

J. P. WEIS.
PRESSER FOOT MECHANISM FOR SEWING MACHINES.
APPLICATION FILED AUG. 17, 1903.

990,614.

Patented Apr. 25, 1911.

Fig. III.

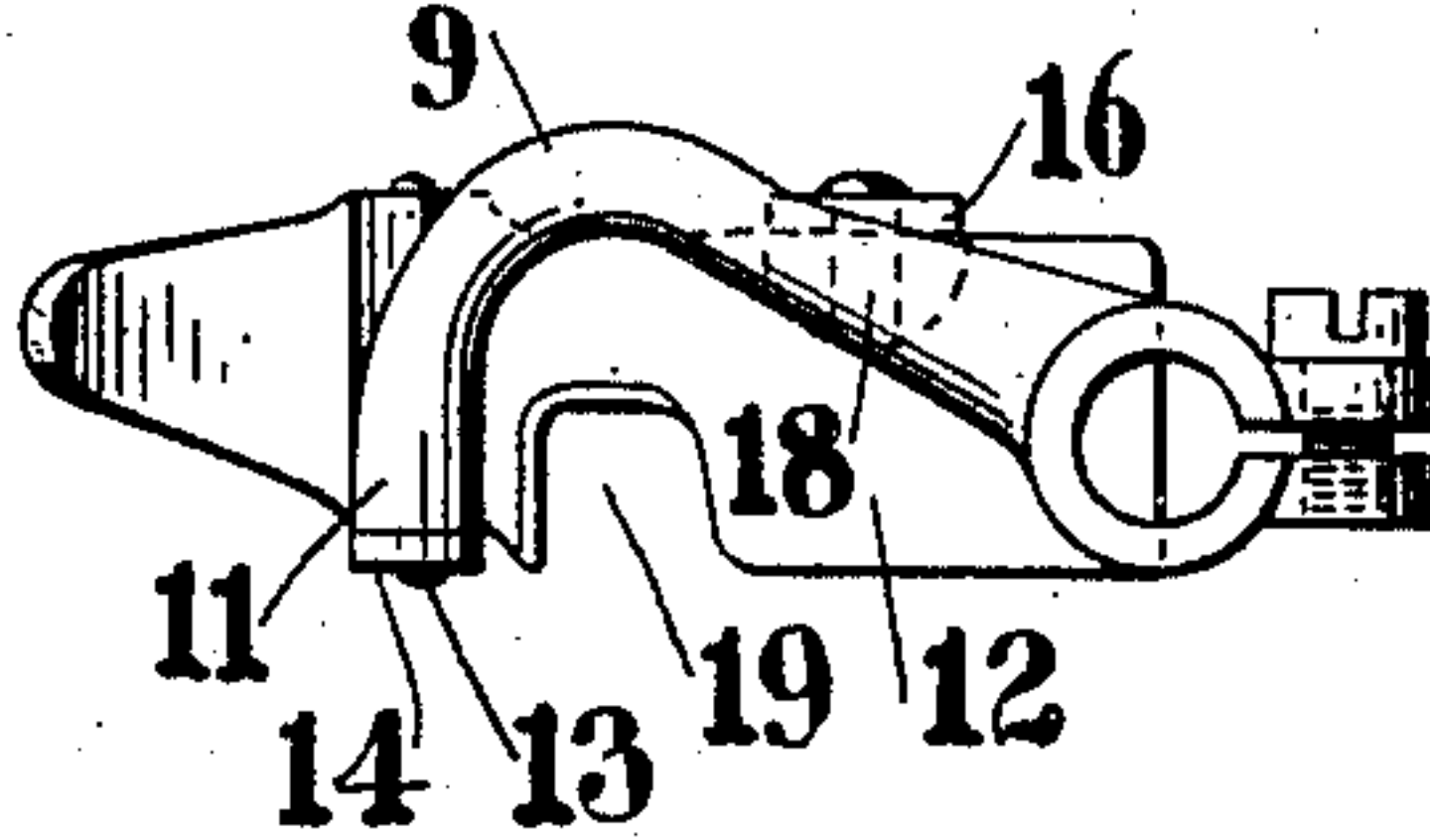


Fig. II.

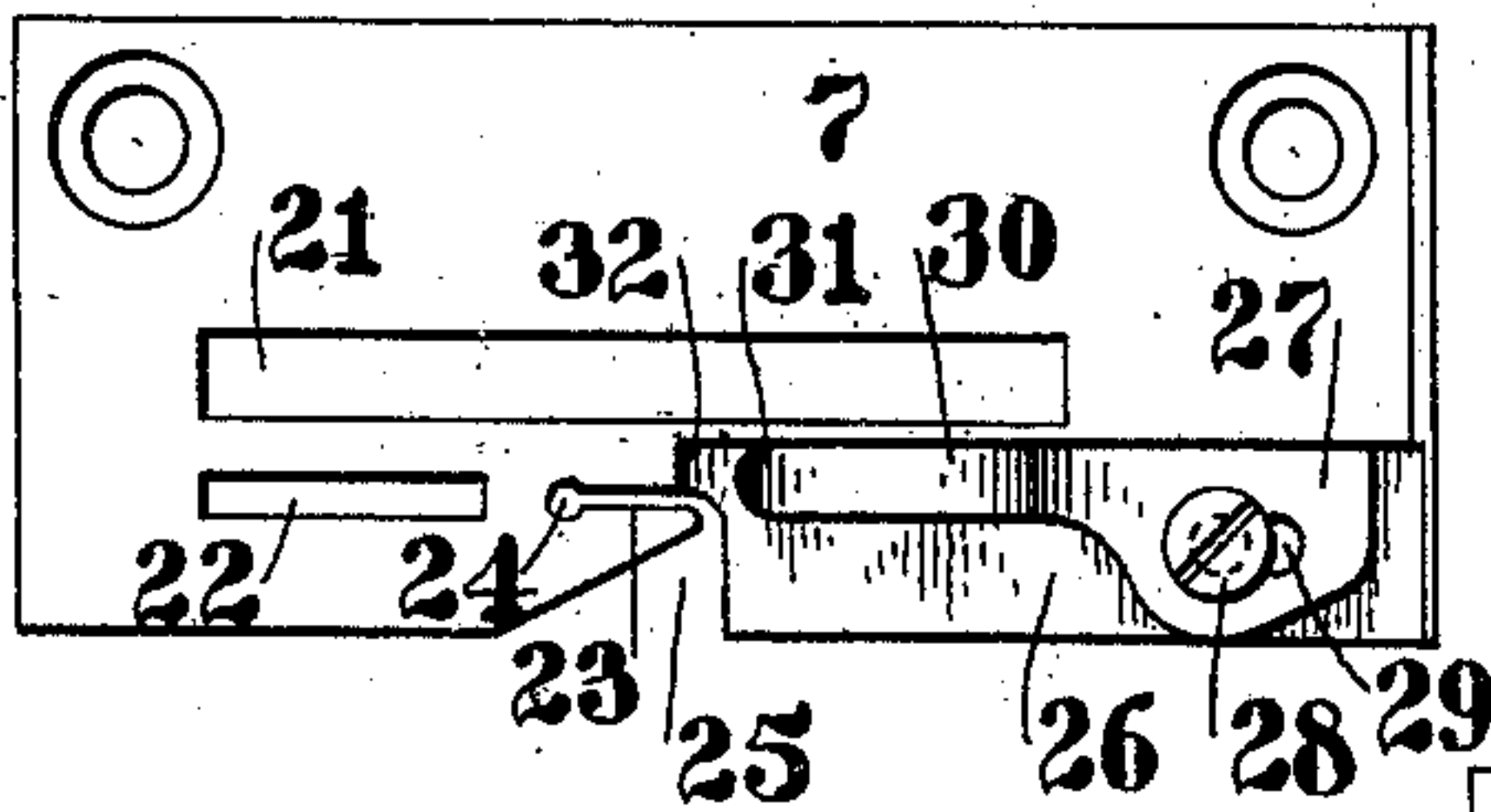


Fig. I.

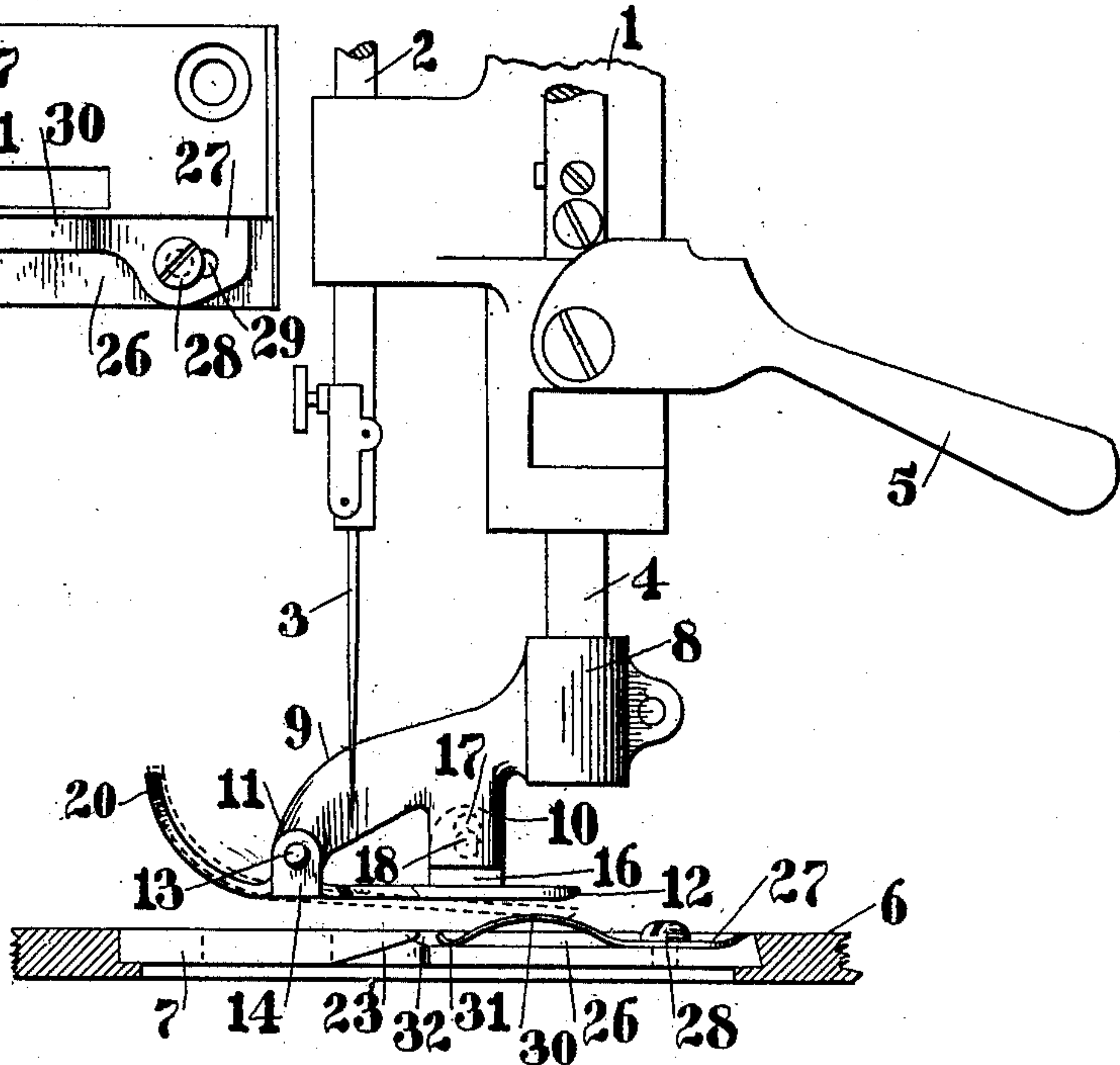
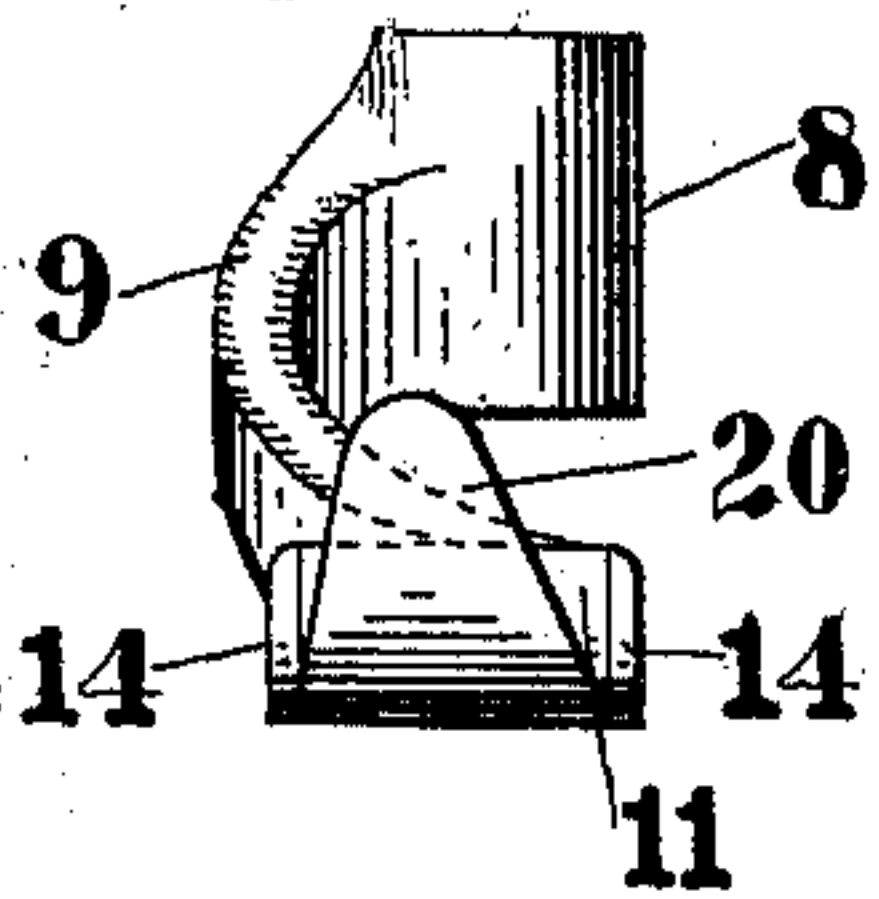


Fig. IV.



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PRESSER-FOOT MECHANISM FOR SEWING-MACHINES.

990,614.

Specification of Letters Patent.

Patented Apr. 25, 1911.

Original application filed June 5, 1903, Serial No. 160,207. Divided and this application filed August 17, 1903. Serial No. 169,684.

To all whom it may concern:

Be it known that I, JOHN P. WEIS, a citizen of the United States, residing in Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Presser-Foot Mechanism for Sewing-Machines, of which the following is a description.

This invention relates to sewing machines, and more particularly to the presser-foot mechanism thereof, and other essential elements coöperating therewith.

An object of my invention is to provide means whereby slight friction or drag may be imposed upon the work during its progress through the machine.

Another object of my invention is to provide means whereby the presser-foot will yield properly during the passage of varying thicknesses of work through the machine.

Other objects will appear during the course of this description, and with the same in view, my invention consists of the parts, features and combinations hereinafter described and claimed.

In the drawings: Figure 1 is a side-elevation of a portion of the head of a sewing machine, sufficient to show the application of my invention, together with a section of the cloth-plate showing the throat-plate in elevation and the relation of the latter to the presser-foot; Fig. 2 is a plan of the throat-plate; Fig. 3 is a plan of the presser-foot; and Fig. 4 is a front elevation of the presser-foot.

The head of the machine is shown at 1, the needle-bar at 2, the needle at 3, presser-bar at 4, presser-foot lifter at 5, cloth-plate at 6, and throat-plate at 7.

The presser-foot of the machine, shown in Figs. 1, 3 and 4, consists of the clamp-socket or shank 8, by which it may be secured to the usual presser-bar 4, and has the forwardly reaching or overhanging portion 9, provided with the depending leg 10, and forward bearing 11. The foot portion 12, is pivoted by means of the pin 13, which passes through ears 14, and the bearing 11. The foot portion 12, is also provided with an ear 16, having an elongated, vertical slot 17, for the reception of a pin 18, carried by the leg 10. Thus the foot portion 12, is pivoted to the extension 9, and has a loose, sliding connection with the leg 10, there

being sufficient play between the foot portion 12, and the leg 10, for all practical purposes in the machine.

The foot portion 12 is provided with the needle-slot 19 in rear of its pivotal point and with the upturned toe 20 in front of its pivotal point. By thus locating the needle-slot and toe, the latter permits the free advance of any or varying thicknesses of the work up to the pivotal point of the presser-foot which is the point of greatest pressure between the foot and throat-plate. Hence, before reaching the stitching position the work is firmly gripped by the foot and depressed into engagement with the throat-plate and is then positively fed up to the needle, since, when the feed-dog rises into engagement with the work, it engages the latter just in advance of and at the pivotal point of the foot. This insures the work being advanced to stitching position positively, accurately and in smooth condition and without possibility of ribs, ridges or folds being formed in the work which might deflect the needle from the proper path, or bend or break the needle, and thus injure the machine, cause imperfect work, and retard the operative and cause him to lose control of the work.

The throat-plate 7, of the machine, as shown in Figs. 1 and 2, is provided with the feed-slots 21 and 22, tongue 23, and open end needle-slot 24, which latter with the flared slot 25, forms the said tongue 23. In rear of the slot 25, the throat-plate is provided with a depression 26, in the rear end of which is adjustably secured the spring 27, by means of the screw 28, passing through the elongated slot 29, in said spring and into the throat-plate 7. The spring 27, is bowed vertically at 30, so as to cause its free upturned end 31, to bear yieldingly upon the inclined portion 32, of the depression 26, or on the bottom of the latter according to the adjustment of the spring.

Obviously, when the presser-bar is depressed, the foot will engage the bow 30, of spring 27, slightly depress the latter and, in turn, be elevated into a horizontal position shown by full lines, Fig. 1, with the pin 18, engaging the lower end of slot 17. Normally, the foot will assume the dotted line position of Fig. 1. When the bar is depressed and the work is thereunder, a

light additional friction or drag will be brought upon the latter in rear of the needle, this being of importance in connection with very light, sleazy and silky goods, and also in connection with knit or other elastic goods. Again, when ruffling is to be done in advance of the stitching and the latter is employed to set or hold the ruffles or crimps formed, the additional friction on the work in rear of the needle is important in preventing the feed from advancing the work too rapidly, and also in preventing the work from being crowded too easily when the foot is elevated during the feed. Moreover, when a seam, rib or other thick portion occurs in the work, the toe of the foot will readily yield vertically independently of the normal vertical movement of the presser-bar, and when this occurs, the rear end of the foot will be depressed without placing objectionable strain upon the work, because of the yielding spring 27. Thus varying thicknesses of work can be properly fed through the machine. The adjustment of the spring provides for a variation of pressure or drag on the work.

From the above exposition of my invention it will be clear that I have provided means whereby an adjustable, yielding drag or friction may be applied to the work during its passage through the machine, thus preventing said work from being fed too rapidly or "jumping" during the feed. Also that I have provided means whereby varying thicknesses of work may be fed through the machine without affecting the proper manipulation or feed of the work.

This application is a division of my application No. 160,207, filed June 5, 1903.

Having thus described my invention what I claim and desire to secure by Letters Patent is:

1. A sewing machine comprising a throat-plate having a spring frictional device, in combination with a presser-foot pivotally supported at a point in advance of the frictional device whereby the latter may cooperate with the foot in rear of its pivot.

2. A sewing machine having in combination, a support, a presser-foot pivotally secured to said support, and means between the foot and support permitting play of the former, a throat-plate provided with a frictional device cooperating with the presser-foot and normally tending to hold the same in operative position.

3. A presser-foot comprising a shank having an overhanging portion; a foot having a needle-slot and pivotally supported upon said overhanging portion of the shank in front of said needle-slot, said foot also hav-

ing a sliding connection with said overhanging portion of the shank in rear of its pivotal support; and means for limiting the pivotal movement of the foot relatively to said portion.

4. A presser-foot comprising a clamp-socket; a forwardly extending overhanging portion carried by said socket, said portion having a bearing and a depending leg; a foot provided with a needle-slot and pivoted to said bearing in front of said slot; and means providing a sliding connection between the leg and foot.

5. In combination, a throat-plate and a presser-bar, one of said elements having a member movable independent thereof and the other of said elements having an elastic member, said members cooperating to produce a yielding drag on the material therebetween.

6. In combination, a throat-plate and means for supporting the same, said plate having a needle-hole; a presser-foot and means for pivotally supporting the same in front of said needle-hole; and means, in rear of said needle-hole for engaging the work in cooperation with said foot, for creating a yielding drag upon the work.

7. A sewing machine comprising a throat-plate having a depression, a spring frictional device located and operating in said depression, in combination with a presser-foot pivotally supported at a point in advance of said friction device whereby when the foot is tilted the said friction device will be pressed within the depression.

8. A sewing machine comprising a throat-plate having a spring frictional device in rear of the stitching point, in combination with a presser-foot pivotally supported in front of the stitching point and having a portion cooperating with said device, whereby when the foot is tilted drag on the work will be created in rear of the stitching point.

9. A sewing machine comprising a throat-plate having a spring frictional device in rear of the stitching point, in combination with a presser-foot supported in front of the stitching point and having a portion extending to the rear and cooperating with said device, whereby when work is passed between the foot and said device drag will be created thereon for the purposes stated.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN P. WEIS.

Witnesses:

FRANK FINNEY,
CHAS. MCC. CHAPMAN.