

(No Model.)

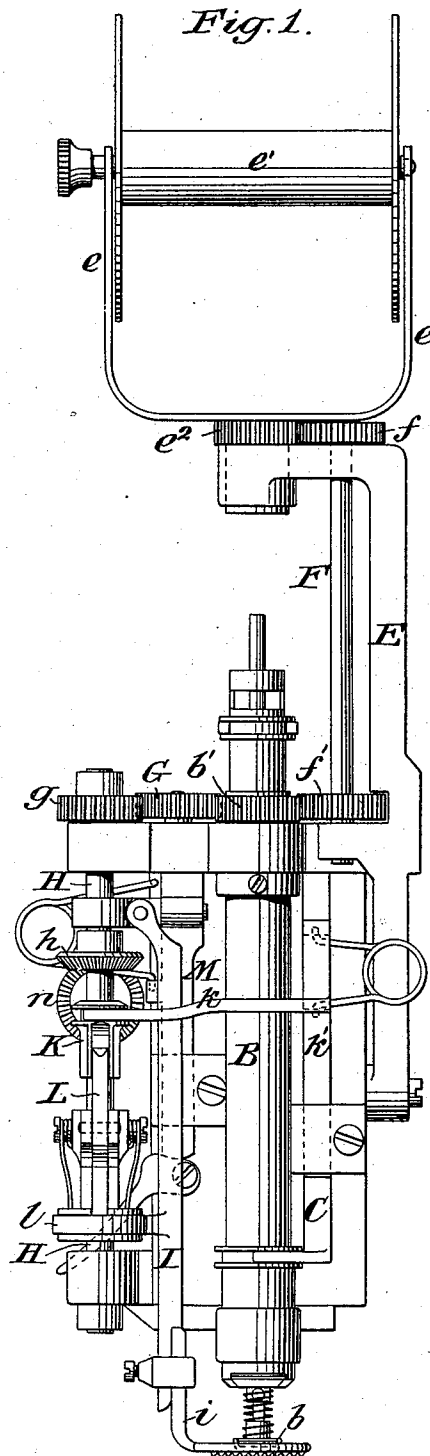
3 Sheets—Sheet 1.

G. W. WEISS.

BRAID FEEDING MECHANISM FOR SEWING MACHINES.

No. 568,387.

Patented Sept. 29, 1896.



Witnesses:

Chas. Sundgren
George Barry.

Inventor:

George W. Weiss
by attorneys
Brown & Ward

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3 Sheets—Sheet 2.

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Fig. 3.

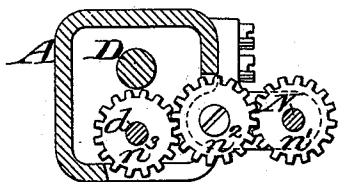
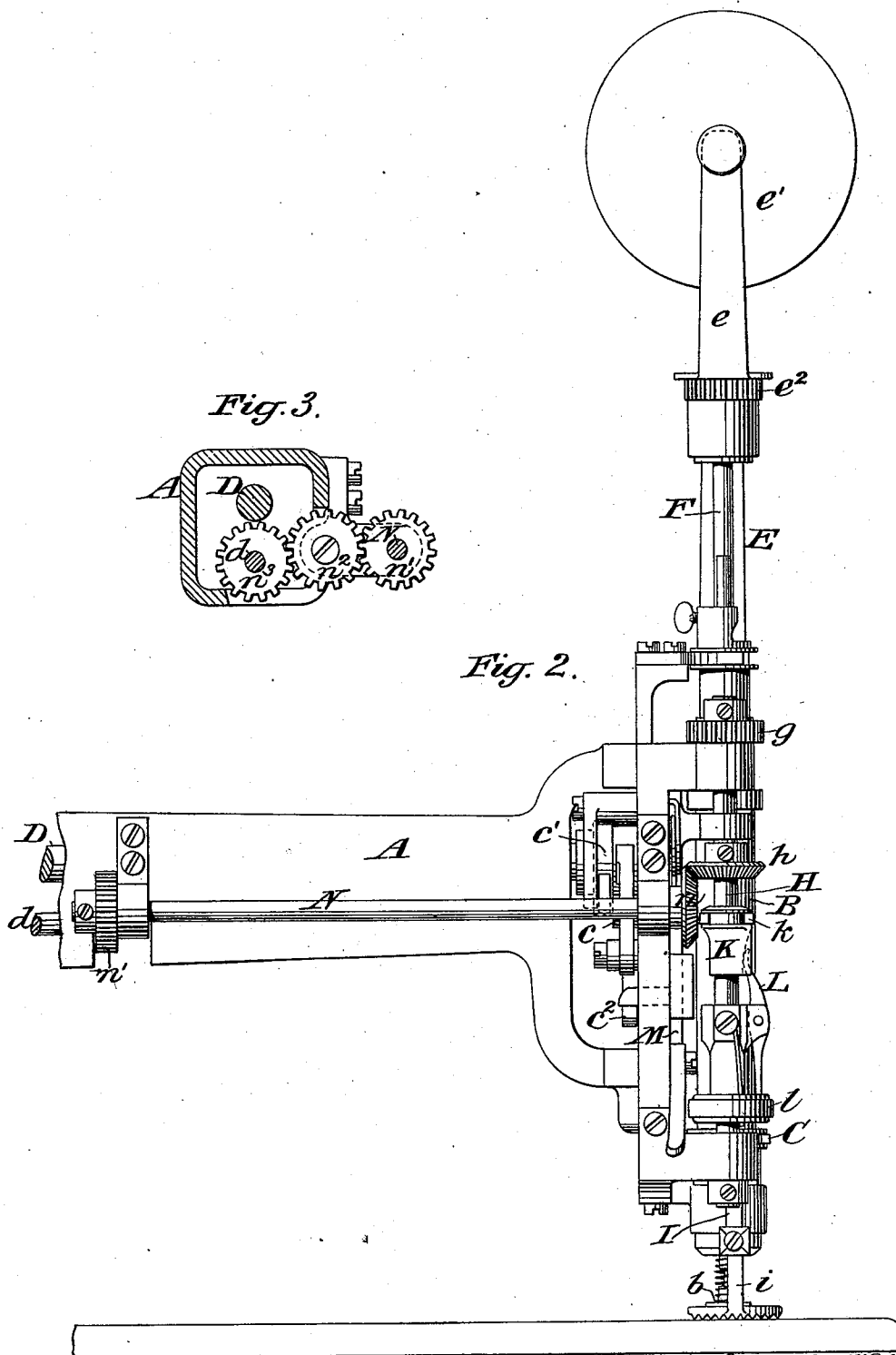


Fig. 2.



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(No Model.)

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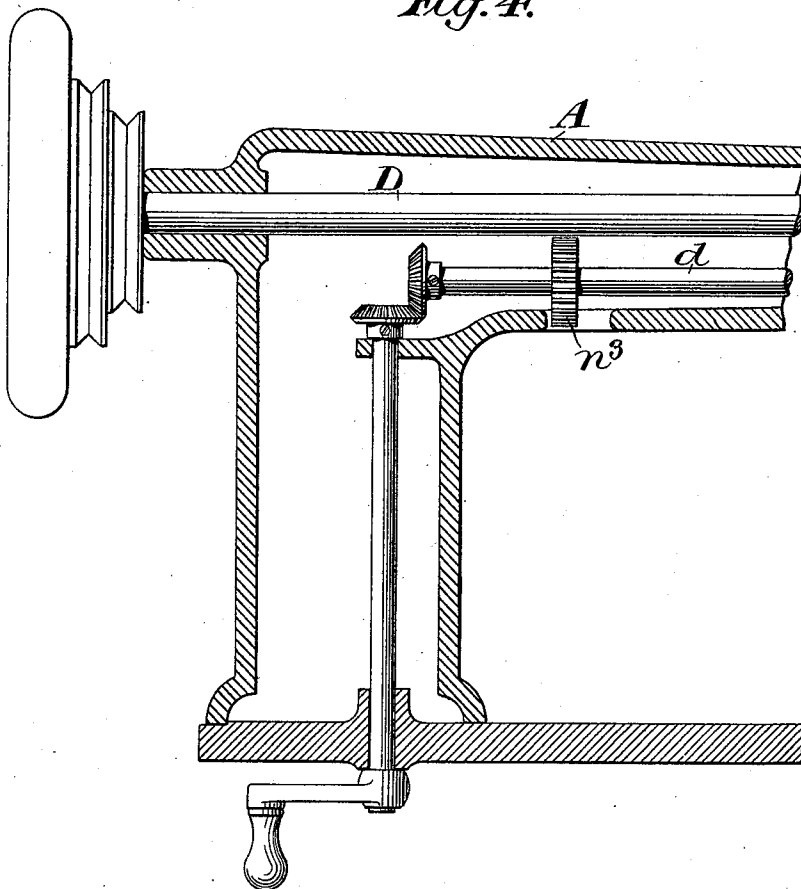
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Patented Sept. 29, 1896.

Fig. 4.



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UNITED STATES PATENT OFFICE.

GEORGE W. WEISS, OF BROOKLYN, NEW YORK, ASSIGNOR TO JOHN STEWART, OF NEW YORK, N. Y.

BRAID-FEEDING MECHANISM FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 568,387, dated September 29, 1896.

Application filed August 15, 1893. Serial No. 483,189. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. WEISS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Braid-Feeding Mechanism for Bonnaz Sewing-Machines, of which the following is a specification.

My invention relates to an improvement in braid-feeding mechanism for Bonnaz sewing-machines, with the object in view of providing for feeding braids of all usual sizes freely down within the tube in which the needle operates while retaining the advantages of the universal feed. This object is accomplished by locating certain of the elements of the universal feeding mechanism at one side of the needle-tube, by replacing the ordinary needle-tube by one of larger size, and by placing the feed-regulating gear off to one side to correspond with the new position of the said elements of the feeding mechanism.

A practical embodiment of my invention is represented in the accompanying drawings, in which—

Figure 1 is an end view of the machine, showing the mechanism in position for use. Fig. 2 is a side view of the mechanism at the end of the overhanging arm of the machine and of a portion of the overhanging arm, and Fig. 3 is a transverse section through the overhanging arm of the machine at the point where the feed-regulating gear is connected with the shaft which has heretofore been employed for changing the feed. Fig. 4 is a sectional side elevation of a portion of a sewing-machine, illustrating the mechanism for operating the two shafts D and d.

As my present invention applies only to the structure and arrangement of the parts at the end of the overhanging arm and along the arm, I have represented only so much of the machine as is essential to show the features of my present improvement, it being understood that the machine is one of the well-known type commonly called the "Bonnaz braid-machine."

The overhanging arm is denoted by A. At its end there is located in the position in which the combined needle and feed-tube ordinarily occupies an enlarged tube B, in which the needle operates, as is usual, the tube B

being of such size as to readily admit the passage therethrough of braid of all usual sizes, including very wide braid, which it would be impracticable to undertake to force through the ordinary tube of the Bonnaz machine. On the lower end of the tube B the vertically-movable presser-foot *b* is located and is operated by the vertically-movable bar C, driven by a cam *c*, operated by a drive-shaft D, extending through the overhanging arm A, as is usual. The end of the arm has projecting upwardly therefrom a supporting-bracket E, in which is mounted the frame *e*, carrying the braid-supply spool *e'*, as is common, the support *e* being provided with gear *e'*, intermeshing with gear *f* on the upper end of the spindle F, the lower end of the spindle F being provided with gear *f'*, which intermeshes with gear *b'* on the tube B, and this latter gear, by means of intermediate gear G, being connected with gear *g* on the feed-shaft H, so that the braid-supply spool *e'* may be turned simultaneously with the turning of the feed shaft and tube B to cause the braid to be fed flatwise in the direction of the feed, whatever may be the direction given to said feed.

The feed-shaft H (which may be in practice the hollow tube in which the needle ordinarily operates and through which the braid is commonly fed) is set out of its ordinary position, (which is here occupied by the enlarged tube B,) and, without materially changing its structure or the operation of the parts thereof, it is supported by the side of the depending feed-bar I, having the feed-foot *i*, and opposite the tube B. The shaft H is supported in position by suitable brackets screwed to the end or head of the overhanging arm A.

On the shaft H there is fixed a support for the vibrating lever L, arranged longitudinally of the shaft H and so mounted as to vibrate toward and away from the shaft. A cam-sleeve K is fitted to slide up and down on the shaft H, and in so doing to engage one arm of the vibrating lever L and thereby cause its opposite arm to move toward or away from the shaft H. The sleeve K is moved up and down on the shaft H by means of an arm *k*, loosely engaged at one end with a groove at the top of the sleeve K, and at its opposite end con-

nected with a vertically-sliding bar k' , operated by a cam c' , actuated by the drive-shaft D. The lower arm of the vibrating-lever L is connected with a ring or collar l , loosely
 5 surrounding the shaft H and connected with the feed-bar I. As the vibrating lever L is rocked by the sliding movement of the sleeve K it will cause the ring or collar l to move to a limited extent in a plane transverse to the
 10 shaft H and will thereby impart the horizontal movement to the feed-foot i .

The feed-bar I is lifted at proper intervals by means of a vertically-reciprocating bar M, operated by an arm c^2 , actuated by a cam on the shaft D. The direction of the feed is
 15 changed at pleasure by means of the shaft N, located exterior to the arm A and extending alongside of it, one end of said shaft N being provided with bevel-gear n , which inter-
 20 meshes with bevel-gear h on the shaft H, and its opposite end is provided with gear n' , which, through an intermediate gear n^2 , connects with gear n^3 on the shaft d , which ordi-
 25 narily extends along within the arm A and is operated by the operator at the machine to change the direction of the feed.

To provide a machine of ordinary structure with the braid-feeding devices hereinbefore
 30 described requires but a comparatively small amount of labor and expense, the old needle and braid-tube being utilized in the new position as a feed-shaft and the shaft for changing the direction of the feed being utilized
 35 and made to subserve the same purpose by gearing it with the supplemental shaft N on the extension of the arm A.

What I claim is—

1. In a sewing-machine, the combination with the frame thereof comprising an over-
 hanging arm, of a driving-shaft extending 40 within said arm, stitch-forming mechanism, a universal feeding mechanism having certain of its elements carried by but offset from the said arm, means for changing the direction of the feeding movement including two shafts, 45 one located within and the other carried on the outside of said arm, means for connecting and operating said shafts, and means for operatively connecting one of said two shafts to the feeding mechanism. 50

2. In a sewing-machine, the combination with the frame thereof comprising an over-
 hanging arm, of stitch-forming mechanism, a rotary vertically-reciprocating braid-guide, a rotary braid-holder, a universal feeding 55 mechanism including among its elements a rotary shaft carried by but offset from said arm, means for operatively connecting said shaft, holder and guide, means for changing the direction of the feed movement including 60 two parallel rotary shafts carried by said arm, means for connecting and operating said two shafts, and means for connecting one of said shafts to the said shaft of the feeding mechanism, whereby when the feed move- 65 ment is changed the position of the guide and holder will also be changed.

GEORGE W. WEISS.

Witnesses:

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