C. T. E. GOULD.

SEWING MACHINE.

APPLICATION FILED OCT. 8, 1909. RENEWED APR. 17, 1913.

1,079,406. Patented Nov. 25, 1913.

Fig. 1.

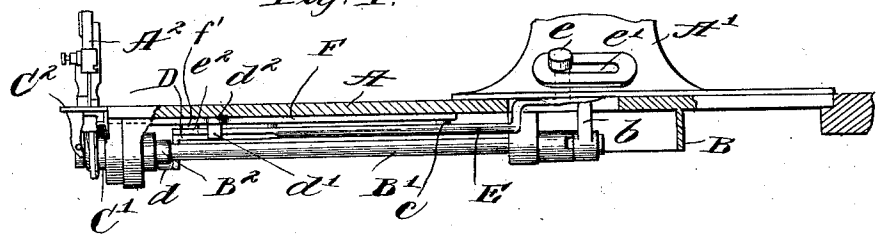


Fig. 2.

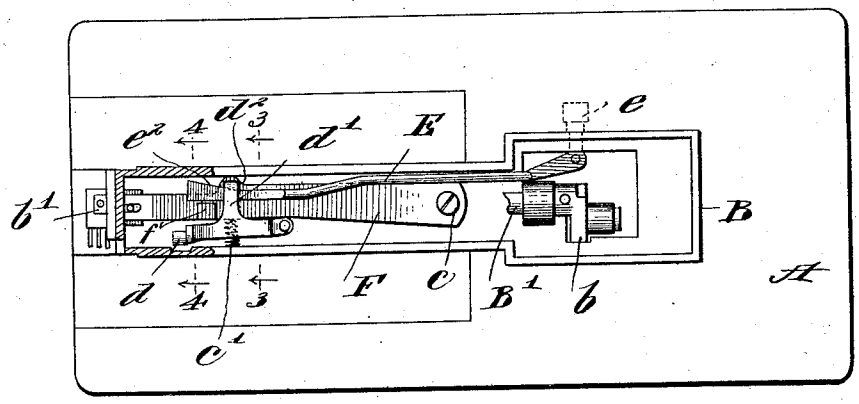


Fig. 3.

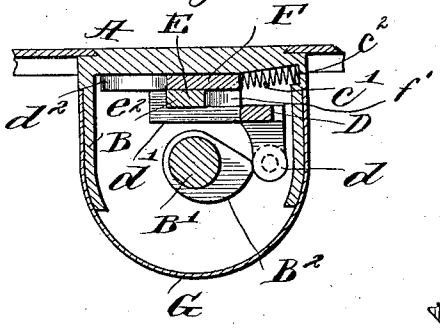
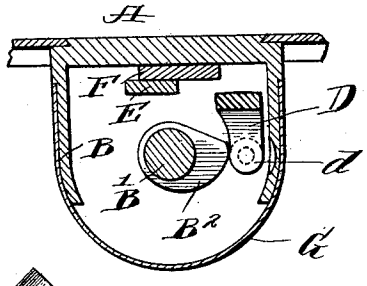


Fig. 4.



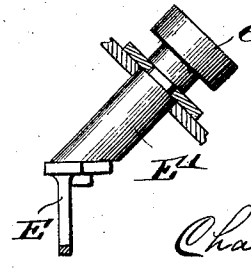


Fig. 5.

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UNITED STATES PATENT OFFICE.

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SEWING-MACHINE.

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To all whom it may concern:

Be it known that I, CHARLES T. E. GOULD, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sewing-Machines, of which the following, taken in connection with the drawing, is a description.

My invention has for its object the production of a feed regulating mechanism for sewing machines of the rotary type designed to be used more particularly with sewing machines having a sectional bed plate for the purpose of providing an elongated casing fitting over the entire mechanism under the bed plate, the section of the bed plate directly beneath the needle and arm of the machine having the sleeve or other sewing slipped over the same when the machine is in operation.

In the accompanying drawings forming part of this specification and in which like letters of reference indicate like or corresponding parts Figure 1 illustrates a side elevation of my invention with the bed plate of the machine shown in section; Fig. 2 is a bottom plan view of the same; Fig. 3 is a transverse sectional view taken on line 3—3 of Fig. 2; Fig. 4 is a like view taken on line 4—4 of Fig. 2; Fig. 5 is a detail of the regulator.

Referring to the drawing A represents the bed plate of a sewing machine, which is preferably although not necessarily made of metal and may be of any size, shape or form desired. Mounted upon the rear portion of this bed plate is the head A′ which may be of any well known type designed to support the needle operating mechanism A^2 which forms no part of my present invention and therefore has not been illustrated in detail and will not be further described. Upon the under side of the bed plate I provide a downwardly extending rib or frame B which forms a frame within which my feed regulating mechanism is contained as shown more clearly in Fig. 2.

B′ is the bobbin carrying shaft which extends longitudinally of the bed plate and is revolved by any suitable mechanism operating through the crank *b*.

F is a feed bar, which is secured at one end thereof to the bottom of the bed plate at *c*, the opposite end thereof carrying the feed dogs which extend through slots in the throat plate C^2 upon each side of the needle. A coiled spring *c′* seats at one end against the edge of the feed bar F and at its opposite end is seated in a recess c^2 in the bed plate, Fig. 3. As will be observed this spring exerts its tension diagonally against the feed bar F.

C′ is a cam carried by the rotary shaft B′ directly beneath the feed dogs which extend through the throat plate C^2 and in operation moves the feed *b′* upwardly, the diagonal spring *c′* giving the downward and backward movement of said feed with each revolution of the shaft necessary to advance the material for another stitch.

A plate D extends parallel with the feed bar and is secured to the bottom of the bed plate approximtaely mediate of the length of the feed bar and carries a roller *d* upon the free end thereof. Projecting from the plate is an arm *d′*, the end of which is bent at right angles to itself and impinges against a projection d^2 upon the feed bar F. Extending between the arm *d′* and feed bar F in the guideway formed by the aforesaid arm *d′* and the projection d^2, is a regulating bar E which is secured at one end to the rod E′ which extends through the casing at the front of the machine and has upon the end thereof the thumb screw *e* by means of which it may be moved to the right or left in the slot *e′* and secured in position. The free end of this regulating bar has an inclined surface e^2 on one edge thereof which is adapted to bear against the upturned end of the arm *d′*, and the opposite edge of said bar bears against a block or lug *f′* on the feed bar F. Rigidly mounted upon the revoluble shaft B′ is a cam B^2 which travels in the path of the roller *d*. By adjusting the bar E longitudinally the roller *d* is adjusted with respect to the cam B^2 so that said cam will travel for a greater or less part of its circumference on the roller and thereby move the feed bar a greater or less distance.

The regulator bar E is moved to the right or left and secured in fixed position by means of the screw *e* when the length of the stitch is adjusted as desired. The length of stitch may be lengthened or shortened at any time by simply moving the regulator bar to the right or left by means of the screw *e*. The shaft B′ makes one complete revolution for each stitch made by the machine and with each revolution the cam B^2 has ex-

erted a force against the roller d moving it out of its position and carrying with it, through the arm d' the feed bar F against the tension of the spring c', which immediately upon the removal of the pressure of the cam will be carried back to its normal position, so that while the needle has made one stitch the material being sewed which is in contact with the feed has been advanced for the next stitch.

The above described mechanism is all inclosed by a casing G which fits the rib or frame B and which may be held thereon by frictional engagement therewith as shown in detail in Figs. 3 and 4.

I claim:—

1. A sewing machine comprising a bedplate, a feed bar pivoted to the bed plate and having a lug thereon, a plate pivotally supported adjacent to the feed bar and having an arm extending transversely of said bar, a roller on the pivoted plate, a cam adapted to engage said roller, and adjustable means interposed between the arm and the lug and adapted to vary the movement in one direction of said pivoted plate about its pivotal point, said pivoted plate being actuated by the coaction of said cam and said roller.

2. A sewing machine, comprising a bed plate, a feed bar pivoted on the bed plate, a rotative shaft, a cam on the shaft, a pivotally supported plate extending beneath the bar in position to be operated by said cam, means for adjusting the pivoted plate with respect to the cam, and a spring adapted to move the bar in one direction.

3. A sewing machine, comprising a feed bar having a lug thereon, a shaft, a cam on the shaft, a swinging plate beneath the feed bar and having an arm extending transversely of the feed bar, a roller on the swinging plate adapted to be engaged by the cam, and a tapered adjusting bar interposed between said lug and arm and adapted to adjust the roller with respect to the cam.

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

CHARLES T. E. GOULD.

Witnesses:
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WELLS GOODHUE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."