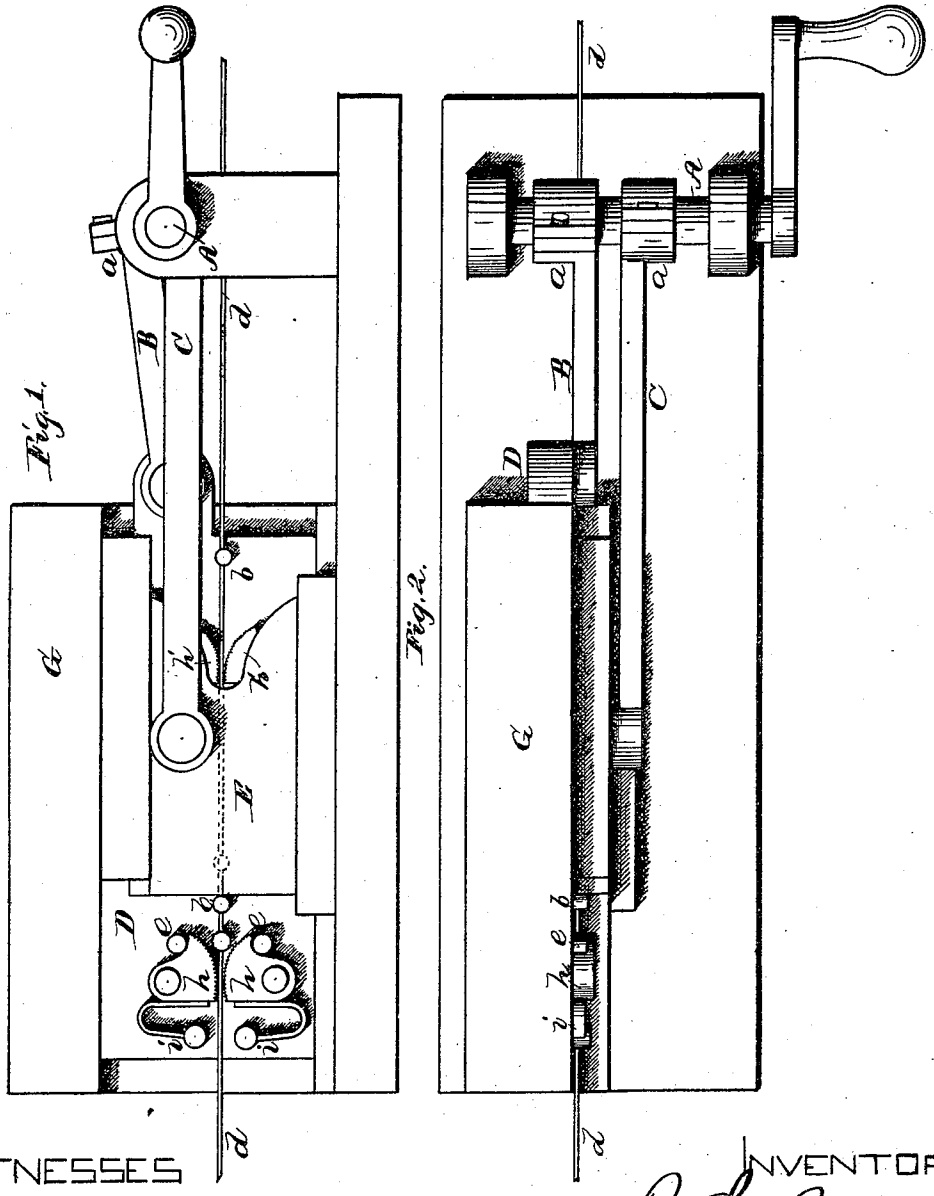
2 Sheets--Sheet 1.

R. L. BREWER.

Wire-Feeding Mechanism.

No. 169,081. Patented Oct. 26, 1875.



WITNESSES

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2 Sheets--Sheet 2.

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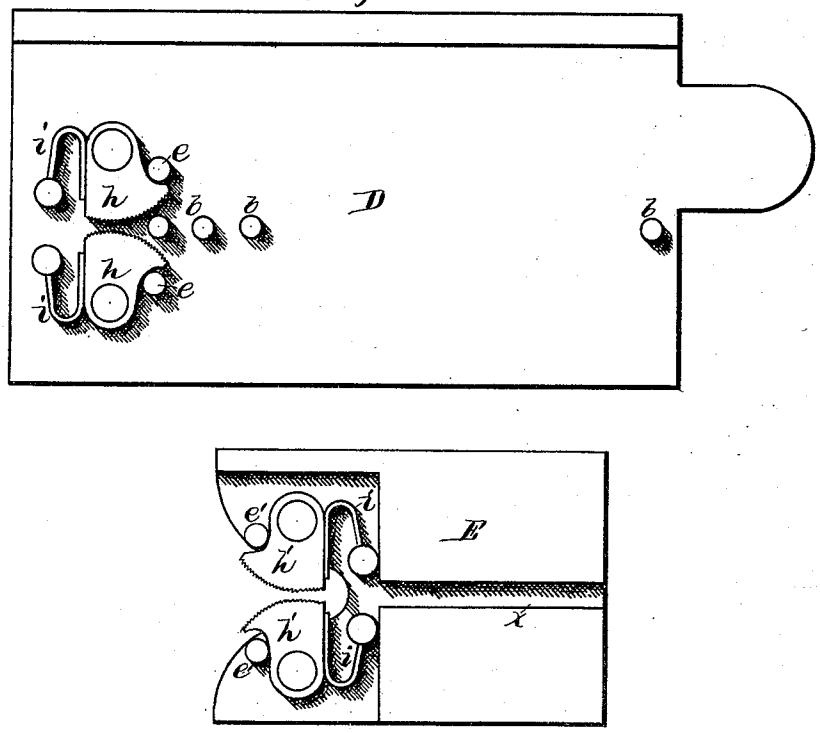
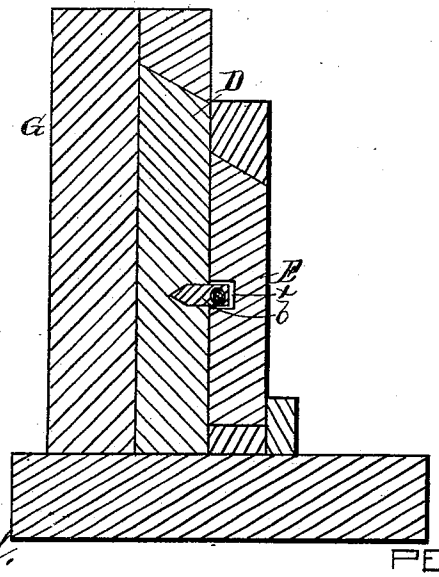
Fig. 3.





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UNITED STATES PATENT OFFICE.

ROLAND L. BREWER, OF MILFORD, CONNECTICUT, ASSIGNOR TO HENRY G. THOMPSON, OF SAME PLACE.

IMPROVEMENT IN WIRE-FEEDING MECHANISM.

Specification forming part of Letters Patent No. **169,081**, dated October 26, 1875; application filed August 16, 1875.

To all whom it may concern:

Be it known that I, ROLAND L. BREWER, of Milford, county of New Haven and State of Connecticut, have invented certain new and useful Improvements in Mechanism for Feeding Wire, of which the following is a specification:

The nature of my invention consists in the construction and arrangement of a feeding mechanism for feeding wire for book-sewing or other machines, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same I will now proceed to describe its construction and operation, referring to the annexed drawing, which forms a part of this specification, and in which—

Figure 1 is a side elevation of my wire-feeding mechanism. Fig. 2 is a plan view of the same; and Fig. 3 is a detached view, showing the adjoining sides of the two slides used therein.

A represents the main shaft of the feeding mechanism, provided with two cranks, *a a*, set in diametrically opposite directions, and on said cranks are placed, respectively, the two pitmen B and C for operating the slides D and E, respectively, to which they are connected. The slide D moves in suitable guides on a back plate, G, and is provided on its outer face with a series of perforated studs, *b b*, arranged on a horizontal line, and through which the wire *d* is passed. On this face of the slide D near the outer end are pivoted two cams, *h h*, pressed inward by means of springs *i i* against stops *e e* fastened in the slide. The adjoining surfaces of the cams *h h* are corrugated or otherwise roughened, so as to take hold of the wire *d*, which is passed between them. The slide E moves in suitable guides on, or close to, the face of the slide D, and is on its inner face provided with a longitudinal groove, *x*, for the passage of the studs *b* and wire *d*. In a recess in the inner face and at the inner end of the slide E are pivoted two cams, *h' h'*, with springs *i' i'*, and stops *e' e'*, constructed and arranged in precisely the same manner as those on the slide D.

The slides D and E always move in opposite directions, and when the feeding device is in motion the slide that moves outward from the shaft draws, by means of its cams, the wire forward, the cams upon the other slide, which is then moving inward to the shaft, opening and allowing the wire to pass. As soon as the movement of the slides is reversed the operation of the cams is also reversed, causing the wire to be fed a certain positive distance for each revolution of the shaft.

The extent of such feed is dependent on the length of stroke of the slides; or, in other words, on the size of the cranks *a* on the shaft A.

This feeding mechanism is particularly designed for book-sewing machines; but is equally applicable for any machines where a certain positive feed is desired.

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

1. In combination with the slide D two spring cams or jaws, *h*, arranged as herein specified, for holding the wire during the forward feed movement and releasing the same on the back movement.

2. In a wire-feeding mechanism, the combination of the slide E, having two spring cams or jaws, *h' h'*, with the pitman C and crank-shaft A, substantially as shown and described.

3. The combination of two reciprocating slides, D and E, operating in opposite directions, and provided upon their adjoining faces with spring cams or jaws, arranged substantially as and for the purpose herein set forth.

4. The combination of the crank-shaft A, pitmen B C, slide D with perforated studs *b*, cams *h*, and springs *i*, and the grooved slide E with cams *h'* and springs *i'*, all substantially as and for the purposes herein set forth.

In testimony that I claim the foregoing as my invention I hereunto affix my signature this 9th day of August, 1875.

ROLAND L. BREWER.

Witnesses:

H. G. THOMPSON,

FRANK L. ALLIS.