

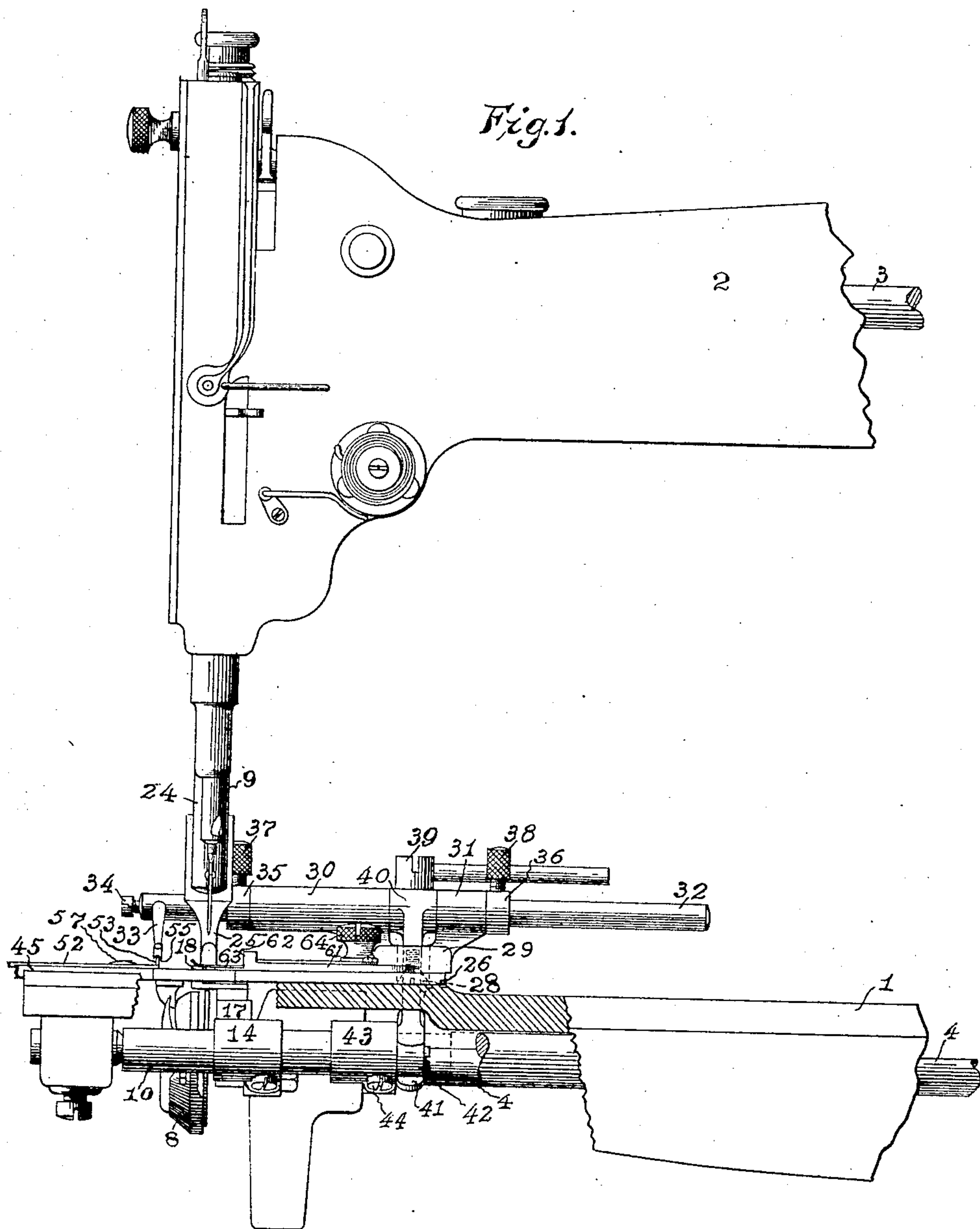
No. 882,255.

PATENTED MAR. 17, 1908.

A. LAUBSCHER.
TUCK MARKER FOR SEWING MACHINES.

APPLICATION FILED DEC. 9, 1905.

3 SHEETS—SHEET 1.



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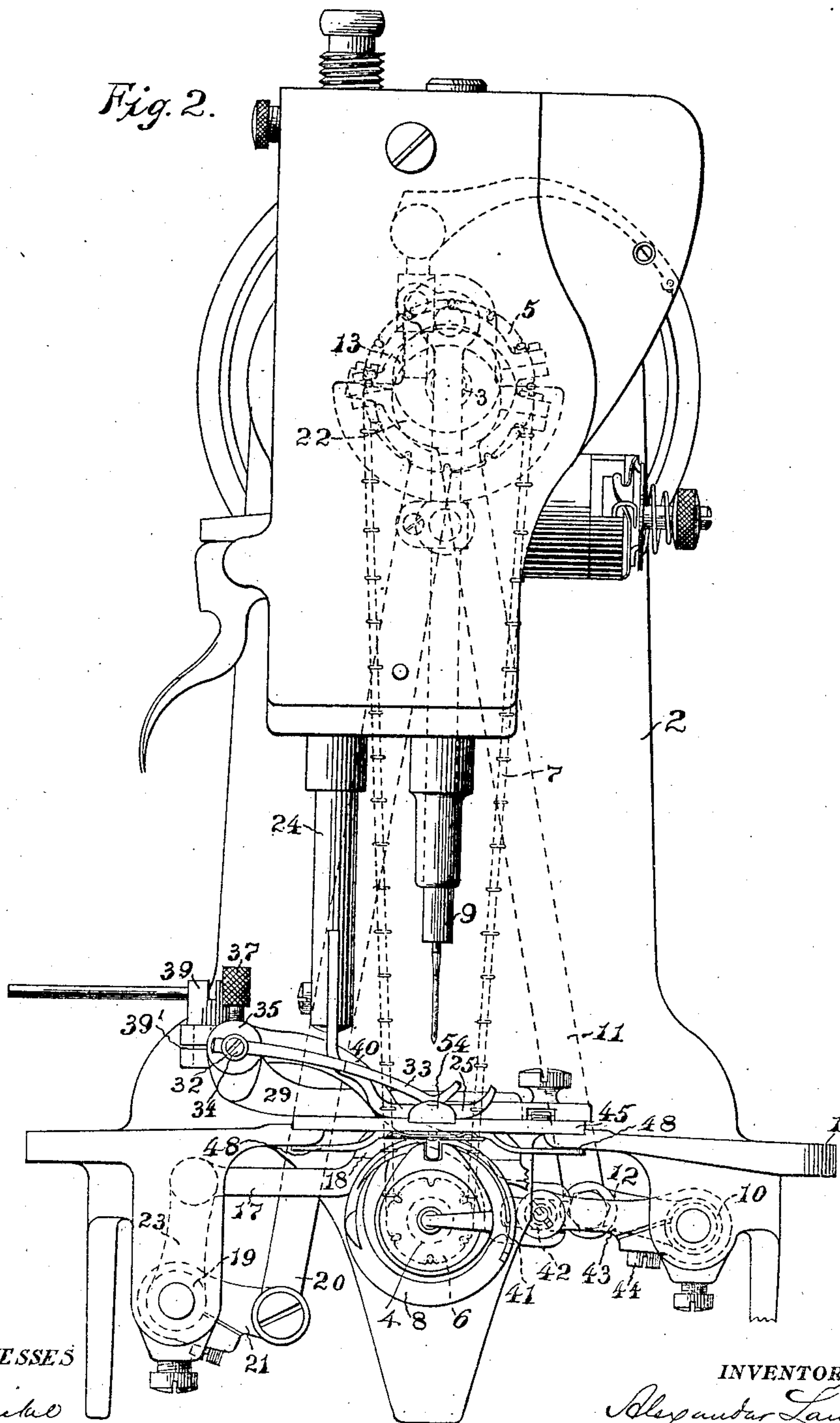
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Fig. 2.



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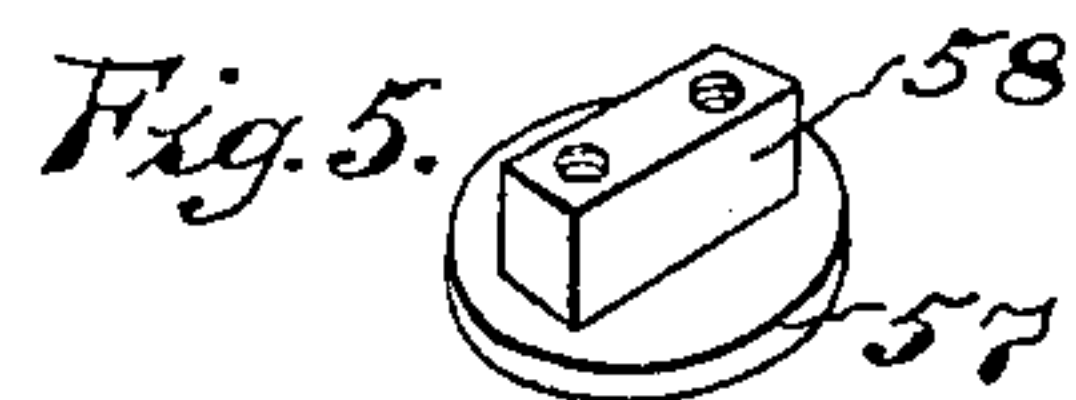
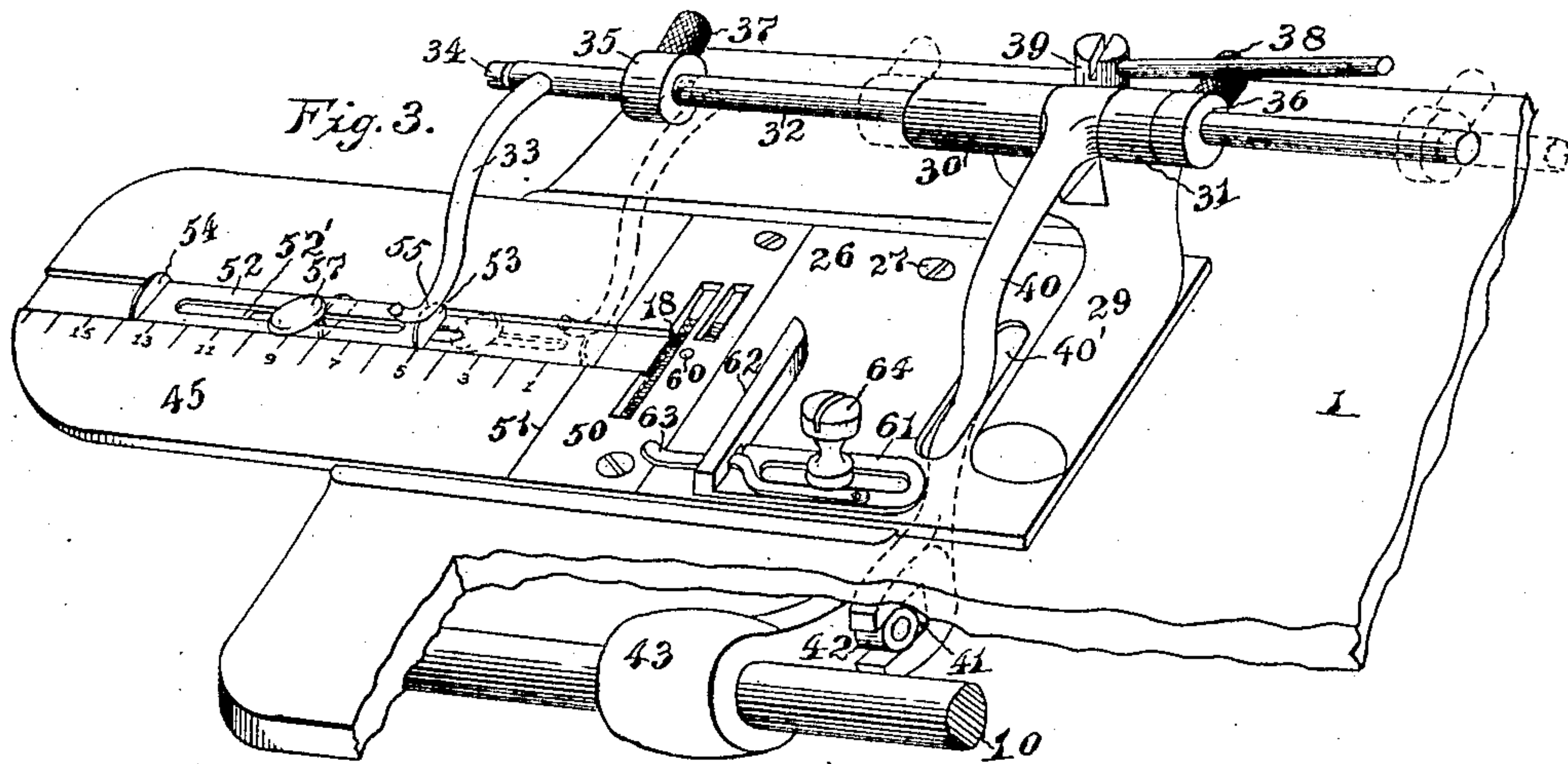


Fig. 4

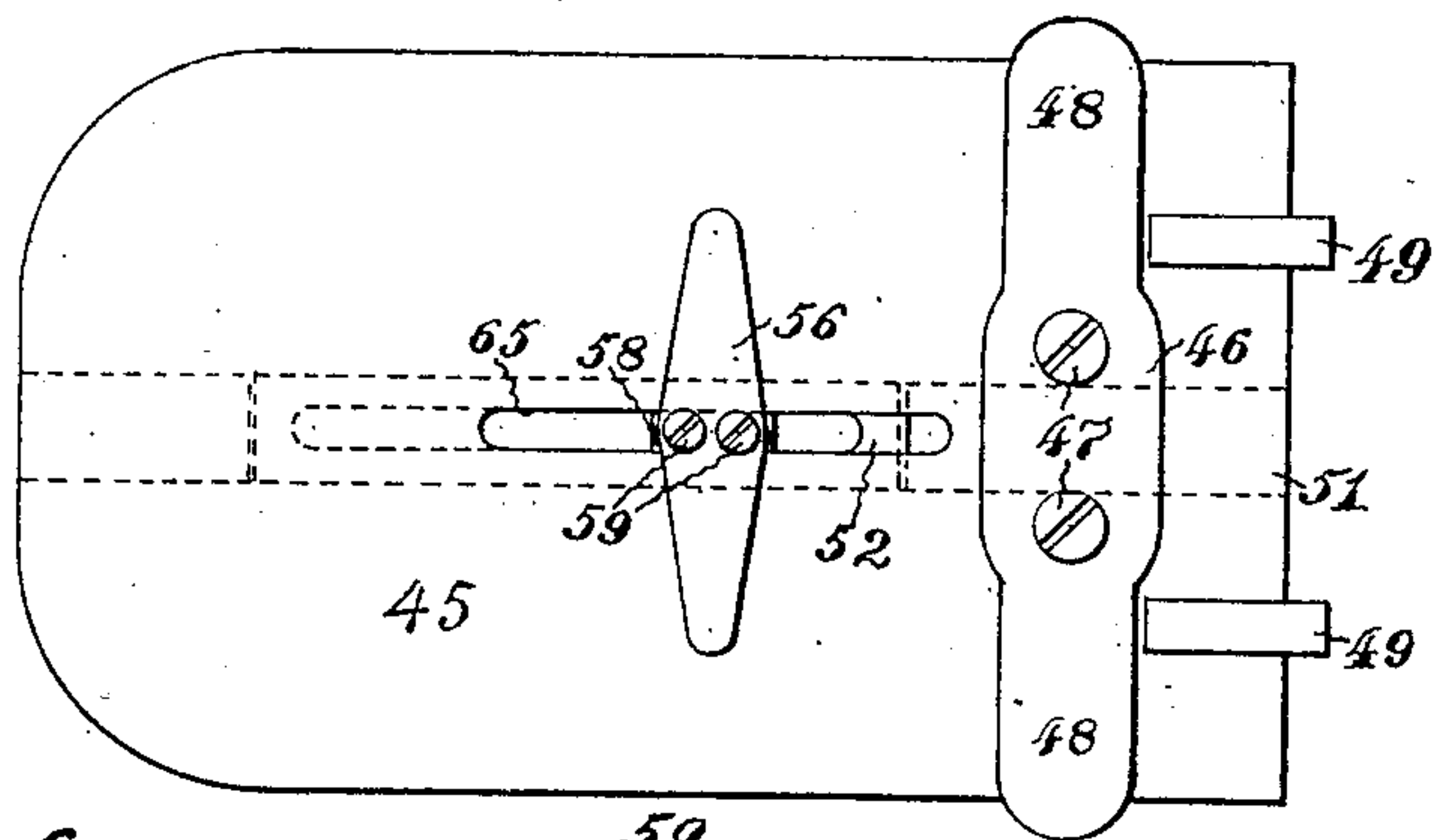
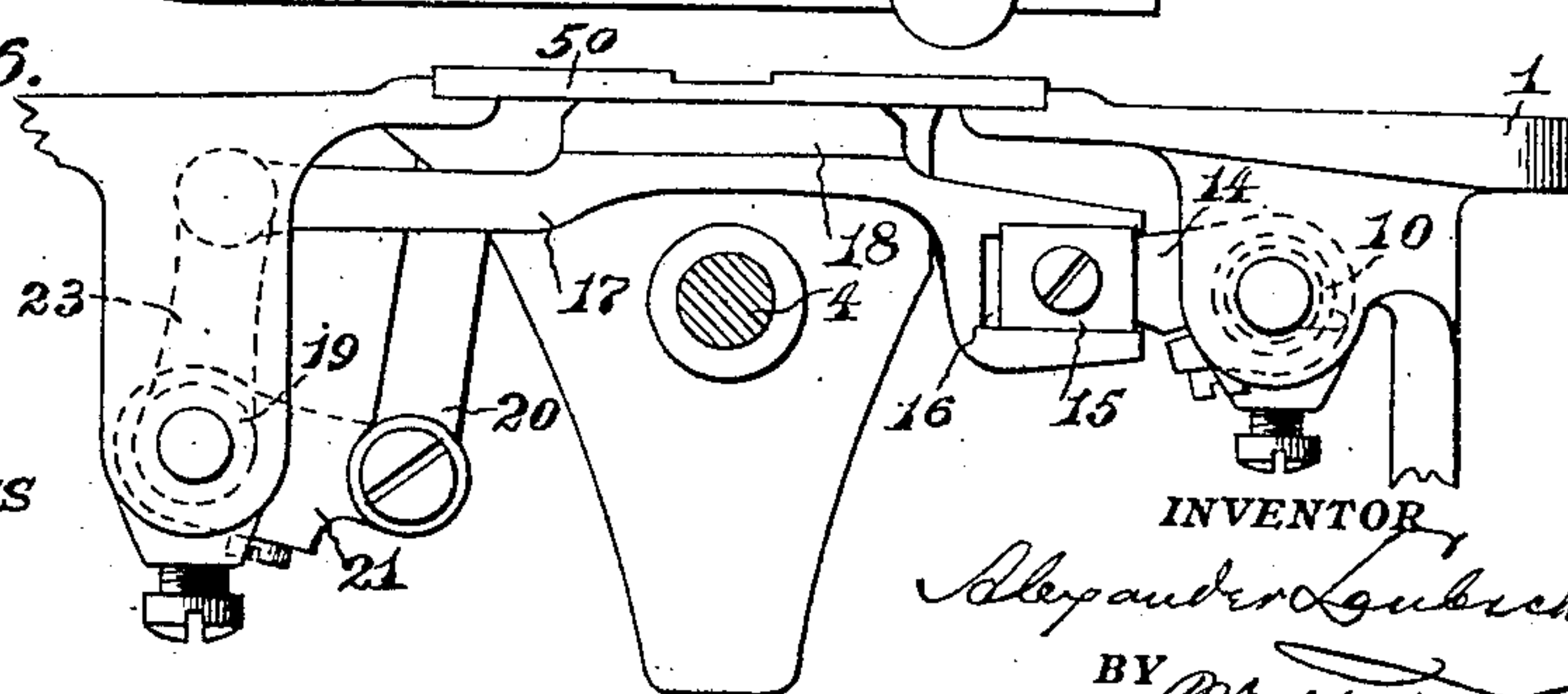


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALEXANDER LAUBSCHER, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE SINGER MANUFACTURING COMPANY, A CORPORATION OF NEW JERSEY.

TUCK-MARKER FOR SEWING-MACHINES.

No. 882,255.

Specification of Letters Patent.

Patented March 17, 1908.

Application filed December 9, 1905. Serial No. 291,089.

To all whom it may concern:

Be it known that I, ALEXANDER LAUBSCHER, 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 Tuck-Markers for Sewing-Machines, of which the following is a full, clear, and exact description.

10 The special object of this invention is to provide a tuck-marker adapted for high speed sewing machines and for convenient use in connection with what is termed "cluster tucking."

15 The invention comprises a gage adjustably mounted upon an adjustable slide, and provided with lips which coact with a marking finger, and means for effecting a positive control of the movements of the marking finger, through its connection with the feed-actuating mechanism, so as to alternate the feed movement with the creasing action of the free end of the marking finger. The marking finger is carried by a rock-shaft provided with adjustable space-collars for positioning the marking finger, so that it will space the tucks comprising the clusters and also will space apart the series of clusters of tucks, without necessitating a readjustment of the space-collars upon the rock-shaft.

30 In the accompanying drawings illustrating the invention, in the several figures of which like parts are similarly designated, Figure 1 is a front elevation with a portion of the overhanging arm and bed-plate, the latter shown partly in section. Fig. 2 is an end elevation. Fig. 3 is a perspective view of the tuck marking and gaging mechanism, together with a portion of the bed-plate. Fig. 4 is a bottom plan view of the gage plate, showing the spring plate slidably connected with the gage plate. Fig. 5 is a perspective view of the slide button for connecting the spring plate with the gage plate. Fig. 6 is a front elevation of the feed-dog actuating mechanism.

45 The invention is herein illustrated in connection with the well-known Wheeler & Wilson sewing machine, commercially known as No. 61 (high speed), and the description of the machine may, therefore, be limited to the novel features comprising the present invention and the parts immediately cooperating therewith, although it is to be understood

that the invention is not limited to this one embodiment thereof.

1 is the bed-plate of the sewing machine, 2 the overhanging arm, 3 the main or needle actuating shaft, 4 the lower or loop-taker driving shaft, 5 the grooved driving pulley secured on main shaft 3, 6 the grooved driven pulley secured on loop-taker driving shaft 4, and 7 the belt for operatively connecting the upper main shaft and lower loop-taker driving shaft. The pulleys 5 and 6, (shown in Fig. 2 in dotted lines only) are of the ratio of two to one, thus giving to the loop-taker 8 two revolutions to one complete actuation of the needle carrying bar 9.

10 is the feed lift rock-shaft connected at its rear end, through suitable connections including the lift rock-shaft connection 11 and arm 12, with an eccentric 13, (the latter shown in dotted lines only) secured to the main shaft 3, the forward end of the rock-shaft 10 being provided with an arm 14, (see Fig. 6), the outer end of which carries a block 15 which coacts with a groove 16 formed in the feed bar 17, which latter is provided with the usual feed-dog 18. Thus, through the action of the eccentric 13 and connections 11, 12, 14, 15, 16, and 17 the feed lift rock-shaft 10, transmits to the feed-dog 18 vertical movements common to the feeding mechanism commercially known as "four-motion."

19 is the feed rock-shaft, connected at its rear end, through suitable connections including the feed rock-shaft connection 20 and arm 21, with an eccentric 22, (the latter shown in Fig. 2 in dotted lines only) which is secured to the main shaft 3, the forward end of said shaft 19 being provided with a link 23, one end of which is pivoted to the feed bar 17. Thus, through the action of the eccentric 22 and the connections 20, 21, 23 and 17, the feed rock-shaft 19 transmits feed movements to the feed-dog 18.

24 is the presser bar, to the lower end of which is secured the presser foot 25, which latter coacts with the feed-dog 18 to advance the material to the action of the stitch forming mechanism.

26 is a slide plate, mounted in suitable ways formed on the upper side of the bed-plate of the sewing machine and secured against accidental movement by screw 27. Upon the slide plate 26 is secured, by screw 28, (one only of which is shown, see Fig. 1,) a

rock-shaft bracket 29 provided with bearings 30 and 31 in which is journaled the tuck-marker rock-shaft 32, which latter carries at its front end the tuck marking finger 33 held in position by the set screw 34. The rock-shaft 32 is provided with adjustable collars 35 and 36 secured in the desired adjustment by the screws 37 and 38. Upon the rock-shaft 32 is adjustably secured, as by pinch screw 39 and pinch joint 39', an oscillating lever 40, which extends downwardly through a slot 40' in plate 26, and its opposite end provided with a slot 41 which coacts with a roller 42 carried by an arm 43 secured, by a screw 44, (see Fig. 1), to the lift rock-shaft 10, thus transmitting from said rock-shaft 10, rocking movements to the tuck marking finger 33 through the connections 30, 31, 32, 33, 40, 42 and 43.

45 is a gage plate, frictionally held in operative position by the spring plate 46, the opposite ends 48 of which press against the underside of the bed-plate 1, the plate 46 being secured by screws 47 to said gage plate. Lugs 49 on the gage plate 45, are so formed that their free ends will pass under the throat-plate 50, the edge 51 of the plate 45 abutting against the outer edge of the throat-plate 50.

52 is an adjustable gage provided at its opposite ends with upturned lips or flanges 53 and 54, one of which, dependent upon the adjustment, coacts with a notch 55 formed in the underside of the free end of the tuck marking finger 33. The adjustable gage 52 has a longitudinal slot 52' and is slidably mounted in the gage plate 45, and adjustably connected with an adjustable spring plate 56, by means of a button 57, which is formed with a lug or block 58 threaded for the reception of the screws 59. These screws secure the spring plate 56 to the lug or block 58, thus permitting the adjustable gage 52 as one member, and parts 56 to 59 both inclusive as another member, to be adjusted together or independently of each other relatively to the needle hole 60, the gage plate 45 being graduated or indexed to better facilitate the desired changes in the adjustment of the gage 52 (see Fig. 3).

61 is an adjustable plate provided with an edge gage 62 and spring finger 63, and secured to the slide plate 26 by the screw 64, said gage 62 acting as a guide against which the folded edge of the material travels as it is fed to the action of the needle.

65 is a slot in the plate 45, running parallel to slot 52'.

By forming the two lips 53 and 54 at the opposite ends of the adjustable gage 52, the finger 33 may be adjusted to cooperate with either lip. Thus by the cooperation of the adjustable finger-supporting rock-shaft and the gage having lips or flanges at its opposite ends, the finger and lip may be kept in register, and not only so, but, as already ex-

plained and as hereinafter more fully explained, the location of the individual tucks or plaits and the spacing apart of these individual tucks or plaits in clusters may be accordingly provided for. By slidably mounting the adjustable gage 52 upon the gage plate 45 in connection with a stop (lug or block 58), which in turn is slidably mounted in the gage plate 45, the adjustable gage 52 may be adjusted a distance equal to the combined lengths of the slots 52' and 65. This convenience of adjustment avoids the use of a gage which under extreme widths of adjustment would extend beyond the outer end of the gage plate 45, in which position it would be likely to become bent, broken or damaged, due to its unguarded position. The adjustable gage 52 is of such construction and so combined with the gage plate 45 that it is capable of an adjustment of substantially twice its length.

By connecting the feed lift rock-shaft 10 and the tuck-marker rock-shaft 32 it is insured that the relative movements of the tuck-marker finger and the feed-dog will be in opposite directions, so that the finger will be brought into contact with its coacting lip only at such time as the material is at rest.

The adjustment and operation of my device are as follows. If it be desired to produce an article wherein the tucks comprising the cluster are each one-half inch wide and one-half inch apart, and the clusters of tucks arranged one inch apart, the edge guide 62 would be adjusted one-half inch to the right of the needle to guide the free edge of the fold comprising the tuck, the finger 33 and coacting lip one inch to the left of the needle hole to determine the line of creasing for the succeeding fold, and the collar 35 adjusted against the end of the bearing 30 (as shown in dotted lines). After the tucks forming the cluster have been laid and stitched, the marking finger 33 and coacting lip are adjusted one and one-half inches to the left of the needle hole or one-half inch farther to the left than when spacing the individual tucks forming the cluster, so that the creasing will be positioned to bring the first tuck one-half inch farther away from the last tuck of the previous cluster than the distance between the individual tucks forming the cluster. When adjusting to the second position or the position for the formation of the first tuck forming the succeeding cluster, the collar 36 is to be adjusted against the end of the bearing 31 (as shown in full lines, Fig. 3) or in such position on the shaft 32 as will register the marking finger 33 for the second adjustment. From the foregoing it will be understood that to effect the two adjustments of the finger 33 it is simply necessary to loosen the screw 39 and move the shaft 32 lengthwise in the direction required for the desired adjustment until the collar controlling such

adjustment rests against the end of the bearing with which it coacts, and again tighten the screw 39.

In spacing tucks it is common to designate the space as that portion which is of a single thickness or from the seam of the last formed tuck to the free edge of the succeeding fold, and the foregoing explanation is made with that understanding.

As the fold forming the tuck is fed to the needle, the spring 63 acts to hold such fold down upon its underlying plate, thus preventing the two plies forming the fold from separating or becoming loose, and insuring that the fold will be stitched a uniform distance from its free edge.

What I claim is:—

1. In a tuck-marker for sewing machines, a gage plate, an adjustable gage thereon, and an adjustable spring plate with which said adjustable gage is slidably connected for effecting independent adjustments of the adjustable gage and spring plate, in combination with a marking finger, means to adjust it with relation to the adjustable gage and means for vibrating it.

2. In a tuck-marker for sewing machines, a slotted gage plate, a slotted adjustable gage and a slidable spring plate adjustably secured relatively to said gage plate and adjusting gage, in combination with a marking finger and means for actuating it.

3. In a tuck-marker for sewing machines, the combination of an edge gage, an adjustable gage, a marking finger, a shaft upon which said finger is mounted, a feed lift rock-shaft and connections between said feed lift rock-shaft and marking finger for transmitting rocking movements from said feed lift rock-shaft to said marking finger.

4. In a tuck-marker for sewing machines, the combination of an edge gage, a marking finger, an adjustable gage provided with upturned lips which coact with the marking finger, an adjustable spring plate, connections between said spring plate and adjustable gage, a graduated gage plate, a feed lift rock-shaft, a marking finger rock-shaft, and connections, including a lever provided with a

disengaging member, between said feed-lift rock-shaft and marking finger rock-shaft.

5. A tuck-marker for sewing machines, having a gage plate slotted longitudinally, an adjustable gage flanged at its opposite ends, slotted longitudinally and supported in said gage plate in alinement with its slot, and a stop device connecting the said gage plate and gage, in combination with a tuck-marker finger, a rock-shaft therefor, and means to vibrate said rock-shaft.

6. A tuck-marker for sewing machines, having a gage plate slotted longitudinally, an adjustable gage flanged at its opposite ends, slotted longitudinally and supported in said gage plate in alinement with its slot, and a spring stop device connecting the said gage plate and gage, in combination with a tuck-marker finger, a rock-shaft therefor, and means to vibrate said rock-shaft.

7. A tuck-marker for sewing machines, having a gage plate slotted longitudinally, a gage having opposite upturned end flanges and a longitudinal slot, and a movable stop connection for said plate and gage, in combination with a rock-shaft, bearings in which it is longitudinally adjustable, a marking finger fixed to said rock-shaft, and means to vibrate said rock-shaft, including an oscillating lever projecting below the bed-plate of the sewing machines, and means for connecting said lower end with the feed-operating shaft of the sewing machine.

8. In a tuck-marker for sewing machines, an edge-gage and an adjustable gage mounted upon opposite sides of the line of stitch formation and adapted to be independently adjusted, in combination with a marking finger, a feed lift rock-shaft and connections between said rock-shaft and finger for transmitting rocking movements from said rock-shaft to said finger.

In testimony whereof I have hereunto set my hand this 8th day of December A. D. 1905.

ALEXANDER LAUBSCHER.

Witnesses:

A. DONIHUE,

F. W. OSTROM.