

Sept. 2, 1958

P. N. BRAUN  
LAUNDRY MARKING MACHINE

2,849,934

Filed Feb. 10, 1954

4 Sheets-Sheet 1

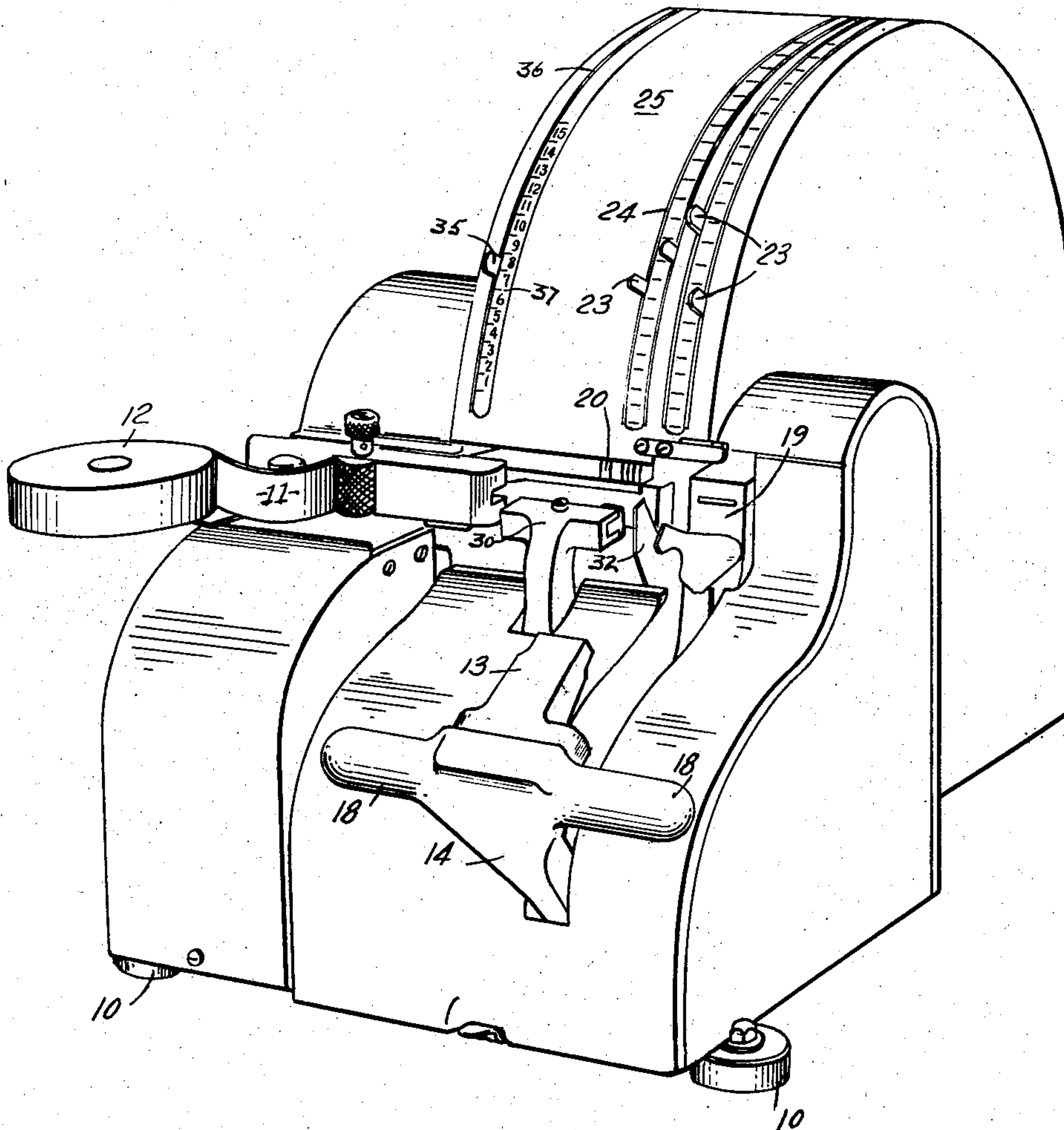


Fig. 1

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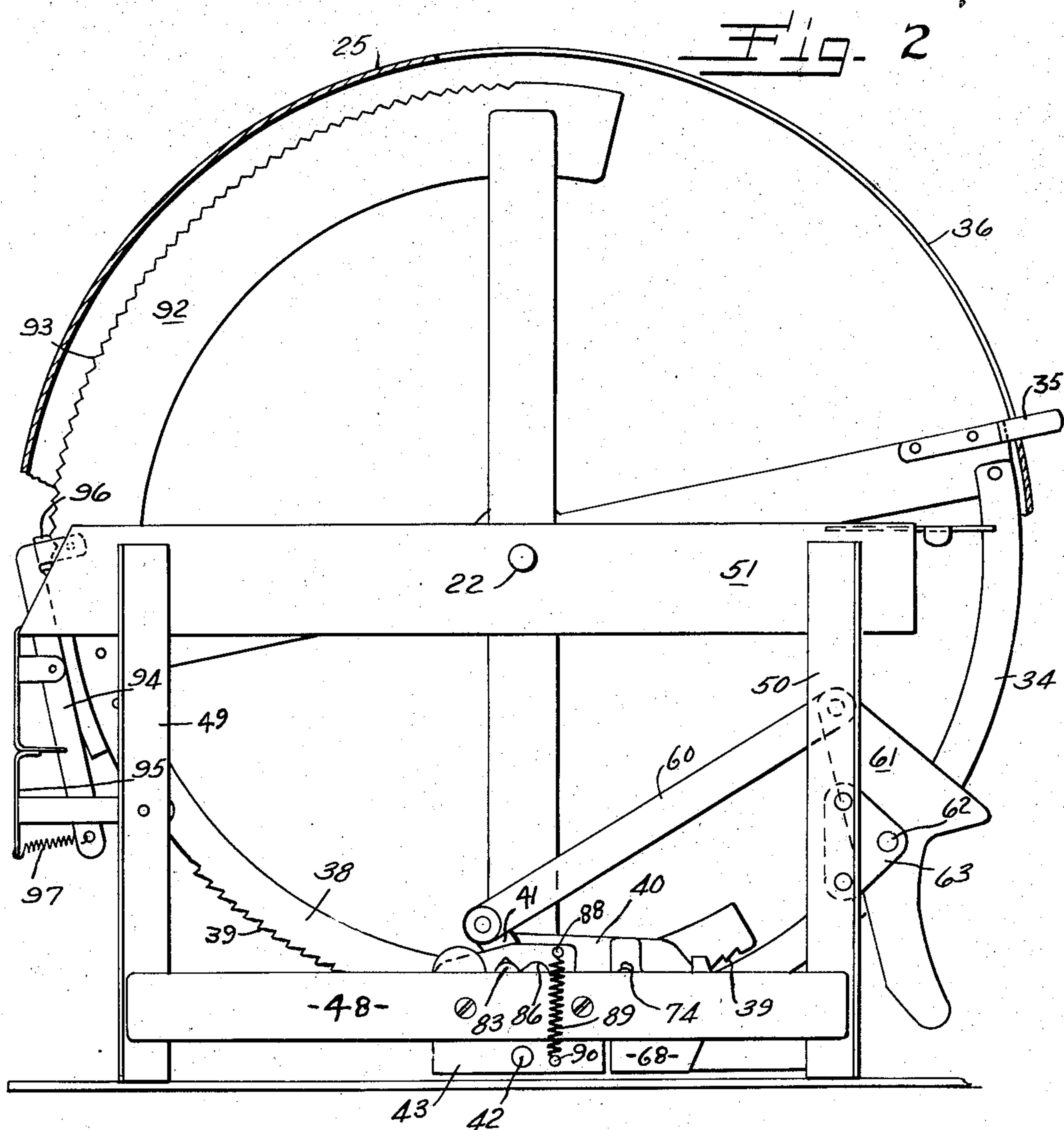
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4 Sheets-Sheet 2



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4 Sheets-Sheet 3

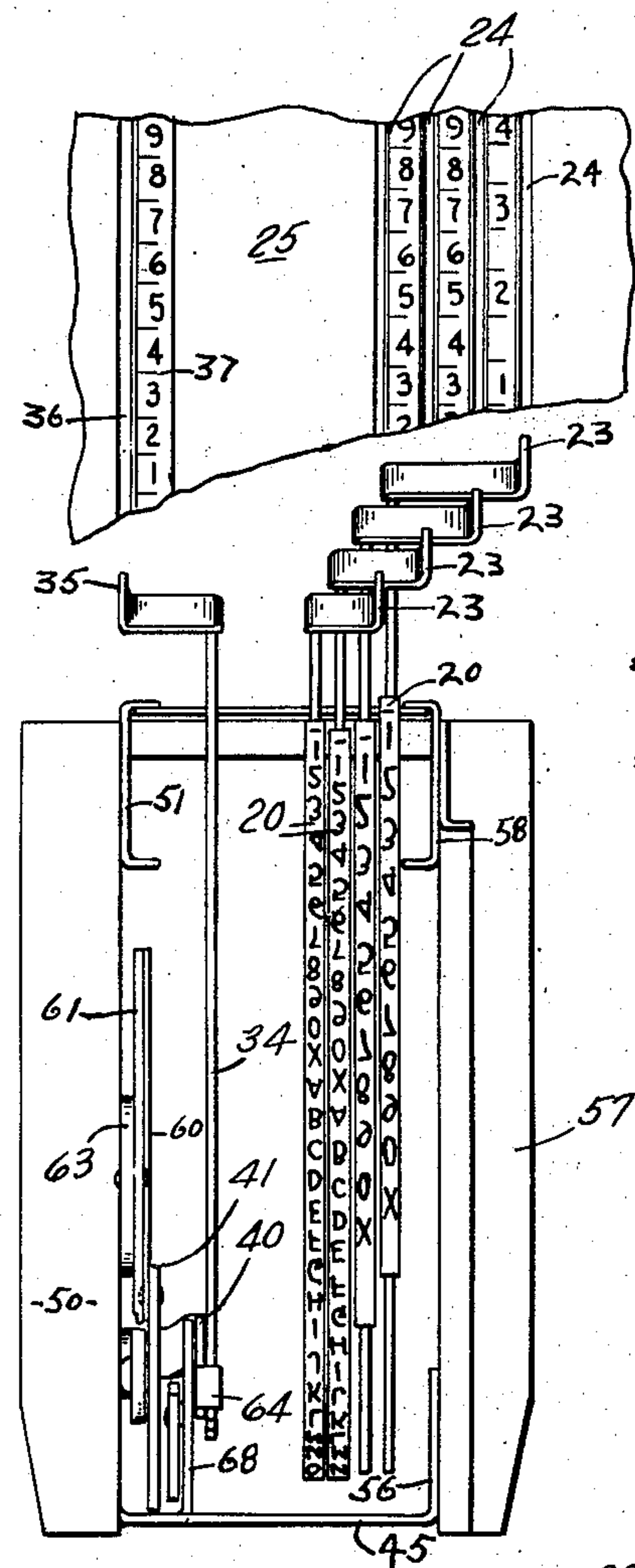


Fig. 3

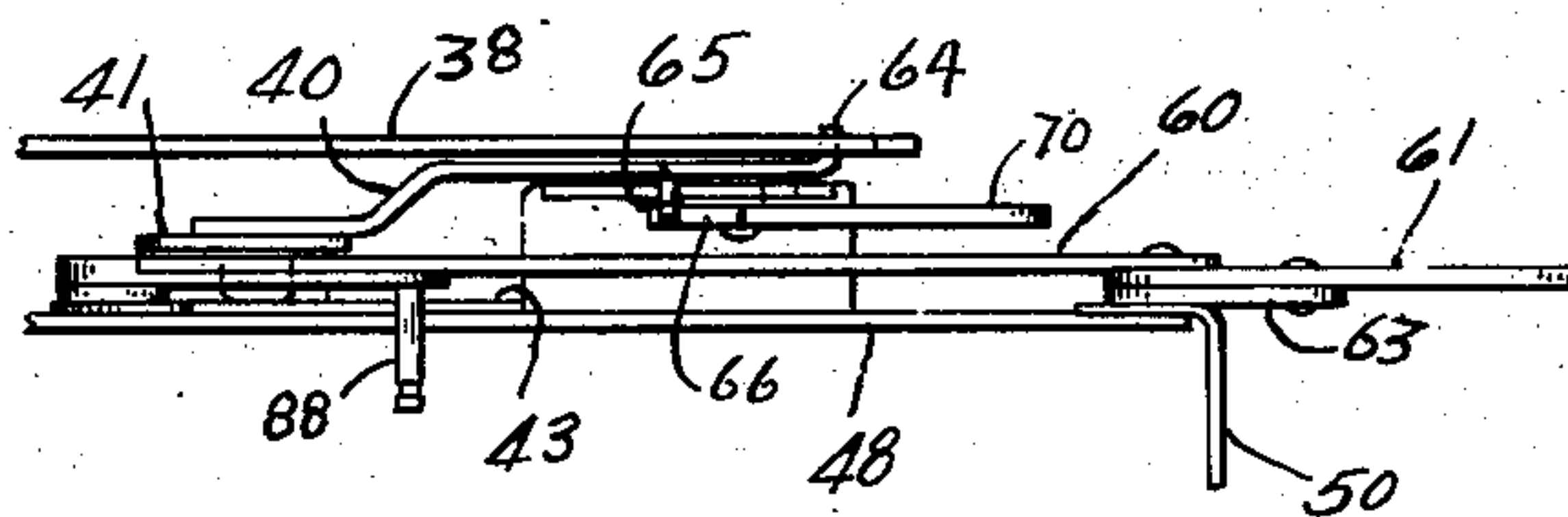


Fig. 5

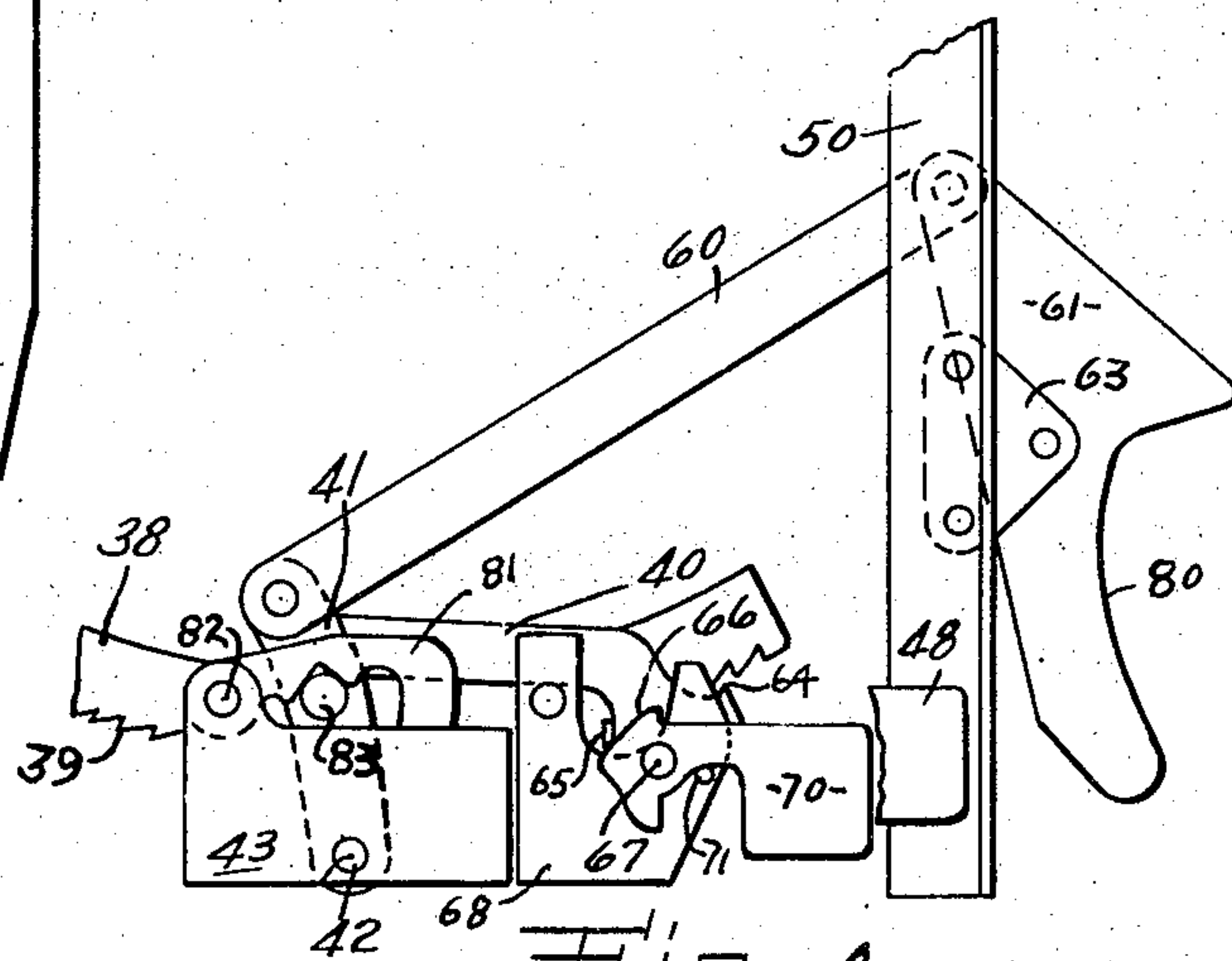


Fig. 4

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4 Sheets-Sheet 4

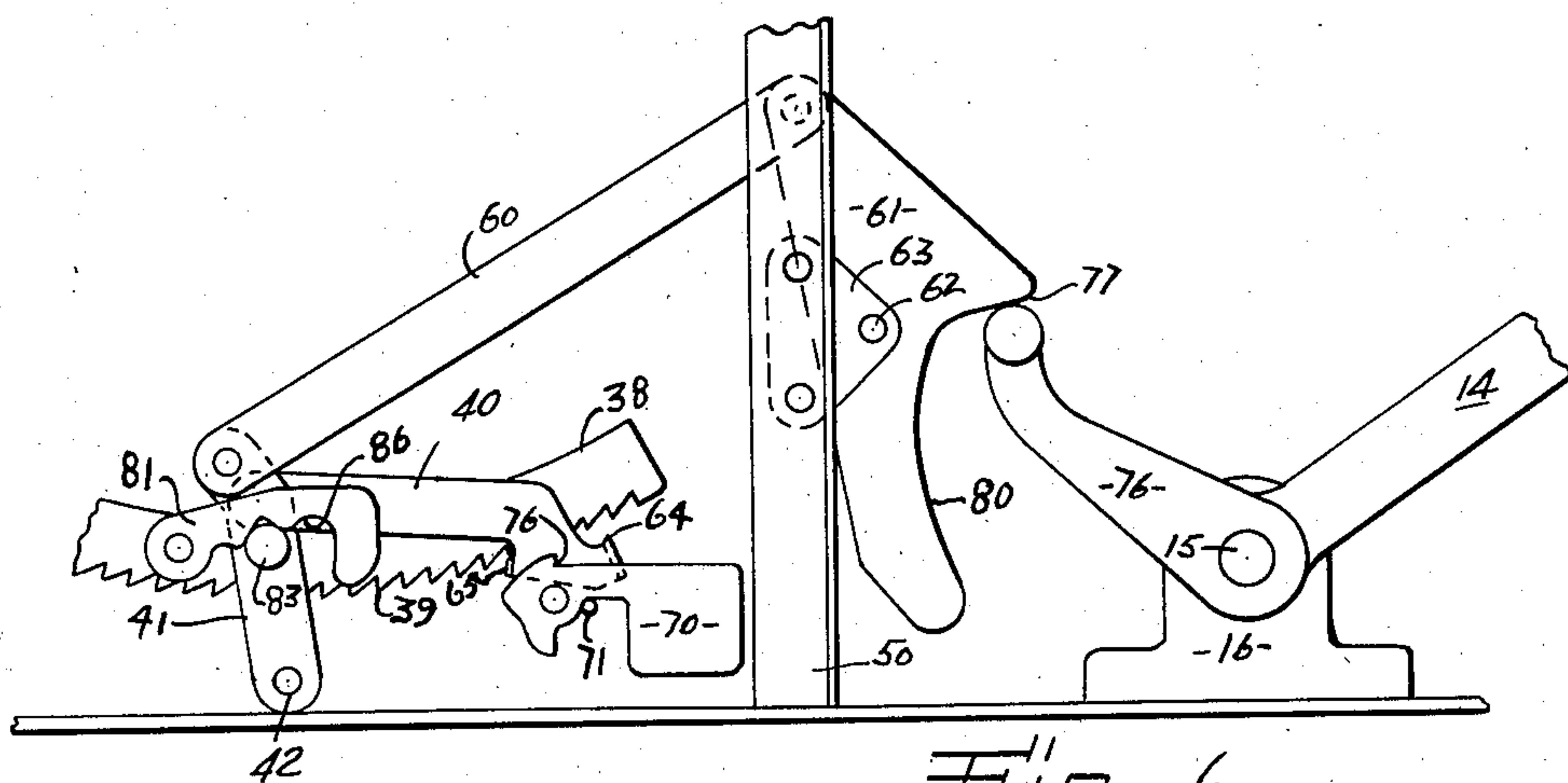


Fig. 6

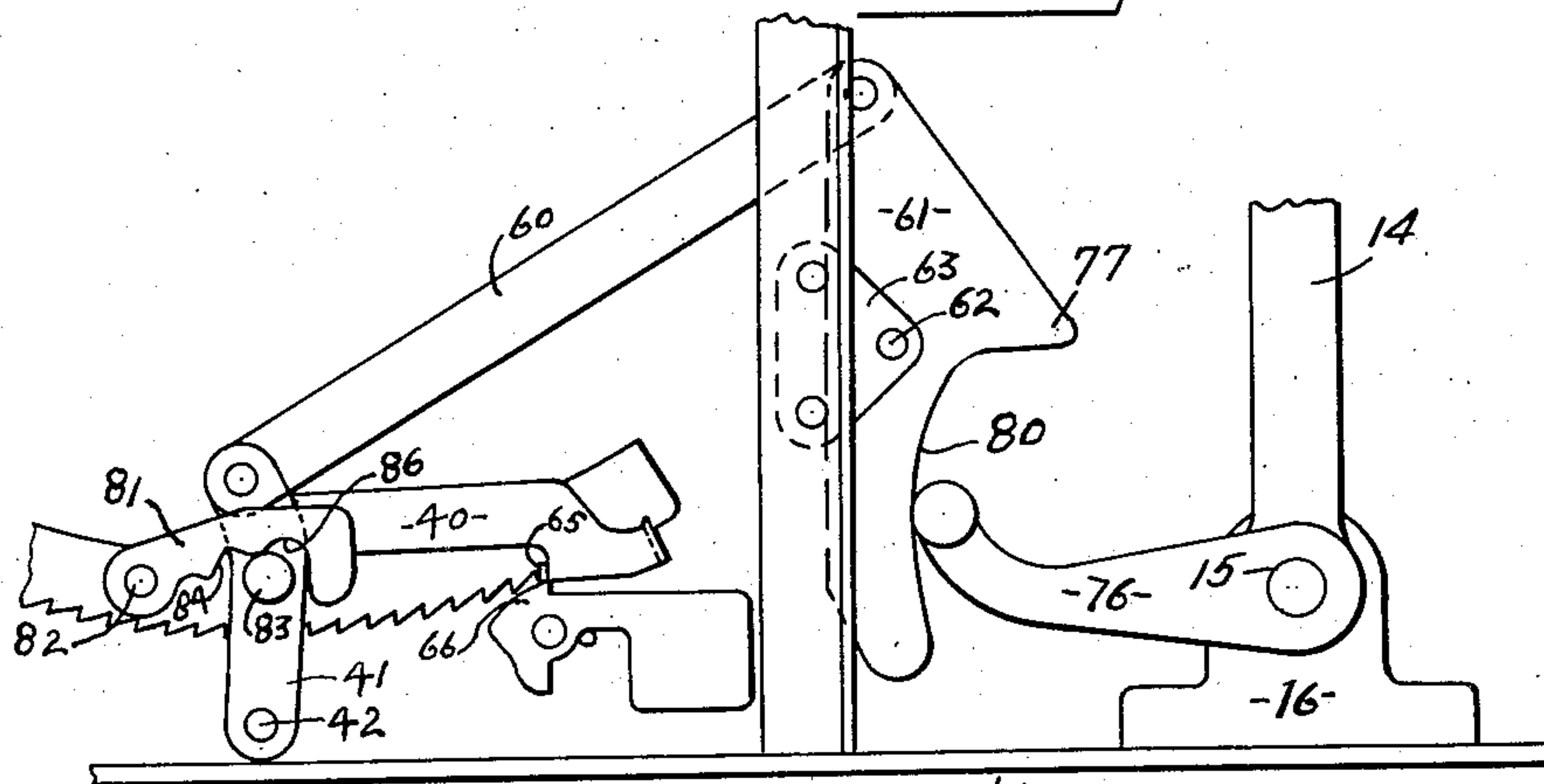


Fig. 7

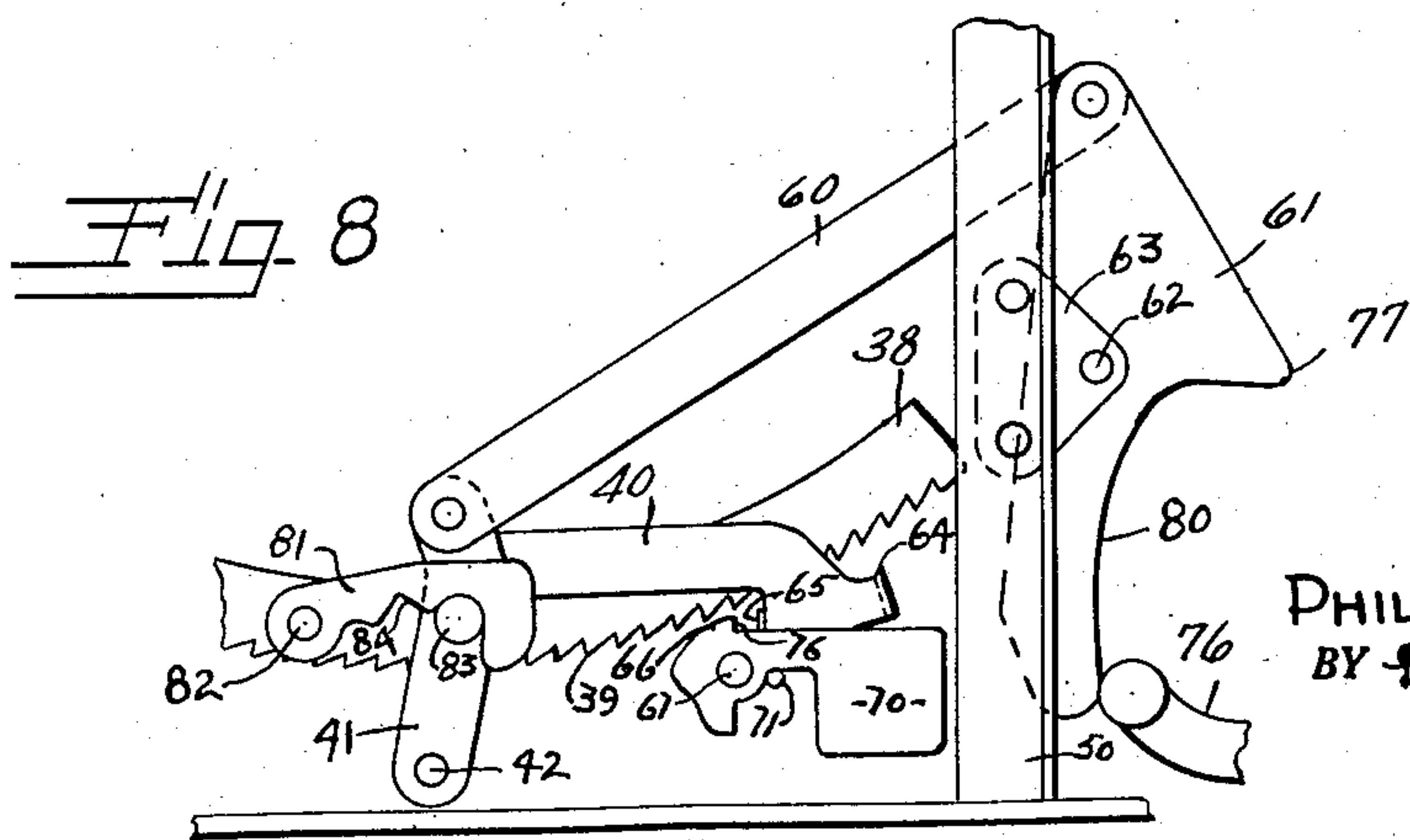


Fig. 8

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## LAUNDRY MARKING MACHINE

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Application February 10, 1954, Serial No. 409,500

4 Claims. (Cl. 93—88)

This invention relates in general to laundry marking machines of the type operable to print and affix an identification tag to a garment or the like. Such machines, in general use, include mechanism which, when the machine is actuated, functions to advance a web or tape to a printing station where certain indicia is printed upon the tape, the tape being then advanced from the printing station, the printed portion of the tape severed to provide an identification tag, and the tag affixed to the garment, or other piece of laundry, by being stapled thereto, or otherwise affixed, as by the use of thermoplastic adhesive. The identification tag serves to identify the garment, or other piece of laundry, while it is processed in the laundry or dry cleaning establishment.

At the present time, it is common practice for the operator to indicate on each customer's invoice the number of pieces being processed. This requires the operator to keep track of the number of pieces to which identification tags have been attached, or to count the pieces after they have been tagged. This procedure requires extra effort by the operator and consumes a considerable amount of her time. Also, with this procedure the count is frequently erroneous.

This invention has as an object a laundry marking machine embodying a structural arrangement which functions automatically upon each operation of the machine to indicate the number of operations in a series—that is, the number of garments or pieces on each order that have been tagged.

The invention has as a further object a machine of the type referred to embodying a counting mechanism having indicating means complementary in structure and function to the indicating means of the tag printing mechanism with which the operator is already accustomed, the counting mechanism being conveniently manually adjustable at all times for the correction of errors.

The invention consists in the novel features and in the combinations and constructions hereinafter set forth and claimed.

In describing this invention, reference is had to the accompanying drawings in which like characters designate corresponding parts in all the views.

In the drawings—

Figure 1 is a perspective view of a laundry marking machine embodying my invention.

Figure 2 is a side elevational view of the counting mechanism.

Figure 3 is a front elevational view of the counting mechanism looking to the left, Figure 2, and including the tag printing type segments and a portion of the cover member enclosing the counting mechanism and the printing segments.

Figure 4 is a side elevational view of the counting actuating mechanism with a portion of the supporting frame broken away.

Figure 5 is a plan view of the structure shown in Figure 4.

Figure 6 is a side elevational view of the counting sec-

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tor actuating mechanism showing the position of the parts prior to actuation.

Figure 7 is a view similar to Figure 6, with the actuating mechanism initially actuated.

Figure 8 is a view similar to Figures 6 and 7 showing the parts completely actuated.

The general arrangement of the marking machine is shown in Figure 1. It is of a type now conventional on the market consisting of a suitable frame enclosed by a cover structure, the machine being supported by feet 10. The identification tag is formed from a strip or web 11 taken from a supply in the form of a roll 12. The tag is affixed to the garment, in the embodiment of the machine shown, by being stapled to the garment. The garment is tauted over a platen or head member 13 carried on the free end of an arm 14 affixed to a shaft 15 journaled in bearings 16. The arm 14 is provided with laterally extending handle portions 18, the arm being moved about the axis of the shaft 15 to move the head or anvil 13 toward and against a stapling head 19 which thereupon functions to drive a staple through the tag and the garment, with the prongs of the staple being bent over or clinched by the anvil 13.

The tape 11 is fed past a series of type sectors 20 which are of arcuate form, being movable about the axis of a shaft 22, see Figures 2 and 3, and each type sector 20 is provided with a projection 23. These projections 23 extend through slots 24 formed in an arcuate cover member 25. The cover member is provided with numbers and/or letters to indicate the position of the projections 23 so that the operator is informed of the indicia being printed upon the tape 11. This printing is effected by a printing platen 30 which is operable, upon the initial movement of the arm 14, to move the tape against a print ribbon positioned across the face of the type on the sectors 20.

When printed, the tape is moved to the right, Figure 1, the printed portion being positioned in juxtaposition to the stapling head 19 and substantially simultaneously with the stapling operation, the printed portion of the tape is cut from the web by a shear 32 to provide the identification tag. This general arrangement of the machine is well known and does not form per se any part of this invention.

The invention has to do with a counting mechanism whereby the operator is informed at all times of the number of actuations of the arm 14, or the number of identification tags that have been printed and affixed to the garments. This counting mechanism consists of a movable member shown in the form of a sector 34 journaled upon the shaft 22, see Figure 2, and being movable about the axis of the shaft. This sector is provided with a projection 35 extending through a slot 36 formed in the arcuate cover member 25. The projection 35 serves as a manual with which the operator may conveniently move the member 34 one increment in either direction in the event it is desirable to do so to make correction for a defectively printed or affixed tag. The member 34 is provided with means for indicating its position at all times in the circular path in which it moves. In the embodiment shown, the projection 35 also functions in this respect in conjunction with a series of indicating numerals on the cover member. The cover is provided with a series 37 of consecutively arranged numerals, see Figures 1 and 3, for indicating the position of the projection 35 in the slot 36.

Means is provided for moving the movable member 34 upon each actuation of the arm 14 a distance to move the projection 35 from a position in registration with one of the numerals in the series 37 to the next succeeding numeral in the series. The member 34 is formed or provided with an arcuate portion 38 having ratchet teeth 39. An actuating pawl 40 is provided for cooperating with the



ratchet to effect movement of the member 34 about the axis 22, and motion transmitting mechanism is provided for actuating the pawl 40 upon each actuation of the tag affixing arm 14.

Referring to Figures 4 to 8, the pawl 40 is pivotally mounted at one end to a link 41, the lower end of which is mounted on a pivot pin 42 carried by a bracket 43. This bracket consists of a bent-up portion of a cross member 45 forming part of the frame. The bracket portion 43 is affixed to a horizontally extending bar 48 secured at its ends to uprights 49, 50, to the upper ends of which there is secured a bar 51. The member 45 at its opposite end is formed with a bent-up portion 56 attached to a pair of uprights 57 similar to the uprights 49, 50, and to the upper ends of which there is secured another cross bar 58. The shaft 22 is journaled in the cross bars 51, 58.

The upper end of the link 41 is pivotally connected to one end of a link 60, the opposite end of the link 60 being pivotally connected to a lever 61 pivotally mounted at 62 intermediate its ends to a bracket 63 attached to the upright 50. The pawl 40 is formed at its opposite end with a laterally extending knife edge portion 64 for engagement with the ratchet teeth 39 and with a laterally extending portion 65 for engagement with a cam member 66 pivotally mounted on a pin 67 carried by another bracket member 68. The cam 66 has a forwardly extending enlarged portion 70 which serves as a weight to maintain the cam member normally positioned against a stop pin 71 on bracket 68. The bracket 68 also carries a pin 74 on which the pawl 40 normally rests with the end portion 64 out of engagement with the ratchet teeth 39.

The lever 61 is actuated about its pivot 62 by an arm 76 attached to the shaft 15 and movable in unison with the arm 14. As shown in Figure 6, the arm 14 is in retrograde position, as indicated in Figure 1. The free end of the arm 76 is in engagement with the laterally extending portion 77 of the lever 61 and having effected counter-clockwise movement of the lever about its pivot 62 and counter-clockwise movement of the link 41 about its pivot 42. With the links 60, 41 in this position, the pawl 40 is moved to its rearward position, as shown in Figures 4 and 6.

As the arm 14 is moved toward the stapling head 19, the lever 76 is moved in a counter-clockwise direction, engaging the arcuate cam surface 80 of lever 61, as shown in Figure 7. This effects clockwise movement of lever 61 from the position shown in Figure 6, and likewise clockwise movement of the lever 41 and advancement of the pawl 40. During this advancement, the projection 65 on the pawl rides upwardly on the cam member 66, moving the forward edge portion 64 of the pawl into engagement with one of the ratchet teeth 39. As the anvil 13, with the garment taut thereover, is moved to bring the garment and identification tag against the stapling head 19 for stapling, the arm 76 has moved downwardly to the position shown in Figure 8, effecting further clockwise movement of the lever 61 and further advancement of the pawl, this advancement being sufficient to move the projection 35, carried by the segment 34, from a position in registration with one of the numerals 36 to a position in registration with the next succeeding numeral of the series. At the end of this advancement of the pawl, the projection 65 has passed over the cam surface 66 past the shoulder 76. The pawl then drops downwardly on the pin 74, whereby the pawl is out of engagement with the ratchet 39. This arrangement permits the operator to move the counting member or sector 34 by the projection 35. This permits the operator to correct the count in the event a tag was not printed correctly, or not properly affixed to the garment. Upon outward movement of the lever 14 and upward movement of the lever 76, the portion 77 of lever 61 is engaged, effecting counter-clockwise movement of the

lever to retract the pawl to starting position. During this rearward movement of the pawl, the projection 65 engages the shoulder 76 of the cam member, but this member is freely permitted to rotate in a counter-clockwise direction about its pivot pin 67. During this rotation of the cam member, the shoulder moves downwardly about the axis of pin 67 until it disengages from the projection 65. When the pawl has returned to starting position, the weighted portion 70 returns the cam member to its normal position against the stop pin 71, as shown in Figure 8.

Stop means is provided for controlling the forward and rear portions of the pawl 40, this being in the form of a detent lever 81 pivoted at 82 to the bracket 43. The link 41 is provided with a laterally projecting pin 83 and the lower edge of the detent 81 is provided with a notched recess 84 for reception of the pin 83 when the pawl is in retracted position, Figure 6. The detent 81 is also formed with a notch 86 to receive the pin 83 when the pawl is in the advanced position, see Figure 8. The detent 81 has a laterally extending pin 88 to which a tension spring 89 is attached, the lower end of the spring being fixed to a pin 90 carried by the bracket 43. This spring functions to yieldingly urge the detent downwardly into engagement with the pin 83 carried by the link 41.

Means is provided for yieldingly restraining rotation of the movable member about the axis 22. The movable member is provided with an arcuate portion 92 formed at its peripheral edge with a series of uniformly spaced projections 93. A lever 94 is pivotally mounted intermediate its ends to a bracket 95 supported from the upright 49 and the cross member 51. The upper end of the lever 94 is bifurcated to straddle the arcuate portion 92, and a wedge shaped member 96 is mounted in the bifurcation for engagement between the projections 93. The lever 94 is actuated by spring 97 to maintain the wedge 96 yieldingly against the member 92. The spacing between the projections 93 is complementary to the spacing between the numerical series 37 and the ratchet teeth 39.

With the structure described, the movable member 34 and the projection 35 carried thereby is automatically advanced a uniform distance upon each operation of the tag affixing means. Due to the fact that the projection 35 is complementary in appearance and operation to the type setting manuals 23, the counting mechanism is convenient for the operator. In the event a tag should be mis-printed, or not fixedly secured to the garment upon actuation of the tag affixing mechanism, the operator can conveniently re-adjust the movable member to correct the error.

What I claim is:

1. A laundry marking machine comprising a frame, means operable to affix an identification tag to a garment, a movable member mounted in the frame for movement about a fixed axis, an arcuate cover member enclosing said movable member and being formed with a slot, said movable member having a projection extending through said slot, said cover member being provided with a series of consecutive numerals extending in proximity to said slot for indicating the position of said projection in said slot, and motion transmitting means normally disengaged from said movable member and operable upon each operation of said tag affixing means to engage and move said movable member about said axis to advance said projection from a position in registration with one numeral in said series to a position in registration with the next succeeding numeral in said series.

2. A laundry marking machine comprising a frame, means operable to affix an identification tag to a garment, a movable member mounted in the frame for movement about a fixed axis, an arcuate cover member enclosing said movable member and being formed with a slot, said movable member having a projection extending through said slot, said cover member being provided with a



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series of consecutive numerals extending in proximity to said slot for indicating the position of said projection in said slot, means yieldingly restraining rotation of said movable member, and motion transmitting means normally disengaged from said movable member and operable upon each operation of said tag affixing means to engage and move said movable member about said axis to advance said projection from a position in registration with one numeral in said series to a position in registration with the next succeeding numeral in said series.

3. A laundry marking machine comprising a frame, means operable to affix an identification tag to a garment, a movable member mounted in the frame for movement about a fixed axis, an arcuate cover member enclosing said movable member and being formed with a slot extending in a direction circumferentially about said axis, said movable member having a projection extending through said slot, a series of consecutive numerals on said cover extending in proximity to said slot for indicating the position of said projection in the slot, advancing means operable, when actuated, to move said movable member about said axis to advance the projection from a position in registration with one of the numerals in said series to a position in registration with the next succeeding numeral in said series, said movable member being manually movable independently of said advancing means, and means operable upon operation of said tag affixing means for actuating said advancing means.

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4. A laundry marking machine comprising a frame, means operable to affix an identification tag to a garment, a movable member mounted in the frame for movement about a fixed axis, an arcuate cover member enclosing said movable member and being formed with a slot, said movable member having a projection extending through said slot, said cover member being provided with a series of consecutive numerals extending in proximity to said slot for indicating the position of said projection in said slot, means operable, when actuated, to effect movement of said movable member about said axis, said means including a ratchet and pawl structure, said pawl being normally positioned out of engagement with the ratchet, motion transmitting means operable, upon each operation of said tag affixing means, for actuating said pawl, and cam means operable to move said pawl upon the initial actuation thereof into engagement with said ratchet.

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