J. T. Loft's
Hoop Skirt. Mach.

No. 27,456. Patented Mar. 13 1860.

Fig. 1.

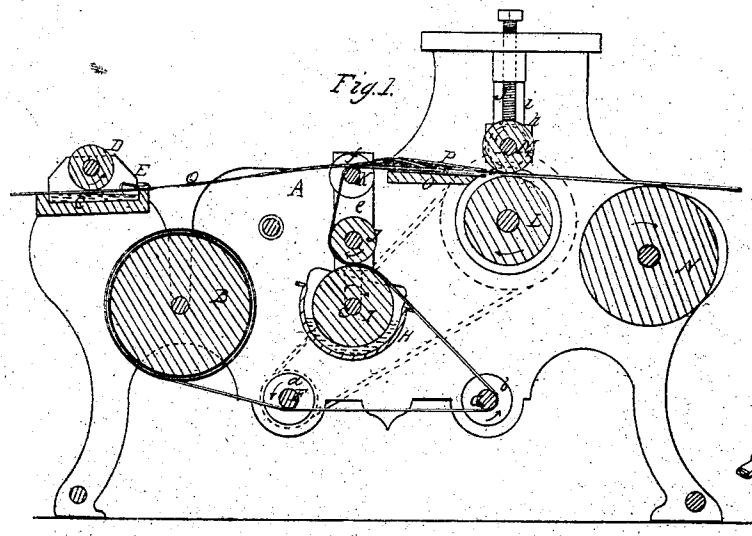


Fig. 4.

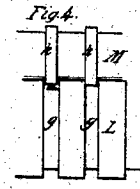


Fig. 3.

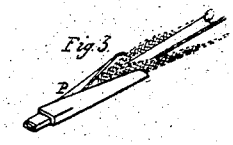
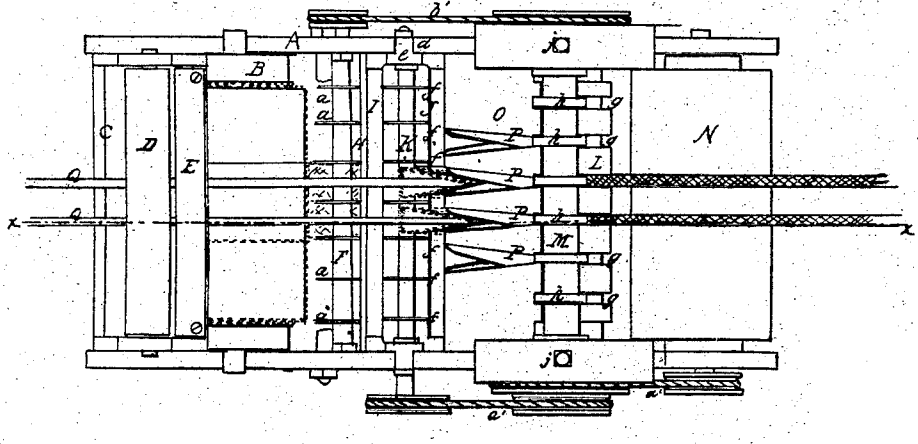


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

JOHN T. LOFT, OF BROOKLYN, NEW YORK.

MACHINE FOR COVERING THE SPRINGS OF SKELETON SKIRTS.

Specification of Letters Patent No. 27,456, dated March 13, 1860.

To all whom it may concern:

Be it known that I, JOHN T. LOFT, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Machine for Covering Springs for Hoop-Skirts; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a side sectional view of my invention, taken in the line *x*, *x*, Fig. 2; Fig. 2, a plan or top view of ditto; Fig. 3, a detached perspective view of a folder of ditto; Fig. 4, a detached sectional view of the drawing and pressure rollers of ditto.

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

The object of this invention is to obtain a machine for covering, in a continuous manner, the springs for hoopskirts with any textile or other suitable fabric.

The invention consists in the employment or use of glue or cement-distributing rollers, cutters, guides, folders, and drawing and pressure rollers, substantially as hereinafter described, whereby the desired end is attained.

The covering of skirt hoops as hitherto practiced is attended with considerable expense. Machines are constructed for weaving or braiding the covering around the wires of which the hoops are made. By my invention the expense of covering the wires is greatly reduced while the work is done equally as well as by the old mode or process.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A represents a frame which may be constructed in any proper way to support the working parts of the machine.

B is a roller which is fitted transversely in the frame A, near one end and is allowed to turn freely in its bearings.

On the frame A, above the roller B, a reservoir C is placed, for containing, glue, cement, or any suitable adhesive substance, and directly over this reservoir a roller D, is placed.

E, is a guide strip which may be simply a narrow metal plate secured to the inner edge of the reservoir C, see Figs. 1 and 2.

In the lower part of the frame A, a shaft F, is placed transversely and on this shaft a series of circular cutters *a* are secured at a suitable distance apart. In the frame A, there is also placed a shaft G, which has a series of circular disks *b* placed on it at about the same distance apart as the cutters *a*. The disks *b*, may also be about the same diameter as the cutters *a*.

H is a reservoir placed in the frame A, and having a roller I, fitted within it, said roller having its shaft *c*, fitted in vertical slots *d*, in the sides of the frame A. Directly above the roller I, and in the same plane there is a roller J, the shaft of which has its journals fitted in slides *e*, said slides being in the slots *d*, *d*. Between the upper parts of the slides *e*, *e*, there is a shaft K, which has a series of circular disks *f*, placed on it and arranged precisely similar to the disks *b*, of shaft G.

L is a roller which is placed in the upper part of the frame A, and is provided with a series of grooves *g*, made circumferentially, in the roller and at a distance apart corresponding to the distance between the disks *f* and *b*, on the shafts K and G. Directly over the roller L, there is a smaller roller M, which is provided with circumferential projections *h*, which correspond in width to the grooves *g*, of roller L, the projections *h*, are directly over the grooves *g*, and work or fit therein. The journals of the shaft of roller M, work in bearings *h*, which are fitted in vertical slots *i*, in the frame A, said bearings having screws *j*, bearing on their upper surfaces.

N, is a roller which has a smooth periphery and is fitted in the frame A, at the outer side of the grooved roller L.

In the frame A, between the shaft K and roller L, there is placed a horizontal board O, said board being about on a level with the top of roller L, and shaft K. To this board O, there are attached a series of folders P. These folders may be constructed of sheet metal, and they are simply metal plates bent or swaged into the form of funnels the smaller ends having their orifices of rectangular form as shown clearly in Fig. 3. The folders are secured to the board O, at equal distances apart and in line with the grooves *g*, and projections *h*, of rollers L, M.

The operation of the machine is as follows: The fabric (shown in red) with which the wires are covered is wound on the roller B, and of the same width as manufactured;

the reservoirs C, H, are supplied with the proper glue, cement or adhesive material, and the fabric is passed under the cutters *a*, of shaft F, and the strips cut by said cutter, are passed around the shaft G, and between the disks *b*, which serve as guides, said strips being also passed between the rollers I, J, over the shaft K, between the disks *f*, and through the folders P. The wires Q are passed through the reservoir C, beneath the roller D, and under the guide strip E, between the disks *f*, of shaft K, through the folders D, and between the rollers L, M, the wires Q being on the strips of the fabric. Motion is applied to the shaft of roller L, by any convenient power and the rollers N, I, are rotated from one end of the shaft of roller L, by belts *a'*, *a'*, shown in Fig. 2, the cutter shaft F, being rotated from the opposite end of shaft by the belt *b'*. The rollers are rotated in the direction of the arrows marked on them, and the cutters *a* cut the fabric into strips of the desired width; the rollers I, J, apply the glue, cement or other adhesive substance to them and the folders P, fold the strips, and the wires Q, which are also covered with glue, cement, or an adhesive material as they pass through the reservoir C. The wires Q, in this respect serve as feeders of glue or cement and insure a proper supply being conveyed to the folders P, or to the "bite" of the rollers L, M. The strips of fabric after being folded around the wires P, have their lapped edges compressed as they pass between the rollers L, M, the covered wires fitting in the grooves *g*, and the projections *h*, pressing the edges together causing them to be firmly glued or cemented. The rollers L, M, it will be seen serve the double function of drawing and pressure rollers, the roller N, serving merely as a guide or support, while the disks *b*, *f*, serve as guides to keep the strips of fabric in proper relative position with each other and the folders P. The disks *b*, *f*, and also the cutters *a* may be adjusted nearer together or farther apart on their respective shafts according to the width of strips required.

In case the glue, cement or adhesive material used in the reservoirs C, H, requires heat, lamps may be placed underneath the reservoirs or, when convenient, gas jets may be used for the purpose. The pressure of the roller M, may be graduated as desired by adjusting the screws *j*, *j*.

The wires Q, may be wound on a roller and drawn through the machine therefrom, the wires being of any length as the process of covering is a continuous one. The covered wires of course are cut into pieces of any required lengths, according to the required size of the springs.

By this invention the expense of covering wires or springs for skirt hoops is very considerably reduced and by a very simple and efficient machine.

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

1. Covering wires or springs for hoop skirts by passing the same in connection with strips or covers of suitable fabric, having a suitable glue, cement, or adhesive substance applied to them, through folders P, and between drawing and pressure rollers L, M, arranged to operate substantially as and for the purpose set forth.

2. The employment or use of cutters *a* and disks or guides *b*, *f*, placed respectively on the shafts F, G, K, in connection with the roller B, on which the fabric is wound the glue or cement reservoir H, and the rollers I, J, all being arranged substantially as and for the purpose specified.

3. In connection with the glue or cement reservoir H, and rollers I, J, the reservoir C, and roller D, arranged relatively with each other, and the disks or guides *f*, on shaft K, to operate as and for the purpose specified.

4. The combination of the drawing and pressure rollers L, M, folders P, roller N, glue or cement reservoirs C, H, with their rollers D, I, J, the roller B, cutters *a*, and guides *b*, *f*, arranged for joint operation as and for the purpose specified.

JOHN THOS. LOFT.

Witnesses:
WM. TUSCH,
J. W. COOMBS.