(No Model.)

S. S. SPEAR.

SEWING MACHINE GUIDE.

No. 314,270. Patented Mar. 24, 1885.

Fig: 1.

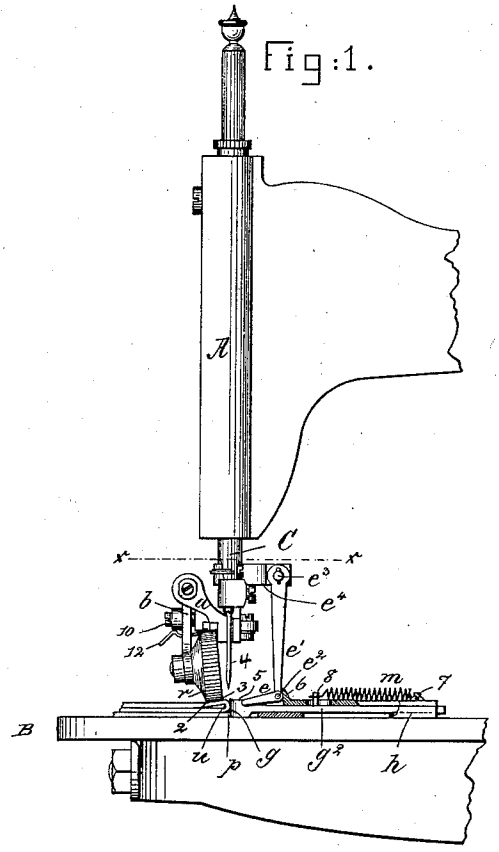
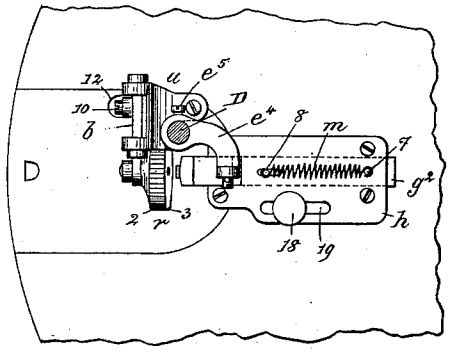


Fig: 2.



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UNITED STATES PATENT OFFICE.

SAMUEL S. SPEAR, OF SOUTH WEYMOUTH, MASSACHUSETTS.

SEWING-MACHINE GUIDE.

SPECIFICATION forming part of Letters Patent No. 314,270, dated March 24, 1885.

Application filed June 2, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL S. SPEAR, of South Weymouth, county of Norfolk, State of Massachusetts, have invented an Improvement in Sewing-Machine Guides, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

In the manufacture of boots and shoes for men's wear the sides of the vamps or uppers are frequently lined with calf-skin, and the edge of the lining is blind-stitched to the interior of the upper, the needle entering a fold in the material forming the upper, the point of the needle emerging from the same side of the material at which it entered. When a lining is being stitched to a folded portion of a vamp or upper, the needle must be made to pass through one side of the said fold at a greater or less distance from the central line of the fold according to the thickness of the material of the upper or vamp.

In this my invention I employ a longitudinally-movable edge gage, which is located opposite and at the right-hand side of the needle, and at the left-hand side of the needle I employ a roller presser-foot, the axis of which is so located with relation to the cloth-plate as to present the cylindrical periphery of the roller at an angle to the cloth-plate, the edge of the roller farthest from the gage and needle being thus kept in a lower plane, whereby the folded edge of the upper or vamp may rest against the edge-gage and under the roller, but in such manner that the edge of the roller next the gage will not bear so hard upon the upper or vamp exactly in the line of its fold and injuriously crease or mark the same. Co-operating with this gage and presser-foot is a leg pivoted to a presser-holding frame or bracket secured to the presser-foot bar, the said leg having a foot pivoted to it, the heel and toe of which co-operate, respectively, with a projection on the base-plate, in which the gage slides, and a projection on the gage itself, as will be hereinafter described, whereby the gage, located at one side the path of the needle, is automatically moved toward and from the path of the needle and toward and from the roller-presser located at the opposite side the path of the needle, according to variations in thickness of stock. The periphery of the roller-presser is substantially cylindrical in shape from its edge next the needle backward, and the said roller is supported upon the presser-holder frame attached to the presser-bar, which latter stands substantially vertical, the said frame being constructed, substantially as will be hereinafter described, so as to present the rear edge of the said roller, which is farthest from the needle, in a plane lower than the edge thereof nearest the needle.

Figure 1 is a side elevation of a sufficient portion of a Singer sewing-machine to illustrate my invention, the stock to be united being shown as under the roller-presser; and Fig. 2 is a section of Fig. 1 on the dotted line *x x*, looking downward, the needle-bar and needle being, however, omitted.

The head A, bed-plate B, needle-bar C, presser-bar D, presser-holder frame, its hinged arm *b*, adjusting-screw 10, and spring 12 are all substantially as in the Singer machine, so need not be herein further described.

The roller-presser *r* is cylindrical between its rear edge, 2, and front edge, 3, but owing to the shape of the holder-frame *a* and the arm *b* connected therewith, which holds the stud or axis on which the said roller turns, the edge 2 of the roller-presser farthest from the needle 4 is maintained at a lower level than is the edge 3 nearest the needle, the periphery of the roller-presser commencing at its edge next the needle being thus made to stand in an outwardly-inclined position or directed outward or to the left of the operator and downward, whereas in all other roller-pressers located at the right-hand side of the needle and co-operating with the gage located at the opposite side of the needle, as herein shown, the periphery of the roller has been inclined from the side of the needle outward and upward, or has been exactly horizontal. By making the outer or left-hand edge of the roller to occupy a lower position than the edge of the roller next the needle an additional space is left under the said roller-presser for the folded part of the vamp or upper *u*, as shown in Fig. 1, which is therein shown as laid upon the lining *p*, and besides obviating creasing the upper too close to its fold therein the said folded portion is permitted to bulge upward, as indicated in Fig. 1, which materially aids in keeping the upper

pressed against the gage g, the shank g^2 of which is guided in the base h, adjustably attached to the bed-plate by screw 18 in the slot 19.

The gage g, located at the right-hand side of the needle or its path of movement, has a shoulder or projection, 5, and the base-plate h has a projection, 6, between which is placed the foot e, pivoted at e^2 on the leg e', in turn pivoted to the bracket e^1 at e^3, the said bracket being attached to the presser-bar D by a screw, e^5. The toe of the foot e bears against the shoulder or projection 5 of the gage g, and the latter is acted upon by a spring, m, attached at one end to a pin, 8, on the gage, and at its other end to a pin, 7, of the base-plate, the normal tendency of the said spring being to draw the gage g away from the needle and presser. The front end of the projection 6 is beveled or inclined to resemble a wedge, so that as the heel of the foot e rises and falls in contact with the said projection the toe of the said foot in contact with the projection 5 of the gage causes the face of the gage to be slid toward and from the presser-roller, thus automatically varying the position of the edge-gage from the line of reciprocation of the needle and needle-bar. The edge 3 of the roller next the face of the gage g being the highest, owing to the angular position of the stud or center on which the said roller turns, enables the periphery of the said roller to be presented diagonally to the cloth-plate, so that the edge 2 of the periphery of the roller acting on the folded upper or vamp back of its folded edge has a tendency to crowd the folded edge of the vamp or upper toward and against the edge-gage, which would not be the case if the roller and edge-gage were both at the same side of the line of movement of the needle.

The face of the gage g is nearest the path of movement of the needle when stock of the minimum thickness is being stitched; but as the stock increases in thickness the said presser-foot rises, and with it the foot e, and as the latter rises its heel permits the gage-face to be drawn toward the right, or away from the line of movement of the needle 10, by the spiral spring m. The thicker the folded vamp or upper the farther the face of the gage from the line of movement of the needle, for the thicker the stock which is folded the farther back from the folded edge the needle may penetrate it without cutting through the face side of the stock.

I claim—

1. The presser-bar, the presser-holding frame or bracket secured to it, the presser-roller mounted upon the said bracket, located at one side of the line of the feed, and an independent longitudinal and horizontally movable edge-gage having its face located at the opposite side of the line of the feed, and a spring to actuate the same in one direction, combined with a leg and toe connected with and adapted to rise and fall with the presser-bar, whereby the gage is automatically moved longitudinally and horizontally toward and from the line of the feed and the edge of the presser-roller, to operate substantially as described.

2. The presser-bar, the presser-holding frame, and the roller-presser, constructed and supported thereby at one side the line of the feed to present its periphery to the cloth-plate, with the inner edge of the roller higher than its outer edge, 2, combined with a gage, g, and base-plate, in which it slides, the said gage being located at the opposite side of the line of the feed, and being movable at right angles to the line or direction of the feed, to operate substantially as described.

3. The base-plate provided with a shoulder or projection, and the horizontally-sliding edge-gage therein, provided with a shoulder or projection, combined with a bracket adapted to be attached to the presser-bar, and with a leg and foot, substantially as described, to co-operate with the said gage and its base-plate, as and for the purposes set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SAMUEL S. SPEAR.

Witnesses:
G. W. GREGORY,
B. J. NOYES.