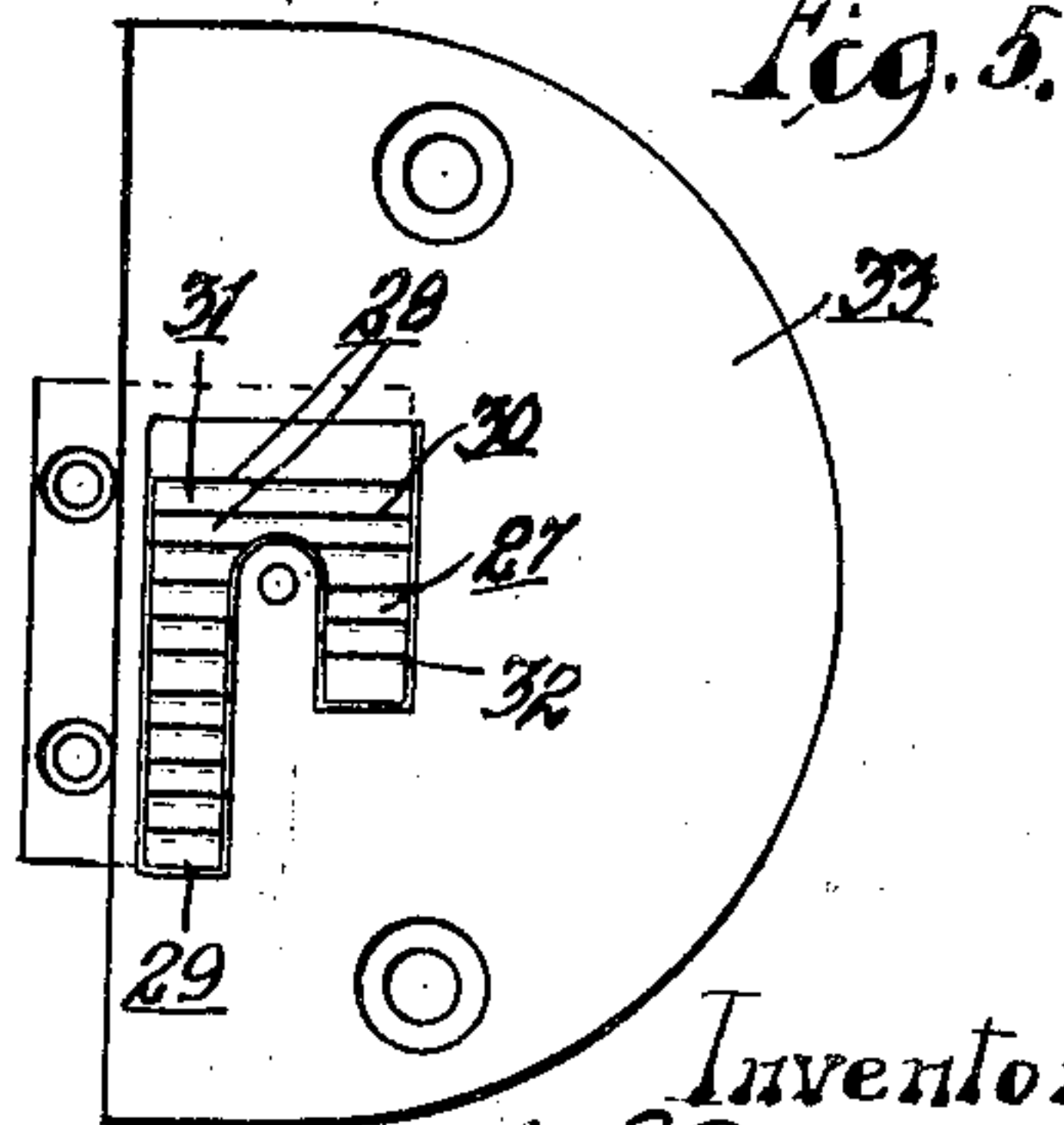
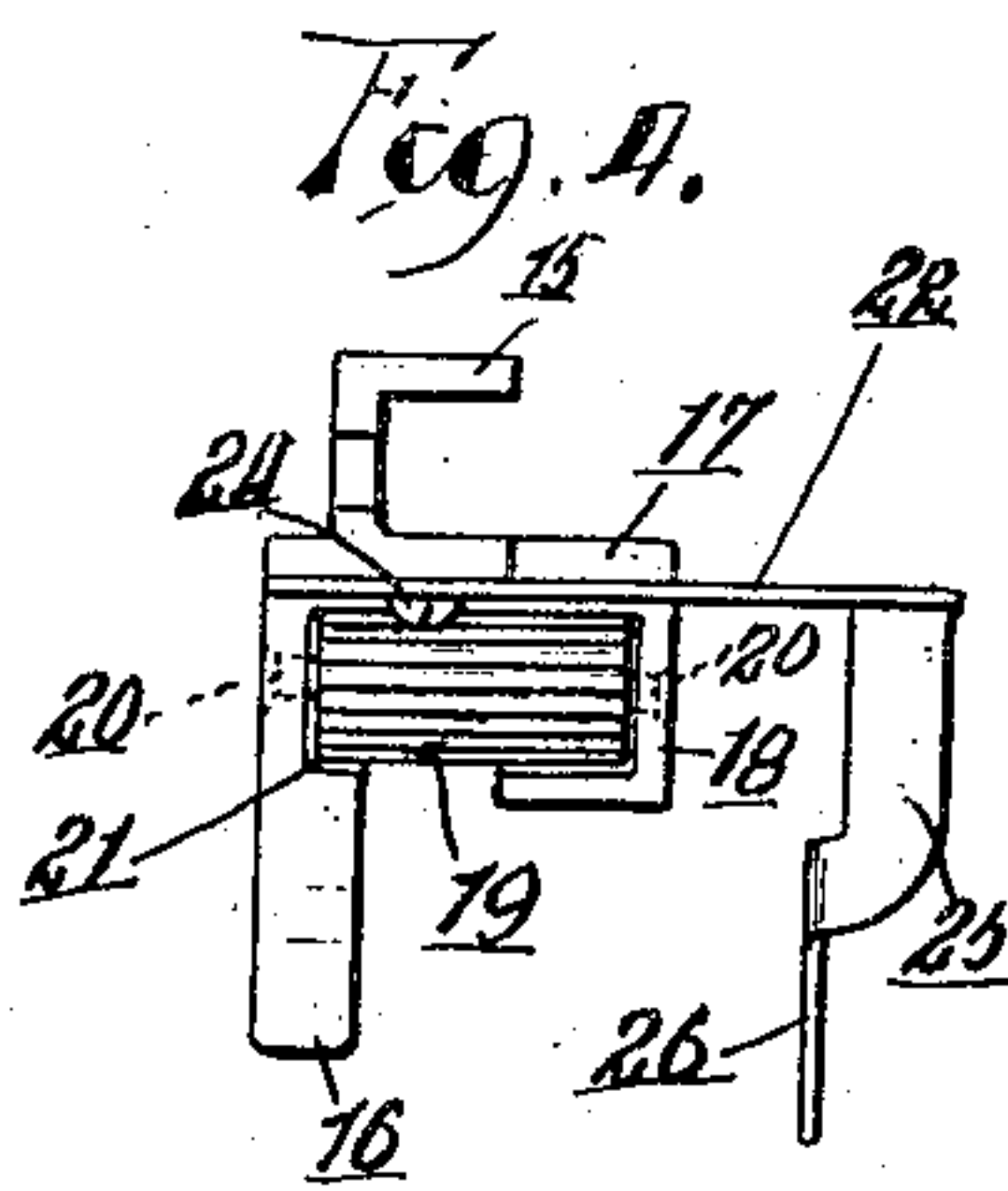
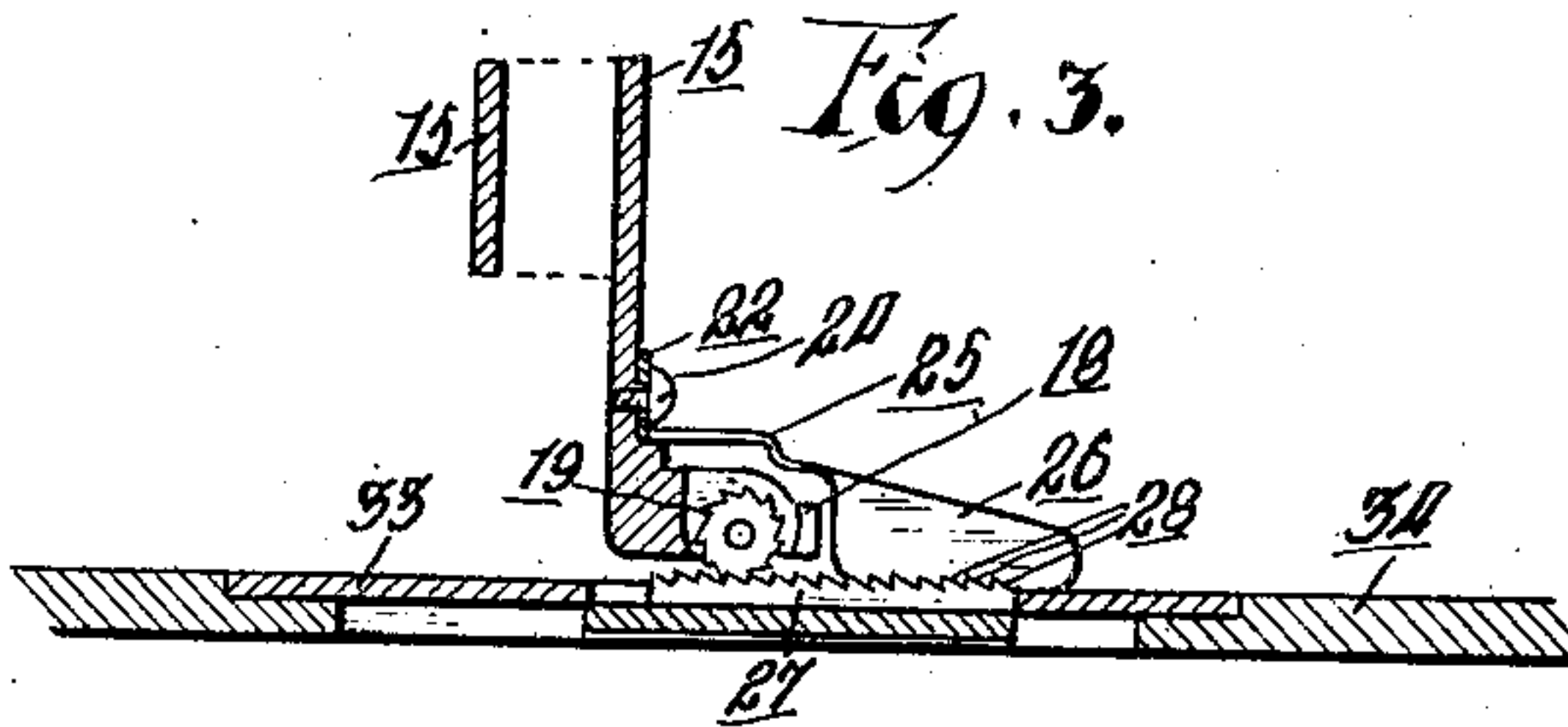
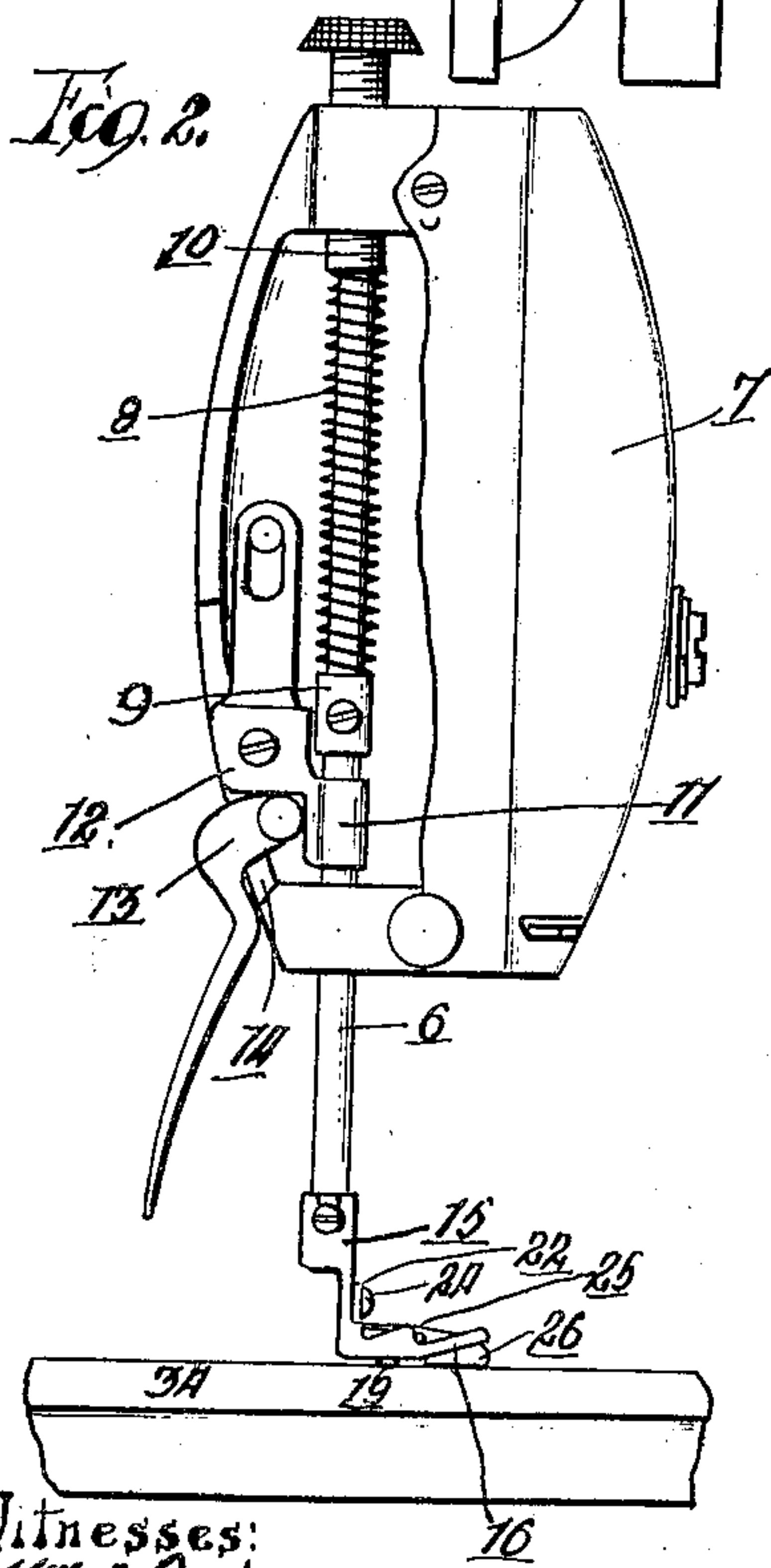
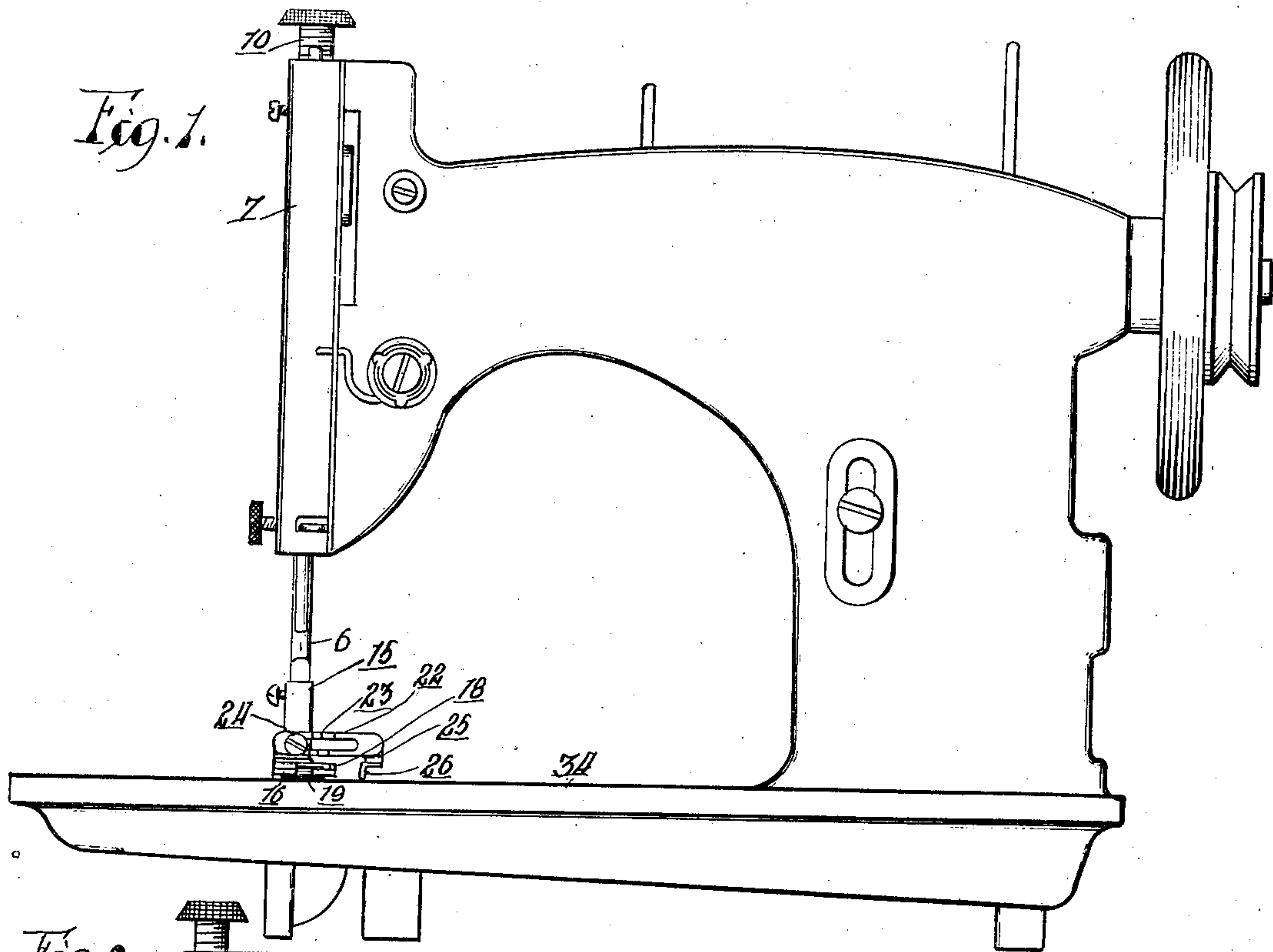


No. 896,522.

PATENTED AUG. 18, 1908.

C. V. ERICSON.
FEEDING MECHANISM FOR SEWING MACHINES.

APPLICATION FILED OCT. 25, 1907.



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UNITED STATES PATENT OFFICE.

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FEEDING MECHANISM FOR SEWING-MACHINES.

No. 896,522.

Specification of Letters Patent.

Patented Aug. 18, 1908.

Application filed October 25, 1907. Serial No. 399,127.

To all whom it may concern:

Be it known that I, CARL V. ERICSON, 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 Feeding Mechanism for Sewing-Machines, of which the following is a specification.

The object of the present invention is to provide a positive feed for the goods, together with an adjustable guide, whereby the goods can be more accurately and rapidly fed through the machine than is the case where feeding mechanism of the ordinary type is employed. The device is intended more especially for use in stitching along the exposed edges of a suit or dress, at which point it is necessary to secure perfect accuracy and alinement of the stitching with the edge of the goods, in order that an elegant appearance may be given to the suit or dress.

Another object of the invention is to prevent cramping or distortion of the fabric, and at the same time to provide a firm and positive feeding mechanism which will prevent vibration or side play of the fabric and enable the same to be fed through without great care or exactness on the part of the operator, which is necessary in securing proper results in the employment of mechanism of the ordinary type.

The invention consists in the features of construction and combination of parts hereinafter described and claimed.

In the drawings, Figure 1 is a side elevation of a Singer sewing machine, showing the feeding mechanism of the present invention applied thereto; Fig. 2 an end elevation of the same, partly broken away; Fig. 3 a sectional elevation of the foot and feeding mechanism, somewhat enlarged; Fig. 4 a top or plan view of the foot; and Fig. 5 a plan view of the lower feed with which the foot coöperates.

As shown, the invention is applied to a Singer sewing machine having a spring compressed foot post 6, which is mounted within the head 7 of the machine. The post is encircled by a coil spring 8 which, at its lower end, bears against a collar 9 on the post, and at its upper end against an adjustable screw 10, entered through the top of the head. Below the post is a lug 11, provided with a shoulder 12, which latter is engaged by a cam lever 13, which operates within a slot 14 and is adapted to elevate the foot post

against the tension of the coil spring. The mechanism above described is similar to the mechanism ordinarily used in sewing machines, so that further description is deemed unnecessary.

The lower end of the foot post is entered into a socket head 15, from which the foot 16 extends forwardly. The foot is formed integrally with a laterally extending bracket 17, which bracket terminates in a forwardly extending hooked finger 18, as best shown in Fig. 4. Between the main portion of the foot and the hooked finger on the bracket is located a toothed wheel 19, which is provided with trunnions 20, which latter are journaled within the foot and the finger, respectively, the foot being provided with a recess 21 to accommodate the outer end of the toothed wheel.

The socket head has secured thereto, immediately above the laterally extending bracket 17, a slotted arm 22, which is provided with graduations 23, which arm is held in adjusted position by means of a set screw 24. The slotted arm has, at its outer end, a forwardly extending guide arm 25, which terminates in a depending guide finger 26, which latter is bent or formed at right angles with respect to the arm 25 and extends downwardly therefrom.

The foot is intended to act in combination with a lower feeding plate 27, provided with rearwardly extending teeth 28, which feed plate is L-shaped and comprises a long outer arm 29, a short inner arm 30, and a connecting head 31, the teeth extending transversely of the arms and head. The feeding plate operates within an L slot 32, formed within a plate 33 which is set or embedded within a platen 34, across which the material is intended to travel. The slot 32 is of a length which permits the necessary reciprocation of the feeding plate, which latter, on the forward thrust, is carried forward to the end of the L slot so that no cracks or spaces will be left into which the material may be forced and clamped, which frequently happens in the manipulation of goods over a feed of the ordinary construction.

The mechanism for actuating the needle and the feeding plate may be of the ordinary and well known variety, so that a description of these features is deemed unnecessary.

In use, the guide finger 26 can be adjusted to the proper position with respect to the

needle to bring the stitching at a predetermined distance from the edge of the fabric, after which the foot can be lowered and clamped onto the fabric by a downward movement of the cam lever 13, which movement serves to bring the under face of the foot into contact with the fabric, in which position the teeth on the wheel or roller 19 will embed themselves in the fabric and act in coöperation with the teeth on the lower feeding plate. The tension of the spring 8 serves to hold the teeth of the wheel or roller into register with the teeth of the guide plate, but at the same time permits the fabric to travel through the feeding mechanism under the tension of the spring. In ordinary constructions, the teeth on the feeding plate, on their forward and upward thrust, will be raised against the flat under surface of the foot, so that each thrust of the teeth will of necessity tend to raise the foot slightly in order to permit the fabric to pass under the foot. This alternate raising and lowering of the foot with each reciprocation of the feeding plate causes a jarring or vibration of the fabric so that it is difficult, if not impossible to preserve the correct alinement of the stitching, even though great care and skill be employed. In the present construction the reciprocating teeth on the guide plate, at every upward thrust thereof, register with the teeth on the roller, acting against a corrugated rather than a smooth surface, and the spaces between the teeth on the roller serve to accommodate the upward thrust of the feeding teeth, so that the foot will not be elevated with each upward thrust of the feeding teeth. This method of feeding obviates vibration and at the same time holds

the fabric much more firmly and perfectly than would be the case if a smooth solid foot were employed.

In using the feeding mechanism of the present invention, a correct alinement of stitching can be produced with very little skill or exertion on the part of the operator, and the goods can be fed through the machine at a much higher rate of speed and with much more perfect results than are possible, even with the exercise of great skill and care, in the use of a sewing machine of the ordinary type.

The lower feeding plate, which is of L shape, provides an unbroken toothed surface at the inner end of the plate, immediately beneath the toothed roller, so that the goods can be fed over the plate without impediment or binding, which sometimes occurs in the use of feeding plates having a non-uniform toothed surface.

What I regard as new and desire to secure by Letters Patent is:

In a sewing machine, the combination of a toothed feeding plate, a foot slidably mounted above the feeding plate and having forwardly extending therefrom a bracket, a toothed roller journaled between the bracket and the foot and immediately above the toothed feeding plate and having its teeth projecting below the undersurface of the foot, and a spring for holding the foot under tension in position to co-act with the feeding plate, substantially as described.

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Witnesses:

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