

(No Model.)

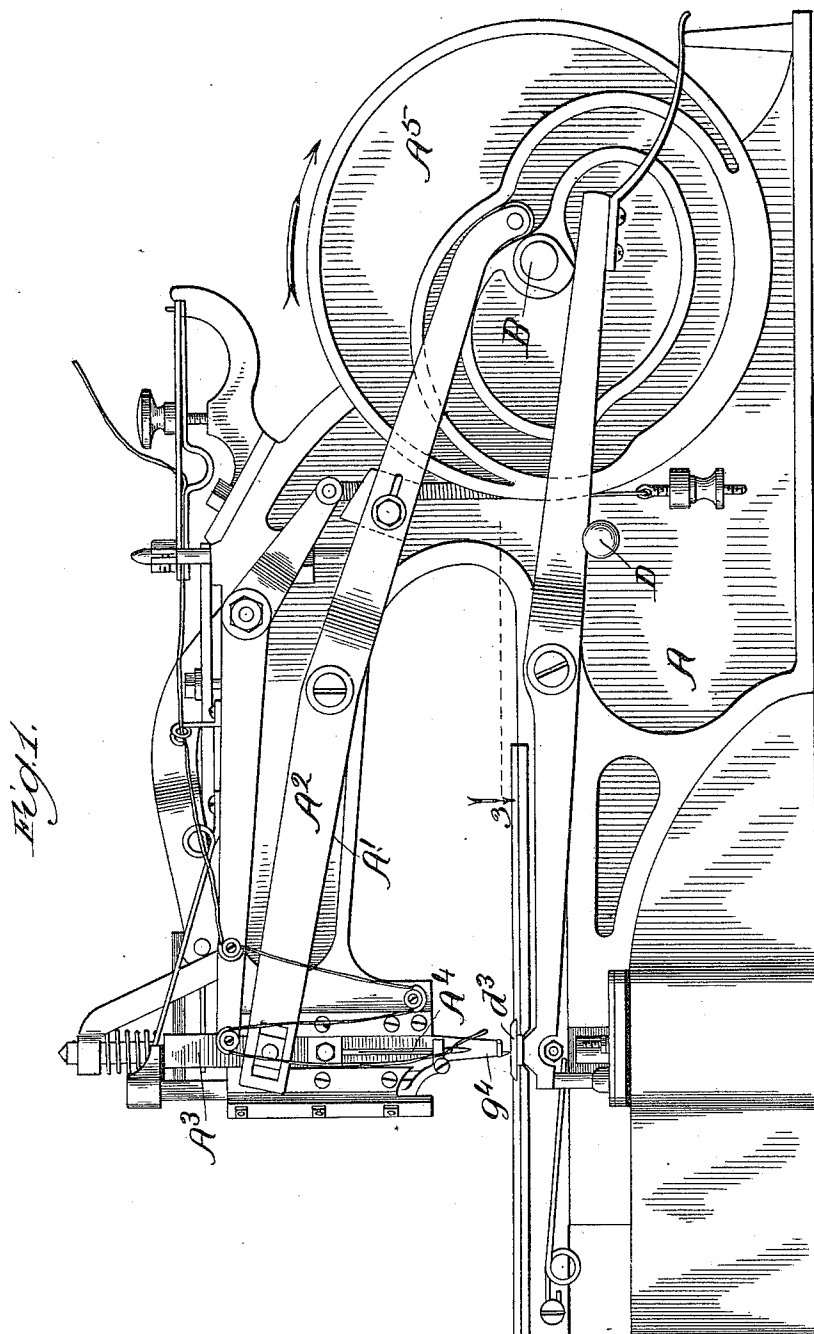
3 Sheets—Sheet 1.

J. B. DOBYNE.

FEEDING MECHANISM FOR SEWING MACHINES.

No. 566,286.

Patented Aug. 18, 1896.



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(No Model.)

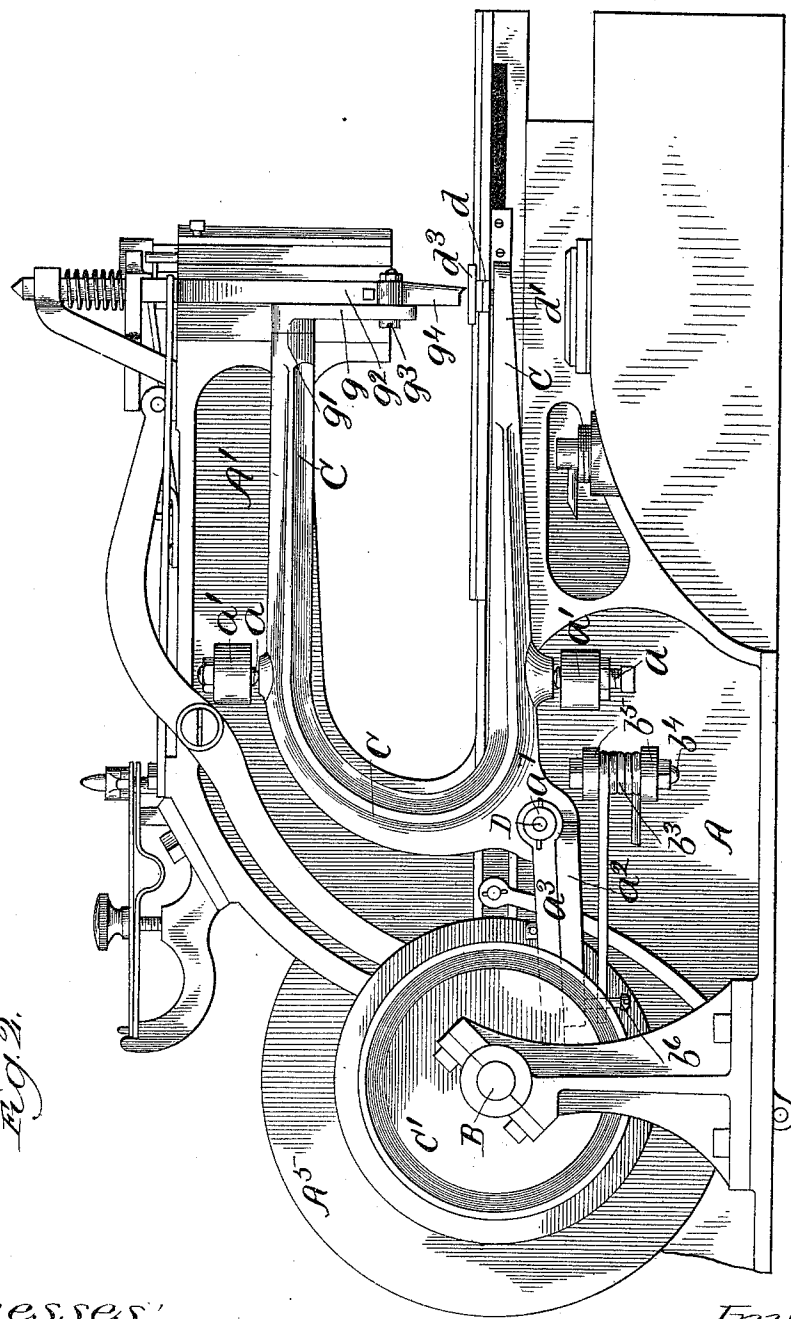
3 Sheets—Sheet 2.

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FEEDING MECHANISM FOR SEWING MACHINES.

No. 566,286.

Patented Aug. 18, 1896.



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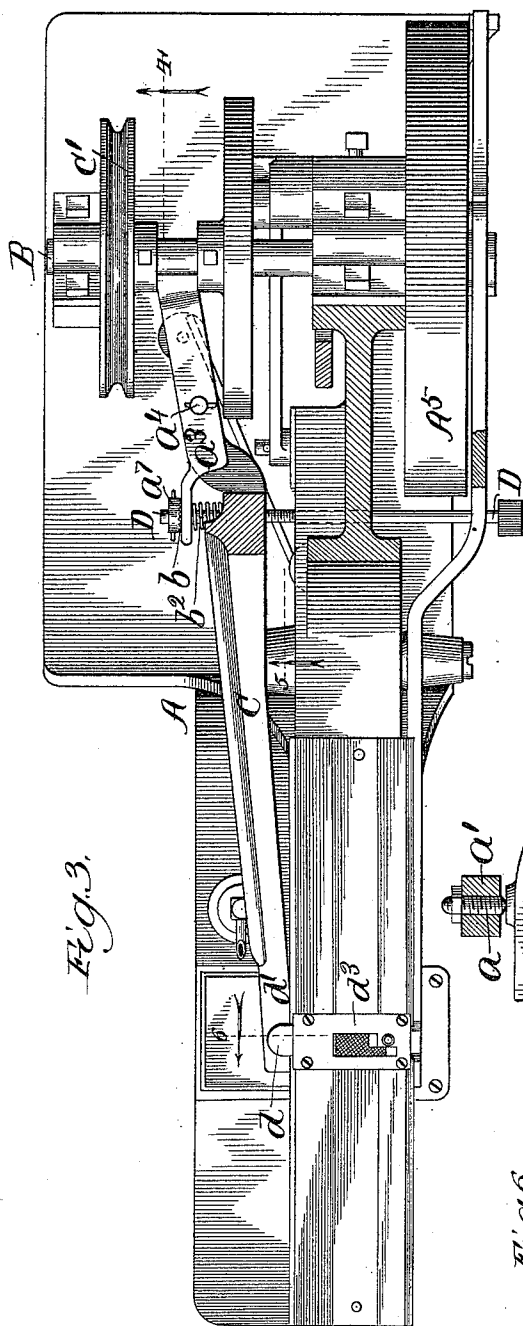


Fig. 3.

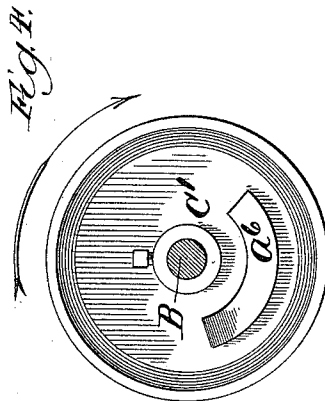


Fig. 4.

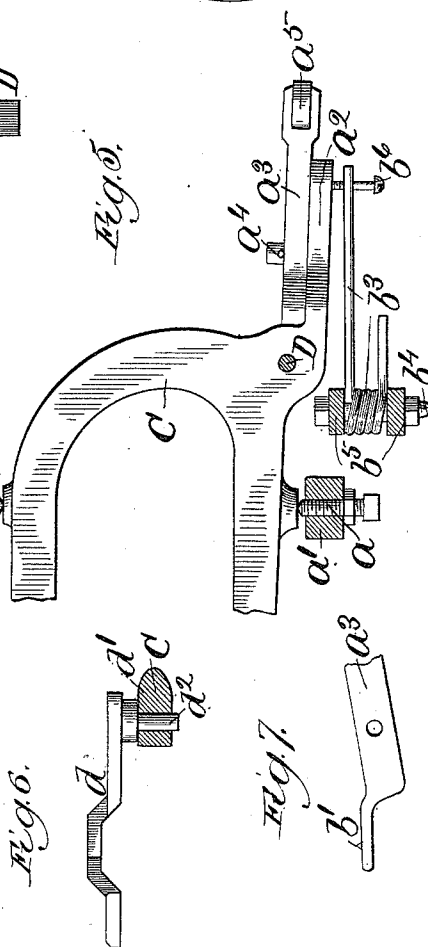


Fig. 5.

Fig. 6.

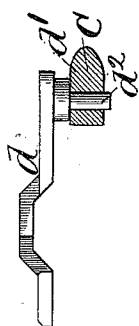
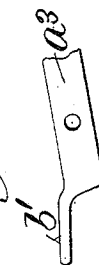


Fig. 7.



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UNITED STATES PATENT OFFICE.

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FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 566,286, dated August 18, 1896.

Application filed May 15, 1895. Renewed June 18, 1896. Serial No. 596,086. (No model.)

To all whom it may concern:

Be it known that I, JAMES B. DOBYNE, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Feeding Mechanism for Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an improved feed-regulating attachment; and it consists in certain novel features in the construction, arrangement, and operation of the several parts, as will be hereinafter set forth.

In the drawings, Figure 1 is a front elevation of a machine embodying my improved features; Fig. 2, a rear elevation; Fig. 3, a plan section on line 3, Fig. 1; Fig. 4, a vertical section on line 4, Fig. 3, looking in the direction indicated by the arrow, showing the feed-lever cam-wheel in elevation; Fig. 5, a vertical section on line 5, Fig. 3, showing the forked or bifurcated feed-lever in part with details; Fig. 6, a section on line 6, Fig. 3, showing the lower feed-dog in elevation; and Fig. 7, a broken-away detail.

A is the supporting-base; A', the stationary overhanging arm; A², the needle-lever; A³, the needle-bar; A⁴, the needle; A⁵, the combined needle-cam and fly-wheel, and B the driving-shaft.

The forked feed-lever C is supported between adjustable pivot-bolts *a* and is adapted to have a vibratory movement in a horizontal plane. These pivots or bearing-bolts have an adjustable threaded engagement in lugs *a'*, one of which is formed on the overhanging arm and the other on the supporting-base, as shown more particularly in Figs. 2 and 5. The feed-lever is provided with the rear extension *a*², on the top of which is mounted an auxiliary lever *a*³, attached thereto by means of a pivot-pin *a*⁴. The outer end of this lever, Fig. 5, has a friction-roller *a*⁵ journaled therein. A feed-lever cam-wheel C' is rigidly mounted on the driving-shaft and is provided with a raised cam-surface *a*⁶, Fig. 4, with which the friction-

roller *a*⁵ of lever *a*³ is adapted to have a frictional contact once in each revolution of the wheel, and thereby imparting the required vibratory action to the feed-lever.

The adjustment or throw of the feed-lever is varied by a heavy or light contact of the lever *a*³ with the cam-surface *a*⁶, for the purpose of lengthening or shortening the stitch. This heavy or light contact is regulated by means of a screw-rod D, extending through the base to the front side of the machine, so as to be within convenient reach of the operator. This rod is inserted loosely in the base part and passes through the rear end of the feed-lever and has a threaded engagement therein. The rear end of this rod is inserted loosely through the inner end of lever *a*³, Figs. 2 and 3, and has a collar *a*⁷ fixed thereon. The bearing-surface of this collar is provided with a series of ratchet-like teeth *b*, engaging with a rib *b'*, which will prevent the rod from turning accidentally, when once set, by the jar or vibration of the machine, but will readily permit of its being turned or adjusted by hand.

The spring *b*², coiled on the rod, serves to hold the end of the lever *a*³ up against the ratchet-collar *a*⁷. A portion of a spring *b*³ is coiled around a supporting-bolt *b*⁴, inserted in lugs *b*⁵, Fig. 5, formed in the base part. The loose end of this spring bears against a post *b*⁶, fixed in the rear extension *a*² of the feed-lever, and serves to return the latter to its normal position and bring the roller end of lever *a*³ back in the pathway of the cam each time after the said cam shall have passed out of contact.

The back end of the lower feed-dog *d*, Fig. 6, is connected to the lower fork end *d'* of the feed-lever by means of a pin *d*², seated loosely therein, as shown.

The work-plate *d*³ retains the lower feed-dog in its place and allows a vibratory or end-wise movement thereof.

A link *g* is mounted on the upper fork end *g'* of the feed-lever and has the presser-foot bar *g*² adjustably connected thereto by a screw-bolt *g*³. The presser-foot or upper feed-dog *g*⁴ is inserted in bar *g*². By this arrangement the action of the feed-lever is positive,

and the movement of the lower and upper feed-dog is always in unison.

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

1. In a sewing-machine, the combination with a forked feed-lever adapted to have a vibratory movement in a horizontal plane and provided with a rear extension, an auxiliary lever, pivotally mounted on top of said rear extension, and a rotating cam-wheel, with which the rear end of said auxiliary lever is adapted to have contact, substantially as described.
2. In a sewing-machine, the combination with a forked feed-lever, pivotally mounted and adapted to have a vibratory movement in a horizontal plane, an auxiliary lever, pivotally mounted on the rear end of the feed-lever, a cam-wheel, adapted to have an intermittent contact with the rear end of said auxiliary lever, the driving-shaft, mounting said cam-wheel, an adjusting screw-rod, inserted through and having a threaded engagement in the feed-lever and passing loosely through the inner end of said auxiliary lever, a collar, fixed on the back end of said rod and bearing against the adjacent surface of the

auxiliary lever, and a spring, coiled on said rod, substantially as described.

3. In a sewing-machine, the combination with a forked feed-lever, of an auxiliary lever, pivotally mounted on the rear part of the feed-lever, an adjusting screw-rod, inserted through said feed-lever and auxiliary lever, a collar, mounted on the back end of said rod, and a spring, coiled on said rod between the feed and auxiliary levers, substantially as described.

4. In a sewing-machine, the combination with the forked feed-lever connected to the presser-foot and lower feed-dog and adapted to have a vibratory movement in a horizontal plane, of an auxiliary lever adjustably and yieldingly connected to said forked lever, means for adjusting said auxiliary lever relatively to the forked lever, and means for actuating said auxiliary lever, all combined substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES B. DOBYNE.

Witnesses:

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L. B. COUPLAND.