid against the plate or strip of sheet metal, *j*, as clearly represented in Figs. 2 and 3. This arrangement supplies the requisite tension and applies it at a point which tends to keep the binding-braid in proper position, no matter where or how the edge of the fabric being bound may act thereon. The invention also simplifies the construction of the guide, reducing the number of parts to a minimum.

For leather or heavy or stiff braid or tape, and under some other circumstances, I find it desirable to locate the tension device farther back, or near the heel of the guide—that is, near the point where the braid enters the guide-eye—and in all instances it is better, though not essential, that the plate *j* should be extended rearwardly from the heel of the guide proper, so as to form a supplemental guide, *q*, to the tape or braid as it enters the U-shaped guide-eye, as represented in Figs. 1 and 4.

It is obvious that the form and arrangement of the parts may be varied without departing from the spirit of my invention. I do not, therefore, confine myself or expect to be confined to the precise shape and placement of the parts shown, so long as their relationship is preserved. For example, tension-pin *p*, instead of being located and arranged as shown in Figs. 1, 2, and 3, may be arranged as shown in Fig. 4—that is, the pin *p* may be secured to the free end of a flat spring, *r*, and extend through a hole in the plate *j* and bear against the rounded edge *h* of the body *g*, the opposite end of spring *r* being secured to plate *j* in any suitable manner.

Having thus described my invention, I claim—

1. A binder-guide for sewing-machines, having a U-shaped guide-eye, and provided with a spring tension device located in said guide-eye and adapted to apply tension to the binding tape or braid passing therethrough, as set forth.

2. A binder-guide for sewing-machines, having a U-shaped guide-eye, and provided with a spring tension device located in the guide-eye at substantially the center of the eye and at or near the forward end thereof, as set forth.

3. A binder-guide for sewing-machines, having a U-shaped guide-eye, and provided with a spring tension device located in the guide-eye, and consisting of a spring-pressed pin bearing against the tape or binding-braid passing through the guide at the center of the eye and at or near the forward end thereof, as set forth.

4. A binder-guide for sewing-machines, having a U-shaped guide-eye, and a spring tension device located in the guide-eye and adapted to apply tension to the binding tape or braid passing therethrough, and a supplemental guide, *q*, extending rearwardly from the heel of the guide proper, as set forth.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses, this 25th day of April, 1886.

THOMAS C. ROBINSON.

Witnesses:
ARTHUR W. CROSSLEY,
C. F. BROWN.