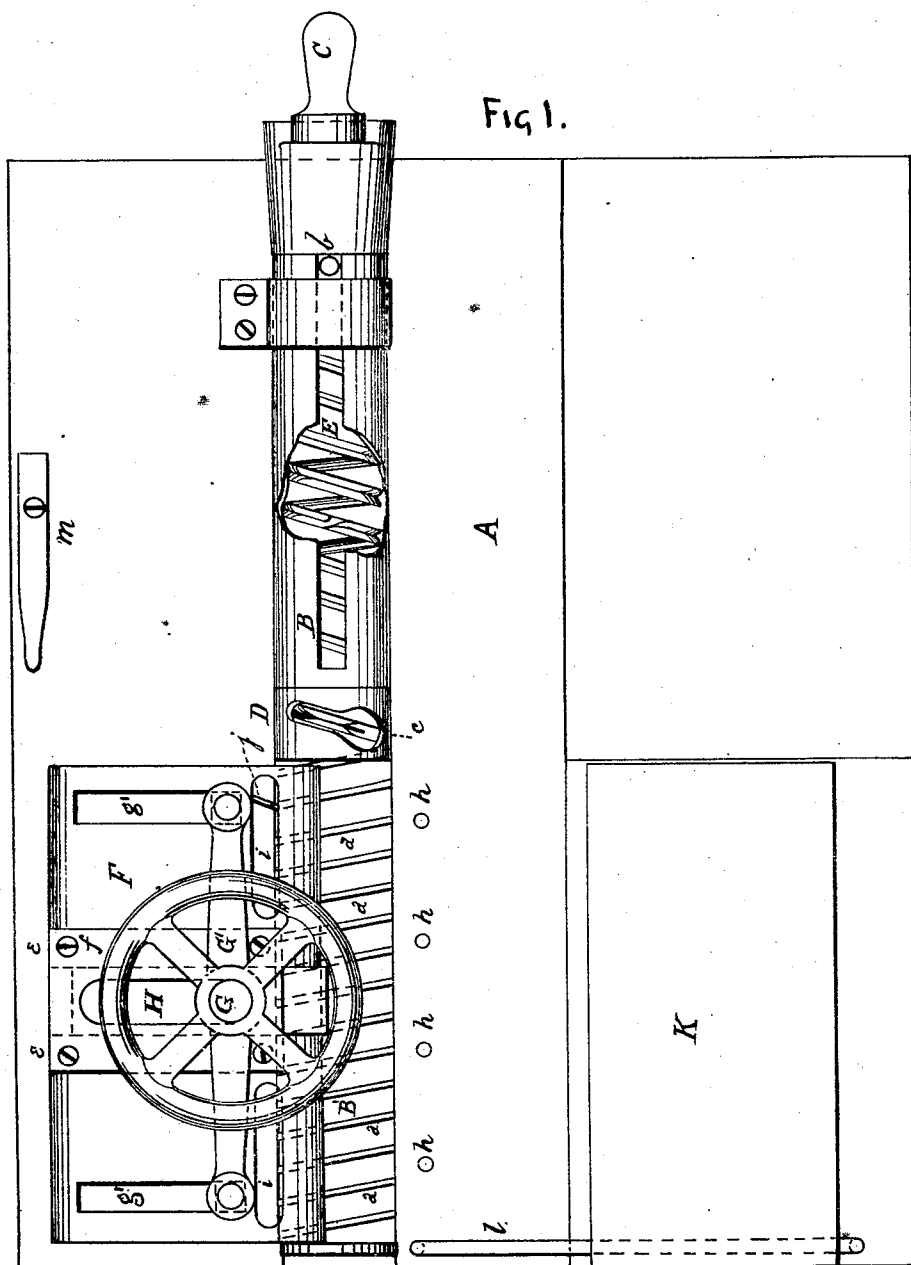


H. P. GARLAND & A. J. GOVE.

Sewing Machine for Sewing Bags, &c.

No. 159,317.

Patented Feb. 2, 1875.



WITNESSES

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FIG 2

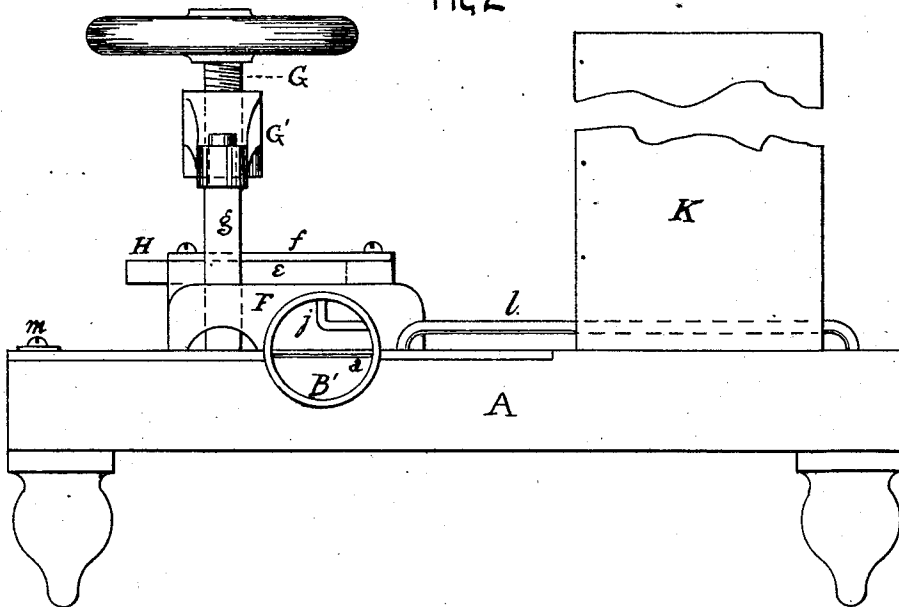
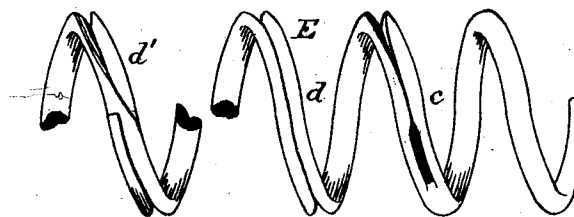


FIG 3.



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UNITED STATES PATENT OFFICE.

HOWARD P. GARLAND AND ANDREW J. GOVE, OF SAN FRANCISCO, CAL.

IMPROVEMENT IN SEWING-MACHINES FOR SEWING BAGS, &c.

Specification forming part of Letters Patent No. 159,317, dated February 2, 1875; application filed November 19, 1874.

To all whom it may concern:

Be it known that we, HOWARD P. GARLAND and ANDREW J. GOVE, of San Francisco, in the county of San Francisco and State of California, have invented an Improvement in Machines for Sewing Sacks or Bags; and we do hereby declare that the following description and accompanying drawings are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use our said invention or improvement without further invention or experiment.

Our invention relates to certain improvements in a machine for sewing sacks or bags, in which a spiral needle is employed, for which application for Letters Patent of the United States was allowed to HOWARD P. GARLAND October 9, 1874.

The improvement consists, first, of a slotted case, in which the spiral needle is caused to travel, when the case is rotated or turned around, by means of diagonal rods placed across an extension groove or channel, in which the needle makes regular progression through the cloth by passing between the rods; second, to means for threading the needle and retaining the thread in the point, and for operating the spiral needle; third, to a clamping device for holding the cloth in position; fourth, to a guiding-bar, and to other details of construction hereinafter set forth.

In order to explain our invention so that the construction and operation can be readily understood, reference is had to the accompanying drawings forming a part of this specification, in which—

Figure 1 is a plan with cross-head clamp thrown back; Fig. 2, an end elevation with cross-head clamp in position; Fig. 3, an enlarged view of spiral needle broken off.

A represents a frame, in which is made a longitudinal U-shaped groove, in one-half of which is caused to turn a slotted case or cylinder, B, by means of a crank, C. The inner end of this cylinder turns against the end of a short cylinder, D, which is broken away for convenience in threading the needle, hereinafter explained. From the outer point of the cylinder D the case is cut away in a plane with the bed-plate of the frame, which forms an extension U-shaped groove, B', in which the needle

travels as it is caused to move from the slotted case. Across the groove is placed diagonal pins *a a*, between which the spirals of the needle pass, and by which the needle makes regular progression to the end of the machine. In the present invention the spiral needle E is independent in itself, and moves freely back and forth in the slotted case on a feathered stem, *b*, until arrested by coming in contact with the head or end of the slot. The device for holding the thread in the point of the needle consists of an elongated eye, *c*, cut diagonally in one of the coils near the point. The lips or lids of the eye are made thin and brought near together, so that a narrow split is formed, enlarged at its lower point for receiving and holding the thread. The groove *d* around the spirals of the needle is not continuous, but is broken by a bar or offset, *d'*, in order to throw off the thread at a certain point, the object of which will be more fully explained hereinafter. For holding the fabric to be sewed in position a clamp, F, is provided, which is moved vertically by means of a hand-screw, G, through the cross-head G'. To the lower end of the screw is attached a cross-bar, H, which is held between the two lugs *e e* and slotted plate *f*, so that the clamp can be made to slide back and forth on the bar, it being guided by the said bar, vertical posts *g g*, and slots *g' g'* in the clamp-plate. Instead of the set-screw an eccentric lever may be employed having an arm and knuckle-joint. Pins are arranged along the lower front face of the clamp, which enter countersunk holes *h h* in the bed-plate, to press and hold the fabric firmly when the clamp is lowered in the operation of sewing. Oblong sight-holes *i i* are made through the plate for adjusting the position of the cloth; and a bent rod or arm, *j*, is attached to the right-hand corner as a guide in placing the cloth for the initial or starting point of the needle. A flat-faced guide, *k*, is placed upon an elevated portion of the frame, which guide is raised to a vertical position when laying the cloth, and which is movable on the rod *l*, so that the cloth may be made to lie perfectly flat on the table, and a straight edge be preserved as it is carried under the clamp for sewing.

In operating with our machine the thread from the spool is placed under the spring *m*,

which spring provides sufficient tension for the thread, and the case containing the needle turned so as to bring the eye of the needle *c* up to the opening in the short cylinder *D*, in which position the end of the thread is inserted. The cloth is then placed under the flat guide, and the edge carried forward to a point a little beyond midway over the diagonal pins *a a*, when the clamp is brought forward and pressed down by the set-screw, in which position of the cloth the needle is set in motion by turning the crank toward the operator, when the needle will commence to enter the cloth from its point, and take on the thread in the groove *d* as it progresses until it reaches the offset *d'*, when the thread will be deflected or thrown off from the groove, and the first stitch will be formed and tightened, and so on at each turn of the needle, until the end of the seam is reached. The slack of the thread is taken up by the vibration of the needle, which causes the edge of the seam to be turned over at each stitch, by which the tightening is effected, while the last turn of the needle will draw the thread from the eye, and by reversing the motion the needle can be withdrawn from the cloth with great facility.

It should here be observed that in the operation of the spiral needle the diagonal pins *a a* act not only as a guide, but serve as well to keep the edge of the cloth from being pressed downward, and causing the stitches to drop, and to draw the needle forward in regular progressive steps, stitch by stitch, the point of the needle as it progresses making one turn between each rod at every revolution until the end is reached.

It is evident, in this connection, that a spiral

groove might be made in the lower half of the interior of the case to receive the spirals and draw the needle forward; but we prefer the device as shown, it being more convenient and less expensive.

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

1. The combination of the spiral needle having a feathered stem, *b*, with the slotted case adapted to revolve substantially as described.

2. The combination of a spiral needle having a groove around its periphery or spirals, and arranged to operate in a case, *B*, with the rods *a a*, substantially in the manner and for the purpose set forth and specified.

3. The spiral needle having a retaining-eye, *c*, and offset *d'*, as and for the purpose specified.

4. The combination of the retaining-clamp *F*, having slots *g' g'*, and the supporting-bar *H*, with the hand-screw *G*, cross-head *G'*, and supporting-posts *g g*, as and for the purpose described.

5. The frame *A*, having the guard *B'*, and diagonal rods *a a*, as and for the purpose described.

6. The flat smoothing and guiding clamp *k*, in combination with the rod *b*, as set forth and specified.

In witness whereof we have hereunto set our hands and seals.

HOWARD PRATT GARLAND. [L. S.]
ANDREW JACKSON GOVE. [L. S.]

Witnesses:

C. W. M. SMITH,
PHILIP MAHLER.