

(No Model.)

4 Sheets—Sheet 1.

C. R. BOWMAN & W. RICE.  
MAIL MARKING MACHINE.

No. 504,664.

Patented Sept. 5, 1893.

Fig. 1.

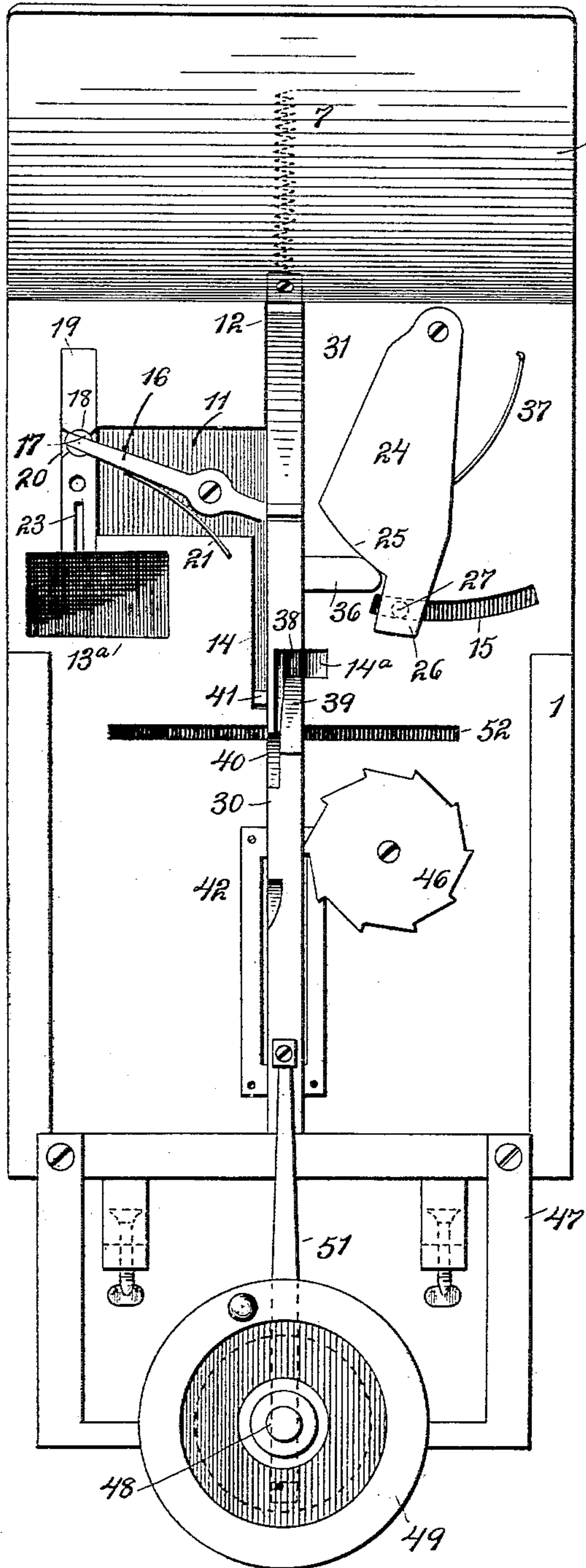
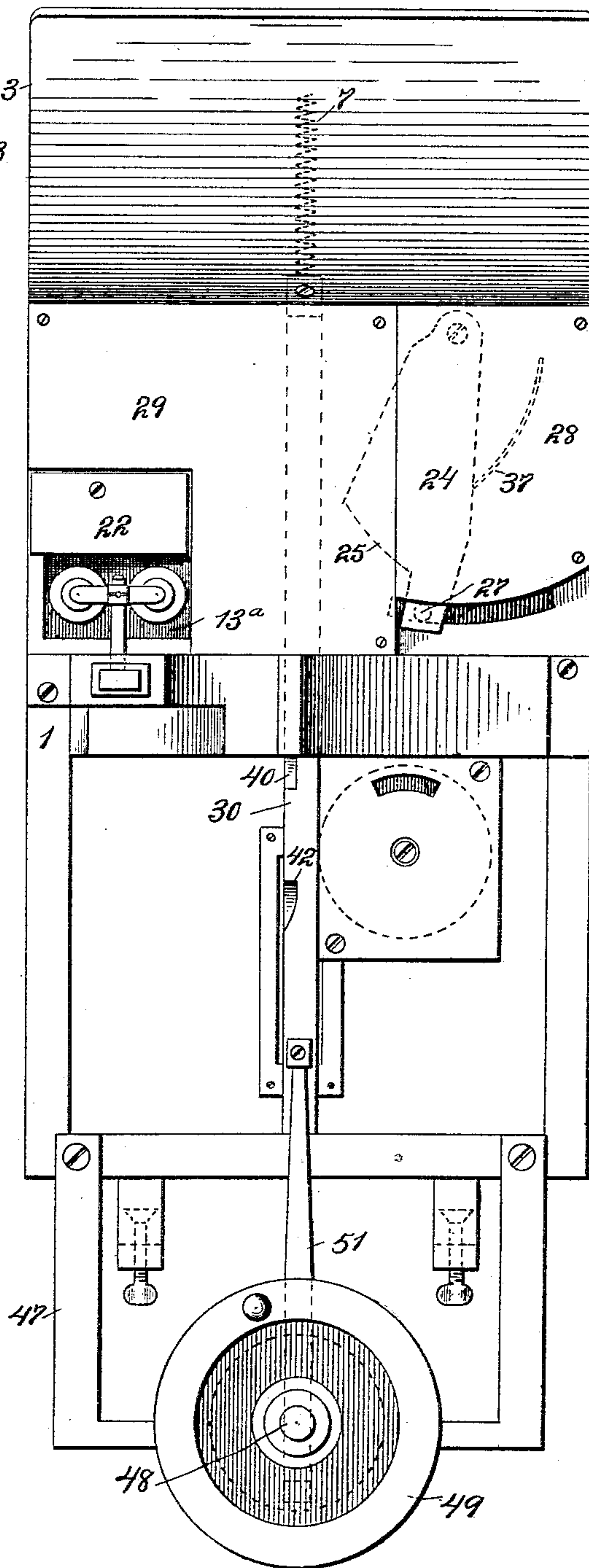


Fig. 2.



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Fig. 3.

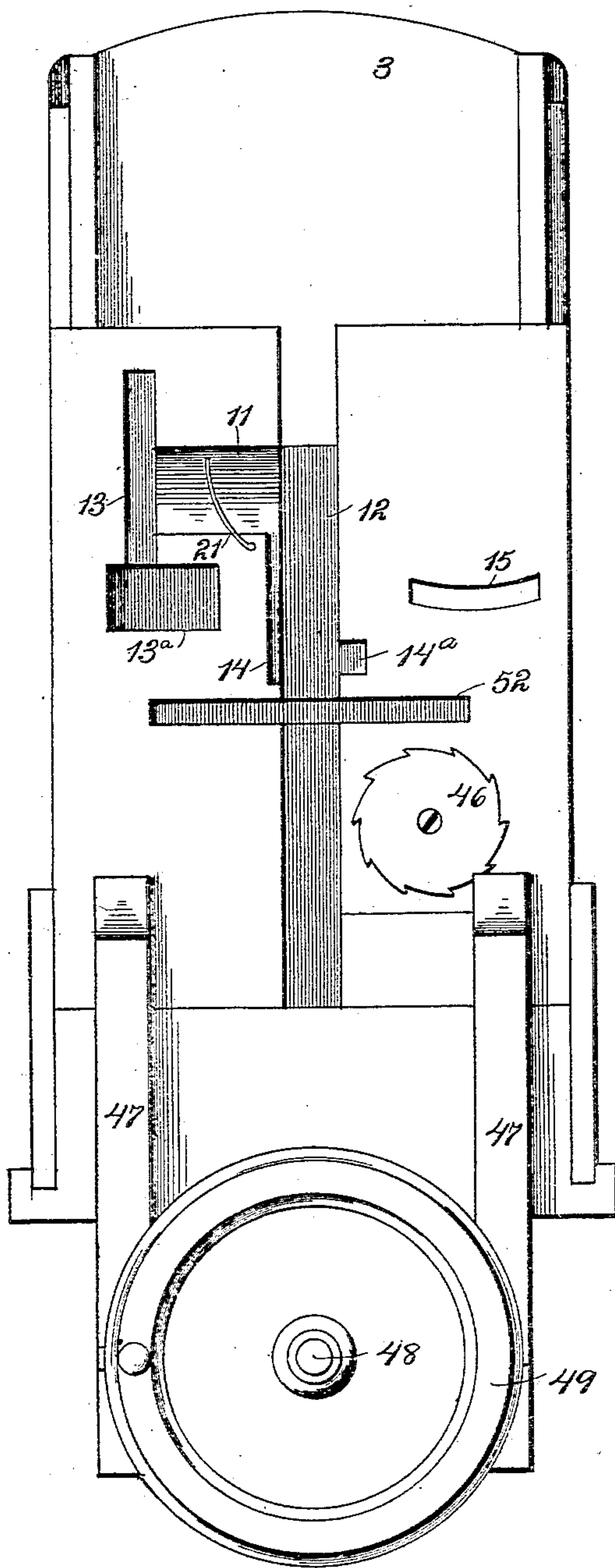
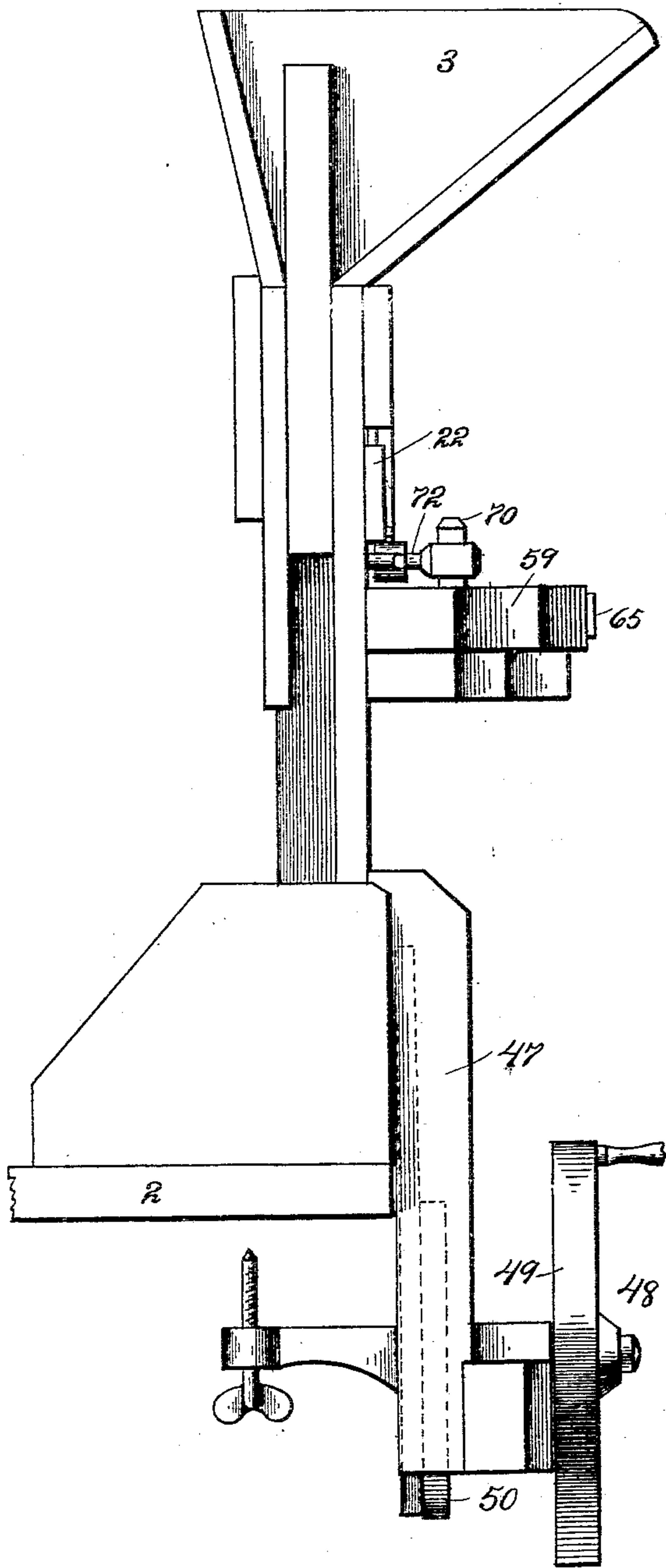


Fig. 4.



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Fig. 5.

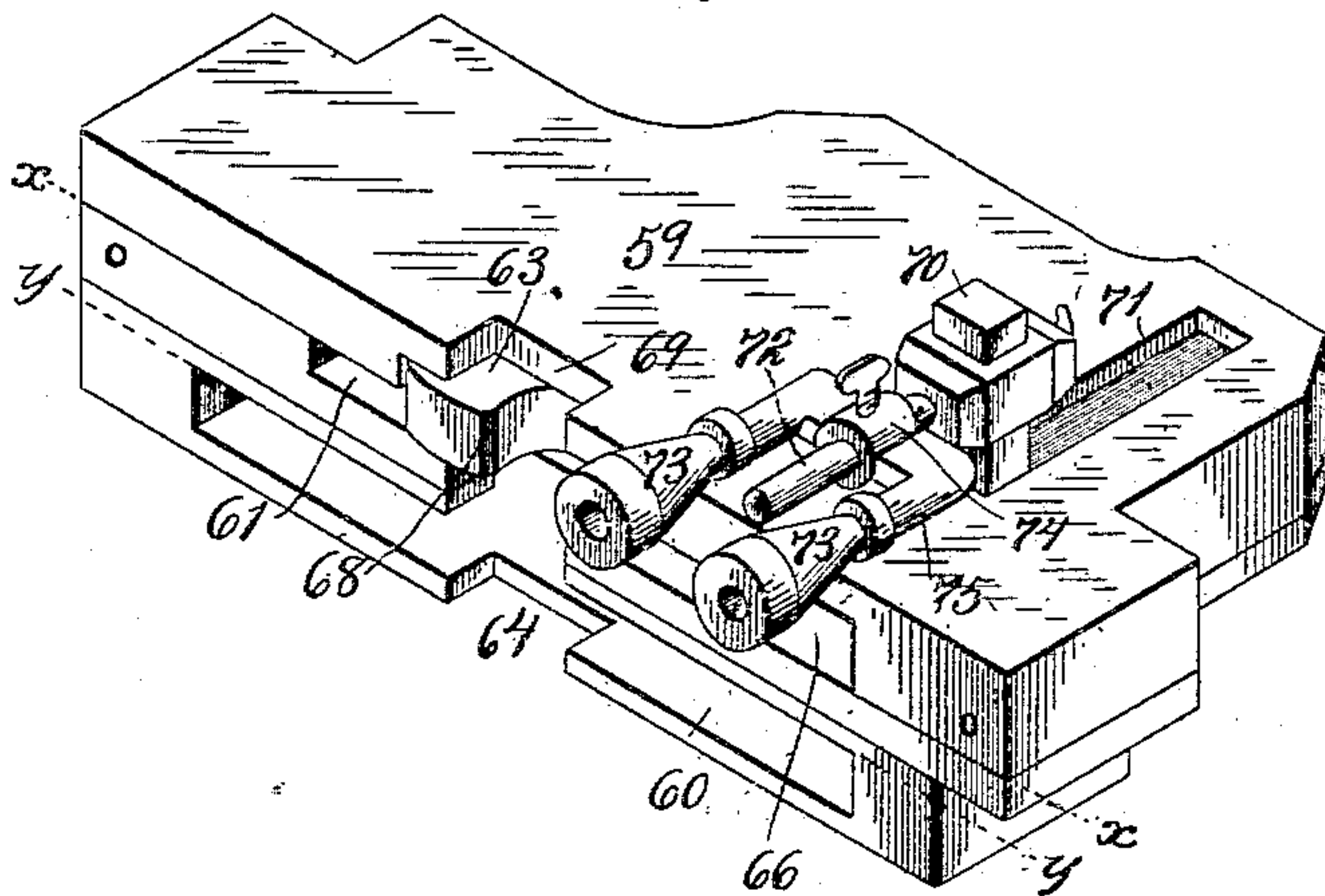


Fig. 6.

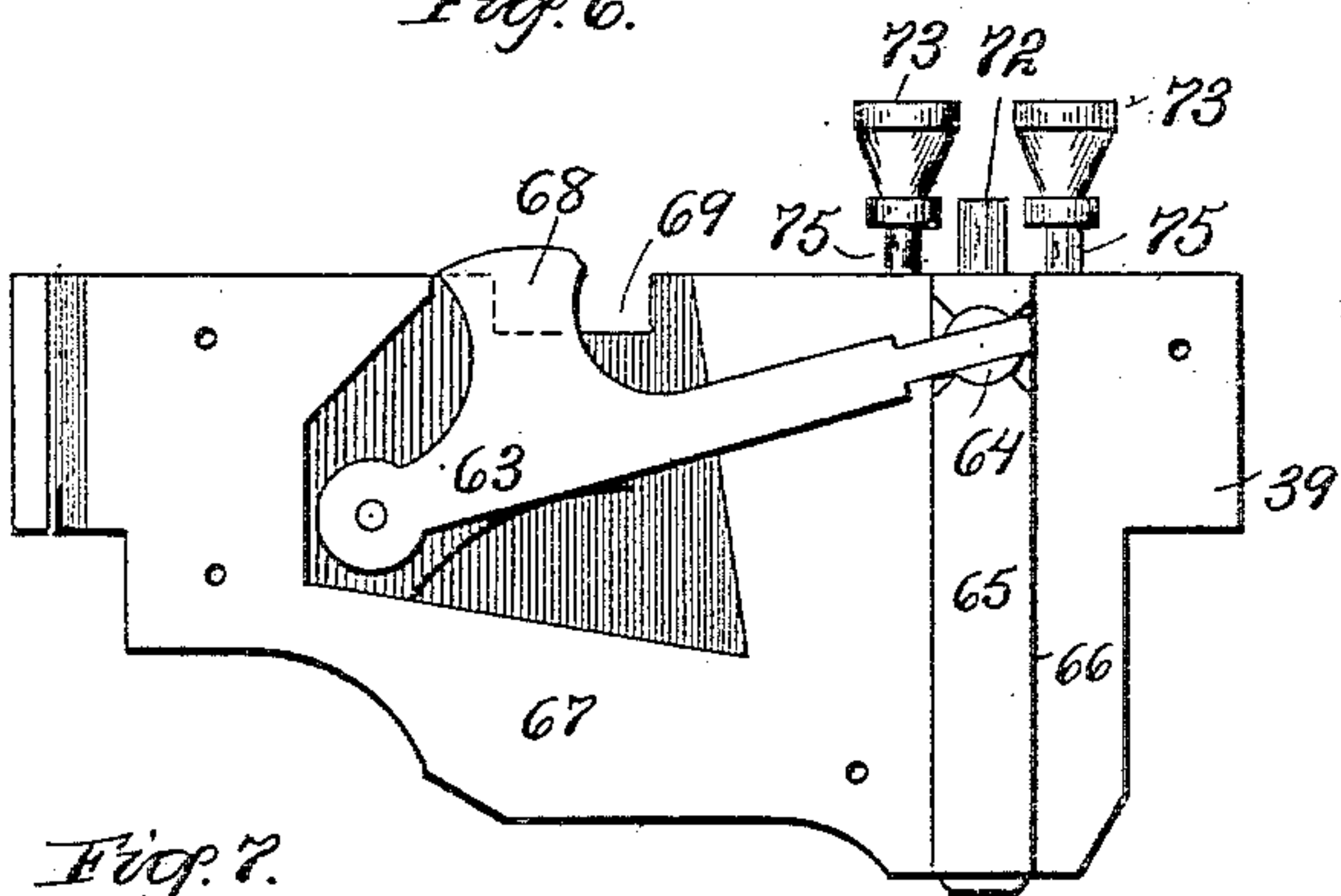


Fig. 7.

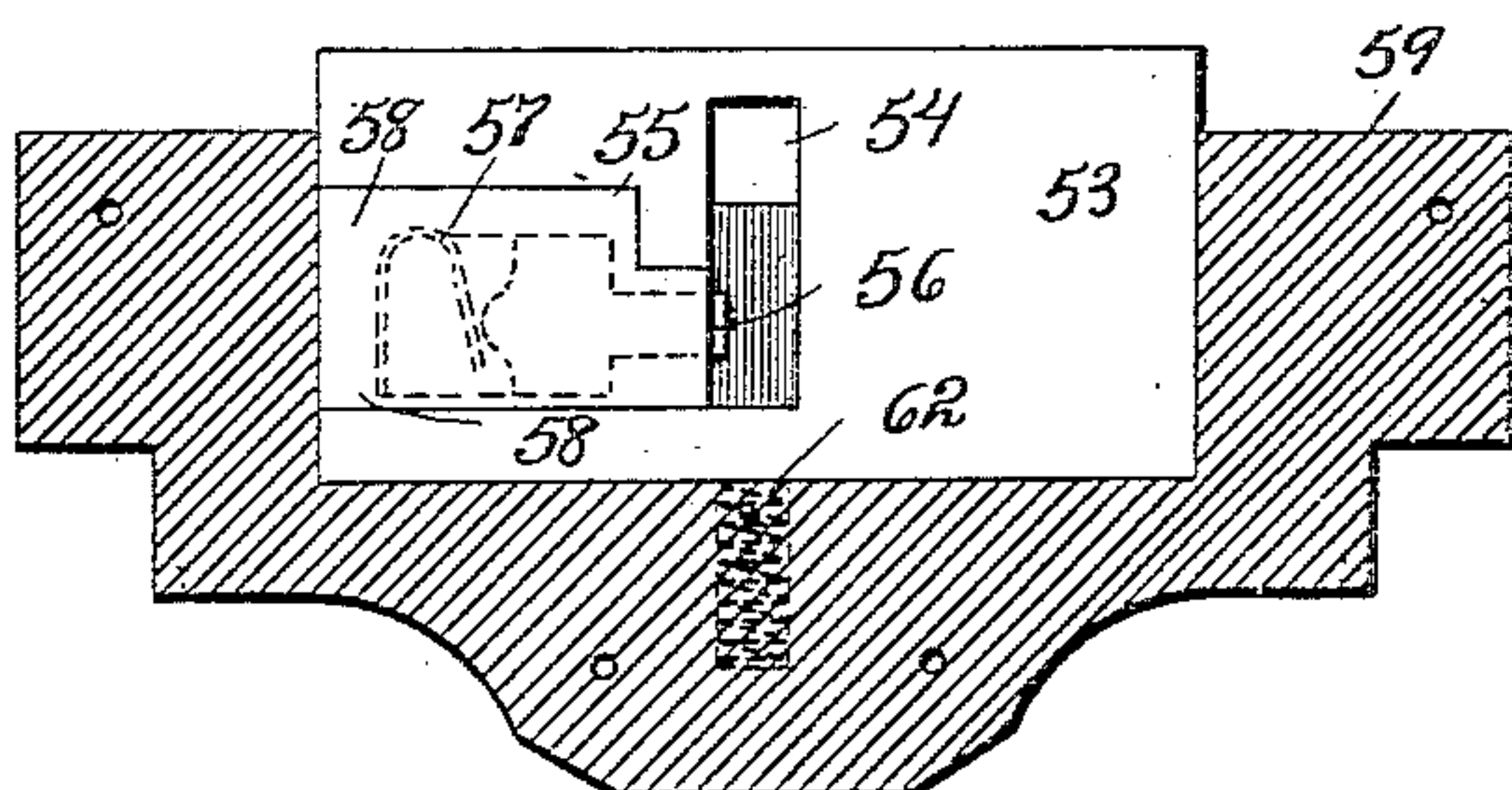
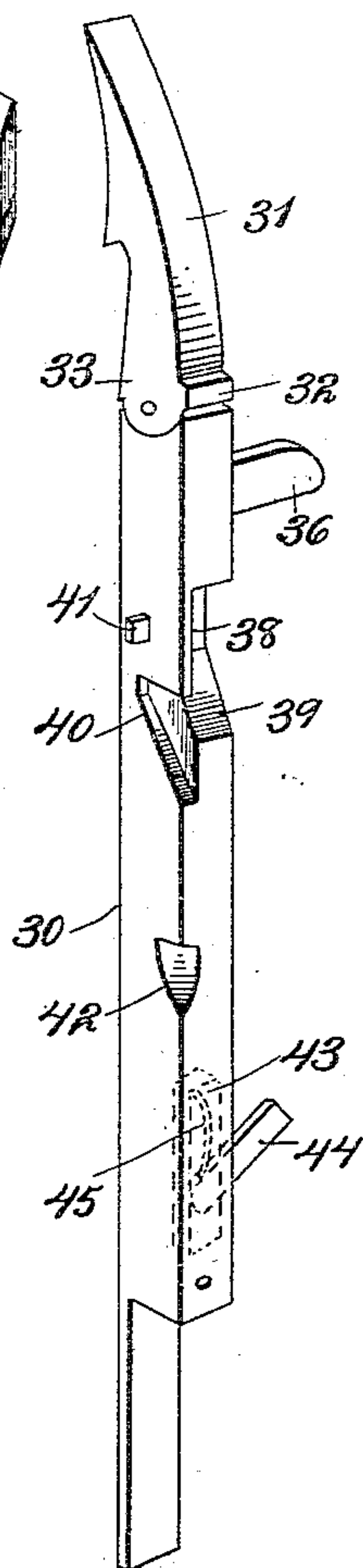


Fig. 8.



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Fig. 9.

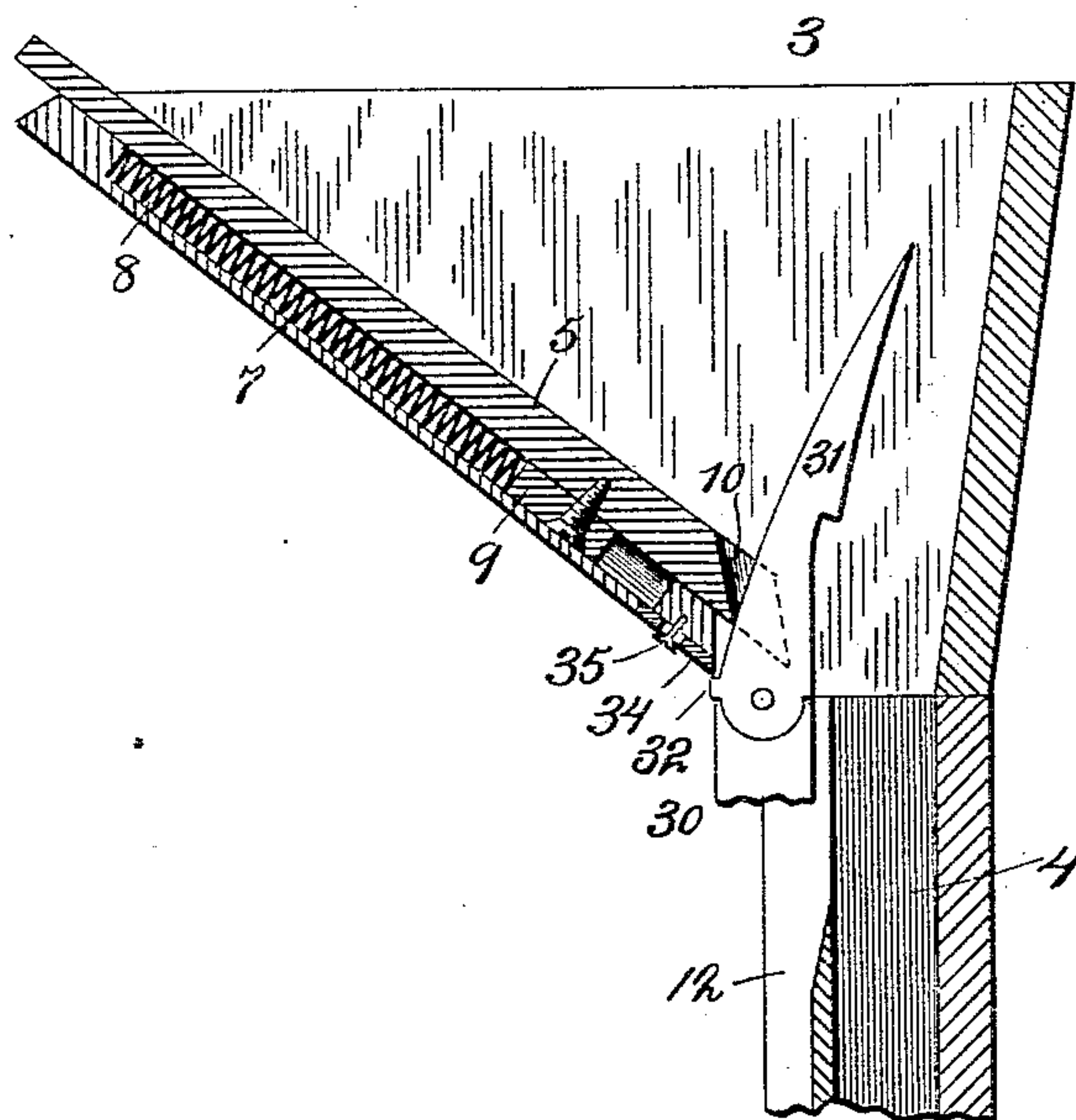


Fig. 10.

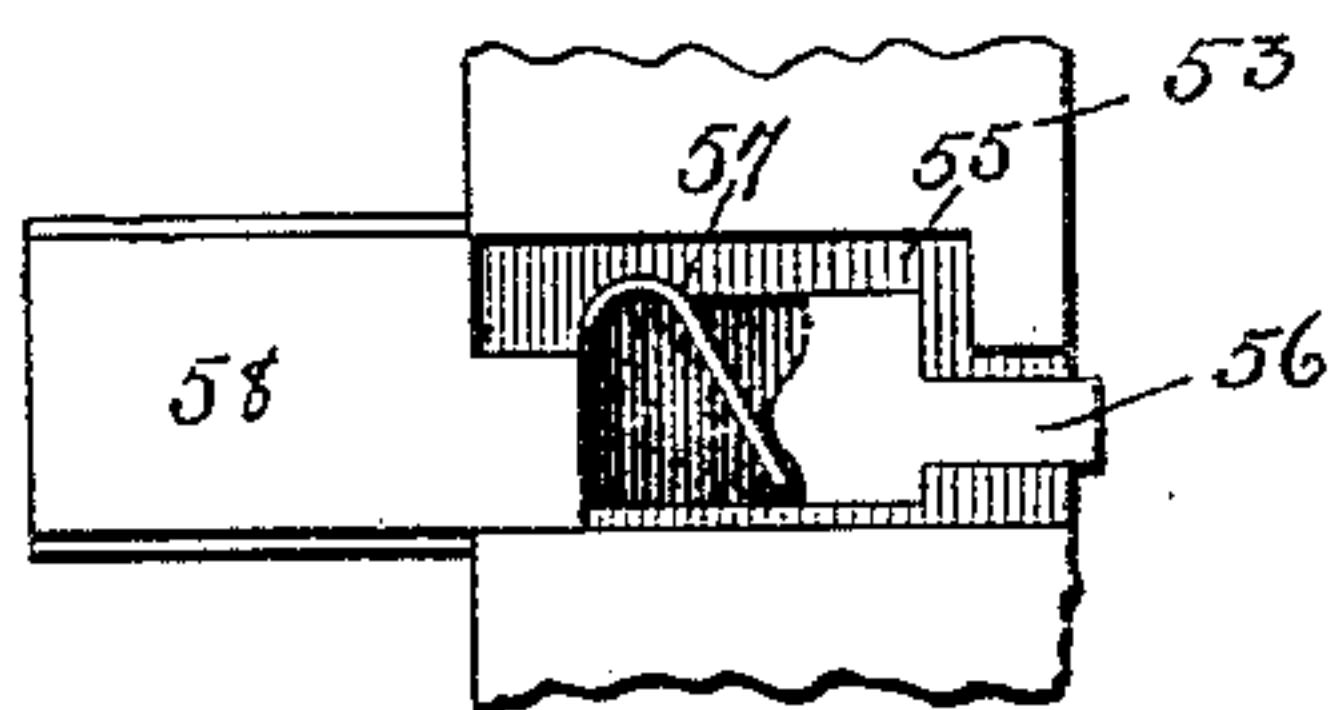
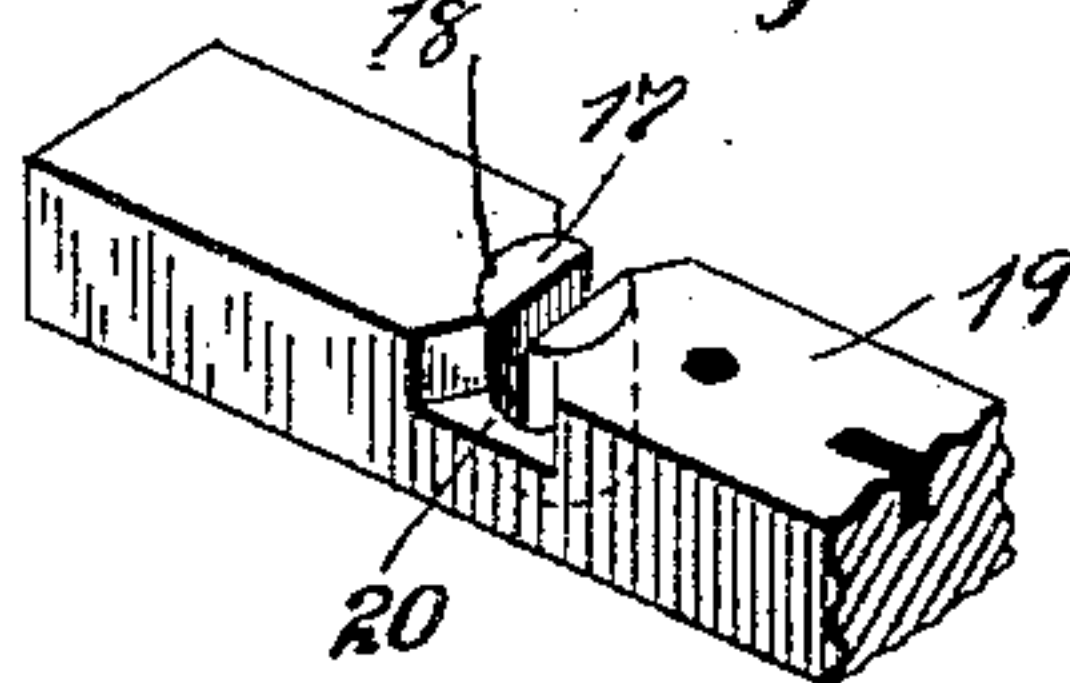


Fig. 11.



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# UNITED STATES PATENT OFFICE.

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## MAIL-MARKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 504,664, dated September 5, 1893.

Application filed May 20, 1891. Serial No. 393,491. (No model.)

*To all whom it may concern:*

Be it known that we, CHARLES R. BOWMAN and WILLIAM RICE, citizens of the United States, residing at Tylersburg, in the county of Clarion and State of Pennsylvania, have invented a Mail-Marking Machine, of which the following is a specification.

Our invention relates to machines for post-marking and canceling letters and other similar mailable matter, and it has for its object to provide a simple, durable, and easily operated machine for the purpose named, whereby the letters to be operated upon are first separated in the hopper of the machine so as to feed but one letter to the stamping device at a time; to so adjust said letter in its passage through the machine as to insure its being in proper position to be canceled; to hold or arrest the letter in its adjusted position until operated on by the stamping device; and to ink the stamp-heads before making each impression; and it consists of the parts and combinations of parts hereinafter described and claimed.

In the accompanying drawings forming a part of this specification—Figure 1 is a front elevation of our machine with the casing covering the working parts removed; Fig. 2 a like view with the casing in place; Fig. 3, a front elevation with casing and operative parts removed; Fig. 4 an edge view of the machine; Fig. 5 a detail perspective of the stamp heads and the casing in which the same are supported; Fig. 6 a plan view on the line  $x-x$ , Fig. 5; Fig. 7 a horizontal section on the line  $y-y$  Fig. 5; Fig. 8, a perspective view of the operating shaft or bar; Fig. 9 a vertical sectional view through the hopper and a portion of the letter chute; and Figs. 10 and 11 detail views.

Similar numerals refer to similar parts throughout all the views.

Referring to the drawings the numeral 1 represents the frame of the machine at the lower end of which is secured a horizontal shelf 2 upon which the letters drop after being postmarked and canceled and at the upper end of the frame a hopper 3 is secured. The frame work is arranged so as to form a chute 4 (see Fig. 9) between the hopper and the shelf, the upper end of said chute regis-

tering with the discharge opening of the hopper and its lower end opening over the shelf. The upper end of the chute 4 is normally closed or covered by a plate 5, the side edges of which fit in grooves formed in the ends of the hopper above its inclined bottom, so that said plate 5 may be moved freely back and forth in said grooves. The sliding plate 5 is held normally down or with its lower edge over or covering the upper end of the chute 4 by a spiral spring 7 seated or arranged in a recess 8 formed in the inclined bottom of the hopper and bearing at one end against one of the end walls of said recess and at its other end against a block 9 secured to the under side of the plate 5 and adapted to fit and slide in the recess 8. See Fig. 9. From the foregoing description it will be understood that the spring 7 will exert its strength to hold the plate 5 down with its lower end covering the upper end of the chute 4 and to which position the spring acts to return the plate after it has been raised, to permit the escape of a letter from the hopper, by the means hereinafter described. The lower edge of the plate 5 is chamfered or beveled, as shown, so as to assist in the separation of the letters in the hopper and to direct the same into the chute and a slot or groove 10 is formed centrally in said lower edge through which the separator shaft or bar passes, as will be described.

As shown best in Figs. 1 and 3, a recess 11 is formed in the wall of the chute 4 at a suitable point below the hopper which communicates at one side with a central vertical groove or slot 12, also formed in said wall, and across one side of the recess 11 a narrow, but relatively deeper, groove 13 extends, and the edge of the slot 12 is cut away to form a groove 14 which leads into the recess 11. An opening 13<sup>a</sup> is formed in the wall of the chute through which the stamp heads work when marking and canceling letters. A recess 14<sup>a</sup> is formed in the edge of the slot 12 and an arc-shaped slot 15 is formed through the wall of the chute for a purpose to be described.

In the recess 11 a lever 16 is pivotally secured which fits at one end in a slotted bearing pin 17 loosely fitted in a round opening or perforation 18 formed at the bottom of a groove or slot 20 in a bar 19 which is fitted in



the groove 13 so as to be freely reciprocated therein. The groove or slot 20 is cut away at each side of the bar 19, as best shown in Figs. 1 and 11, so as to permit of the free movement or play of the end of the lever 16 in said slot. A spring 21 having one end secured in the wall of recess 11 bears with its other end against the long arm of the lever 16 so as to normally hold the same up or in the position shown in Fig. 1, in order to retain the bar 19 in the position shown in said figure.

An inking pad 22 is removably secured over the lower end of the bar 19 by means of a set screw and is further held or secured thereto against lateral movement by a tongue formed on the rear side of the pad which enters a groove 23 formed in the bar 19.

To the wall of the chute 4 a plate 24 is pivotally attached at its upper end, the lower edge of said plate being curved, as at 25, and formed with an extension, 26, to which is secured a pin 27 which projects at right angles from said extension through the arc-shaped slot 15 into and across the chute 4.

The parts described when in position are covered and protected by plates 28 and 29 secured to the front wall of the chute by screws or otherwise, and are operated by the separator bar 30, see Fig. 8, which is provided with a curved finger 31 at its upper end. The finger is hinged to the end of the bar and its movement thereon is limited by stops 32 and 33 formed on said finger which engage the end of the bar, and the upper surface or top of stop 32 also engages the edge of a plate 34 which is adjustably secured to the underside of the inclined bottom of the hopper by a screw 35 passing through a slot formed in said plate, whereby said finger is turned on its joint or hinges. From one side edge of the bar 30 below the finger 31 a projection 36, having its end rounded or curved, extends at right angles and is adapted to engage the curved edge, 25, of plate 24 on the upward movement of the bar 30 and thus swing or force the same to one side away from the bar, the plate 24, on the downward movement of the bar being returned to its normal position in the path of said projection by a spring 37 secured to the wall of the chute and bearing at one end against the edge of said plate 24.

Below the projection 36 a notch 38 is formed in the bar 30, one wall of which is inclined, as at 39, and on the opposite side of said bar a similar shaped, but shallow, notch 40 is formed immediately below a square pin 41 which projects at right angles from said bar 30. The pin 41 travels in the groove 14 and at each upward movement of the bar 30 engages the short end of lever 16 and raises the same, thus depressing the long end which carries with it the bar 19 and inking pad 22, bringing the latter down to and in position to be engaged by the stamping heads, to be described hereinafter.

On the corner of the bar 30 a notch 42 is formed the object of which will be explained,

and on the opposite side edge of the bar a recess or pocket 43 is formed as shown in dotted lines Fig. 8, in which a short pawl 44 is pivoted against which a spring 45 bears the tendency of which is to throw the free end of said pawl outwardly. The object of the pawl is to engage and impart a partial revolution to a notched or toothed wheel 46, mounted on the frame at one side of the bar 30, at each upward stroke or movement of the bar, said notched wheel being intended to operate a suitable registering device.

In a frame work 47 secured to the lower end of the main frame a shaft 48 is journaled on one end of which a fly wheel 49 is secured from which a suitable handle extends whereby it may be rotated and on the other end of said shaft a crank wheel 50 is secured to which is attached one end of a pitman rod 51 the other end of said pitman being connected to the lower end of the bar 30, so that said bar is vertically reciprocated by the rotation of the shaft 48 and the various parts of the machine operated consecutively and at the proper time for each to perform its duty.

In the front wall of the machine at a suitable point below the stamping heads, a slot or elongated opening 52 is formed through which a sliding plate 53 works to arrest, momentarily, the letters in the chute 4 while they are being postmarked and canceled. The plate, 53, (see Fig. 7) is formed with a central slot 54 through which the bar 30 extends or works, and with a recess 55 in which a short bar 56 and a spring 57 is seated, both of which and the outline of the recess 55 being shown in dotted lines in said Fig. 8. The recess 55 communicates with the slot 54 and the bar 56 is formed with shoulders which engage the shoulders of the recess and limit the distance said bar may extend into the slot in answer to the pressure exerted thereon by the spring. A sliding plate 58 forms a cover for said recess 55 and said plate is arranged so as to be flush with the surface of the plate 53 so as not to obstruct the movement of the same. A casing 59, having two compartments or pockets 60 and 61 formed therein is bolted at right angles to the main frame so that its compartment or pocket 60 will register with the slot or opening 52 in the wall of the chute 4 and in this pocket the sliding plate 53 is arranged, a spring 62 also being arranged therein so as to normally force said plate outward and through the opening 52 and into the chute 4 to arrest the descent or passage of the letter momentarily in the chute while the stamp-heads postmark and cancel the same. The movement of the plate 53 is governed by the bar 30 as will be described.

In the compartment or pocket 61 of the casing a lever 63 is pivoted at one end, the free end of said lever resting in a slotted pin 64, similar to pin 17, which is fitted loosely in an opening in a bar 65 which is arranged in a groove 66 formed in the casing across one end of the pocket 61 so that when said lever 63 is



turned on its pivot the bar 65 will be moved in or out in the groove according to the direction in which the lever is moved or swung. A spring 67 having one end secured in the rear wall of the pocket 61 bears against the lever 63 and normally holds the lever in the position shown in Fig. 6, so that the lateral projection 68, having its end chamfered off, formed on lever 63, will extend partly in a groove or opening 69 formed in the edge of the casing in line with the vertical groove 12 of the front wall of the machine, the separator bar 30, when the parts are in place, standing partly in and extending through said opening 69.

To the bar 65 a vertical post 70 is secured, said post extending through a slot 71 formed in the top of the casing and to the upper end of said post the stem 72 of the stamp-heads 73 is adjustably secured by a set screw passing through a collar 74 secured to said stem.

The stamp-heads are each secured to one leg of a yoke 75 through the hub of which the stem extends, said yoke being adjustably secured to the stem by a set screw working through a hub or enlargement of the yoke so that said stamp-heads may be adjusted in or out on said stem as desired.

In operation the letters are placed in the hopper and the wheel 49 revolved thus imparting a vertical reciprocation to the bar 30 through the crank wheel 50 and the pitman rod 51, said bar in its up stroke operating, in turn, each of the other parts of the machine as follows: The bar being at the end of its down stroke, as shown in Figs. 1 and 2, the end of the bar 56 of plate 53 will be projected into the notch 40 in the bar 30, and the lateral projection 68 of the lever 63 will rest in the notch 38, and the projection 36 of the bar will engage the plate 24 so that as the bar 30 moves upward the bar 56 will slide on the inclined surface of the notch 40, and thus gradually force the plate 53 back in the pocket 60 while the lateral projection 68 of the lever 63 slides on the inclined surface 39 of the notch 38 and turns the lever 63 on its pivot, swinging its free end back into the pocket 61, thus forcing the rod 65, back in its groove and with it the stamp-heads into position, when the lateral projection 68 is released on the down stroke of bar 30, to be thrown or moved quickly back by the spring 67 to cancel a letter in the chute 4. As the bar 30 continues to move up the pin 41 thereon engages the short end of the lever 16 and turns said lever on its pivot causing its long arm to be depressed which forces the bar 19 downwardly carrying the ink pad thereon down to and in contact with the stamp-heads and inking the same. During the upward movement of the bar 30 the projection 36 thereon forces the plate 24 to one side and, on the down stroke of the bar 30 the spring 37 throws the plate back into the position from which it was moved by the projection 36, the pin 27 on said plate engaging the end of the letter in the

chute 4 and moving the same into position to have the postage stamp thereon canceled and the postmark applied thereto by the stamp-heads. The letter is moved to the left, Figs. 1 and 2, so that the postage stamp will be brought in line with the opening 13<sup>a</sup> through which the stamp heads work. The finger 31 engages the edge of the movable plate 5 of the hopper as the bar 30 moves upward and forces said plate back or away so as to uncover the discharge opening of the hopper to permit of the escape of the letters to the chute 4, the end of the finger, when the bar is down, projecting into the slot or groove 10 in the edge of said plate 5 so that as it is moved up it forces back in the hopper all the letters therein except the top one of the batch or pile, which extends over the end of the finger and as the other letters on which it rests are moved back by the finger that end of the top letter, which rests on the letters below is raised or tilted owing to said letters being forced up the inclined plate 5 and the finger turning on its joint permits said letter to drop over the end of the finger and into the chute. This movement of the letter is facilitated by the sudden jerk given the finger when the stop 32 thereon engages the end of plate 34 and the shape of the finger tends to force the letters up the inclined plate 5 with the ends of the upper letters of the batch or pile projecting slightly in advance of the lower letters of the batch so that as the finger descends the letters will assume a position in the hopper which places the top one of the pile in position to be raised and tilted into the chute on the next upward movement of the finger. It will also be observed that as the finger descends it gradually moves nearer to the face of the wall of the hopper thus preventing the escape of any of the letters into the chute on the down stroke of the bar 30. After the plate 53 has been forced into its pocket 60 its bar 56 rides on the outer surface of the bar 30 until it sinks into notch 42 formed in the corner or edge of said bar 30 when the spring 62 which bears against the edge of plate 53 will throw said plate forward and across the chute 4, this movement taking place just as the bar 30 reaches the limit of its upward stroke and in time to arrest the descent of the letter, which the finger has caused to enter the chute, and to support the same until the stampheads have been thrown in by the spring 67, which occurs as soon as the notch 38, is brought in line with the lateral projection 68 on the down stroke of bar 30. On the next upward movement of the bar 30 plate 53 is forced back and the letter resting thereon permitted to drop to the shelf.

From the above description it will be observed that the letters are separated by the finger so that only one escapes at each up stroke of bar 30 and that its passage through the chute is arrested for a period sufficient to permit of the cancellation of its stamp and the postmarking of the envelope and that



should it not be fed exactly in position to be struck by the stamp heads that the plate 24 will move it in to such position. The stamp heads are inked at each up stroke of the bar 5 30 immediately before the same are brought into action.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

10 1. In a postmarking and canceling machine, the combination, with a hopper having a movable plate adapted to cover its discharge opening, of a reciprocating bar having a curved finger hinged thereto adapted to move said 15 plate to uncover said opening, substantially as described.

2. In a postmarking and canceling machine, the combination, with a hopper having a movable plate adapted to cover its discharge opening, of a reciprocating bar provided with a 20 hinged finger for moving said plate, stamp heads operated by said bar and an inking pad also operated by said bar, substantially as described.

25 3. The combination in a postmarking and canceling machine, a hopper and a chute communicating with said hopper, of a plate for arresting the passage of letters through the chute, means for moving said letters into po- 30 sition to be postmarked and canceled, an ink-

ing pad, stamp-heads and a reciprocating bar for operating said plate, inking pad, and stamp heads, substantially as described.

4. The combination, in a postmarking and canceling machine, of a hopper provided with 35 a movable plate adapted to cover the discharge opening of said hopper, a reciprocating bar for moving said plate to uncover the discharge opening, and means for returning said plate to its normal position, substantially as de- 40 scribed.

5. The combination, in a postmarking and canceling machine, of a hopper a movable plate for covering the discharge opening of said hopper, a chute communicating with said 45 hopper, a plate adapted to intermittently close said chute, a pivoted plate provided with a pin extending into said chute, an inking pad adapted to be vertically reciprocated, stamp- 50 heads, and a reciprocating bar provided with means for operating the above named parts, substantially as described.

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