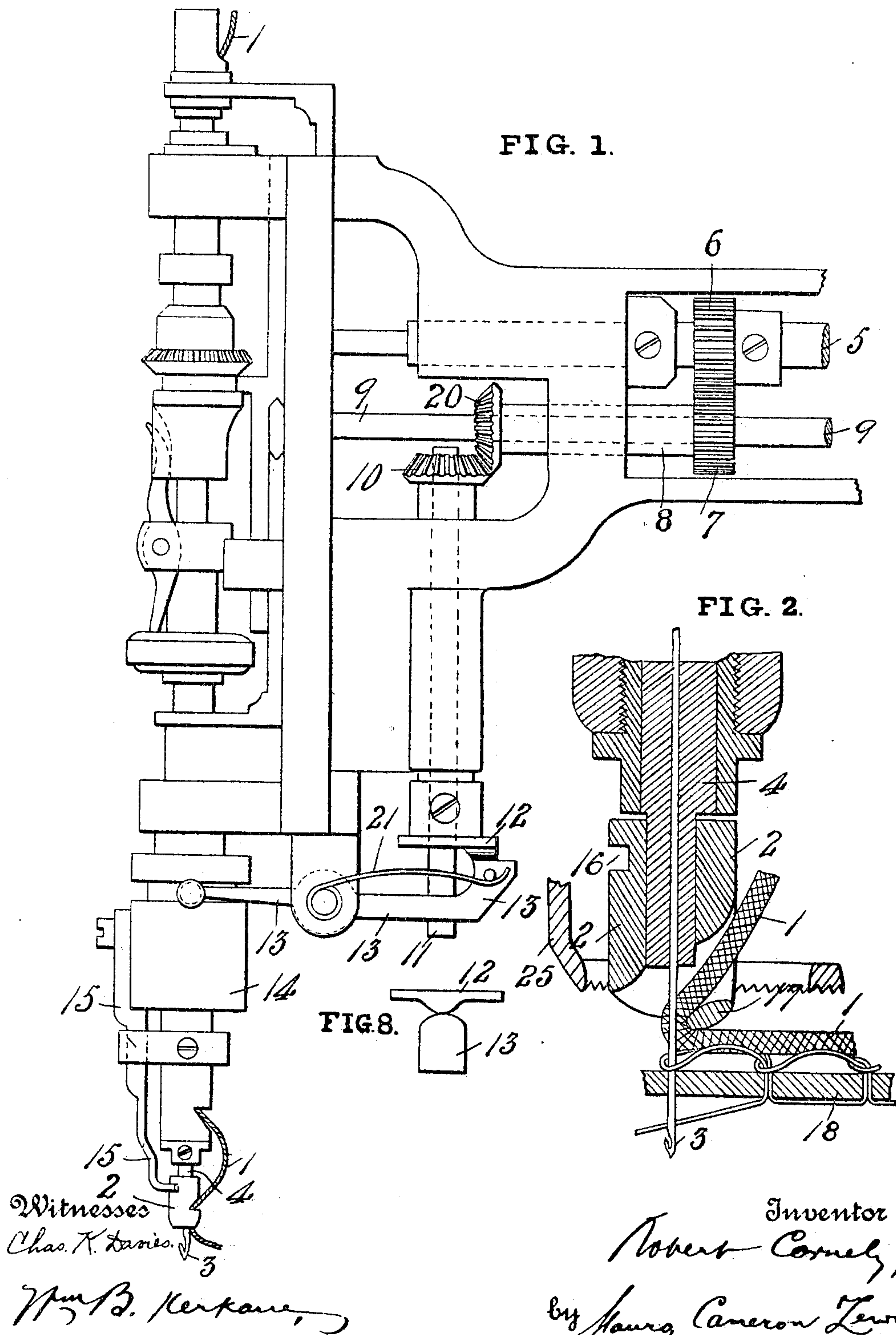


R. CORNELY.
SEWING AND EMBROIDERING MACHINE.

APPLICATION FILED JUNE 25, 1903.

2 SHEETS—SHEET 1.



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2 SHEETS—SHEET 2.

FIG. 3.

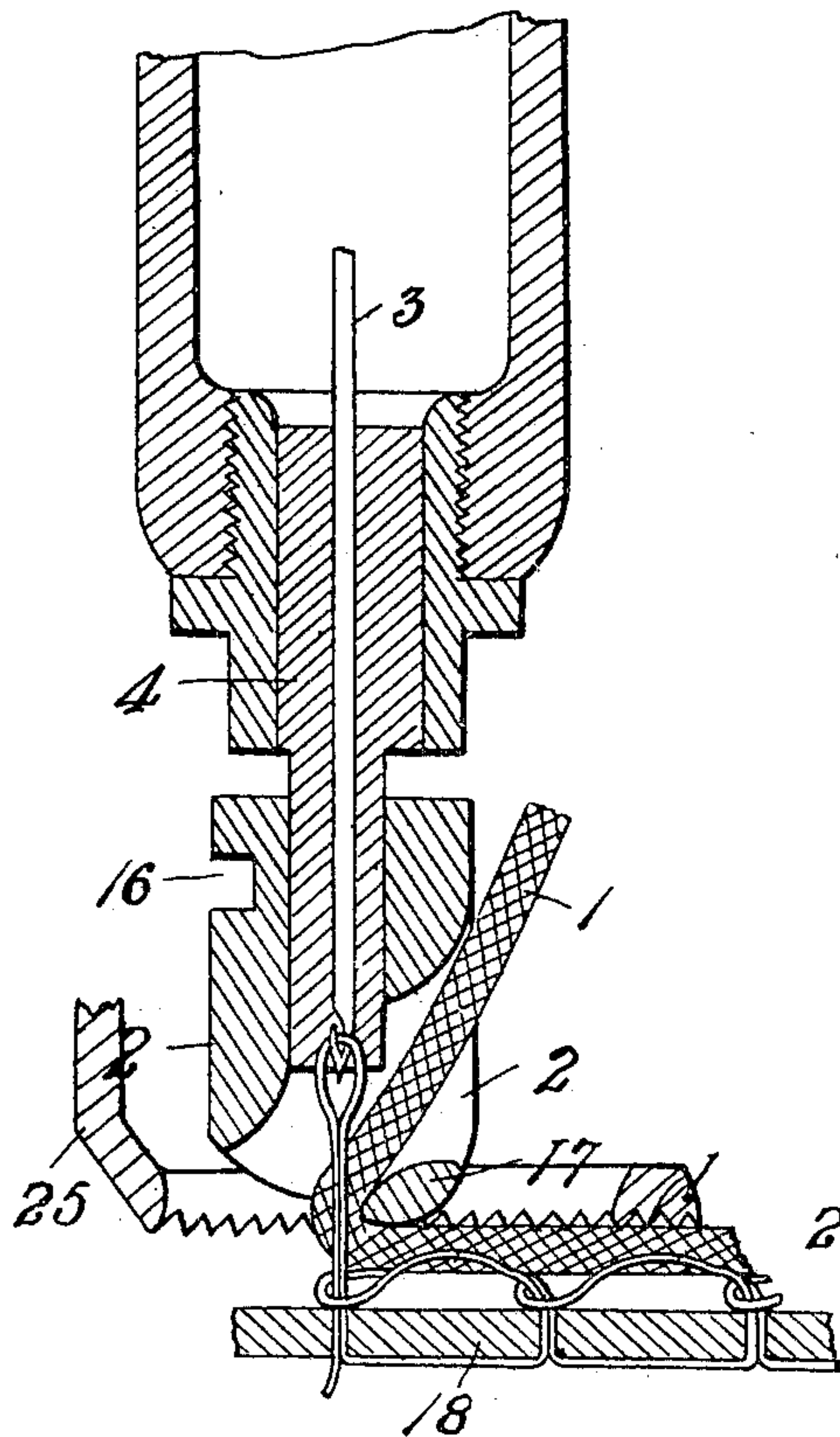


FIG. 4.

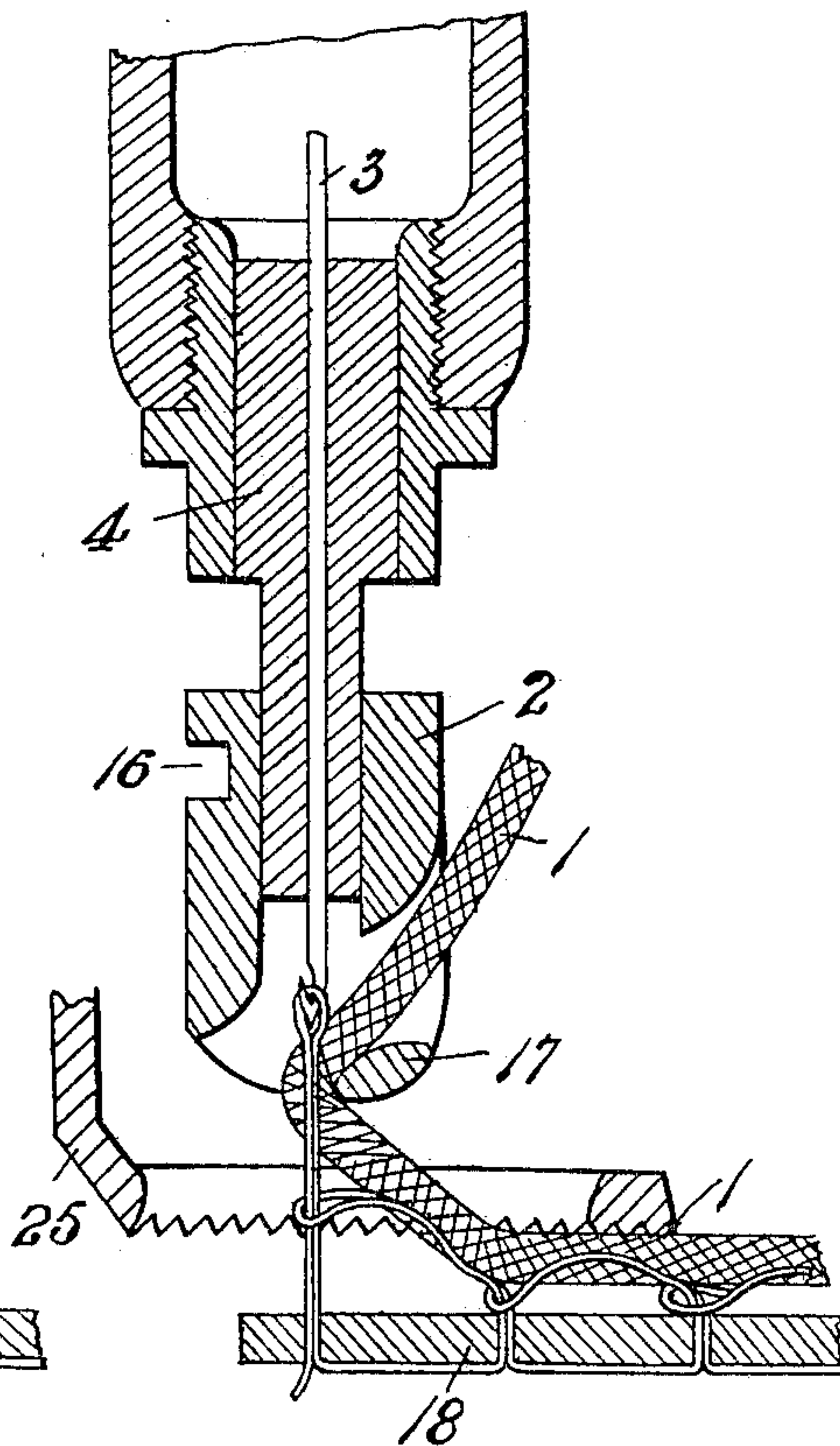


FIG. 5.

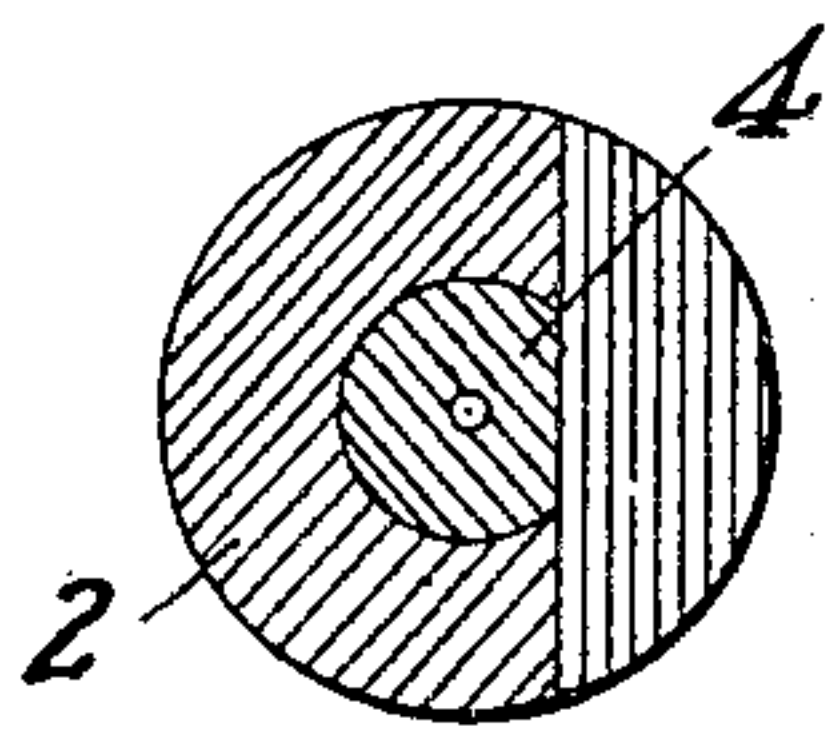


FIG. 6.

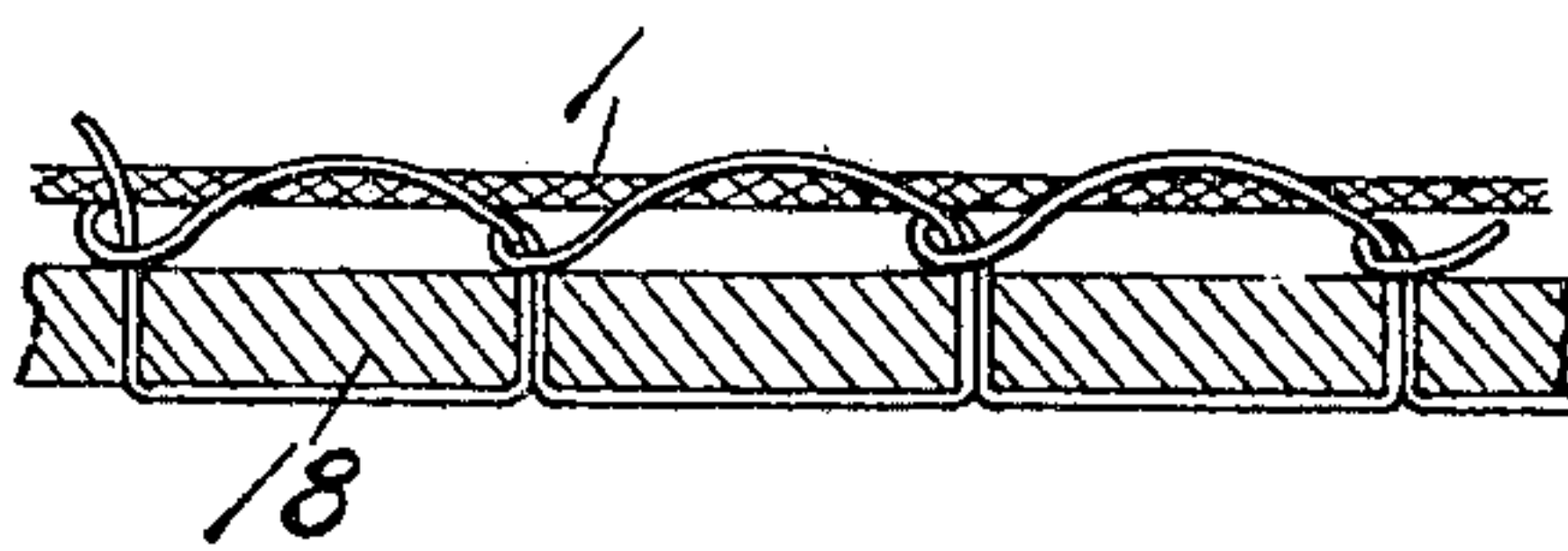
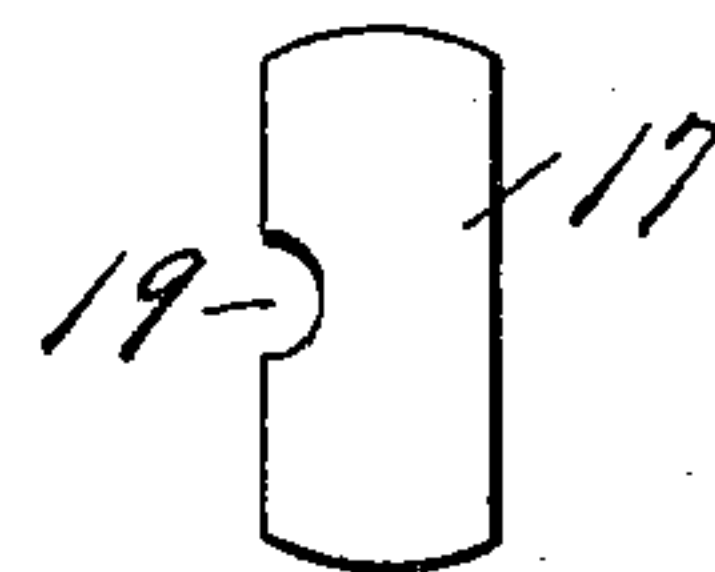


FIG. 7.



Witnesses

Chas. K. Davis.

Wm. B. Kerkham

Inventor
Robert Cornely,
by
Mauro, Cameron & Lewis,
Attorneys.

UNITED STATES PATENT OFFICE.

ROBERT CORNELY, OF PARIS, FRANCE.

SEWING AND EMBROIDERING MACHINE.

No. 798,878.

Specification of Letters Patent.

Patented Sept. 5, 1905.

Application filed June 25, 1903. Serial No. 163,025.

To all whom it may concern:

Be it known that I, ROBERT CORNELY, a resident of Paris, France, have invented a new and useful Improvement in Sewing and Embroidering Machines, which is fully set forth in the following specification.

It has not been possible heretofore to sew on by machine with universal feed certain kinds of braids, ribbons, or like upon material, because the stitch or seam was too apparent, and these sorts of braids had to be sewed on by hand.

The object of the present invention is to sew on these braids by universal-feed machines by means of a seam which according to the thickness of the braids is entirely invisible and when very thin ribbons are used is only slightly or partly apparent. The principle of this new proceeding consists in the idea that the needle pierces the braid no more perpendicularly to the same, but that the braid is at certain moments bent upon itself, thus presenting a fold to the needle into which the needle stitches in the longitudinal direction of the braid. In this manner it is obtained that with braids of ordinary thickness the seam becomes entirely invisible, while when using very thin braids or ribbons the seam becomes only slightly or partly visible, as hereinafter explained.

One mechanical embodiment of the inventive idea is illustrated in the accompanying drawings, wherein—

Figure 1 is an elevation of the head of a machine. Figs. 2, 3, and 4 are vertical sections of the guide and related mechanism at different stages of the operation. Fig. 5 is a horizontal section of the guide and nipple. Fig. 6 illustrates braid attached to a fabric by stitches that are not entirely concealed. Fig. 7 is a plan view of a portion of the guide; and Fig. 8 is a detail view in elevation, looking from the left of Fig. 7, of a cam and lever forming part of the machine.

Referring to the drawings, the braid 1 passes through the central tube in the well-known manner and reaches the guide 2, within which the needle 3 and the nipple 4 perform their up-and-down motions. Guide 2 receives an automatic up-and-down motion by means of the following mechanism: A gear-wheel 6 is secured upon the main shaft 5 of the machine and transmits its motion to wheel 7, which is secured upon the hollow shaft 8, through which passes shaft 9, which transmits the turning motion imparted by the crank-han-

dle in the well-known manner in the universal-feed machines. Gear-wheel 20, which is also secured upon hollow shaft 8, transmits its motion to wheel 10 and shaft 11, which latter shaft 11 is provided at its lower end with a cam 12. The revolving motion of this cam 12, in conjunction with action of spring 21, imparts at certain moments an up-and-down motion to lever 13, which motion is transmitted to sleeve 14 and part 15, while the lower end of part 15 projects into a recess 16, Figs. 2, 3, and 4, of guide 2, which latter guide thus also performs an up-and-down motion on the lower reduced cylindrical end of the nipple 4. It will thus be seen that the guide 2 is entirely supported from the head of the machine above and clear of the plate or part (not shown) which supports the work in position to be acted upon. Furthermore, as indicated by the positions of the parts in Figs. 2, 3, and 4, the guide receives up-and-down movement different from and independent of the up-and-down movement imparted to the needle 3 and nipple 4. This mechanism is governable by the crank-handle of the machine by means of ring 22, which is secured upon the nipple-tube 23. This ring 22 is provided with a fork in which plays part 15, which thus follows all directions imparted to the universal feed.

The braid 1 penetrates into guide 2 behind the needle, passes around a sort of blade, bar, or bridge 17, Figs. 2, 3, and 4, passes under this bridge 17, comes out of guide 2 at the same side it came in, and then reaches the material. While passing through the guide 2 the braid is presented to the needle in such a manner that the needle must pierce it in the longitudinal direction of the braid, as shown at Fig. 2. While the needle ascends the nipple 4 presses upon the braid and reaches then the position shown at Fig. 3. Then the needle 3, nipple 4, and guide 2 reach their highest position, Fig. 4, when the feed takes place. The needle, the nipple, and guide 2 will be turned by the usual crank-handle in order to follow the designs which are to be executed, and the sewing of the braid to the material is obtained in any direction of the feed. The feed of the material is effected from above by feed-bar 25, (shown only in Figs. 2, 3, and 4,) to which suitable movements, both up and down and lateral, are imparted in the well-known manner. The lateral feed movement takes place while the guide, needle, and nipple are in the position shown in Fig. 4. As it will

be readily understood by the drawings, the seam does not appear upon the upper side of the braid 1, as it remains entirely concealed between the braid and the material 18. It is
 5 evident that this work can be produced on any universal-feed sewing or embroidering machine, working either with a crochet-hook or a threaded needle, as in lock-stitch machines, or any other system of sewing-machine, only
 10 in this latter case nipple 4 will not be necessary.

When very thin ribbons or braids have to be employed, the needle, although piercing the braids or ribbons in their longitudinal di-
 15 rection, will produce a seam which will be slightly or partly visible; but this seam will not appear like a chain or lock stitch, but, to the contrary, will show single stitches inter-
 20 mitting with spaces resembling a seam made by hand. This latter seam is shown at Fig. 6, in which the same numbers of reference refer to the same elements as in the figures above described. For this latter work with
 25 very thin braids the blade, bar, or bridge 17 (shown at Fig. 7) is to be provided with a groove 19 for the passage of the needle.

All the stitch-producing elements are governable by the crank-handle of the machine in the well-known manner.

30 It is evident that this new proceeding can also be employed on machines working with two or more needles which produce two or more parallel seams at the same time.

I claim—

35 1. In a machine for sewing braid or the like to fabric, a needle and means for operating the same, a guide having an opening therein through which the braid is fed and a bar or
 40 bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, driving connections for reciprocating said
 45 guide to move it toward and from the work and feeding means operating to advance the work when the guide is away from the same.

2. In a machine for sewing braid or the like to fabric, a needle and means for operating the same, a guide having an opening therein through which the braid is fed and a bar or
 50 bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, driving connections for reciprocating said
 55 guide to move it toward and from the work during the formation of each stitch, said movement of the guide being different from and independent of the movements of the needle and feeding means operating to advance the work when the guide is away from the same.

60 3. In a machine for sewing braid or the like to fabric, a needle and means for reciprocating

the same, a nipple through which the needle works and means for reciprocating the nipple, a guide movable up and down on the nipple, said guide having an opening therein through
 65 which the braid is fed and a bar or bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, and driving connections for imparting up-and-
 70 down movement to the guide independent of the movement of the nipple.

4. In a machine for sewing braid or the like to fabric, a needle and means for operating the same, a guide having an opening therein
 75 through which the braid is fed and a bar or bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, driving connections for reciprocating said
 80 guide to move it toward and from the work, and universal-feed mechanism under control of the operator for turning the needle and guide in any direction.

5. In a machine for sewing braid or the like to fabric, a needle and means for operating the same, a guide having an opening therein through which the braid is fed and a bar or
 85 bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, driving connections for reciprocating said
 90 guide to move it toward and from the work during the formation of each stitch, said movement of the guide being different from and independent of the movements of the needle, and universal-feed mechanism under control of the operator for turning the needle and guide in any direction.

6. In a machine for sewing braid or the like to fabric, a needle and means for reciprocating the same, a nipple through which the needle works and means for reciprocating the nipple, a guide movable up and down on the nipple, said guide having an opening therein through
 105 which the braid is fed and a bar or bridge across said opening over which the braid is bent in position for the needle to pass into and out of the same at its under surface, driving connections for imparting up-and-down
 110 movement to the guide independent of the movement of the nipple, and universal-feed mechanism under control of the operator for turning the needle and guide in any direction.

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

ROBERT CORNELLY. [L. s.]

Witnesses:

J. ALLISON BOWEN,
 GEORGE E. LIGHT.