

(No Model.)

2 Sheets—Sheet 1.

C. A. BURT.
CAN LABELING MACHINE.

No. 502,480.

Patented Aug. 1, 1893.

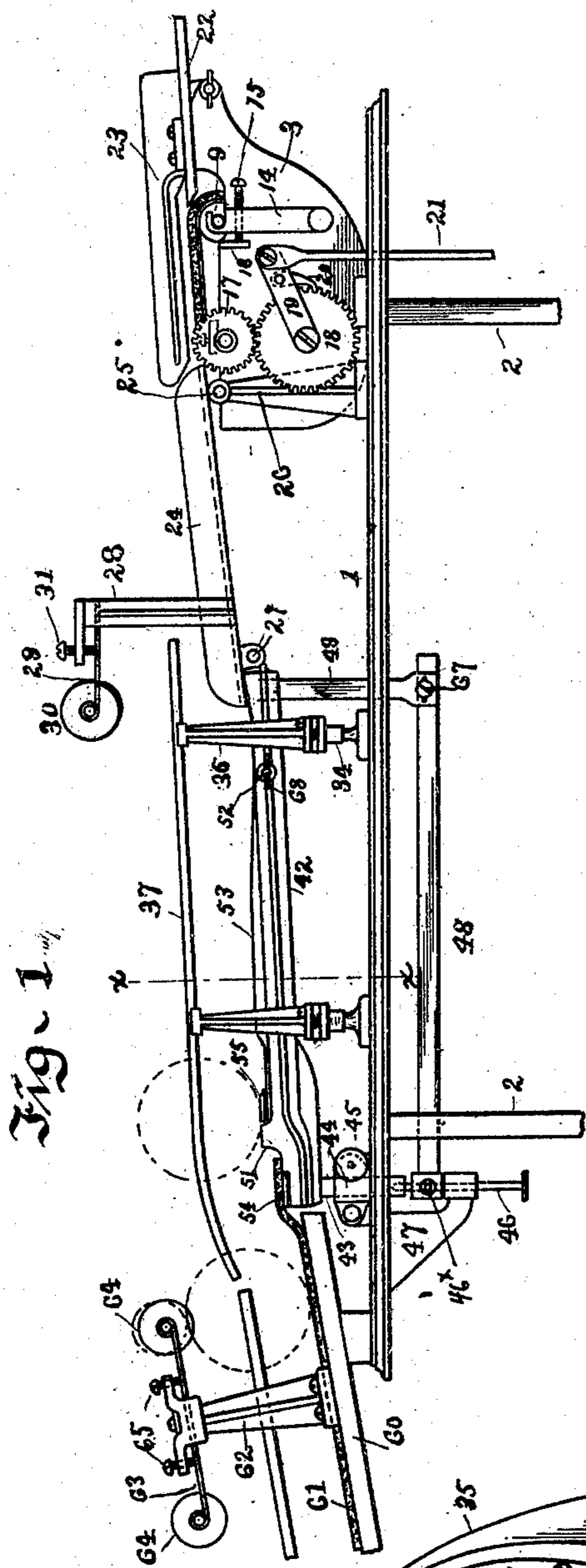


Fig. 1

Fig. 2

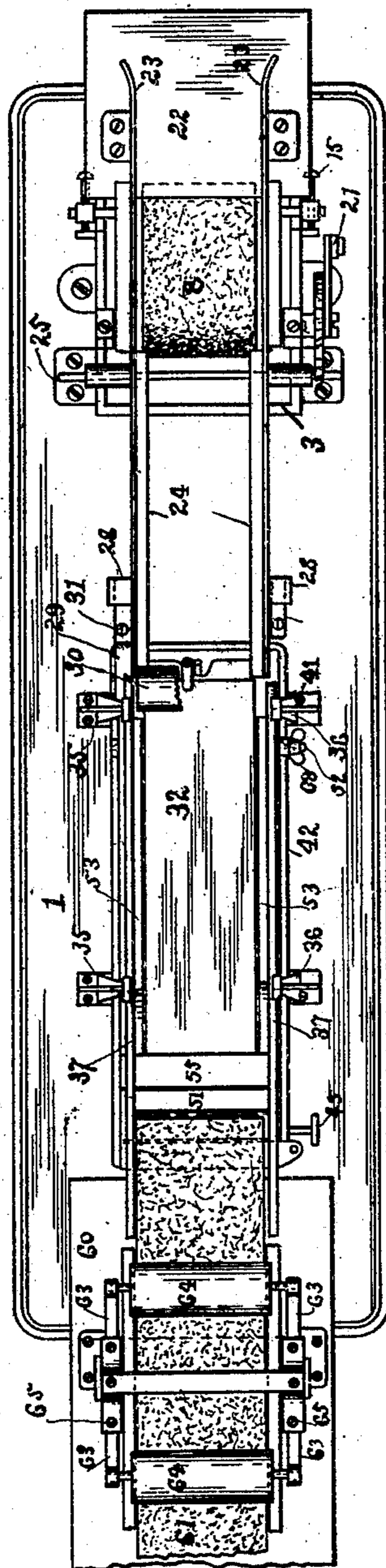
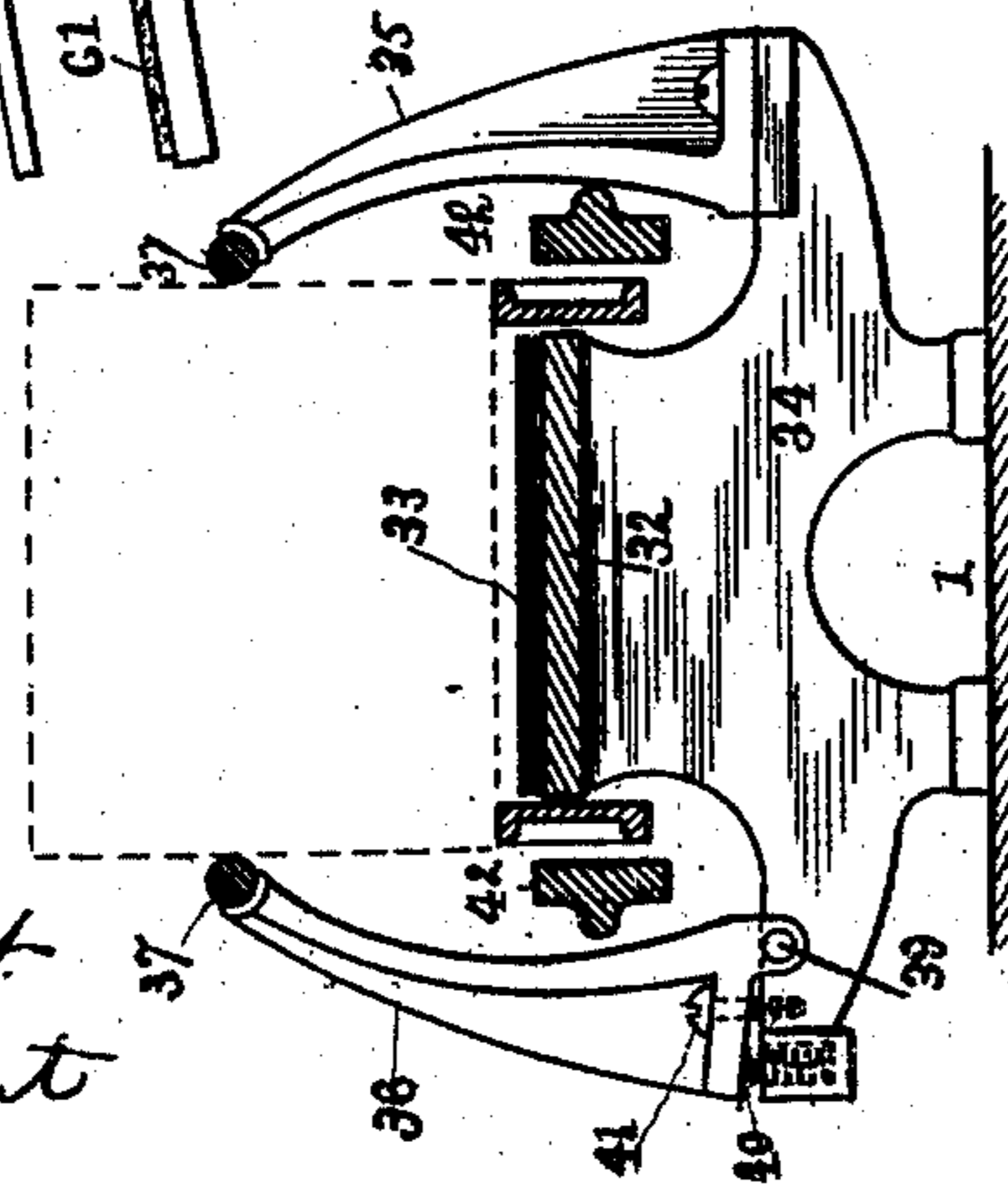


Fig. 3



Witnesses
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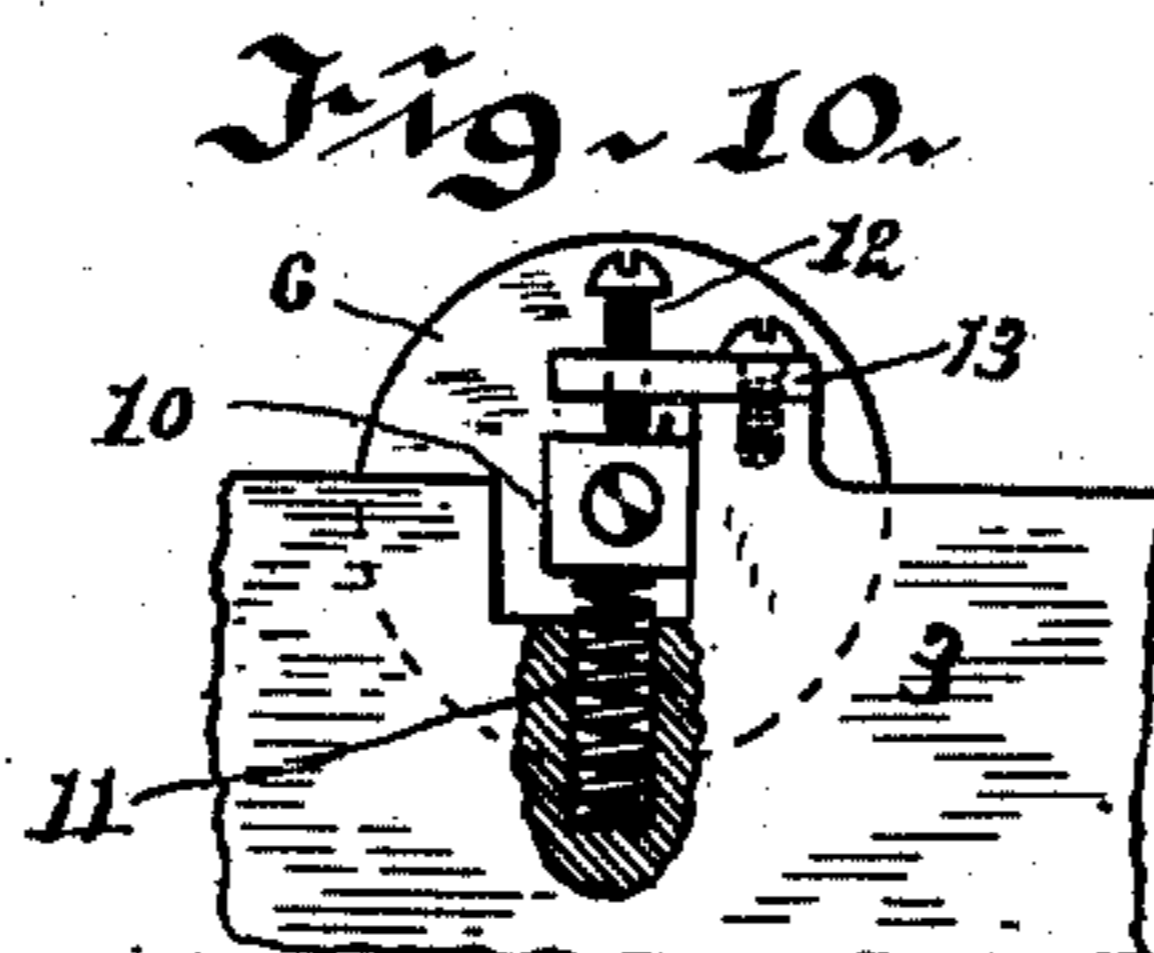
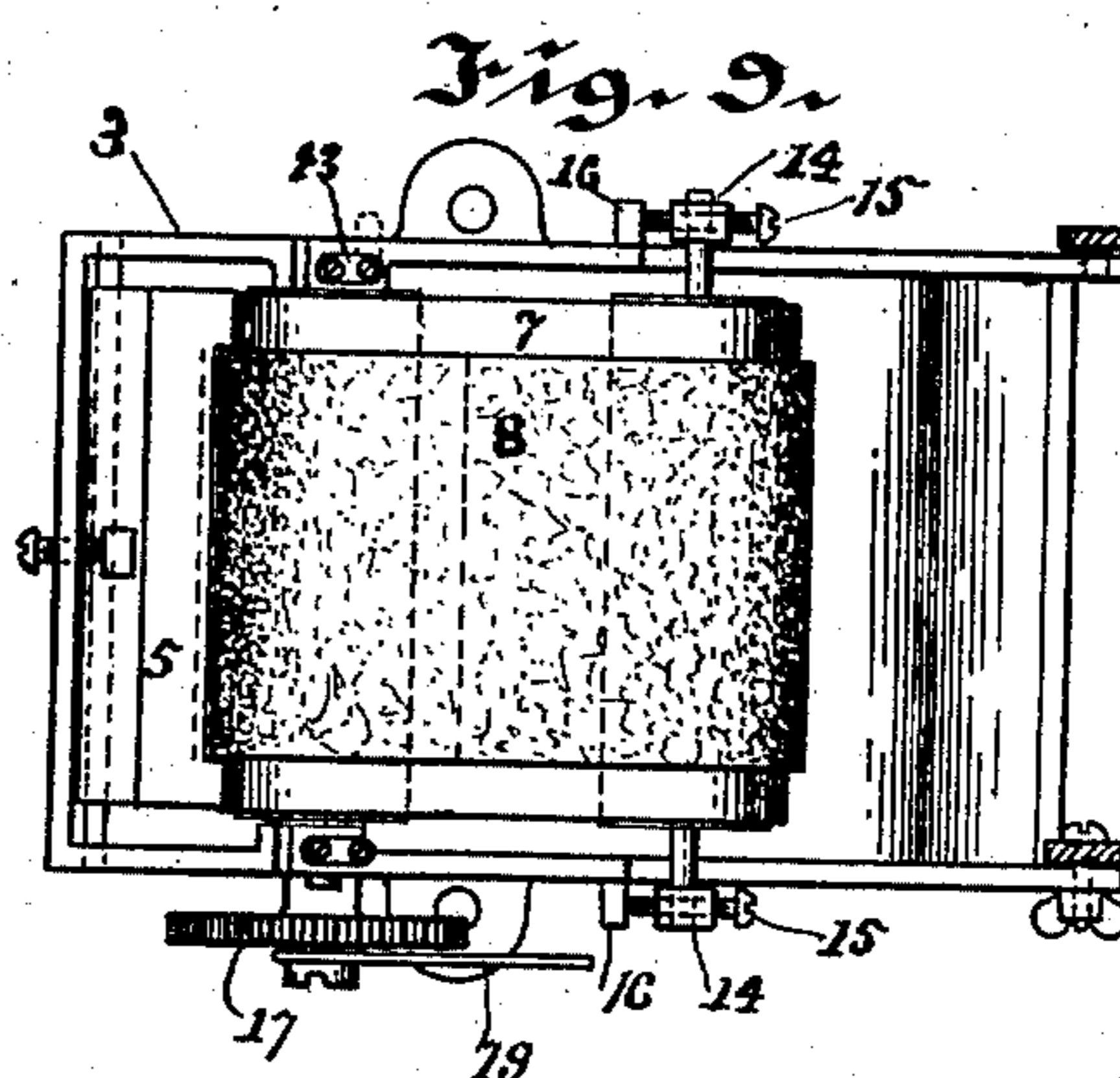
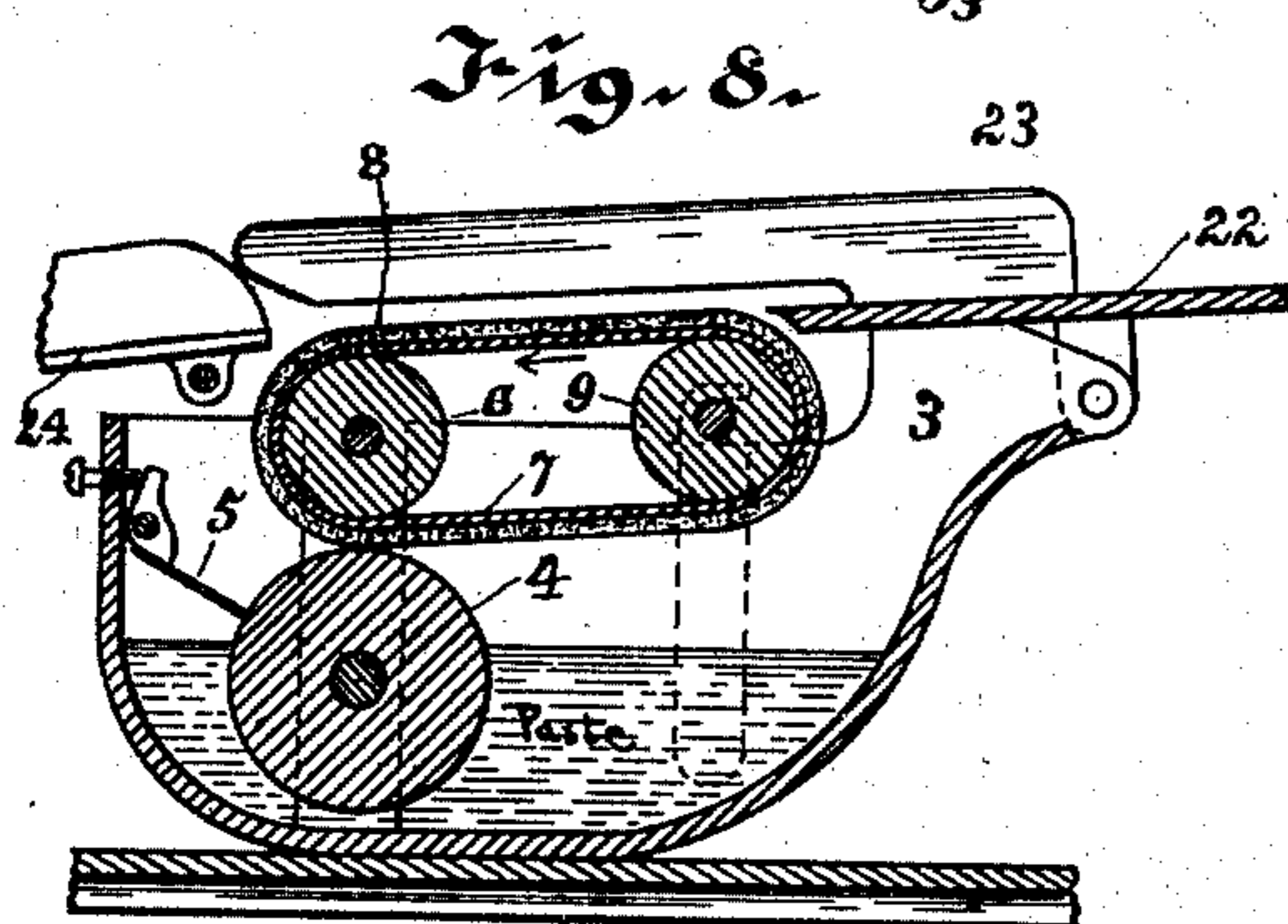
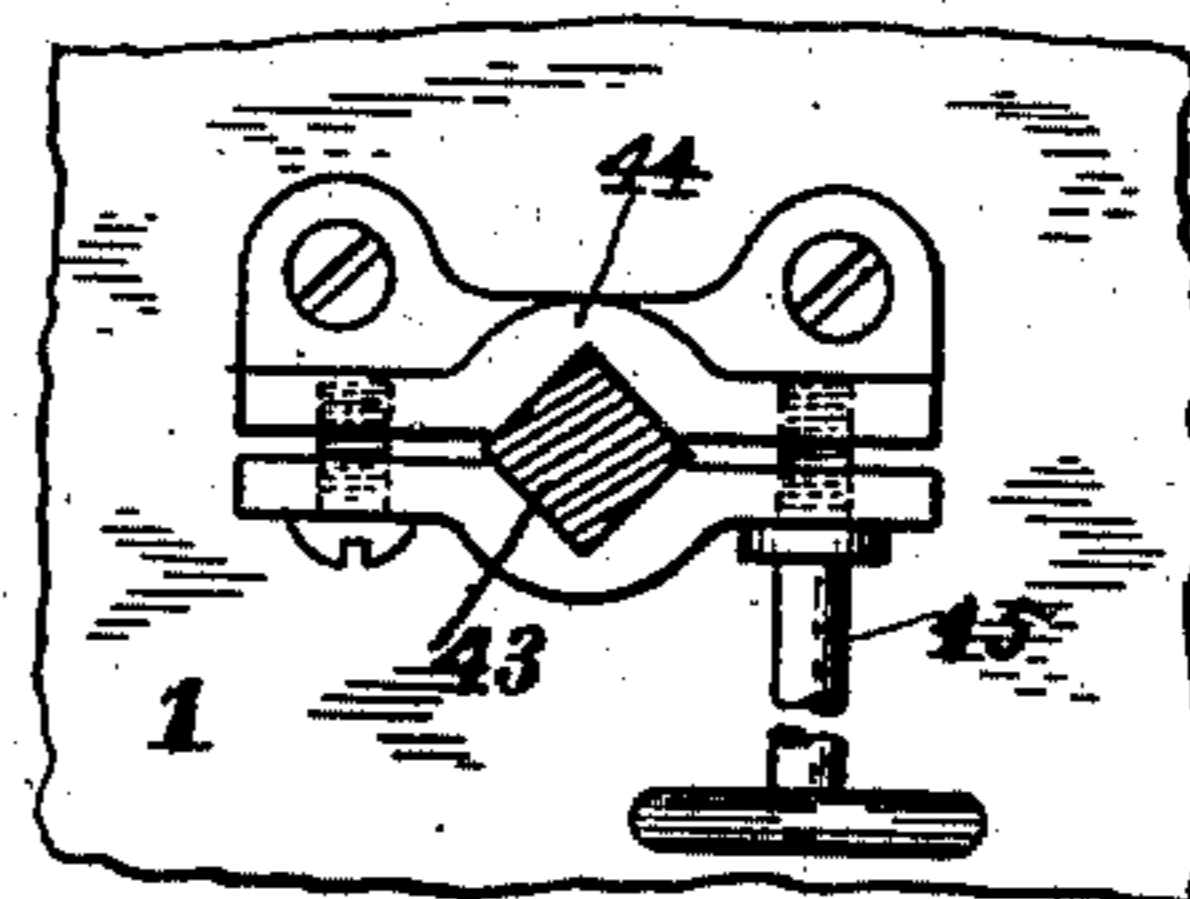
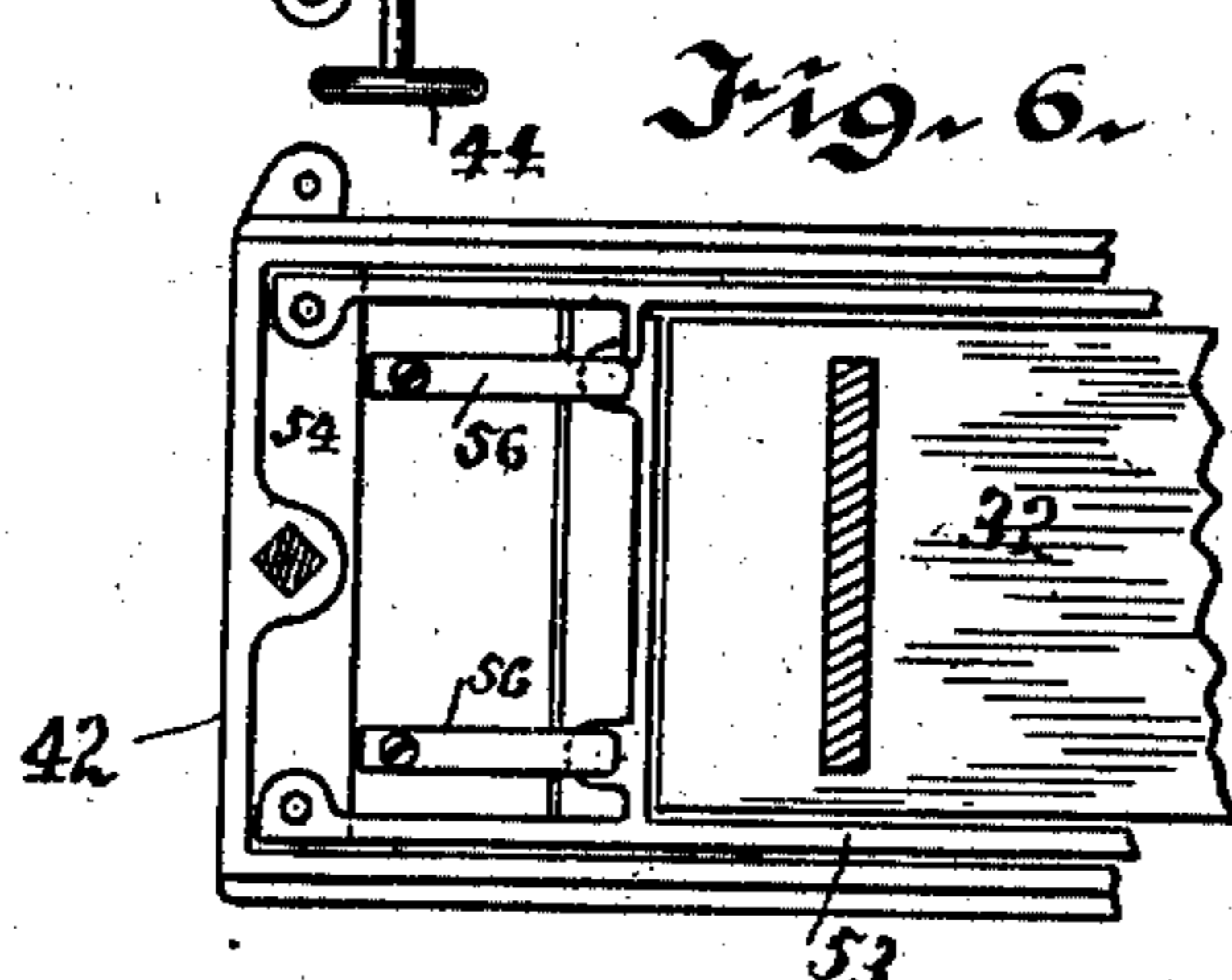
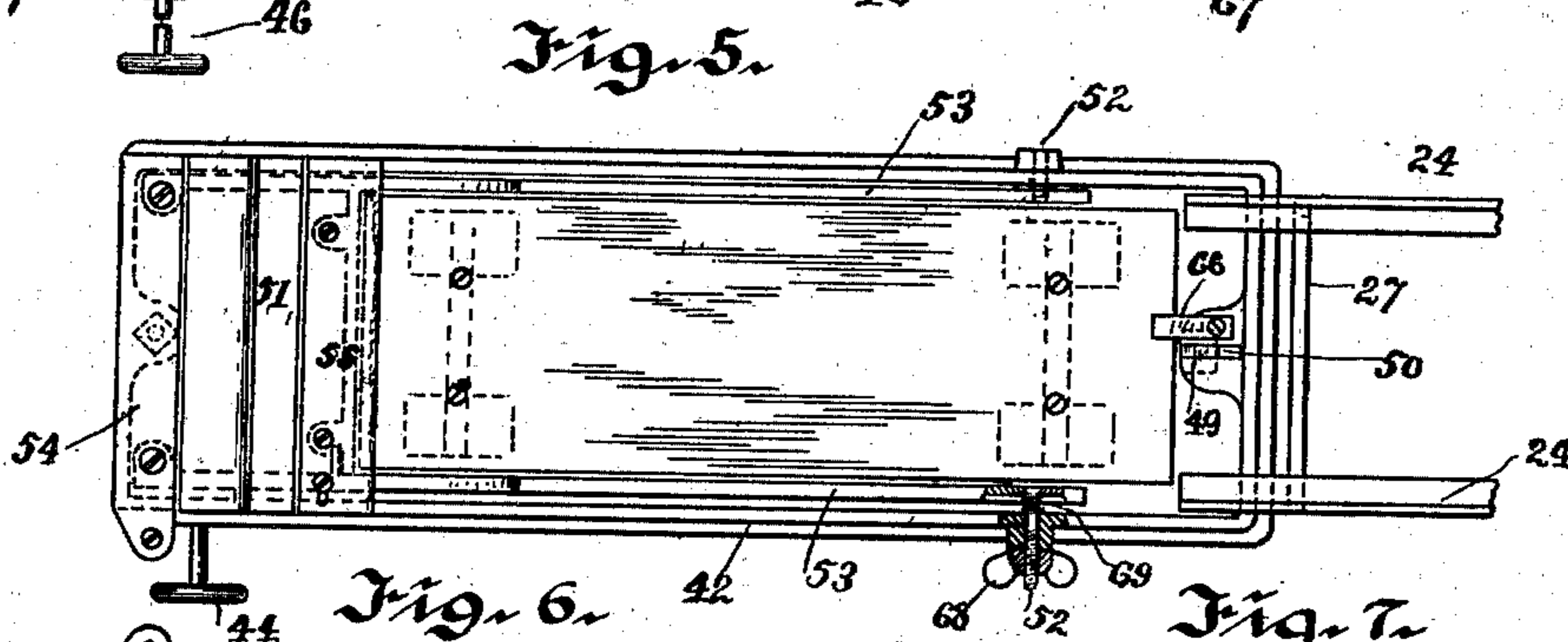
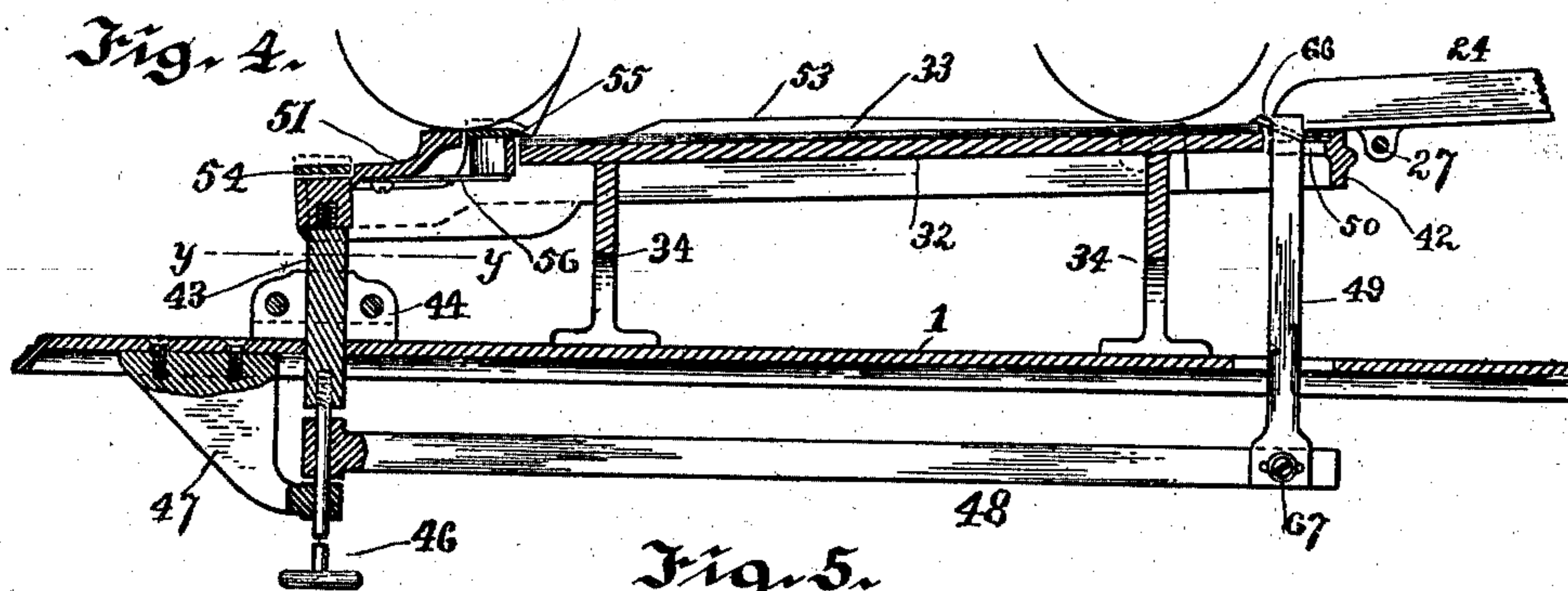
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UNITED STATES PATENT OFFICE.

CHARLES A. BURT, OF ROCHESTER, NEW YORK.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 502,480, dated August 1, 1893.

Application filed January 9, 1892. Serial No. 417,509. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. BURT, of Rochester, in the county of Monroe and State of New York, have invented certain new and
5 useful Improvements in Can-Labeling Machines; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this
10 specification, and to the reference-numerals marked thereon.

My present invention relates to machines for applying labels to cans containing fruits, vegetables, &c., and has for its objects to provide one that is simple and cheap in construction and which will secure the labels
15 whether they be thick or thin around the can without the liability of their becoming loose, and to these and other ends the invention consists in certain improvements in construction and combinations of parts, all as will be
20 hereinafter fully described and the novel features pointed out in the claims at the end of this specification.

25 In the drawings: Figure 1 is a side elevation of a machine constructed in accordance with my invention; Fig. 2 a plan view of the same; Fig. 3 a cross-sectional view on the line $x-x$ of Fig. 1; Fig. 4 a longitudinal sectional view
30 of the label support; Fig. 5 a plan view on a large scale of the label support; Fig. 6 a sectional view on the line $y-y$ of Fig. 4 looking upward; Fig. 7 a similar view looking downward; Fig. 8 a sectional view of a paste delivering mechanism; Fig. 9 a plan view of the
35 same with the top removed; Fig. 10 a detail view.

Similar reference numerals in the several figures denote similar parts.

40 The table 1, constituting the support of the operating parts, may be of any desired construction provided with suitable supporting legs 2. In my present machine the cans to which the labels are to be applied are fed to
45 the machine by hand, or any suitable mechanism, and moved through it by gravity, the necessary paste being first applied to the can-body which then passes over the label, one end of the latter being secured to the can
50 body and then wound about the same by the movement of the can, drawn tight, and the free end secured by means of the paste first

applied, and then pressed down by suitable pressure rollers.

At the front or feeding end of the table is
55 arranged a mechanism for applying paste to the can body, consisting, in the present instance, of a receptacle 3 adapted to contain paste, in which rotates a roller 4 provided with a suitable scraper 5 for removing the excess and above this roller are two other rollers 6 and 9 around which extends a belt
60 preferably of rubber or similar material having a covering of felt 8 adapted to move against the roller 4 and receive the paste therefrom. The roller 6 is mounted in bearings 10 supported by springs 11 in the sides of the receptacle and is held down in operative position by means of a screw 12 passing
65 through a plate 13 pivoted to the side of said casing, the arrangement being such that the pressure between the face of the belt and the paste roller 4 can be easily regulated and said roller moved, when desired, by swinging the plates 13 laterally, as shown in dotted lines
70 Fig. 9. The other roller 9 around which the belt extends is mounted in the upper ends of arms 14 pivoted on the paste receptacle and through said arms extend screws 15 engaging lugs 16, so that by the operation of said
75 screws the tension of the belt can be regulated.

As a convenient means for operating the pasting device, I arrange upon the end of the shaft of roller 6 a pinion 17 meshing with a
80 corresponding gear 18 located on the shaft of roller 4 projecting through the side of the paste receptacle and on this shaft is arranged an arm 19 carrying a pawl 20 engaging the teeth of the gear, so that upon the downward
85 movement of the arm caused by the pitman 21 connected to a suitable treadle, the roller 4 gear and pinion will be rotated and a new surface of the belt, saturated with paste, moved forward in position to operate upon a
90 can introduced into the machine and by the rolling action of the belt and roller 4 paste will be deposited on the former evenly, and in stipple the roller and belt moving at the same surface speed and the scraper 5 regulating
95 the quantity.

Pivoted to the forward end of the paste receptacle is a table or can support 22 slightly inclined and normally about flush with the

surface of the belt, suitable guides 23 being arranged at the sides, as shown. It will be seen that when the can is placed on the support 22 and rolled down the paste on the belt will be transferred to its surface, so that when it is subsequently brought into contact with the label, the latter will adhere thereto, and in the present construction suitable rails or guides 24, on which the ends of the cans run, are pivoted at 25 upon standards 26 on the table, the lower end of said guides being connected by a transverse pin or rod 27 and resting upon a frame 42 presently to be described. Arranged on the guides 24 are standards 28 to which are secured springs 29 bearing at their ends a roller 30 adapted to press the can downward when it first engages the label, adjustable screws 31 serving to regulate the pressure of the springs, as will be understood. The label support 32, upon which the labels 33 are located, is secured to the standards 34 resting on the table 1, and at opposite sides of said support and secured to said standards are suitable arms 35 and 36 secured at their upper ends to guide rods 37, which are smooth and offer little resistance to the movement of the cans, though serving to guide them properly. The arms 36 are pivoted at 39 and their upper ends are moved inward by springs 40 located in suitable recesses in the standard; said upward motion being limited by screw 41, so that, if desired, the adjustment may be effected for cans of different lengths. Extending around the label support 32 is a frame 42 having secured at one end a rod 43 passing through a friction clamp 44 adjustable by means of a screw 45, and at the lower end of the rod 43 is another rod 46 having an operating handle on its lower end and passing through a guide bracket 47 secured to the table. Secured to the rod 46 by a screw 46^x is a bar 48 extending beneath the table and connected at its other end with a vertical bar 49 having a reduced upper end passing through a slot 50 in the end of the frame 42. The edge of the bar 49 is arranged in proximity to and it projects slightly above the label support 33 and the shoulder formed by reducing it, engages the under side of the frame 42; the parts being so arranged that the frame 42 may be moved vertically around the label support. Near the rear end of the frame 42 is arranged a cross-plate 51, the forward portion of which is higher than the rear portion constituting two surfaces in different planes and forming a shoulder over which a can in its passage drops, thereby causing the downward motion of the frame 42, as will be explained.

Located inside the frame 42 and pivoted upon pins 52 are plates 53 constituting can supports having their upper surfaces inclined slightly toward their rear ends and terminating near the end of the label support 32 in a shoulder; said plates being connected at their extreme ends by a plate 54 passing over the lower end of the frame 42. A plate 55 having a sharpened forward edge and constituting

a label holder is connected to the supports 53 and extends across with its reduced edge projecting over the end of the label support and its upper surface normally raised above the highest portion of the plate 51 by means of springs 56 secured to the under side of said plate 51 and engaging plate 55. These springs serve to keep the end of the frame formed by the plates 53, 54 and 55 raised above the end of the plate 51 and the end of the frame 42, but said first mentioned frame will be depressed against the tension of the spring when the can is resting upon it.

At the discharge end of the machine is arranged an inclined can support 60 preferably provided with a covering of felt 61, or similar material, and upon it are secured standards 62 having at their upper ends spring arms 63 adjustable by screws 65 bearing rollers 64 extending over the support and arranged to engage the peripheries of the cans as they roll down it. These rollers are arranged a distance apart equal to half the circumference of the cans so that the first one presses down the pasted edge of the label, while the next one will engage the other side of the can and press the pasted edge of the label in contact with the support 60. As many of these pairs of rollers are arranged over the support 60 as may be necessary to cause the label to firmly adhere to the can before the latter is delivered from the machine.

The operation of the machine will now be understood.

In normal position the labels to be applied to the cans are arranged on the support 32, the frame 53, 54 and 55 is pressed down until the plate 55 is flush with the top of plate 51. Then the frame 42 is moved bodily downward until the edge of said plate 55 rests upon the top of the labels on the support, when the supply of paste being placed in the receptacle 3 and the belt 7 being moved forward to bring the supply of paste above the level of the can support 22 the machine is ready for operation. The operator places the can upon the support 22 and gives it a slight impulse and when rolling down, the paste on the belt will be transferred to the surface of the can, not with a wiping motion but with a rolling motion, which gives it a stippled appearance enabling the label to adhere more readily. From the pasting device the can travels over the support 24 being supported at its edges only and the length of this is such as to cause about the middle of the surface covered by paste to be brought in contact with the forward end of the label on the label support 33, when the weight of the can will cause this end of the label to adhere to the pasted portion and as the can rolls on the supports 53 above the surface of the body of labels, the label adhering to it will be wound around the can without danger of disturbing the pile. When the shoulder at the rear end of the plate 53 is reached the can drops again upon the

surface of the first label, or rather the label is drawn around it by the rolling of the can and the portion near the rear end engages the pasted surface and adheres thereto, and just before this time, the can, resting upon plate 55 brings the latter down upon the end of the label against the tension of springs 36 and causes the label to be drawn tightly about the body of the can, as shown in full lines Fig. 4, stretching it slightly; then the can rolls upon the upper portion of plate 51 and the label is released by the upward movement of plate 55, after which the can drops upon the lower portion of plate 51 and the top of plate 54, this slight drop being sufficient to bring the plate 54 down upon the end of the frame 42 and cause the whole frame to move downward (the friction clamp 44 being adjusted to the weight of the can so that this drop will cause the downward motion), said movement being limited by the edge of plate 55, which engages the labels on the support 33 thus feeding the label holding device a proper distance and enabling the next can to receive its label properly without disturbing the others in the pile, as would be the case if the can rolled directly upon the pile of labels held at a normal height. As the can rolls off the end of the frame 42 the springs return the plate 55 to upper position and the pasted edges of the label are brought in contact with rollers 64 which serve to press them down and cause the firm adherence and at its next rotation the second roller 64 engages the side of the can opposite the pasted edges and presses the latter in contact with the support 60 or the felt 61 thereon and so on as the can passes down, a sufficient number of rollers 64 being employed to insure the firm adherence of the label before the can leaves the machine.

When thin labels are employed in order to prevent the end of the second label from being lifted when the can engages the first one, I sometimes employ a label separator 66 at the forward end of the frame 42 consisting of a piece of rubber, leather, or similar material, having its end projecting over the pile of labels so that while the first one will be lifted by the can to which the paste secures it, the second and succeeding ones will be held down by the free and more or less elastic end of the separator. In order to adapt the machine to labels of different lengths the lower end of the rod 49 is provided with a slot and connected by screw 67 with the bar 48 so that the end of the rod constituting for this purpose a part of the frame can be moved nearer to or farther from the ends of the labels on the support 33, thereby not only serving as a gage, but also as a means for preventing the cans from pushing up the ends of the pile of labels.

One of the pivotal pins 52 of the plate 53 is threaded at its outer end and provided with a thumb nut 68 so that the width of the can-supporting frame can be adjusted to suit labels of various widths, the inward movement

of the side piece 53 being caused by springs 69 interposed between it and the frame 42, as shown in Fig. 5.

It will, of course, be understood that as the paste is applied to the cans in this machine instead of to the labels the length of the latter is about equal to the circumference of the cans and that a very small lap is provided for, the paste that is squeezed out securing this end. Then by reason of this application of paste and the drawing motion caused by the plate 55 upon which the can rests during the final pasting, thick and varnished labels, as well as thin and pliable ones can be readily employed and securely attached to the can without liability of accidental removal.

The automatic adjustment of the label holding and drawing device whereby the weight of the can causes the next succeeding label to be held and adjusted by the movement of the can itself is particularly advantageous in a machine of this description as it greatly simplifies the construction, is not liable to get out of order and requires only the services of an unskilled person to label many thousand cans a day. The feature also of supplying paste to the can body in just the desired quantity by causing it to pass over the paste supplying surface to which the paste is supplied in stipple, so to say, instead of being wiped upon it as is commonly done in other classes of machines is particularly desirable as it enables a more firm adherence of the label to the can to be secured.

The frame 42 need not be of the exact shape shown and except as it constitutes the support for the plates or supports 53 it is not necessary that it surround the label support at all but it might extend below it.

I claim as my invention—

1. In a labeling machine the combination with can supports and a pasting device for applying paste to the can, of a stationary label support over which the can passes, a movable plate adapted to engage the labels on the support and movable can supports extending above the labels and connected to said plate, substantially as described.

2. In a can labeling machine, the combination with the label support, of the movable plate for engaging the end of a label, the movable can supports extending above the labels and connected to said plate; substantially as described.

3. In a can labeling machine, the combination with the label support, of the movable plate for engaging the end of a label, the movable can supports extending above the labels connected to said plate and a spring for lifting said plate; substantially as described.

4. The combination of the label support, the vertically movable frame, having a can support thereon, the two connected plates movable on the frame arranged in different planes one of said plates engaging the labels and located in substantially the plane of the support on the frame; as set forth.

5. The combination of the label support, the vertically movable frame, the two connected plates movable on the frame arranged in different planes the higher one engaging the labels on the support; substantially as described. 5
6. The combination of the label support, the vertically movable frame, the two connected plates on the frame and the spring for moving them in one direction, said plates being arranged in different planes and the higher one engaging the labels on the support; substantially as described. 10
7. The combination of the label support, the vertically movable frame, the plate engaging the labels on the support and the spring connection between the plate and frame, substantially as described. 15
8. The combination of the label support, the vertically movable frame, the plate engaging the labels on the support the spring connection between the plate and frame and the adjustable clamp for regulating the movement of the frame, substantially as described. 20
9. The combination of the label support, the vertically movable frame, having two supports thereon in different planes the two connected plates movable on the frame and in proximity to the first mentioned supports, one of said plates engaging the labels on the label support, substantially as described. 25
10. The combination of the label support, the vertically movable frame having two supports thereon in different planes, the two connected plates movable on the frame and in proximity to the supports, one of said plates engaging the labels on the label support and can supports connected to the plates and extending above the level of the labels, substantially as described. 30
11. The combination of the label support, the vertically movable frame having two supports thereon in different planes the two connected plates movable on the frame and in proximity to the supports, one of said plates engaging the labels on the label support, can supports connected to the plates and arranged above the level of the labels on the support and the adjustable friction device for governing the movement of the movable frame, substantially as described. 35
12. The combination of the label support, the vertically movable frame having two supports thereon in different planes the two connected plates movable on the frame and in proximity to the supports one of said plates engaging the labels on the label support, a spring interposed between the plates and frame, can supports connected to the plates and arranged above the level of the labels on the support, substantially as described. 40
13. The combination with the movable frame, the label support and the can supports at the sides thereof, of the plate connected to said supports engaging the label at one end and the gage on the frame engaging the other ends of the labels; substantially as described. 45
14. The combination of the label support, the movable frame surrounding it, a plate engaging the labels on the support located on the frame, the vertical rods connected to the frame, the bar connecting them and an adjustable friction clamp operating on one of the rods, substantially as described. 50
15. In a can labeling machine, the combination with a paste supplying device for the cans, of a label holding device embodying a vertically adjustable frame and the pivoted inclined way between the pasting and label applying devices, substantially as described. 55
16. The combination with the mechanism for applying paste to the can of the label support over which the can passes, and a pressure roller arranged over the forward end of the label support, substantially as described. 60
17. In a can labeling machine, the combination of the label support, the frame having the plate thereon, the supports pivoted to the frame and the plates 54 and 55 secured to it, the rods 43 and 49 and the bar 48 connecting them and the adjustable friction clamp 44, substantially as described. 65
18. In a can labeling machine in which paste is applied to the can bodies, the combination with a label support, of a paste receptacle, a roller therein, and a normally stationary paste belt arranged in contact therewith adapted to apply paste to the can bodies as they pass over it, positive connections as gearing between the roller and the belt for actuating them at the same surface speed, thereby applying paste in stipple to the belt, and also to the can as the latter rolls over it and means, substantially as described, for moving the belt and roller intermittently, as set forth. 70

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Witnesses:

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