C. H. ANDRUS.

SEWING MACHINE.

No. 18,566. Patented Nov. 3, 1857.

Fig. 3.

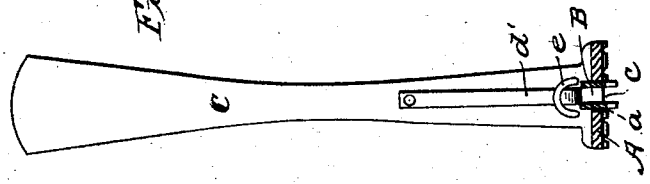


Fig. 2.

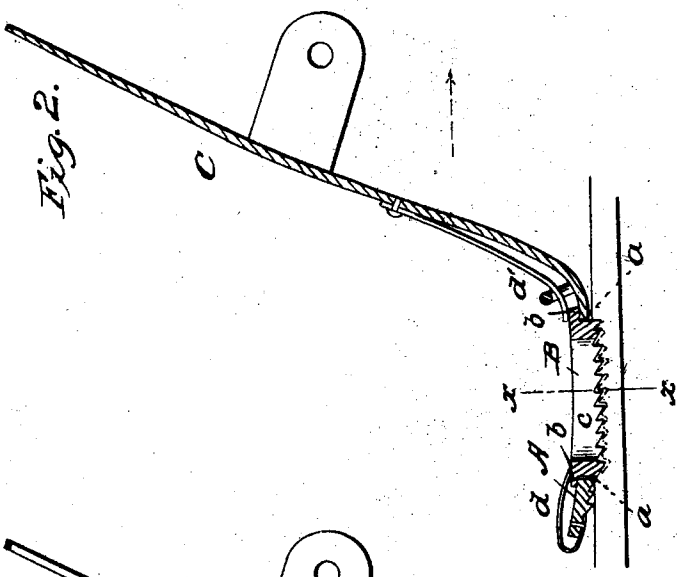


Fig. 4.

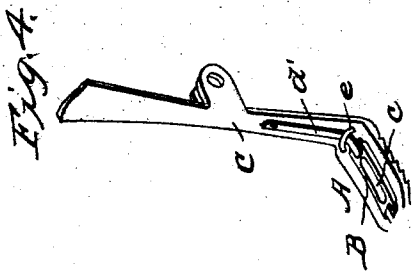
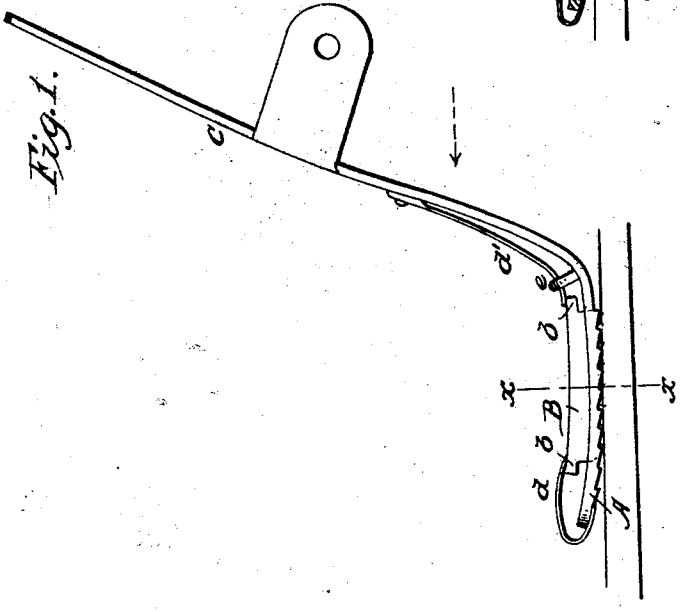


Fig. 1.



UNITED STATES PATENT OFFICE.

C. H. ANDRUS, OF GOSHEN, NEW YORK, ASSIGNOR TO SQUIRE LEE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. **18,566**, dated November 3, 1857.

To all whom it may concern:

Be it known that I, C. H. ANDRUS, of Goshen, in the county of Orange and State of New York, have invented a new and useful Improvement in the Feed-Motion of Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to what is known as the "top" feed, which consists, principally, of a plate having a roughened or serrated face, and having a reciprocating motion over the cloth or other material to be sewed, and which, owing wholly or in part to the formation of the roughened or serrated face, slides over the material in moving in one direction, but bites it in moving in the opposite direction, and thus moves it upon the table or bed upon or against whose face it is supported.

The improvement consists in the employment, fitted within an opening provided for it in the aforesaid reciprocating feed-plate constituting the principal portion of the top feed, of a supplementary serrated feeding-plate having springs applied between it and the principal feeding-plate in such a manner as to give it a constant and independent pressure upon the material, and thereby to insure its biting and moving the material during the whole of the movement of the said principal plate in that direction in which the material is intended to be moved, which the said principal plate, owing to the peculiar character of the movement sometimes imparted to it, often fails to do, and hence fails to give a uniform feed movement to the material. By my improvement the uniformity of the feed movement is rendered infallible.

Figure 1 in the accompanying drawings is a side view of a top feed with my improvement applied, shown on an enlarged scale. Fig. 2 is a section of the same in a place parallel with Fig. 1 and with the direction of the feed. Fig. 3 is a section of the same, taken transversely to Figs. 1 and 2 in the plane indicated by the line *x x* in those figures. Fig. 4 is a perspective view of the same, of the natural size.

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

A is the principal feeding-plate, and C the leg or lever to which it is attached and through which it derives its reciprocating motion.

a is a slot in the feeding-plate A to receive the supplementary feeding-plate.

B is the supplementary feeding-plate, fitted to rise and fall easily within the slot *a*, and furnished with a projection, *b*, at each end to prevent it dropping entirely through the slot *a*, the said projections, however, allowing its serrated lower surface to drop some distance below the lower surface of A, as shown in Fig. 2. This feeding-plate B contains a slot, *c*, extending in a direction parallel with the feed movement, for the needle to work through.

d d are two springs attached to the feeding-plate A and its leg C, and pressing downward upon the plate B.

e is a guide for the spring *d'*.

The operation of the surplementary feeding-plate B is illustrated in Figs. 1 and 2, in the former of which the feeding-plate A is represented as moving back in the opposite direction to that required for the feed, and in the latter as moving forward in the direction required for the feed. The inclination of the teeth on the supplementary feeding-plate B, being made in the direction to make them bite when moving in the direction of the arrow shown in Fig. 2, allows the springs *d d* to force them into the material, which is shown in red outline, when moving in that direction, but allows the teeth to force up the springs and slide over the surface of the material when moving in the opposite direction, as is illustrated in the two views above mentioned.

I am aware that in the sewing-machine of A. B. Wilson, patented 1854, a tri-pronged spring-pressure pad is employed. The central prong of this pad presses or holds the cloth against the periphery of the feed-wheel. I disclaim the spring-pressure pad, and also the holding of the cloth against the feed-wheel by a spring. In the device of said Wilson the pressure-pad is stationary, the feeding of the cloth being accomplished by a serrated wheel. I am also aware that in the device of E. H. Smith, 1857, the pressure-pad is slotted, and has a separate spring within the slot, which presses the cloth upon a horizontally-moving dog. The cloth is fed by said dog, which is below the table. My invention appertains only

to machines in which the feeding is done by a movable feeding-plate operating upon the upper surface of the cloth, and my improvement relates to a special construction of that plate.

I do not claim the employment of two foot-pieces or feeding-plates in any other way than substantially as herein described; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The employment of a supplementary serrated feeding-plate, B, fitted within a slot in the principal feeding-plate and provided with shoulders *b b*, and being controlled entirely by springs *d d'*, applied between it and the principal feeding-plate, so as to operate substantially as herein described.

C. H. ANDRUS.

Witnesses:
JOHN E. HOWELL,
ALVIN PEASE.