

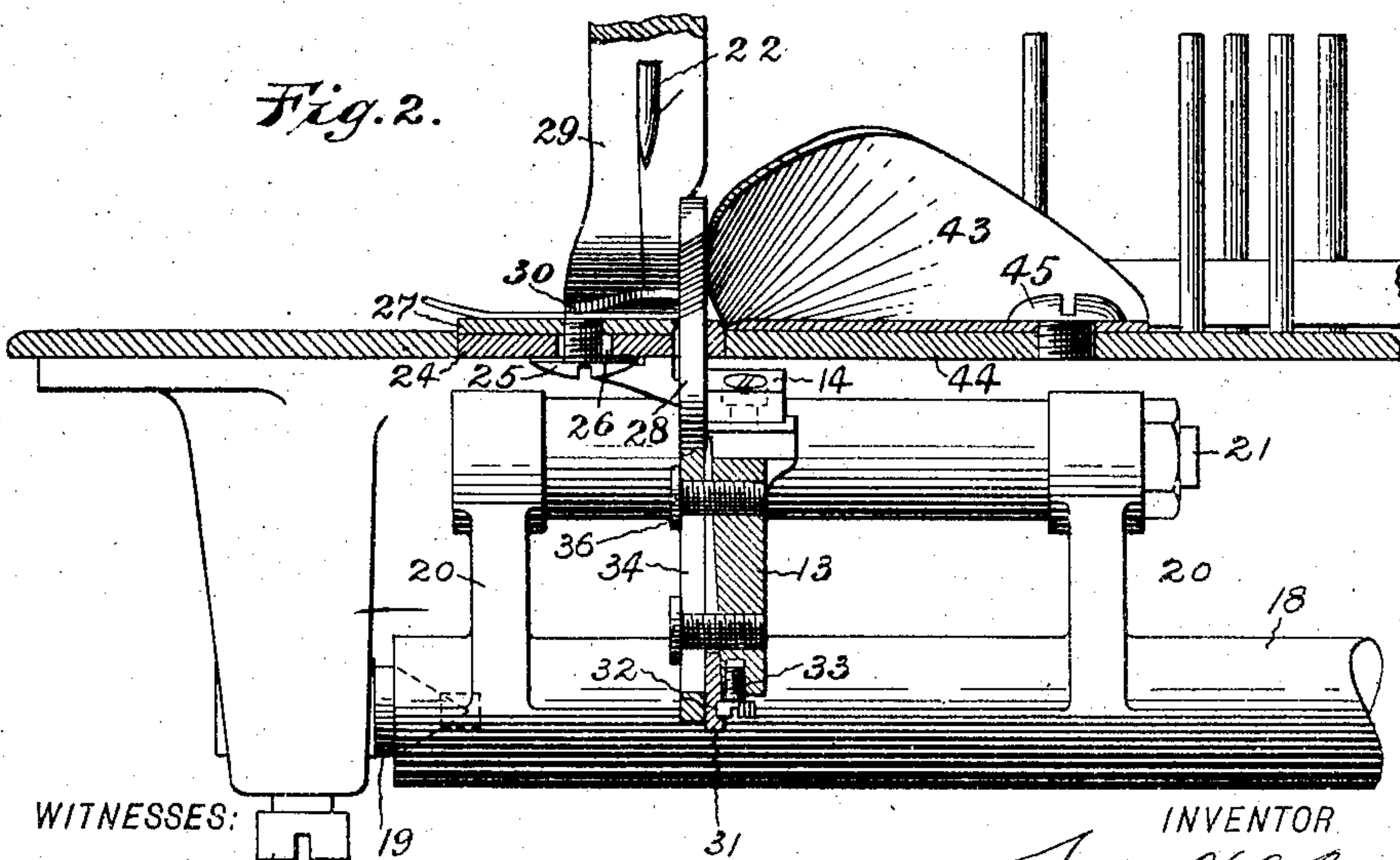
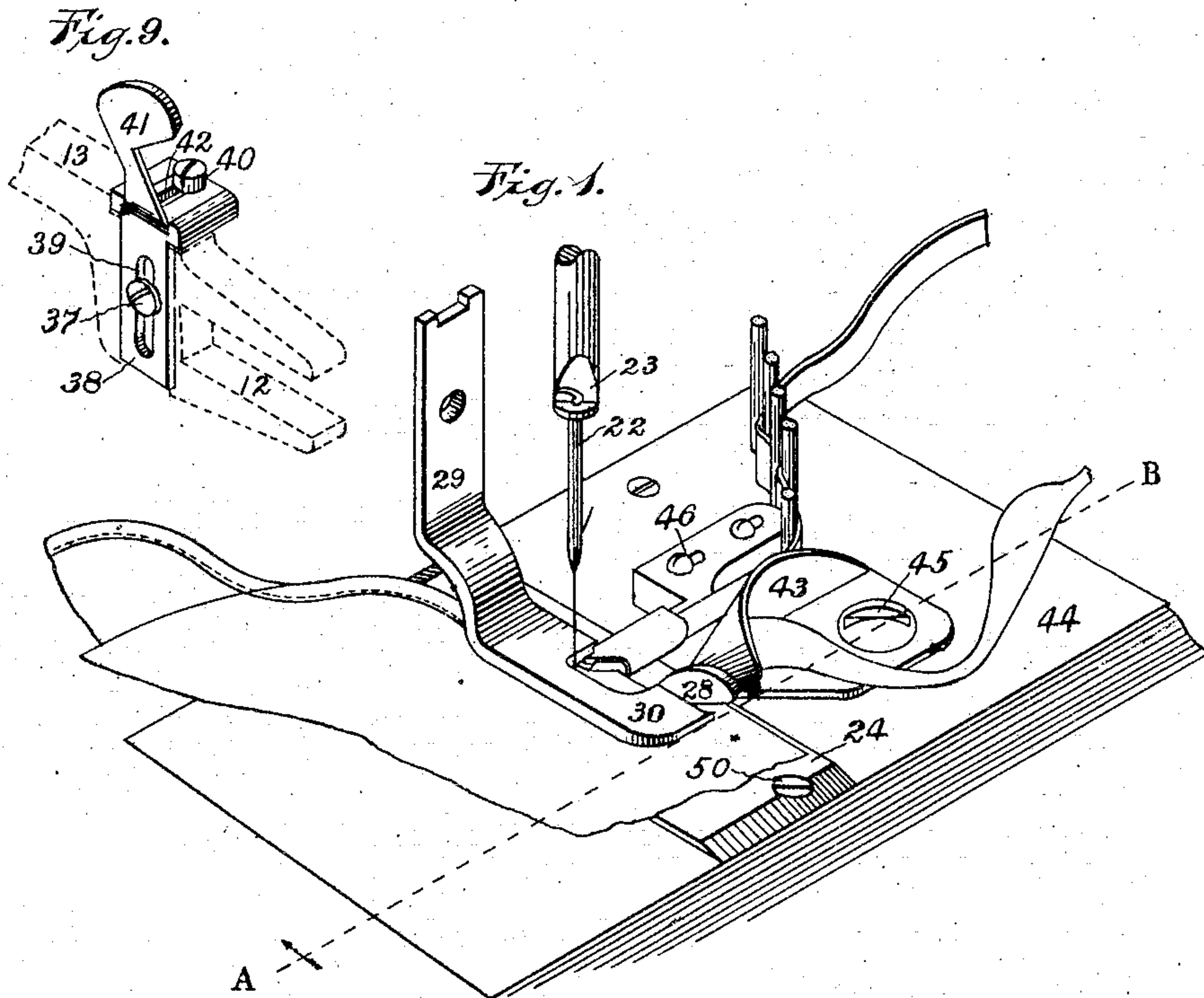
No. 778,389.

PATENTED DEC. 27, 1904.

S. H. WHEELER.  
TRIMMER FOR SEWING MACHINES.

APPLICATION FILED FEB. 19, 1903.

3 SHEETS—SHEET 1.



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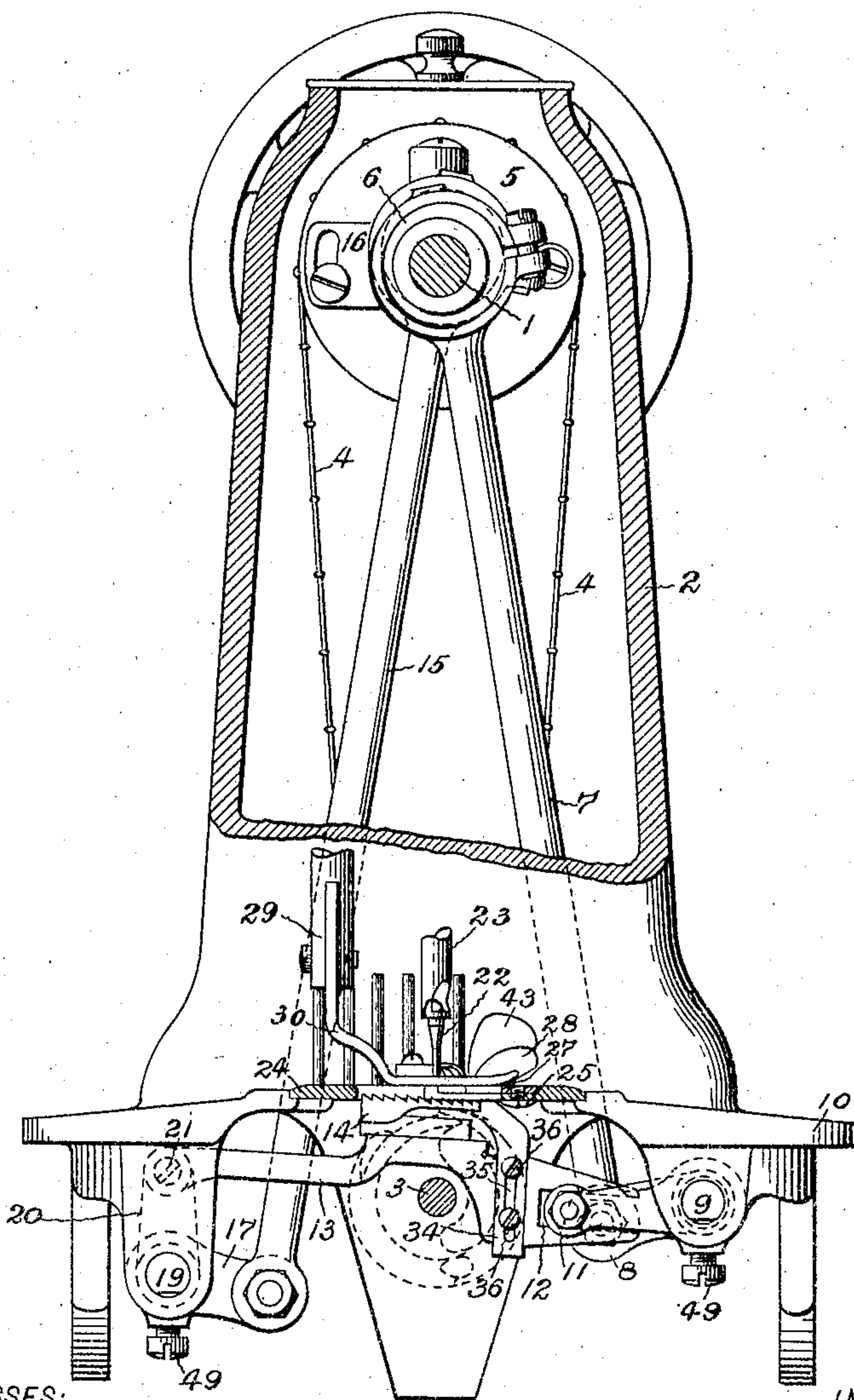
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Fig. 3.



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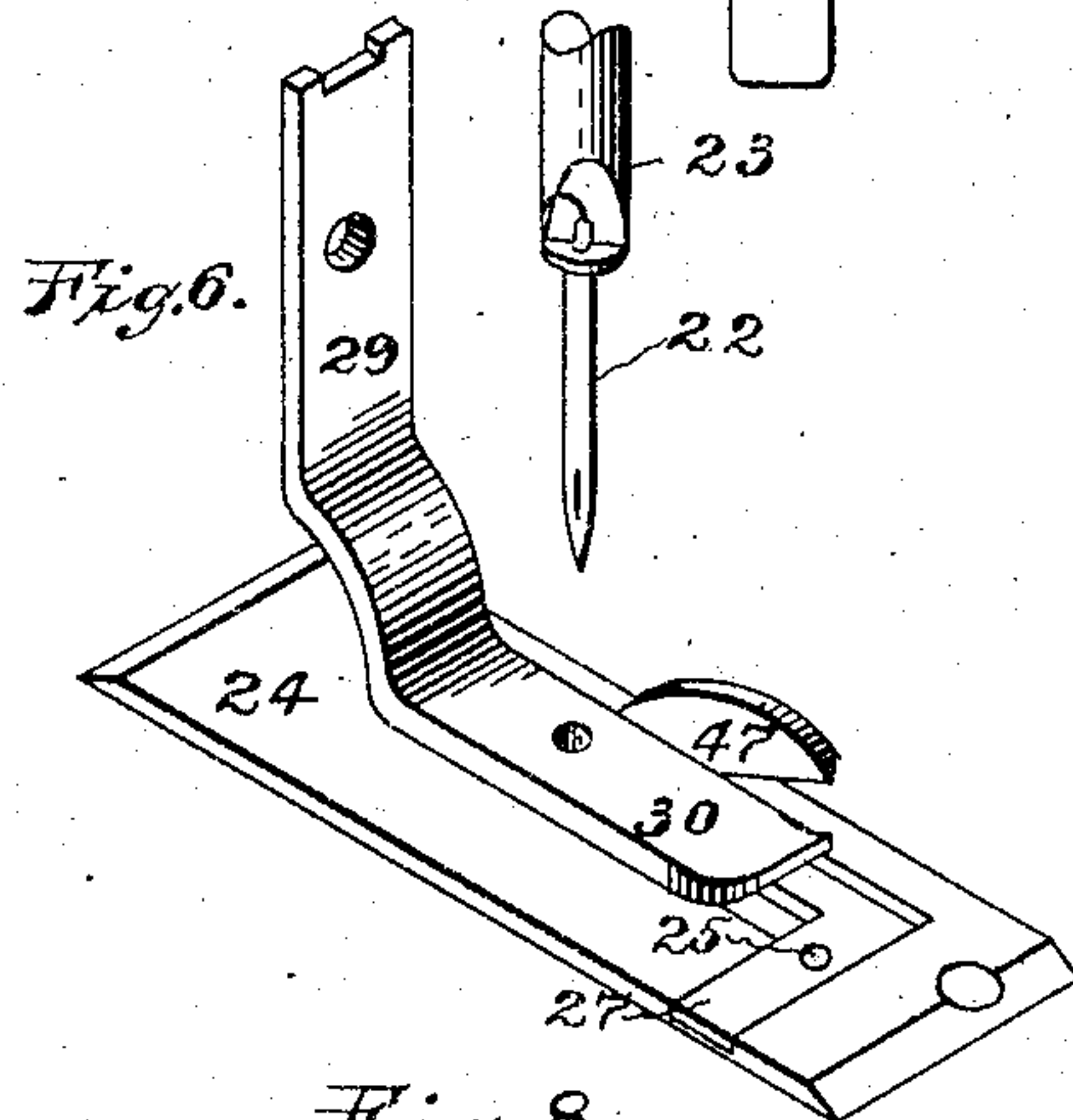
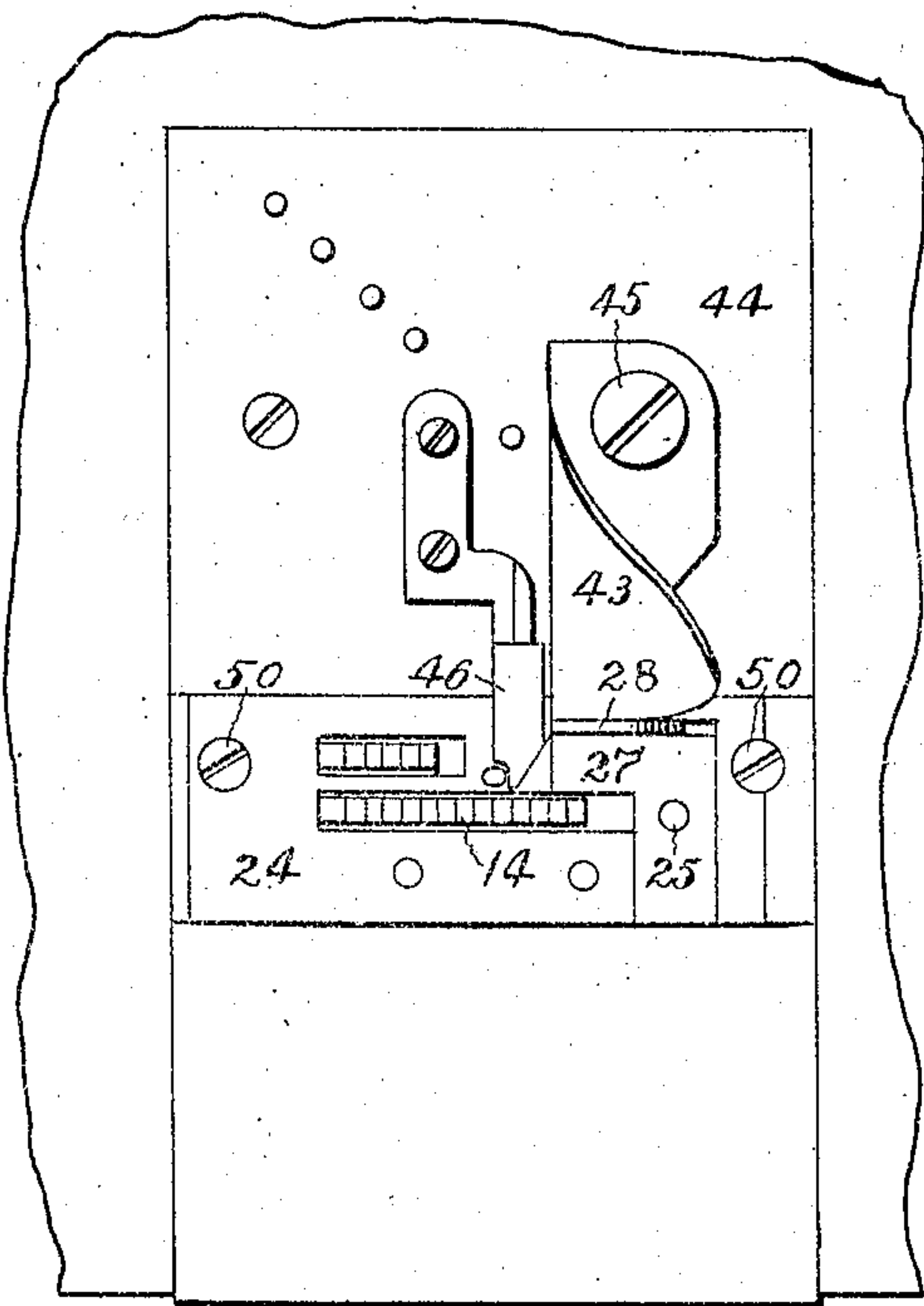
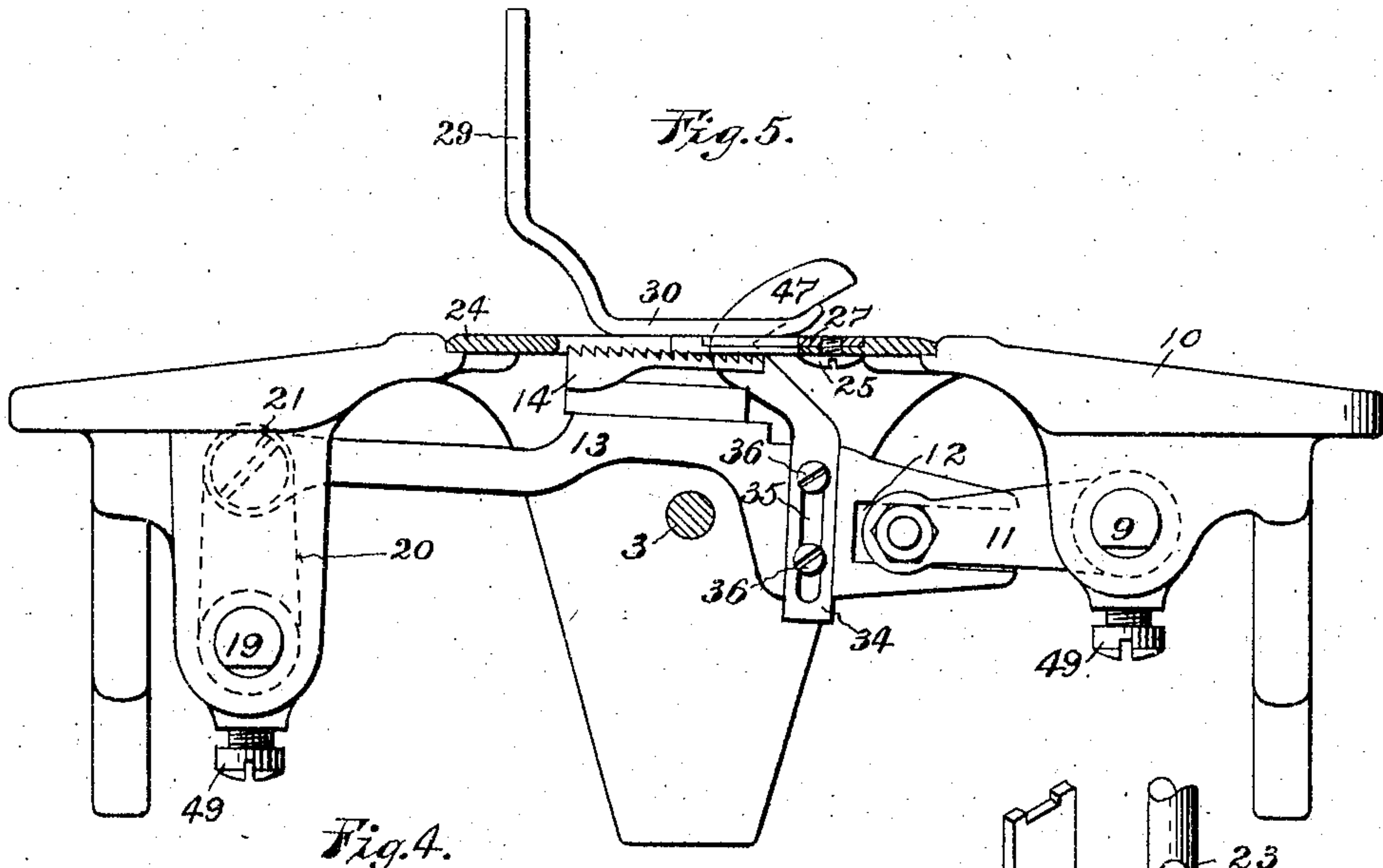
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# UNITED STATES PATENT OFFICE.

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## TRIMMER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 778,389, dated December 27, 1904.

Application filed February 19, 1903. Serial No. 144,078.

*To all whom it may concern:*

Be it known that I, SAMUEL H. WHEELER, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented a certain new and useful Improvement in Trimmers for Sewing-Machines, of which the following is a full, clear, and exact description.

This invention relates to that class of sewing-machine trimmers by which the surplus material extending beyond the seam is removed simultaneously with the sewing operation; and one object of the invention is to positively control the movements of the trimmer or cutter blade so as to coöperate with the feed movements of the material, and thereby effect the trimming while the needle is in the material and while the material is firmly held between the throat-plate and cloth-presser.

In the present invention the stationary or ledger plate is adjustably secured to the throat-plate, while the actuated or trimmer blade is adjustably or otherwise rigidly secured to the feed-dog-carrying bar or made integral with said bar and in such relation to the cloth-feeding mechanism as to effect the trimming while the feed-dog is on its downward return movement or at such time as the feed-dog is out of engagement with the material.

As one illustration of the invention it is herein shown in connection with the well-known Wheeler & Wilson sewing-machine commercially known as "Style 61;" but only enough of the sewing-machine is shown to cover an operative combination.

In the accompanying drawings, illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a perspective view showing the scroll-guard, trimmer-blade, throat-plate, cloth-presser, and cloth-plate, together with a binding attachment, illustrating the application of my invention as used in connection with a binder for the production of an ornamental edge. Fig. 2 is a vertical section, on a larger scale, taken in the plane of line A B, Fig. 1. Fig. 3 is a front end elevation, partly in section, of a

Wheeler & Wilson sewing-machine, substantially such as described in Patent No. 718,988, dated January 27, 1903. Fig. 4 is a top plan view of the throat-plate and adjacent parts, including the feed-dog and adjustably-secured stationary or ledger plate. Fig. 5 is an end elevation, partly in section, of the sewing-machine frame, feed-dog-carrying bar and its operating parts, together with the cloth-presser and a modified form of trimmer-blade located close to the needle-hole, as when used to trim an ordinary seam. Fig. 6 is a perspective view of the throat-plate, cloth-presser, trimmer-blade, and stationary or ledger plate illustrated in Fig. 5, with the needle and a portion of the needle-carrying bar. Fig. 7 is a perspective view of the trimmer-blade of Fig. 5. Fig. 8 is a perspective view of the stationary or ledger plate. Fig. 9 is a perspective view of a modified form of trimmer-blade.

The needle-actuating shaft 1 is journaled within the usual arm 2 in any suitable manner and is connected with the lower or hook-driver shaft 3 by an endless belt 4, adapted to engage a suitable pulley 5 on the needle-actuating shaft 1 and a like pulley (not shown) of one-half its diameter on the lower shaft.

6 is an eccentric fast on the upper shaft 1, and 7 is an eccentric strap-rod, the upper end of which embraces the eccentric 6, while the lower end is pivotally connected, by means of a lever 8, to a feed rock-shaft (not shown) mounted at its opposite ends on pivot-pins 9, one only of which is shown, (see Figs. 3 and 5,) beneath the machine-frame 10. The forward end of the rock-shaft is provided with an arm 11, said arm engaging in any suitable way the slotted portion 12 of the feed-dog-carrying bar 13, said eccentric 6 and connections causing the usual rise and fall of the feed-dog 14.

15 is an eccentric strap-rod, the upper end of which embraces an adjustable eccentric 16, while the lower end is pivotally connected, by means of a lever 17, to a feed rock-shaft 18, mounted at its opposite ends on pivot-pins 19, one only of which is shown, (see Figs. 2,



3, and 5,) beneath the machine-frame. The forward end of the rock-shaft 18 is provided with arms 20, which through the pivotal connection 21 transmit forward and return movements to the feed-dog-carrying bar 13, the construction and operation of these parts being substantially as in the patent above referred to and as herein illustrated and described, or any approved construction may be used wherein the movements of the feed-dog-carrying bar are positively controlled.

The needle 22 and the needle-carrier 23 and actuating mechanism may be of any approved construction.

The throat-plate 24 has a suitable screw 25 extending up through a slot 26, (see Fig. 2,) and said screw serves to engage and secure adjustably in place a ledger-plate 27, which coacts with a trimmer-blade 28, adjustably secured to the feed-dog-carrying bar 13.

Referring to Figs. 1, 3, 5, and 6, the cloth-presser 29 is constructed with a presser-foot 30 extended sufficiently to firmly hold the material upon the ledger-plate 27 during the time the trimmer-blade 28 is actuated to sever the material, thus firmly gripping the material opposite the cutting edge of the trimmer-blade during its cutting movement.

From the foregoing it will be understood that the eccentric 6 transmits, through the connections 7, 8, and 11, the rising and falling movements of the feed-dog-carrying bar 13 and that the adjustable eccentric 16 transmits, through the connections 15, 17, and 18, the forward and return movements of the feed-dog-carrying bar and that the movements of the trimmer-blade 28 are primarily controlled by the movements of the eccentrics 6 and 16, thereby effecting the trimming of the material by the return drop movement of the feed-dog-carrying bar and while the material is held between the stationary or ledger plate 27 and cloth-presser foot 30 and at such time as the needle is in the material and the feed-dog 14 is out of engagement with the material, as is shown by the position of the respective parts 13, 14, and 22, the trimmer-blade, and the presser-foot, as illustrated in Figs. 3 and 5, which show these parts in the position which they occupy just as the trimmer-blade completes its downward movement to effect the severing of the material.

In Fig. 2 is illustrated a preferred construction for effecting lateral and vertical adjustments of the trimmer-blade 28. The lateral adjustment is effected by a wedge-shaped block 31, located between the feed-dog-carrying bar 13 and the trimmer-blade 28, the lower end of said block being provided with a slot 32, which is acted upon by a screw 33 to move the block in opposite directions. To effect the vertical adjustment of the blade 28, the shank or upright portion 34 of the blade 28 is provided with a slot 35, through which pass the screws

36, threaded into the bar 13, thus permitting the blade 28 to be adjusted vertically, the screws 36 acting as well to secure the blade in its adjusted position.

Fig. 9 illustrates a modified construction for effecting the adjustments of the trimmer-blade 28. To the feed-dog-carrying bar is secured by a screw 37 a bracket 38, having a slot 39, permitting the bracket to be adjusted vertically and secured in the required position, and mounted upon the bracket 38 by a screw 40 is a trimmer-blade 41, having a slot 42, thus permitting the blade 41 to be moved laterally and secured in such position as the nature of the production may require.

To increase the efficiency of the trimmer when applied to the trimming of heavily-sized materials, there is provided a scroll-guard 43, secured to the cloth-plate 44 by a suitable screw 45, which guard acts to lead the surplus material back or away from the trimmer-blade and needle, substantially as illustrated in Fig. 1.

46 illustrates a binder attachment of well-known construction, which or any substitute therefor may be used in connection with the present invention in certain kinds of work.

Figs. 5, 6, and 7 illustrate a trimmer-blade 47, having its cutting edge 48 carried back nearer to the needle, as when used for trimming an ordinary seam, differing in this respect and also in form from the trimmer-blade 28.

49 represents pivot-pin-adjusting screws.

50 is the screw for securing the throat-plate.

The various forms of trimmer or cutter blade herein shown and described are characterized in having a cutting member rising above and overhanging the machine-frame or throat-plate in the line of feed of the work and having a cutting edge on its under side which inclines upwardly relatively to the ledger-plate, so that the cut is effected upon the downstroke and when the feed is disengaged from the work.

From the foregoing it will be seen that the trimmer-blade is actuated to sever the material while the feed-dog is out of contact with the material, and thus the operations of first feeding and then trimming alternate, and hence is avoided the double labor of feeding and trimming at the same time, as has been the usual mode of operation in connection with trimmer constructions wherein the actuation of the trimmer-blade is indirectly controlled by the movements of the feed-dog or its carrying-bar.

The trimmer-blade might be an integral part of or be attached to the feed-dog without departing from the spirit of the invention.

What I claim is—

1. In a sewing-machine, a feed mechanism including a feed-dog-carrying bar, means to move it positively up and down, and separate



means to move it positively back and forth, combined with a stationary ledger-plate, and a trimmer-blade having an overhanging cutting member rising above the ledger-plate in the line of feed and provided on its under side with a cutting edge inclined upwardly from the ledger-plate, said trimmer-blade rigidly mounted upon the said bar and partaking of its movements and serving to cut upon the return drop of the said bar and while the feed-dog is out of engagement with the material.

2. In a sewing-machine, a presser, a feed mechanism including a feed-dog-carrying bar, means to move said bar positively up and down and separate means to move it positively back and forth, combined with a throat-plate, a ledger-plate stationarily secured to said throat-plate, and a trimmer-blade having a cutting member rising above and overhanging the throat-plate alongside the ledger-plate and provided on its under side with an upwardly-inclined cutting edge in the line of feed, said trimmer-blade rigidly mounted upon the feed-dog-carrying bar and movable by it upon its return drop to effect the trimming of the material being sewed while the material is firmly held between the throat-plate and presser and the feed-dog is out of engagement with the material.

3. In a sewing-machine, a feed mechanism comprising eccentrics, a feed-dog and a feed-dog-carrying bar, and connections, including eccentric-straps, between said eccentrics and feed-dog-carrying bar for giving movements to said feed-dog, in combination with a ledger-plate and a trimmer-blade, the latter carried rigidly by said feed-dog-carrying bar, and provided with an overhanging cutting member rising above the ledger-plate and having an upwardly-inclined cutting edge in the line of feed which coöperates with said ledger-plate to sever the material as the feed-dog is

making its return movement preparatory to the feeding of the material. 45

4. In a sewing-machine, a feed mechanism comprising a presser, a feed-dog and a feed-dog-carrying bar, eccentrics for positively controlling the movements of said feed-dog, and a throat-plate, in combination with a ledger-plate and a trimmer-blade, the latter carried rigidly by said feed-dog-carrying bar and provided with a cutting member rising above and overhanging the throat-plate in the line of feed and having an upwardly-inclined cutting edge on its under side coöperating with said ledger-plate to sever the material as the feed-dog is making its return movement preparatory to the feeding of the material and while the material is firmly held by the presser on the throat-plate. 50 55 60

5. In a sewing-machine, a feed mechanism comprising eccentrics, a feed-dog and a feed-dog-carrying bar, and connections, including eccentric-straps, between said eccentrics and the feed-dog-carrying bar for giving movement to said feed-dog, in combination with an adjustably-secured ledger-plate and a trimmer-blade, the latter adjustable upon and rigidly carried by said feed-dog-carrying bar and having an overhanging cutting member rising above the ledger-plate and provided on its under side with a cutting edge inclined upwardly from the ledger-plate and coöperating with said ledger-plate for severing the material while the needle is in the material and the feed-dog is making its return movement preparatory to the feeding of the material. 65 70 75

In testimony whereof I have hereunto set my hand this 17th day of February, A. D. 1903. 80

SAMUEL H. WHEELER.

Witnesses:

F. W. OSTROM,  
C. N. WORTHEN.