

JOHNSON & BARTLET.

Sewing Machine.

No. 31,209.

Patented Jan. 22, 1861.

Fig. 2

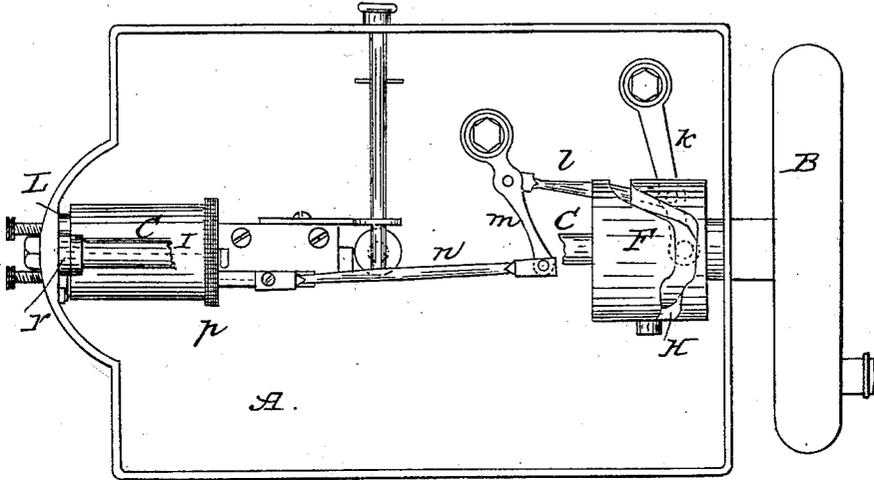
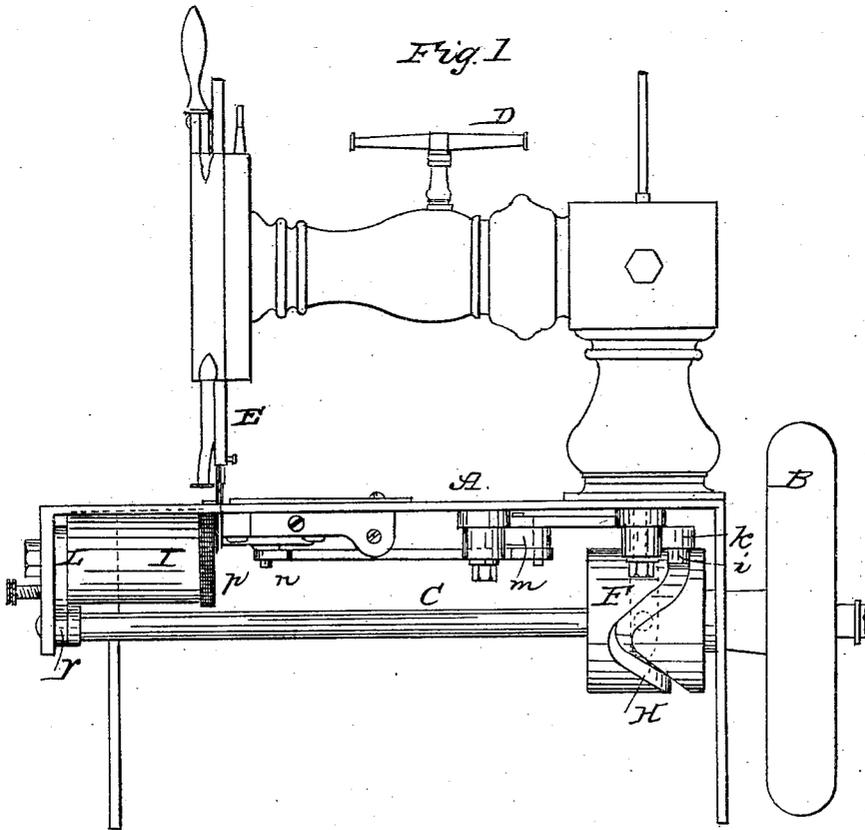


Fig. 1



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Fig. 3

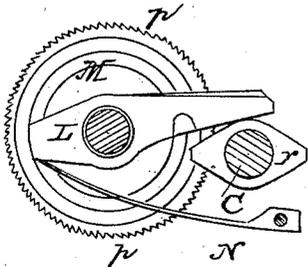


Fig. 4

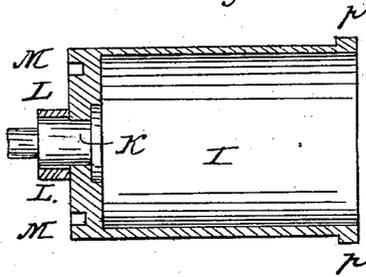


Fig. 6

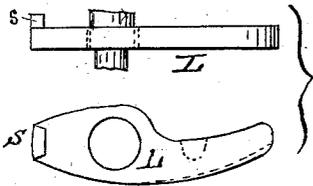


Fig. 5

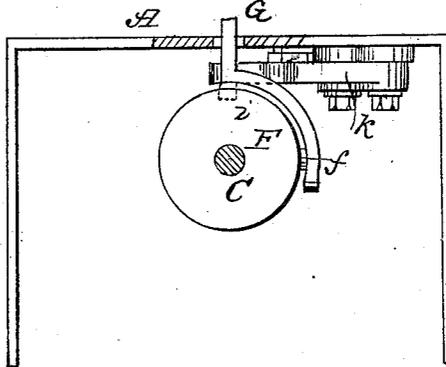


Fig. 7

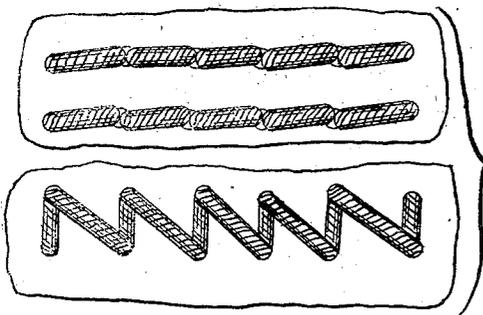
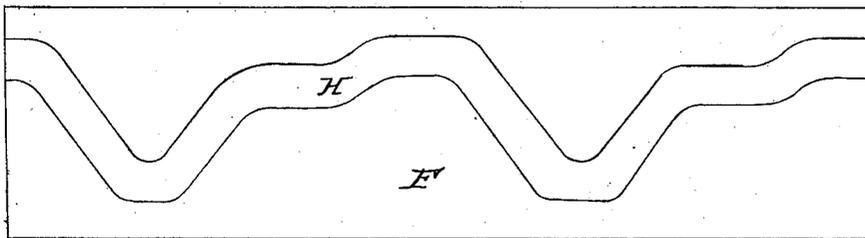


Fig. 8



UNITED STATES PATENT OFFICE.

A. F. JOHNSON, OF BOSTON, AND J. E. BARTLETT, OF STONEHAM, MASSACHUSETTS, ASSIGNORS, BY MESNE ASSIGNMENTS, TO SINGER & CLARK, OF NEW YORK, N. Y.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 31,209, dated January 22, 1861.

To all whom it may concern:

Be it known that we, A. F. JOHNSON, of Boston, in the county of Suffolk and State of Massachusetts, and J. E. BARTLETT, of Stoneham, in the county of Middlesex and State aforesaid, have invented certain new and useful Improvements in Sewing - Machines, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, making part of this specification, in which—

Figure 1 is a side view of a sewing-machine with our improvements attached; Fig. 2, a view of the same from beneath; Fig. 3, an end view of the feed apparatus; Fig. 4, a section through the center of the feed-cylinder; Fig. 5, a section upon the line X X of Fig. 1; Figs. 6, 7, 8, details which will be referred to hereinafter.

Our invention consists in the combination of two eye-pointed needles, each carrying its own thread, with a shuttle carrying its thread through the loops of the two needle-threads when such shuttle is caused to move transversely to the line of direction of the feed-motion of the machine at any desired angle therewith, whereby we are enabled with the ordinary motions of a needle-and-shuttle sewing-machine to sew a compound seam with three threads, which on one surface of the material sewed presents the appearance of two parallel rows of stitching at an unvarying and uniform distance apart. The distance between the rows of stitching may be varied at pleasure by placing the needles nearer together or farther apart, which cannot be done with a sewing-machine having two needles combined with a shuttle that moves parallel with or in the line of the feed-motion.

To enable others skilled in the art to understand our invention, we will proceed to explain the manner in which we have carried it out, referring generally to the principal parts of the machine, and describing more particularly those features which constitute the subjects of our invention, but without reference to those details which are not immediately connected therewith.

In the accompanying drawings, A is the table of the machine; B, the fly-wheel upon the driving-shaft C; D, the apparatus for putting

tension upon the needle-threads. E is the needle-bar, which is actuated in the customary manner by means of the cam F, the groove in which is seen developed in Fig. 8. This cam is caused to actuate both the needles and the shuttle, the former through the arm G, which carries at its lower extremity the roller *f*, running in the cam-groove H. *i* is another roller upon the lever *k*, which runs in the same cam-groove, and, through the connections *l m n*, actuates the shuttle-driver, which plays in and out of the cylinder I. This cylinder, which carries at one end the feed-wheel *p*, is actuated in the following manner: Upon one end of the main shaft C is a cam, *r*, which actuates the feeding-lever L. This lever plays freely upon the short shaft K, but without touching it. Upon one end of the lever is a block, *s*, which slides in the groove M in the outer end of the cylinder. This block is made slightly smaller than the groove, and is curved to correspond with its radius. The spring N bears against the lever L and keeps it down upon the cam. As this cam in revolving presses against the lever L, the block S grips the opposite edges of the groove M, and as the lever continues to move the cylinder and feed-wheel are revolved. As the cam revolves into the position seen in Fig. 3 the bite of the block *s* in the groove M is relieved, and the spring N throws the lever forward to take a new hold. A feed has been contrived for sewing-machines in which the bite of the lever in its groove was produced by one cam, another cam being employed to drive the lever and feed the wheel, in which case the same power was required to produce the bite between the lever and its groove whatever was the nature of the work to be performed, as great a pressure being required for very light as very heavy work. It is evident, however, that the above-described feed is not liable to this objection, and that the force exerted by the cam upon the lever L will always be proportionate to the resistance offered by the material. If this be light, then but a slight force will be required to operate the feed. If the material be heavy and offer considerable resistance, then the block S will continue to bite the groove until it has taken sufficient hold to move the wheel, only so much force as

is required to feed the stuff being exerted in every case. In Fig. 7 is represented the double seam formed by this machine, the needle-threads being shown in red upon the right side of the cloth and the shuttle-thread in blue. Each of the needles is provided with its own thread, which is subjected to the requisite degree of tension in any efficient manner. They are arranged side by side, as seen in Fig. 1, in such position that the shuttle shall pass through the loops of both needles each time it is thrown. Two parallel seams are thus produced at one and the same time, and by the use of a single shuttle and a single shuttle-thread. If one of the needles be removed the machine will operate like any ordinary needle-and-shuttle machine.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination in the same machine of two needles with a shuttle in such manner that the needles form two parallel rows of stitching and that the shuttle reciprocates across the line of direction of the feed-motion and connects the two rows of stitching by the shuttle-thread, substantially as described, so as to form a compound seam of three threads presenting two separate rows of stitching on one surface of the material sewed.

A. F. JOHNSON.
J. E. BARTLETT.

Witnesses:

SAM. COOPER,
JOHN S. CLOW.