

No. 636,652.

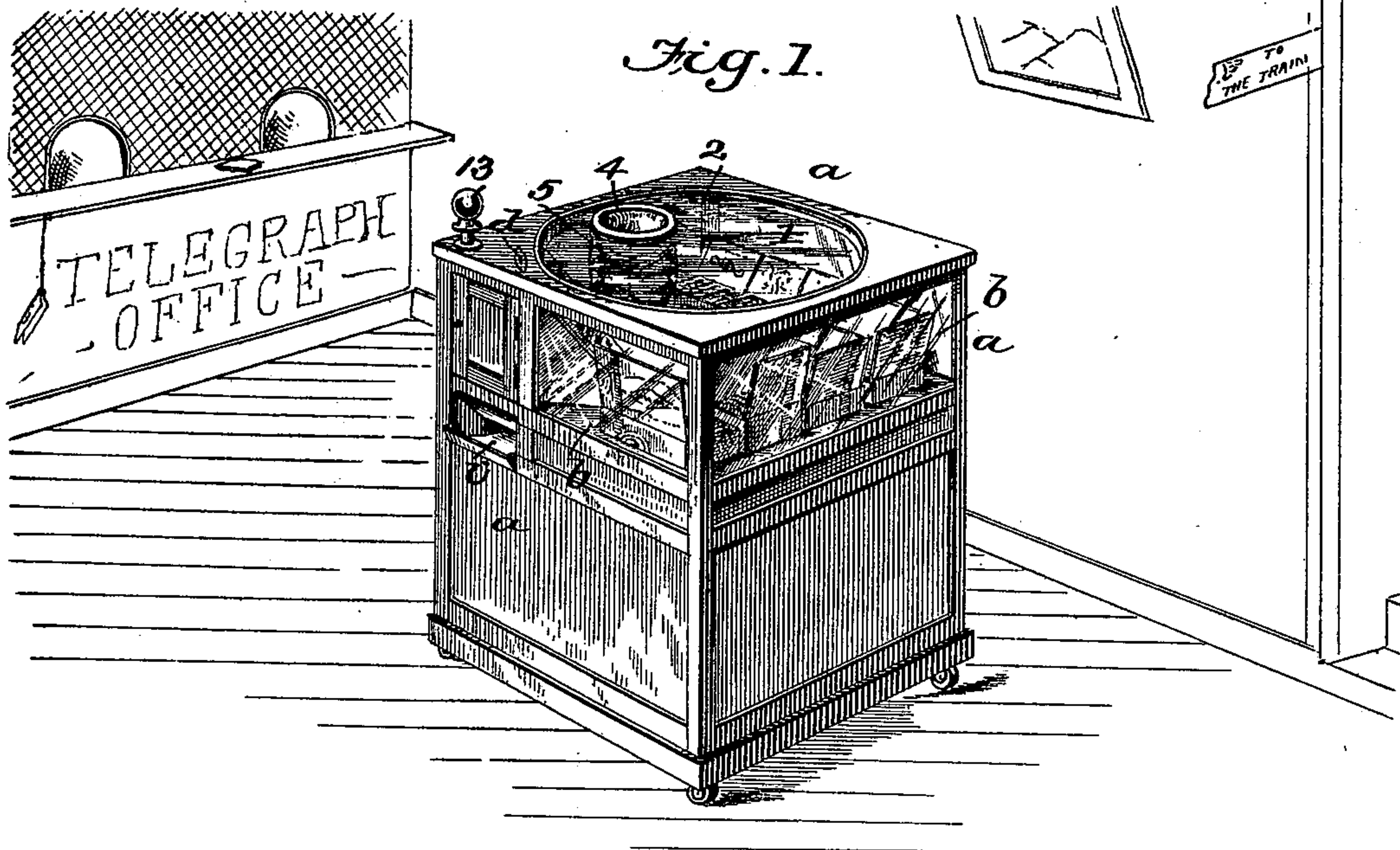
Patented Nov. 7, 1899.

G. E. FORD.  
VENDING MACHINE.

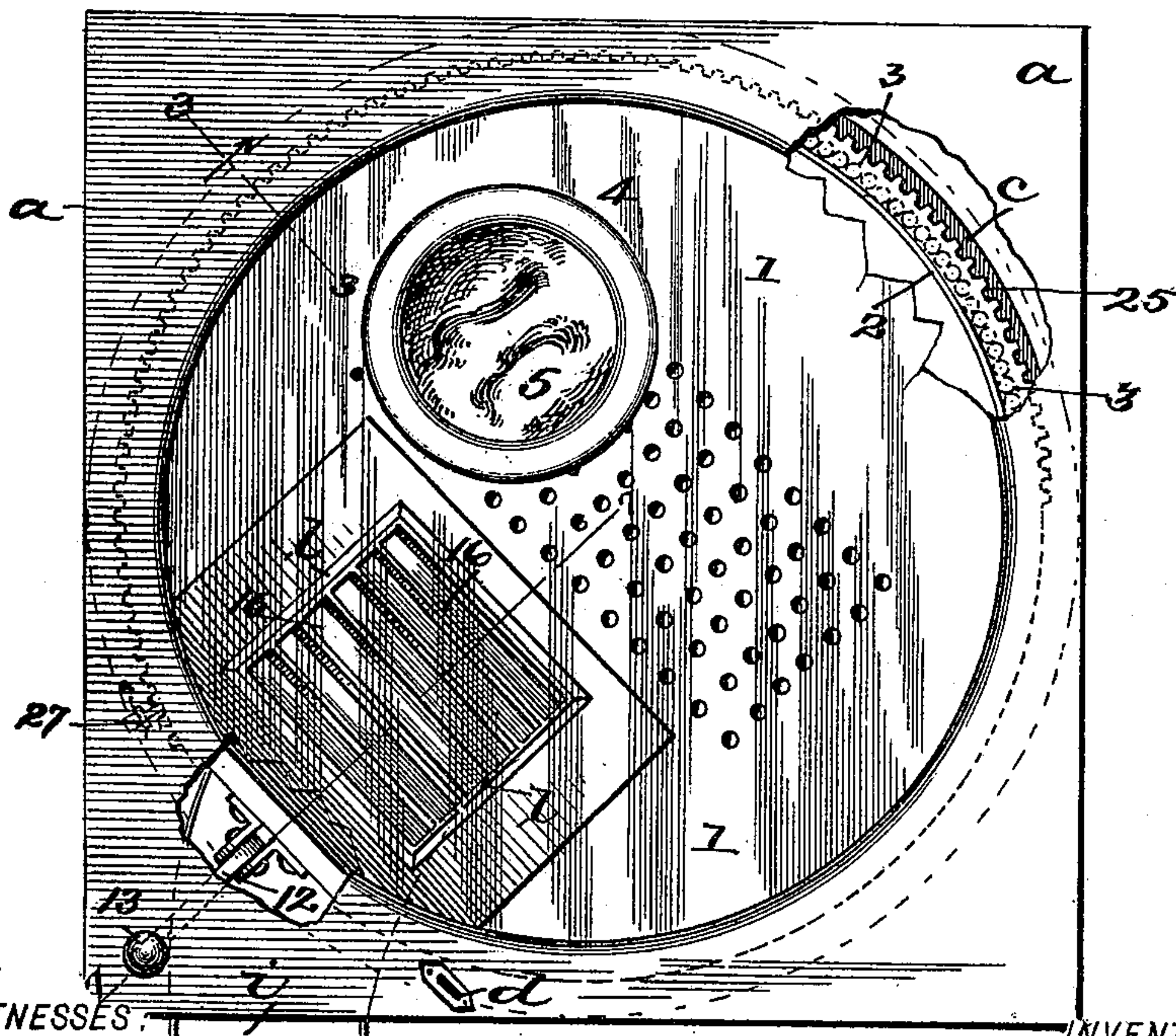
(Application filed Feb. 10, 1899.)

(No Model.)

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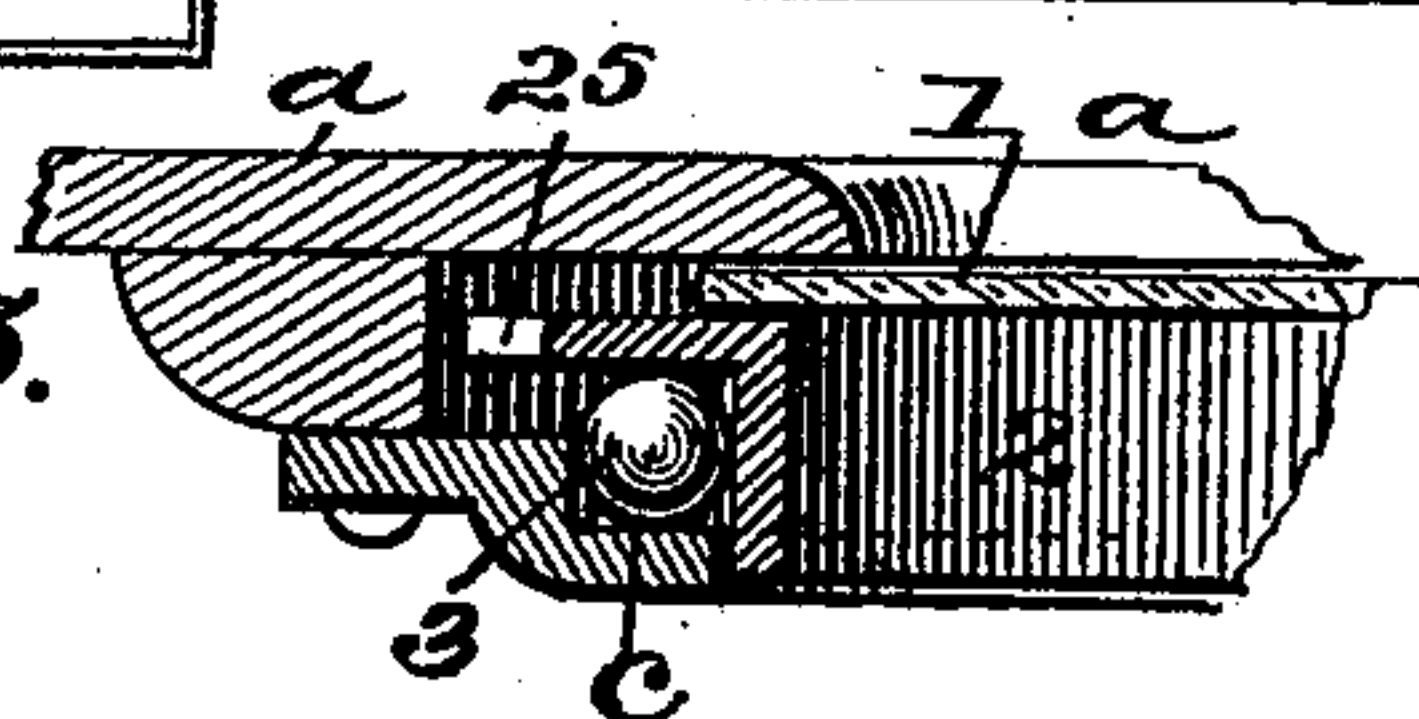
*Fig. 2.*



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*Fig. 3.*



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Fig. 4.

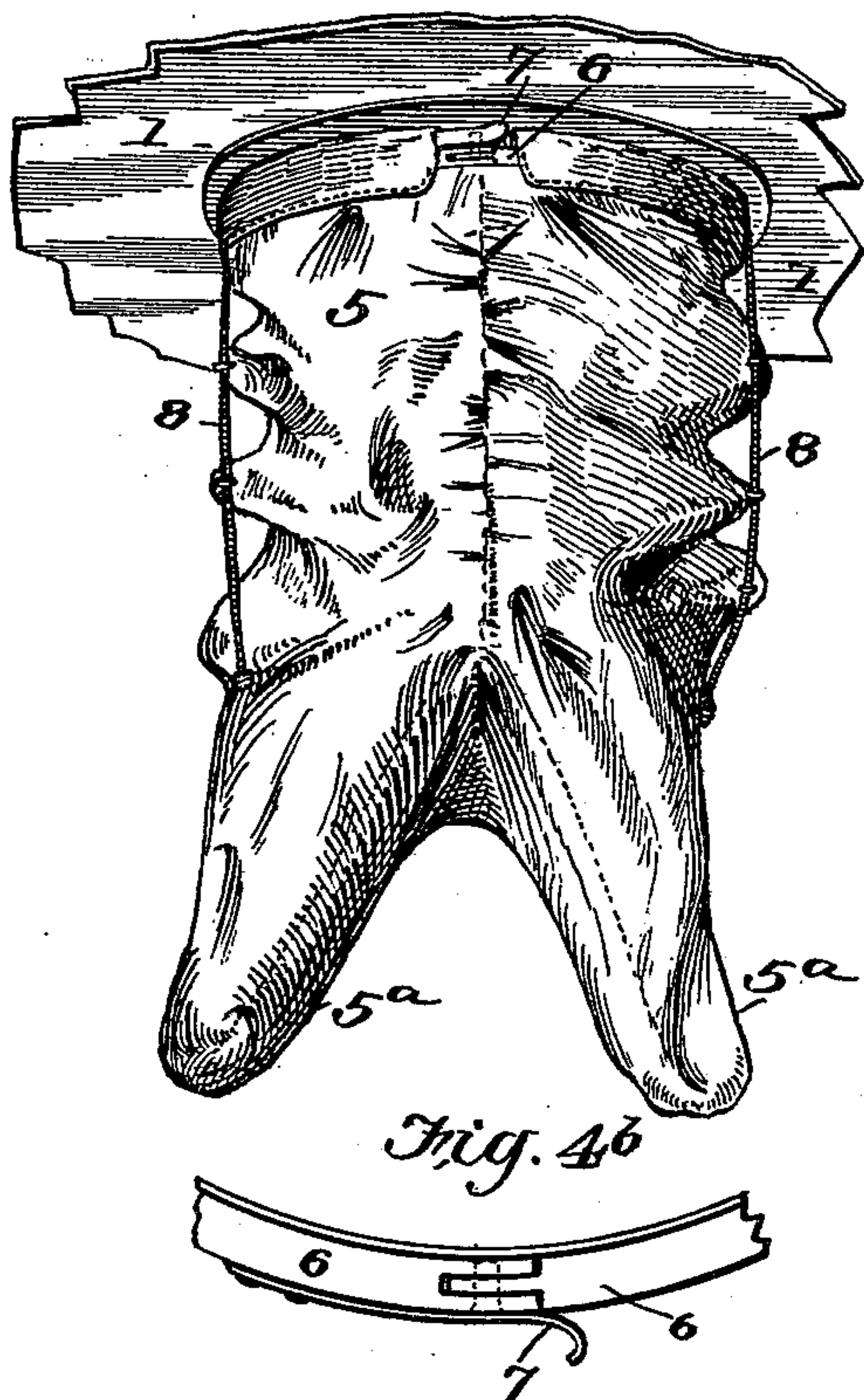


Fig. 4a

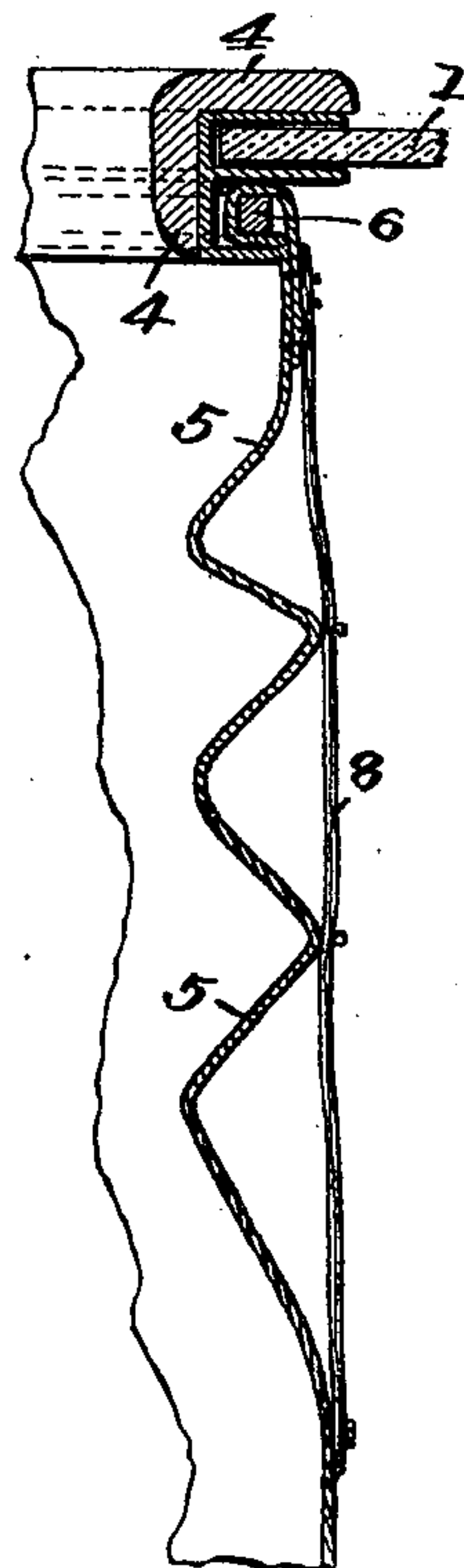


Fig. 4b

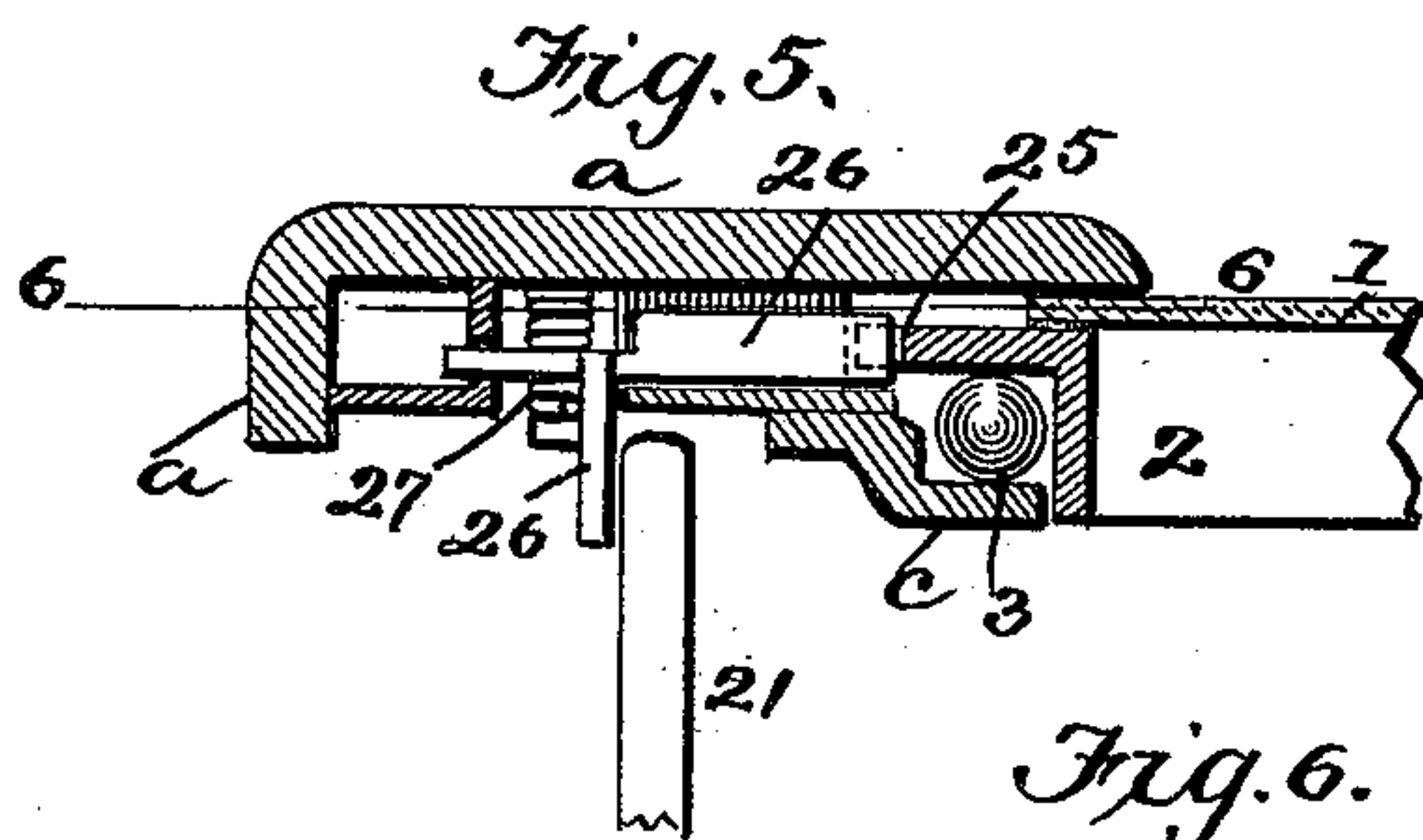


Fig. 6a

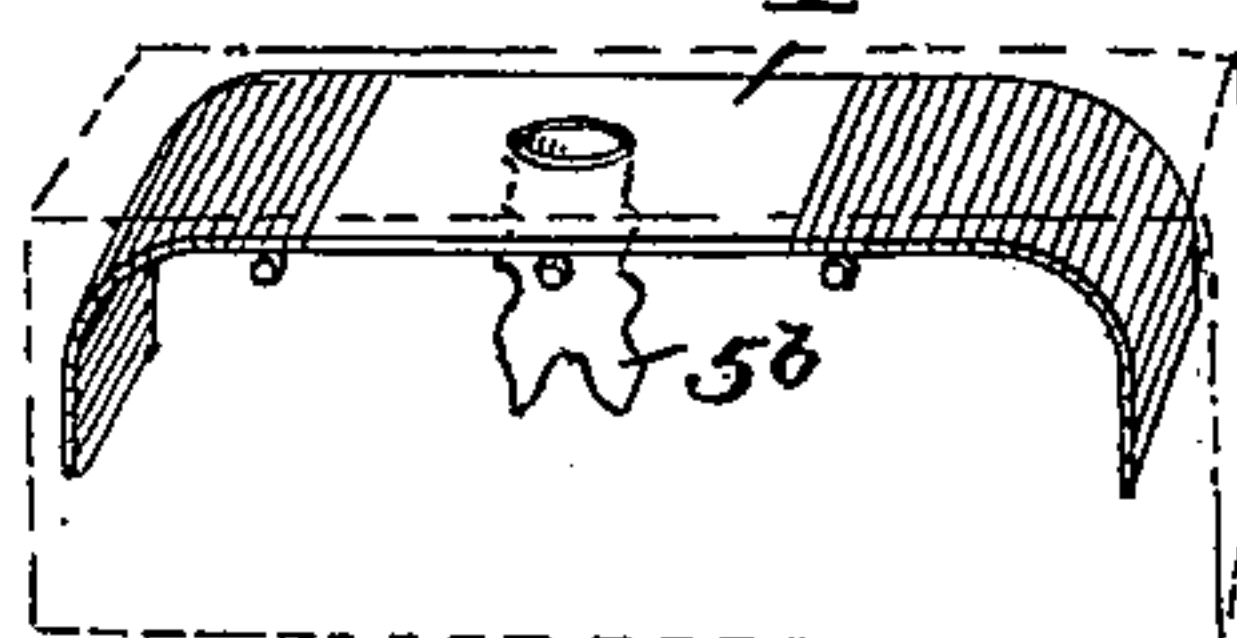
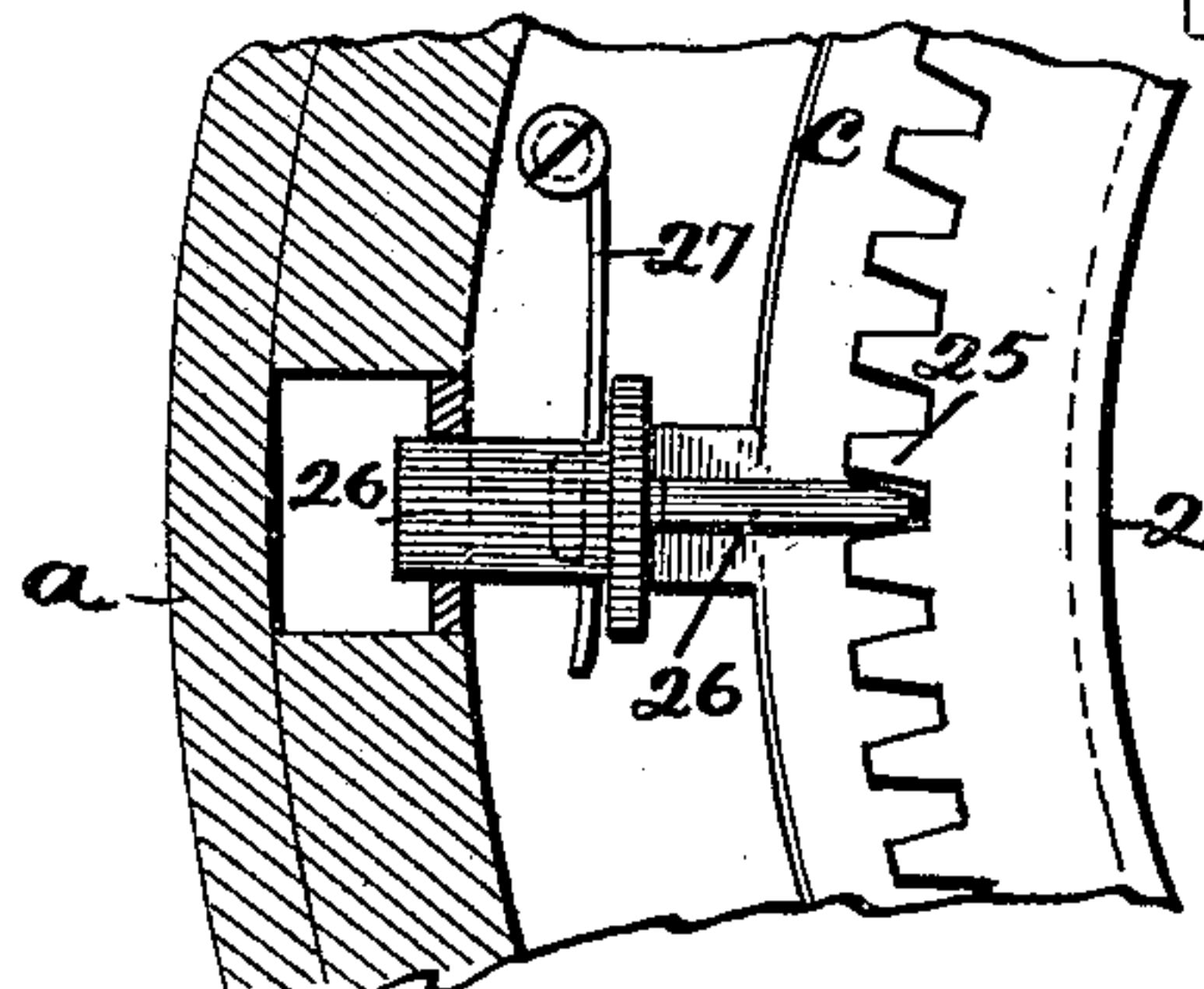


Fig. 6.



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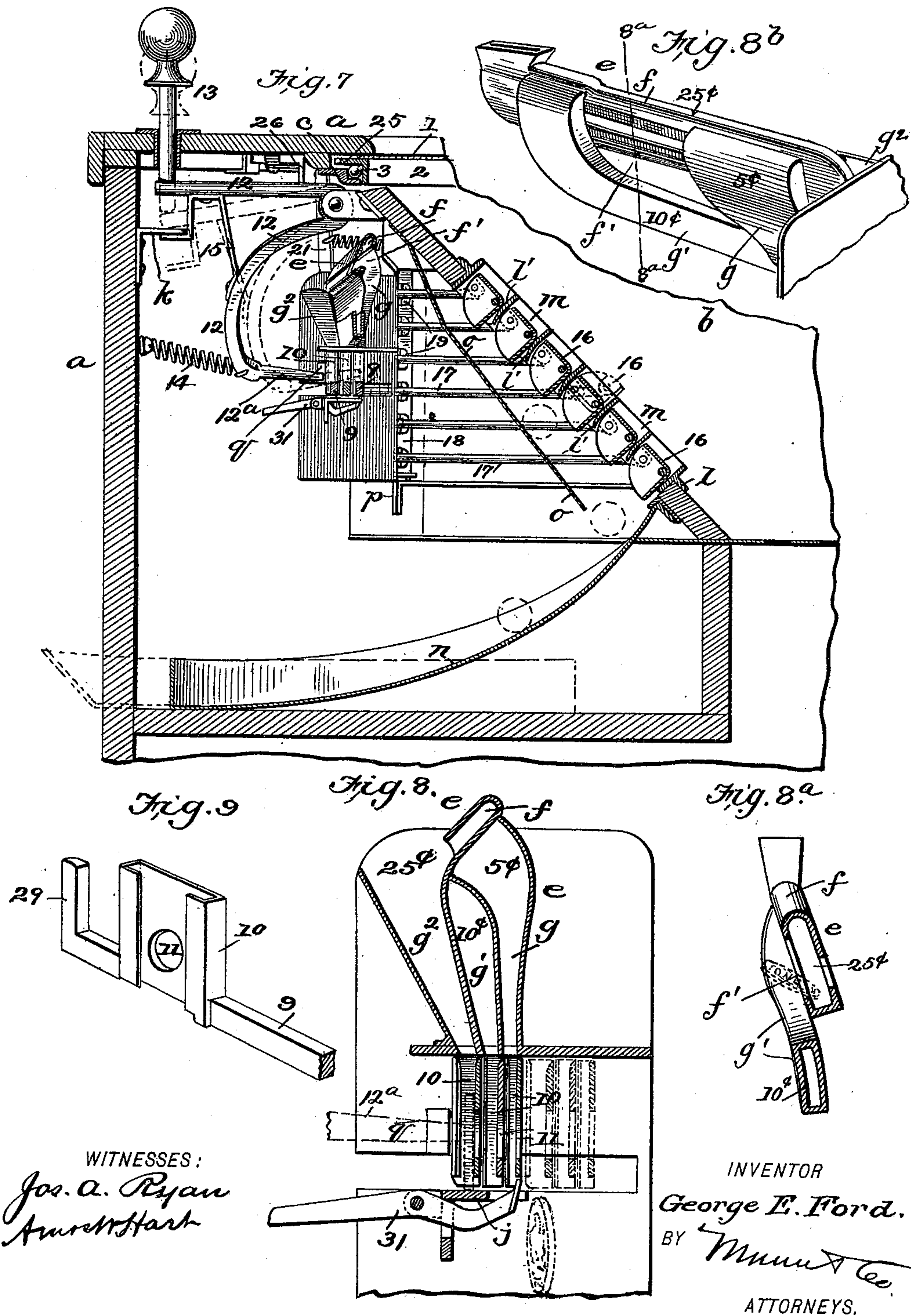
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4 Sheets—Sheet 3.



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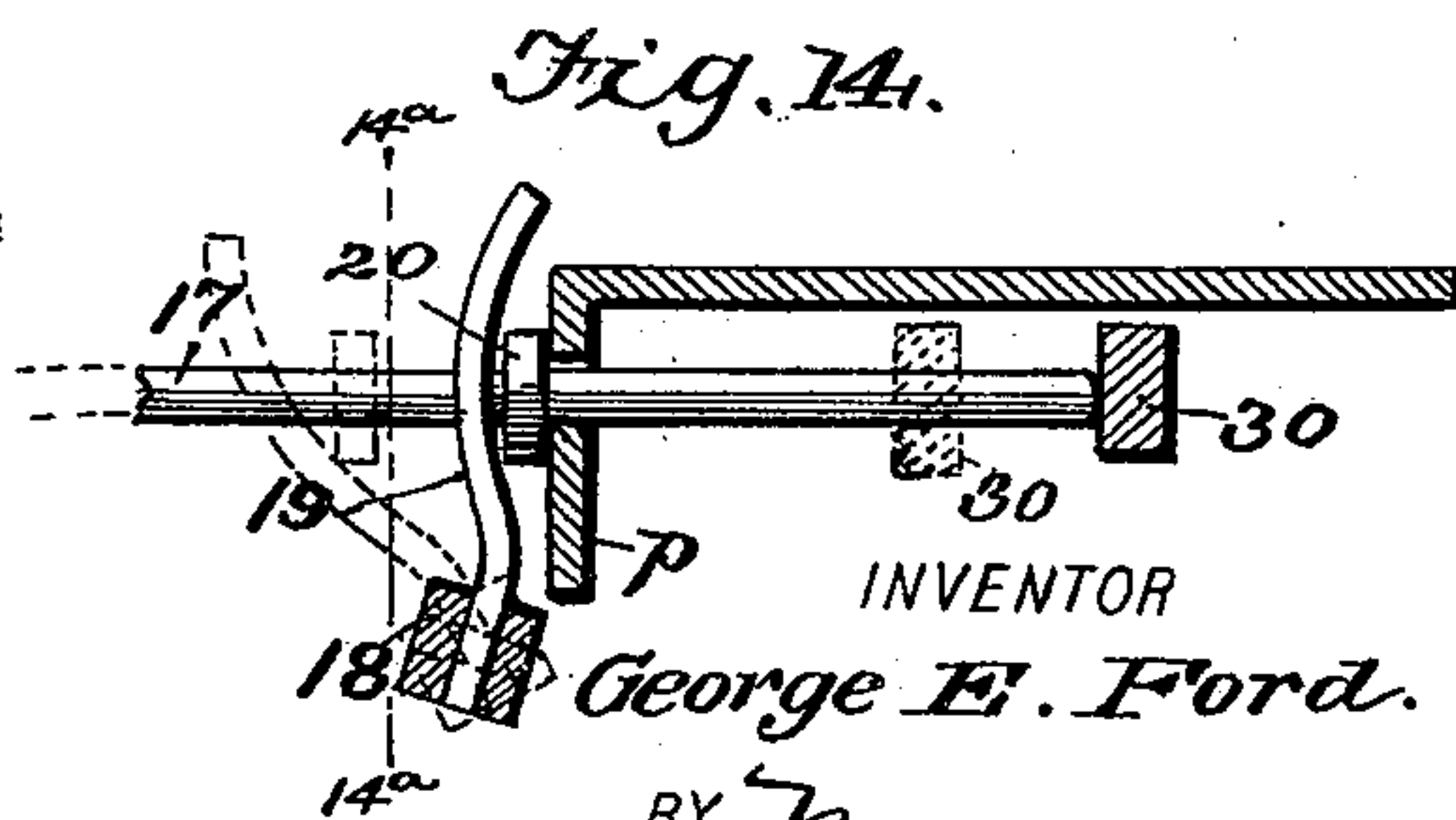
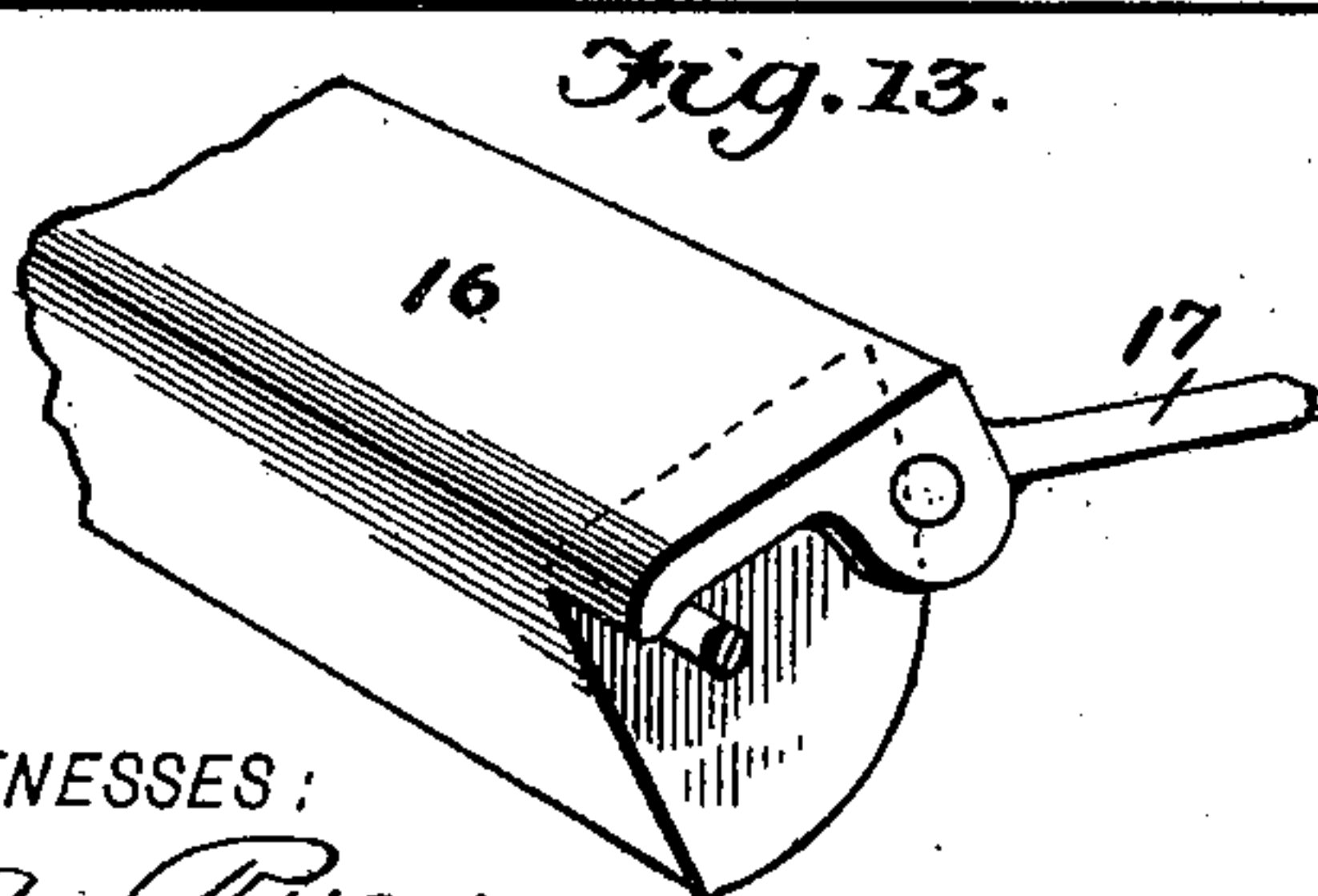
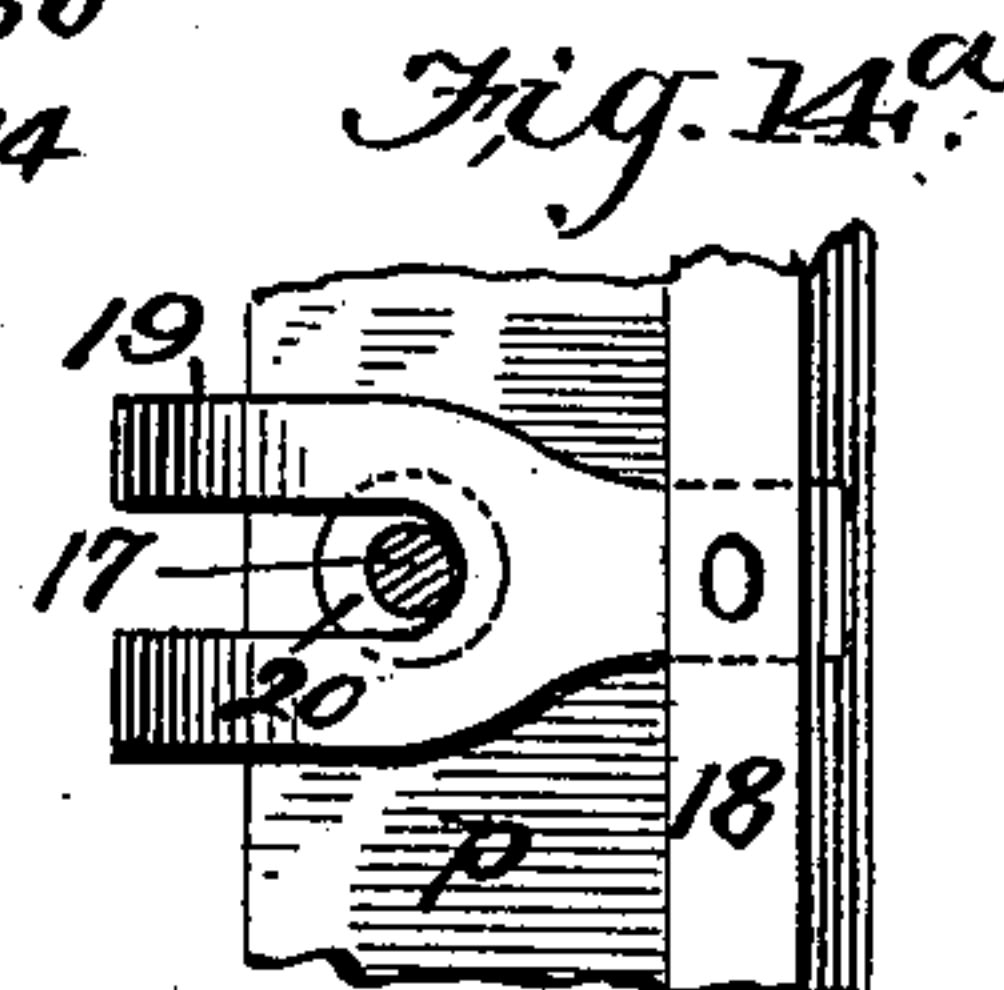
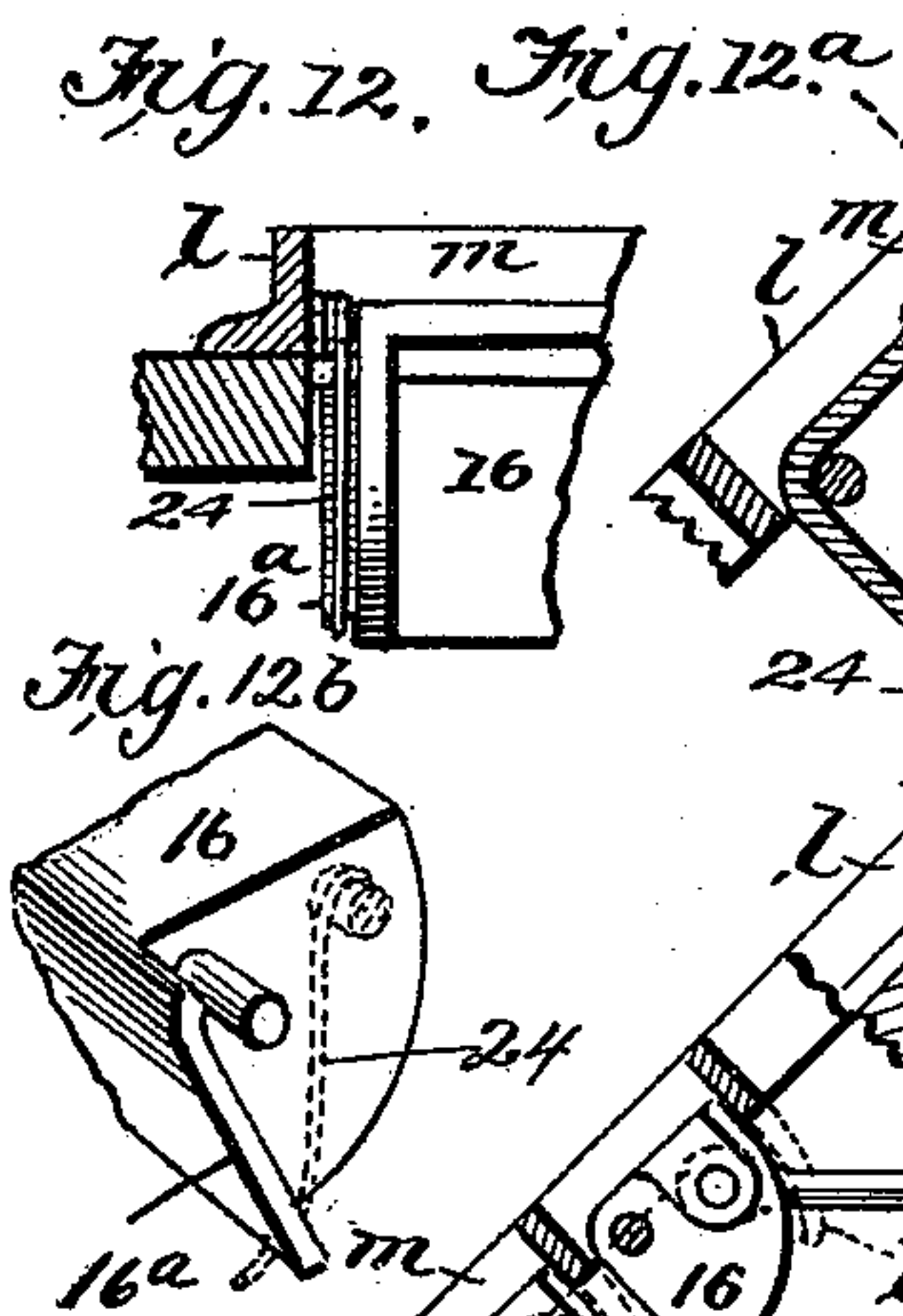
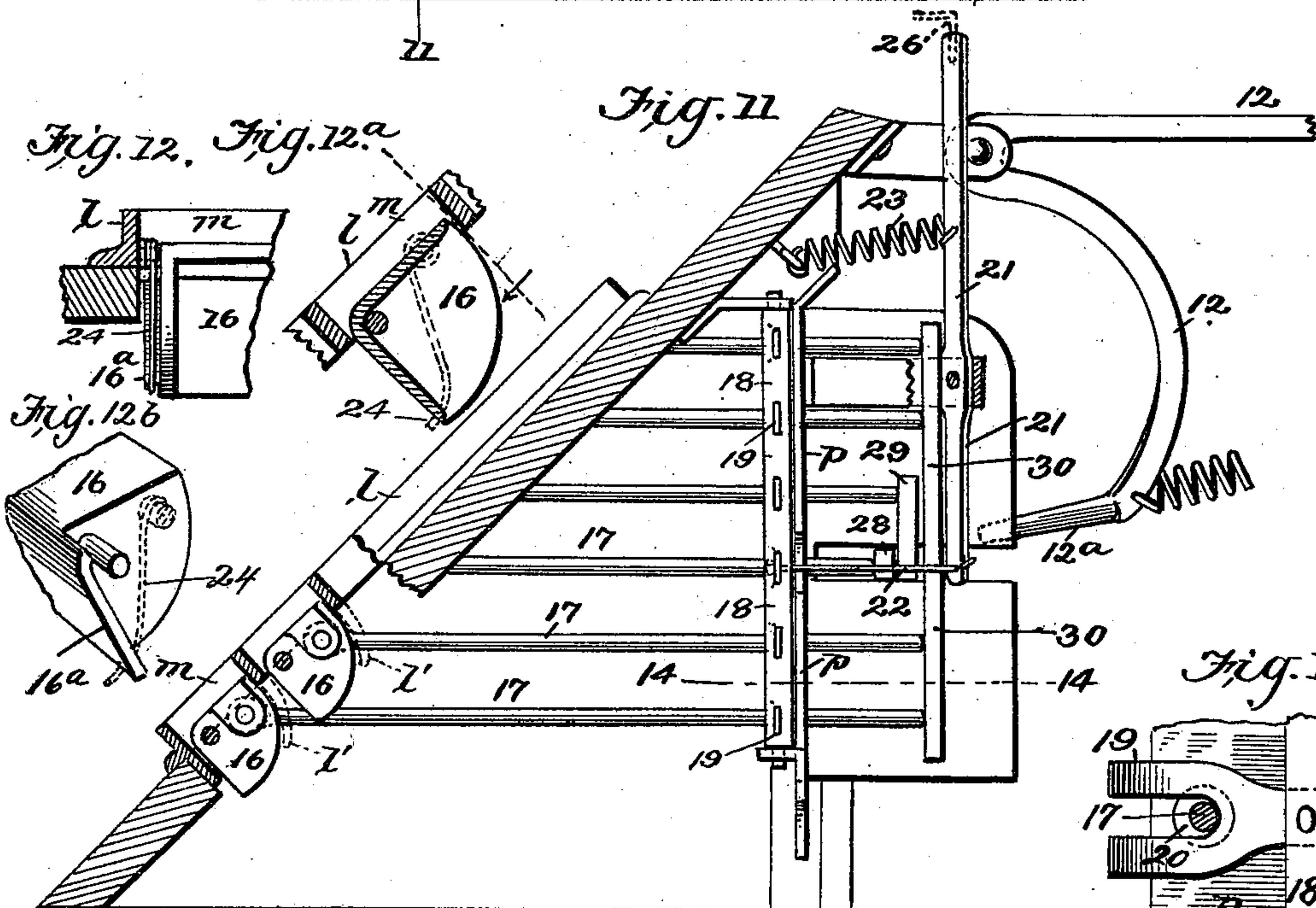
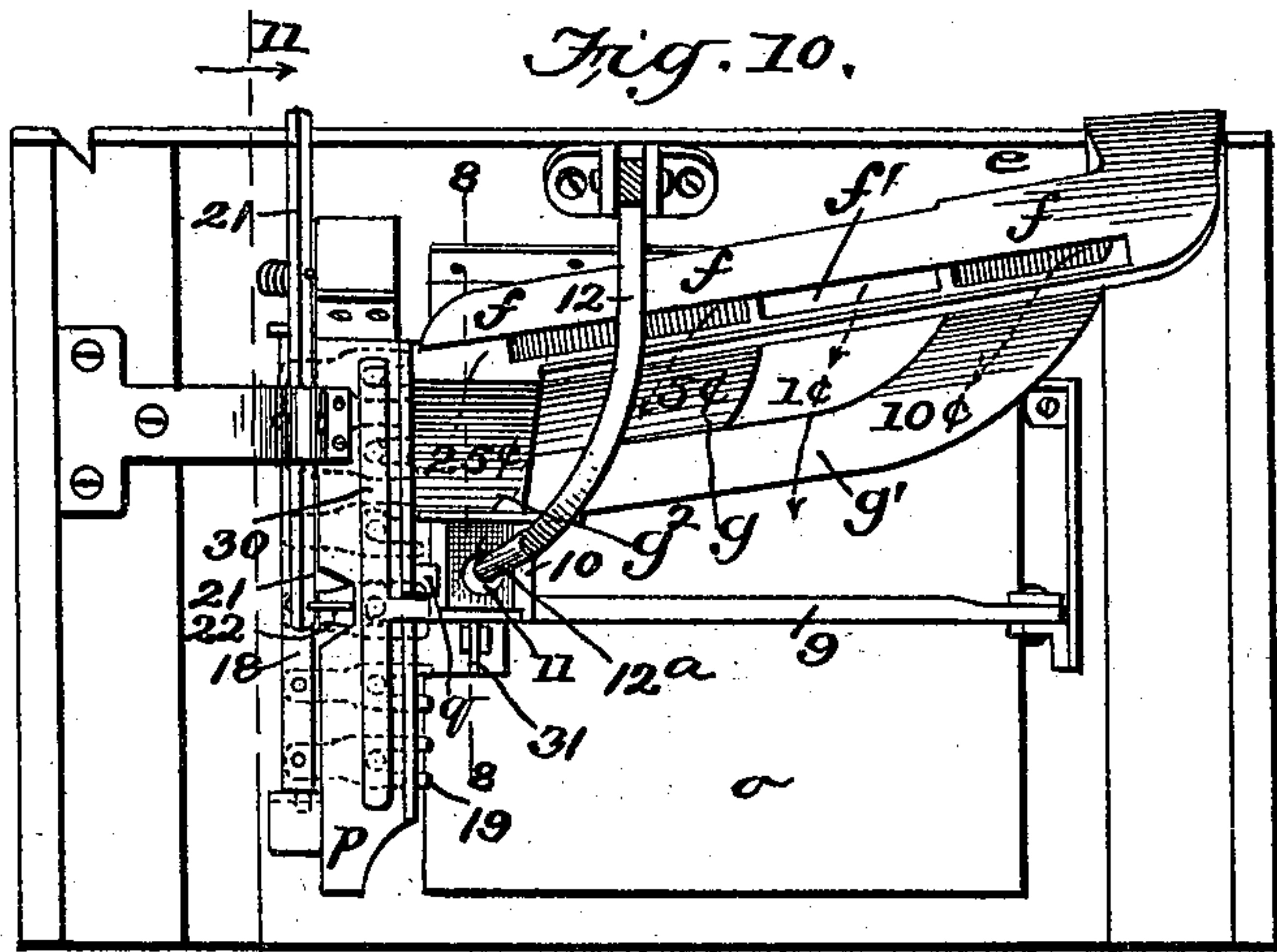
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4 Sheets—Sheet 4.



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# UNITED STATES PATENT OFFICE.

GEORGE E. FORD, OF GUTHRIE, OKLAHOMA TERRITORY.

## VENDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 636,652, dated November 7, 1899.

Application filed February 10, 1899. Serial No. 705,181. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE E. FORD, residing at Guthrie, in the county of Logan and Territory of Oklahoma, have made certain  
5 new and useful Improvements in Vending-Machines, of which the following is a specification.

It is the object of my invention to provide  
10 an improved coin-operated vending-machine in which the goods or articles to be sold—say cigars—are displayed for visual inspection of the customer and may be manually manipulated for the purpose of making a selection  
15 of one or more articles or samples and which are, nevertheless, prevented being removed from the machine until the proper coin shall have been deposited in payment therefor. To this end I have devised a flexible guard or shield which is adapted to be manipulated  
20 by the hand of a customer and by means of which he is able to select and remove such sample of the goods as he desires, but without actual manual contact therewith and without the possibility of surreptitiously abstracting them. The form in which I preferably embody such flexible guard or shield is a pocket, mitten, or bifurcated bag, which is adapted to receive the operator's hand and  
25 attached to a side of and adapted to hang within or be thrust into the chamber or compartment containing the goods.

Another distinguishing feature of my invention is the attachment of such device—a pocket, mitten, or bag—to a movable plate  
35 that forms the top or part of the side, preferably the top, of the goods-compartment, whereby upon shifting such plate the device may be carried directly over a particular goods-receptacle—say a cigar-box—and the customer thereby enabled to make his selection with facility, after which the plate and the device pendent therefrom are again shifted to enable the customer to carry the selected article to the place of discharge.

Another important feature of my invention is the means employed to receive the selected article and discharge it from the machine. For this purpose I employ pivoted receptacles in the form of troughs or trays, which  
40 are preferably V or U shape in cross-section. These are arranged in slots in one side of the

goods-compartment and in such manner that when in one position they are open to the goods-compartment and when tilted to the alternative position discharge of the articles  
55 deposited in them is effected. In both positions the receptacles guard the discharge or exit openings, so that surreptitious abstraction of the goods is prevented.

The invention also includes a novel means  
60 for operating the said receptacles, trays, or troughs and an improved coin-chute and other features hereinafter described.

In the accompanying drawings, four sheets, Figure 1 is a perspective view of my improved  
65 vending-machine. Fig. 2 is a plan view of the same, portions being broken away. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Fig. 4, Sheet 2, is a perspective view of the pocket or mitten suspended from the  
70 movable transparent plate. Fig. 4<sup>a</sup> is a vertical section of the same. Fig. 4<sup>b</sup> is a detail view illustrating the means for securing the pocket or mitten to the transparent plate. Fig. 5 is an enlarged vertical section on line  
75 5 5 of Fig. 2. Fig. 6 is a section on line 6 6 of Fig. 5, showing the automatic catch or lock for the movable plate to which the pocket or mitten is attached. Fig. 6<sup>a</sup> shows a modification of the sliding plate. Fig. 7, Sheet 3,  
80 is a vertical section on line 7 7 of Fig. 2. Fig. 8 is an enlarged section of the coin-chute on line 8 8 of Fig. 10. Fig. 8<sup>a</sup> is a cross-section on line 8<sup>a</sup> 8<sup>a</sup> of Fig. 8<sup>b</sup>. Fig. 8<sup>b</sup> is a perspective view of the coin-chute and connecting passages. Fig. 9 is a perspective view  
85 of one end of a coin-lever, showing the socket for a coin. Fig. 10, Sheet 4, is a side view of the coin-chute and the coin and goods-discharge mechanism. Fig. 11 is an enlarged vertical section on the line 11 11 of Fig. 10, part  
90 being broken away to show the arrangement of the coin receptacles or trays. Fig. 12 is a sectional view showing one end of a goods-receptacle, the line of section being indicated  
95 in Fig. 12<sup>a</sup>. Fig. 12<sup>a</sup> is a vertical transverse section of a goods-receptacle and the slotted frame in which it is pivoted. Fig. 12<sup>b</sup> is a perspective end view of one of the goods-receptacles. Fig. 13 is a perspective view of  
100 one of the goods receptacles or trays in the position it assumes when discharging an ar-



ticle. Fig. 14 is a horizontal detail section on line 14 14 of Fig. 11. Fig. 14<sup>a</sup> is a section on line 14<sup>a</sup> 14<sup>a</sup>, Fig. 14.

In the following description I will indicate  
5 fixed parts by means of lower-case letters and movable parts by numerals.

As shown in Fig. 1, the case or box *a* is provided with an upper chamber or compartment adapted for holding the goods—say ci-  
10 gars—which are to be vended, and provided with transparent sides *b* and also with a transparent top 1. These transparent portions are constructed of thick plate-glass. The top  
15 plate 1 is circular in form and adapted to rotate, being for this purpose attached to and resting upon an annulus 2, (see Fig. 3,) which is right angular in cross-section, its horizontal flange resting upon antifriction-balls 3, that are in turn supported by a flange *c*, detachably secured to the top of the case *a*.  
20 The circumferential edges of the plate 1 and ring 2 project beneath the top of the case *a*, and are thus held in place and adapted to rotate with minimum friction. The said plate 1  
25 is provided with a circular opening, Figs. 1 and 2, in which is arranged a flanged ring 4, which is also adapted to rotate, being for this purpose provided with flanges that embrace the edges of the plate around the opening, as best  
30 shown in Fig. 4<sup>a</sup>. From such ring 4 the flexible shield or guard 5 is suspended, as also shown in Fig. 4. The same may be constructed of any suitable flexible material—such as fabric, leather, or interwoven links;  
35 but I preferably employ a light but strong fabric, such as silk. The said shield or guard is preferably constructed as a pocket or mitten having two points 5<sup>a</sup>, as shown in Fig. 4, for the purpose of receiving the thumb and  
40 other fingers of the hand of a customer. The means for attaching the bag, pocket, or mitten to the aforesaid rotatable ring 4 consists (see Fig. 4<sup>b</sup>) of a spring-ring 6, which is divided transversely and provided with corresponding tenon and slot at its ends, which are  
45 locked together detachably by means of a spring-catch 7. The pocket 5 is provided at its upper edge with a wide hem forming a tube adapted to receive the aforesaid spring.  
50 This hem or tube is open at one place only to allow insertion and removal of the spring and access to the catch 7. The ring 6 is sprung over the bottom flange of ring 4, and the clasp or catch 7 then locks its engaged ends, thereby firmly securing it in place. This construction and combination of parts enables pockets or bags 5 to be readily detached and others attached, which operation is rendered frequently necessary for laundry purposes.  
60 The pocket 5 is of such length that it may reach nearly to the bottom of compartment *b*. Elastic bands or cords 8 are attached to its sides and suspended from the spring-ring 6. The chief function of such cords is to  
65 hold the pocket drawn up, Fig. 4<sup>a</sup>, and resist the downward thrust of the customer's hand in the pocket or bag 5, so that the latter

is drawn tight over the ends of the thumb and fingers, which enables the goods to be handled with facility and seized and held  
70 firmly while being deposited in the discharge-receptacle.

While a customer may inspect the goods through the transparent top 1 of case *a* and is also enabled to handle them preparatory to  
75 a selection, it is impossible for him to remove any of them from compartment *b* surreptitiously or without depositing a coin in payment therefor. The coin is deposited in a slot *d*, Figs. 1 and 2, and enters a coin-chute  
80 *e*. (Shown best in Figs. 8 and 10.) The particular construction of this chute is such that a nickel, a ten-cent piece, and a quarter of a dollar will be conveyed to different points and operate differently upon mechanism that  
85 governs the discharge of the goods, as hereinafter described. Coins deposited in the slot *d* enter a common passage and immediately assume a laterally-inclined position at an angle of about forty degrees as they roll  
90 down the inclined way *f*, and when they reach openings in such runway which are wider than their own diameter they fall through it into their appropriate or special guide-passages *g g' g''*. (See Fig. 8.) Thus the nickel  
95 passes into guide-passage *g*, the ten-cent piece into *g'*, and the quarter into the passage *g''*, by which they are conveyed independently to their appropriate sockets or holders in a series of coin-levers 9, as shown in Figs. 8 and  
100 9. An opening *f'* is provided in the middle of coin-passage *f*, which is of such dimensions as to allow a penny to drop through it, and the same will therefore be returned to the customer through the discharge-opening *i*,  
105 provided in the side of the machine. Since only pennies, nickels, ten-cent pieces, and quarters can be inserted in the slot *d*, it will be seen that the machine is adapted to be operated only by the three last-named coins.  
110 The special form of coin socket or holder 10 employed in connection with each of the coin-levers is shown best in Figs. 8 and 9, each being open at top and bottom and one side and also provided with a transverse hole in the  
115 back. The coin-levers 9 are arranged in the same horizontal plane, Fig. 10, one beside the other and pivoted at one end, being left free to swing horizontally at the opposite ends, which carry the coin receptacles or holders  
120 10. In their normal position the coin-holders are directly beneath the three corresponding coin-guide passages *g g' g''*, as shown in Fig. 8, and they are directly over a bracket or plate *j*, so that as the coins fall into the hold-  
125 ers 10 they rest upon said plate *j* until the coin-levers 9 are pushed inward, when, as is apparent, the coins will be discharged downward by gravity, and thus be delivered into a closed and locked compartment.  
130

The particular means or device for moving the coin-levers 9 laterally is a plunger 12, (see Fig. 11,) which is in the nature of a pivoted lever of angular form, having a point 12<sup>a</sup>,



that is adapted to pass through the holes 11 in the coin-holders 10, attached to levers 9. It is apparent that when a coin is in place in one of said holders 10 it lies directly in front of the opening in the latter, and thereby opposes the passage of the plunger-point 12<sup>a</sup>, and upon pressure being applied to said lever 12 one or more of the coin-levers will be pushed laterally to carry the coin inward and discharge it from the holder 10. As shown in Fig. 7, a sliding and knobbed push-bar 13 is arranged in a vertical guide in the top of casing *a* and bears upon the horizontal arm of lever 12, so that when the customer depresses the push-bar the lever 12 will be acted upon and tilted, and its point 12<sup>a</sup> will be forced inward against a coin held by one of the coin-levers 9. This operation is illustrated by dotted lines, Fig. 7. The said lever 12 is held normally retracted by spring 14 and is prevented from swinging too far upward by means of a catch 15, which is attached thereto and engages a bracket *k*, attached to the side of the case *a*.

As shown best in Figs. 7 and 11, a series of goods-receptacles 16 are arranged in an inclined plane, forming an interior wall of compartment *b* of case *a*. Each of these receptacles is preferably in the form of a V-shaped trough or tray, and each is pivoted horizontally in a slot *m*, formed in a metal frame *l*, attached to the said incline. Each such tray 16 is pivoted at its ends and angle and so arranged in its appropriate slot that when in one position (see full lines, Fig. 7) the slot is closed to exit of goods and when in the alternate position (see dotted lines, same figure) the tray is open to the chamber *b* and adapted to receive an article—say a cigar—selected by the customer. Then when thrown back to its normal position, Fig. 7, such article is discharged by gravity and rolls or slides down the inclined chute *n*, Fig. 7, and is thereby delivered to the customer at *i* on the outside of case *a*. A guard *o*, Fig. 7, consisting of a sheet-metal plate, is arranged behind the series of trays for the double purpose of guiding downward the articles discharged from the trays and for preventing surreptitious access to the trays from below through the opening *i*.

As shown best in Figs. 7 and 11, a rod 17 is pivoted to each tray 16 at a point above its pivot and supported at its rear end in a vertical guide-plate *p*. Each push-rod 17 is thus adapted to slide lengthwise for opening a tray 16 by positive action of a coin-lever 9 thereon, and it slides in the opposite direction, or backward, when such tray is being closed. A vertical shaft or bar 18 is arranged in bearings, so as to rock freely, and likewise provided with a series of forks 19, (see Figs. 10, 14, and 14<sup>a</sup>), which are pivoted thereto, so that their free ends may have a slight vertical movement and project laterally and embrace the several push-rods 17. Said push-rods 17 are each provided with a collar 20 at a point in

rear of said forks 19. (See Fig. 14.) It is apparent that the forks 19 and shaft 18 offer no obstruction to inward movement of the push-rods 17 as required to open the trays 16.

The function of the lever 21 and the rod 22, which connects it with one of the forks 19, is to unlock the rotatable plate 1, carrying the pocket 5, whenever one or more of the trays 16 is open for reception of a vended article, as shown by dotted lines, Fig. 7. Thus when a coin is deposited and a coin-lever is pushed inward, as before described, the free end of such lever acts upon one or more push-rods 17, and the latter thereby rotate or tilt certain trays 16 over to the open position. The trays are held locked in the open or closed position by means of a wire spring 24, (see Fig. 12,) which is attached to frame 1 and bears at its free end upon a flange 16<sup>a</sup> of the trays. Thus as the latter oscillate from the open to the closed position, or vice versa, the free end of said spring rides over the flange, and pressing upon the side of the same holds the trays in the position assumed. It will be apparent that friction of the rods 17 in their support *p* aids in holding the trays 16 open and that friction and gravity help to hold them closed. The customer having selected one or more articles and deposited it or them in the open tray or trays he tilts the latter back to the closed position by means of pressure applied by his hand, which is still within the pocket 5. This operation allows the lever 21 to resume its normal position, which relocks the movable plate 1. I will now describe the special device or means for thus automatically unlocking and relocking said plate 1. As shown in Figs. 1, 5, and 6, the horizontal flange 25 of the ring 2, which carries the glass plate 1, is provided with teeth about half-way of its circumference. A catch 26 is adapted to engage such toothed rim 25, the same being arranged horizontally in a suitable socket in the top of case *a* and provided with a spring 27, that holds it normally projected inward, as shown, and thus in locking engagement. The lever 21 engages a pendent flange of said catch 26, as shown in Fig. 5. It will now be seen that the movable plate 1 cannot be rotated save a coin shall have been first deposited—that is to say, when a coin is deposited, the plunger 12 operated, and a coin-lever thereby forced laterally against one or more push-rods 17, the latter open a corresponding number of trays 16, and by this means one or more of the forks 19 are caused to swing inward by contact with collars 20, and thereby apply traction to the rod 22 and tilt lever 21. The upper end of the latter is thus caused to act upon and retract the catch 26, which unlocks the ring 2 and plate 1 attached to it. In brief, through the medium of the lever 21, rod 22, forks 19, rock-shaft 18, and push-rods 17, having collars 20, the plate 1 is unlocked, so the customer may move the latter as required for convenient manipulation and selection of the goods and to shift it back to



the position required to enable him to deposit the selected article in the open tray, and the latter being then closed by the customer's hand in the bag or pocket the lever 21 and catch 26 are released and the plate 1 relocked by said catch. Thus all operations following the deposit of a coin are automatic save the depression of push-bar 13, selection of the article desired, and the closing of the trays by the customer.

As has been intimated, the innermost coin-lever 9 is adapted to act upon one push-rod 17, the next or middle lever upon two push-rods, and the outer lever upon six push-rods for opening one tray, two trays, or all of them, respectively, accordingly as a nickel, a ten-cent piece, or a quarter is deposited in the chute *e*. Thus a nickel is deposited for one cigar, a ten-cent piece for two cigars, and a quarter for six. The free end 28, Fig. 11, of the inner or nickel coin-lever is of such width as to adapt it to act upon but one push-bar 17, while the head 29 of the next or middle lever is long enough to act upon two rods 17, and the head 30 of the outer lever 9 is elongated sufficiently to act upon all the rods, so that the three levers open one tray, two trays, or six trays, respectively.

To prevent removal from compartment *b* of more articles than the coin deposited will pay for, I employ a pivoted gravity-catch 31, (see Fig. 8,) whose inner end is beveled or inclined and is adapted to automatically engage a coin held in a socket 10 whenever a lever 9 has been pushed inward or laterally by the plunger-point 12<sup>a</sup>. Thus if the said point be held pressed against a coin in a holder 10 after said coin has passed over the point of lever 31 the coin cannot be discharged by gravity and will be so held while the lever carrying it is swung back to the original position along with the plunger—that is to say, it would be so swung were it not for engagement of the coin with the catch 31, since the latter prevents the customer from working the coin-levers back and forth to open the receptacles 16 two or more times successively with but one coin deposited.

In Fig. 8 a lug *q* serves as a stop for the coin-levers in their return movement.

As has been before stated, the customer closes an open tray by pressure with his hand thereon immediately after depositing an article—say a cigar—therein. It will be noted the trays 16 are so pivoted in the slots *m* of frame *l* that when closed they lie considerably behind or below the projecting edges of the latter and that a curved flange *l'* (see Fig. 7) projects inward or downward adjacent to the open side of each tray 16. From this construction it results that the trays must be completely closed to enable an article to free the flange and be discharged, and the customer cannot reopen them by prying with his fingers from the interior of the goods-compartment. It is obviously essential that the receptacles 16 shall be adapted in size or depth

of cavity to contain but one of the cigars or other articles to be vended, so that it will be impossible to deposit two therein, yet allowance must be made for slight variation in the size of said articles.

I do not restrict myself to a rotary plate for carrying the pocket. For example, in Fig. 6<sup>a</sup>, Sheet 2, I show an arrangement of a plate 1<sup>a</sup> adapted to reciprocate or slide in a right line, the same carrying a suspended pocket 5<sup>b</sup>. The ends of said plate are connected with flexible parts or curtains adapted to run down into vertical sockets or guides. One edge of the frame holding such plate will be notched or toothed for locking engagement with a suitable catch. (Not shown.) Nor do I propose in all cases to restrict myself to a glass plate for carrying the shield or guard of whatever form, since it may be constructed of an opaque material and provision made for visual inspection of the goods through another plate or from the side rather than the top of the case *a*. I may also substitute for a glass plate one of any other suitable material that will allow the goods to be seen—say wire-gauze or sheet metal perforated over a part or the whole of the surface. Further, in respect to the trays or goods-receptacles I desire it understood that I do not restrict myself to the precise construction and arrangement shown and described, since it is within the principle or scope of my invention to employ a receptacle arranged horizontally or vertically, which may be alternately opened and closed with reference to the goods-compartment.

As shown in Fig. 1, the bottom of goods-compartment *b* is provided with numerous perforations. This is to provide for preserving the cigars in compartment *b* in a duly moist condition, which is effected by evaporation of water contained in a suitable holder placed beneath such perforated portion.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A vending-machine, comprising a goods-compartment having an opening for insertion of the hand, a flexible pocket suspended from and guarding such opening and adapted for manipulation as specified, a goods-discharge opening at one side of said compartment, a movable guard for such discharge-opening, and coin-operated mechanism adapted to control the said movable guard, for allowing removal of goods following the deposit of a coin, substantially as specified.

2. A vending-machine, comprising a goods-compartment having an opening for insertion of the hand, a flexible pocket suspended from and guarding such opening and adapted for manipulation as specified, a goods-discharge opening at one side of said compartment, and means for guarding the said discharge-opening, to regulate the removal of goods from the compartment, substantially as described.

3. A vending-machine, comprising a goods-compartment having an opening for insertion



of the hand, a flexible pocket suspended from and guarding such opening and adapted for manipulation as specified, a goods-discharge opening at one side of said compartment, and a passage-way leading downward from such discharge-opening, to facilitate discharge of goods and prevent access to the compartment, substantially as specified.

4. A vending-machine, having a goods-compartment which is provided with a portion through which the goods may be inspected, and with an opening over which a flexible guard and pocket is applied and secured, substantially as shown and described, whereby the goods may be visually and manually examined preparatory to selection of one or more samples, as specified.

5. A vending-machine having a goods-compartment with a transparent top and an opening provided with a shield in the form of a pendent pocket formed of duly flexible material and adapted to receive the hand of a customer, as and for the purpose specified.

6. A vending-machine, comprising a goods-compartment having an opening provided with a flexible pocket adapted to receive the hand of a customer, for manipulation and selection of goods, a goods-discharge opening arranged at one side of the compartment, a device for closing said opening and means for operating such device from the outside, the same being adapted to be closed from the inside by a hand inserted in the pocket, as specified.

7. A vending-machine, comprising a goods-compartment having an opening in its side, a pocket of flexible material attached to and pendent from the edges of such opening, and adapted to receive a customer's hand, a discharge-opening at one side of said compartment, the pocket being adapted to be extended and manipulated for handling and selecting the goods and depositing them in the discharge-opening, substantially as shown and described.

8. A vending-machine having a compartment for reception of goods, an opening in the side thereof, a flexible guard or shield covering said opening, the said shield being thus interposed between the goods and the customer, and also adapted to rotate, substantially as shown and described.

9. A vending-machine, having a flexible guard or shield attached to and pendent from a shiftable plate forming a portion of the side of the goods-receptacle, substantially as shown and described.

10. A vending-machine having a goods-compartment in one side of which is a shiftable plate having an opening provided with a flexible guard or shield adapted to be manipulated by the hand of a customer, for the purpose of handling and manipulating the goods and removing them from their receptacle, substantially as shown and described.

11. A vending-machine, having a transparent side which is adapted to be shifted into

position, a flexible guard or shield applied to an opening in said side, and adapted to be moved therewith, and also to rotate, substantially as and for the purpose specified.

12. The vending-machine, having a goods-compartment provided with a side through which the goods may be visually inspected, a pocket of duly thin, flexible material pendent from and guarding an opening in the top of said compartment, and having at its lower end two points adapted for reception, respectively, of the thumb and other fingers of the hand of a customer, and elastic retracting devices attached to the pocket, substantially as shown and described.

13. In a vending-machine, the combination, with a goods-compartment having a side plate provided with an opening, of a ring arranged rotatably in said opening and having a flange that rests exteriorly upon the surrounding edge of such plate, and an inner or base flange, a flexible pocket and a spring clamping-ring detachably engaged with said pocket at the top, and having a spring locking device applied to its ends for holding the pocket securely, yet detachably, in the rotatable ring, as shown and described.

14. In a vending-machine, a case having a goods-compartment, a circular transparent plate forming the top of said compartment, a rigid flanged ring by which said plate is supported, and a series of antifriction-balls supported upon a suitable flange forming a rigid attachment of the case and serving as a support for the ring carrying the plate, substantially as shown and described.

15. In a vending-machine, the combination, with a goods-compartment having one side which is shiftable and provided with an opening as specified, of a flanged ring arranged in such opening, and a flexible pocket which is attached to said ring, and thus adapted to rotate therewith, as shown and described, for the purpose specified.

16. In a vending-machine, the combination, with a goods-compartment having its top provided with an opening, and a flexible pocket applied at such opening, of one or more goods-receptacles, pivoted in one or more side slots or openings of said compartment, and means for opening the receptacles, the aforesaid pocket being of such length as to extend to the receptacles, so that they may be reached and closed by a hand inserted in the pocket, as shown and described.

17. In a vending-machine, the combination with a goods-compartment and a goods-receptacle consisting of a trough-like device having an end flange as specified and pivoted in a slot or side opening of said compartment, of a wire spring attached to a fixed support adjacent to said flange, and its free end bearing thereon, whereby, as the goods-receptacle oscillates, the spring rides over the flange and presses upon the opposite side, to hold said receptacle open or closed, as shown and described.



18. In a vending-machine, the combination, with a goods-compartment, of a goods-receptacle pivoted in an opening in the side thereof, a rod pivoted to said receptacle and adapted to slide as specified, a coin-carrying lever adapted to bear against the free end of the rod, and means for acting upon said lever for opening the goods-receptacle, substantially as shown and described.

19. The combination, with a goods-compartment, of a goods-receptacle pivoted in one side thereof, a coin-carrying lever adapted to swing laterally, means interposed between said receptacle and lever for opening the former, and a movable device adapted to act upon a coin carried by the first-named lever, as required for opening the goods-receptacle, substantially as shown and described.

20. In a vending-machine, the combination with a goods-compartment, a pivoted goods-receptacle arranged in one side thereof, a device for carrying a coin, means for acting upon said coin for forcing the device laterally, and means interposed between the device and goods-receptacle for oscillating the latter, substantially as shown and described.

21. In a vending-machine, the combination of a pivoted coin-carrying lever having a socket with transverse opening or space adapted to be covered by a coin, a device adapted to press laterally upon a coin while held in said lever, a movable goods-receptacle arranged in one side of a compartment, and means arranged intermediately of said lever and goods-receptacle for establishing an operative relation, substantially as shown and described.

22. In a vending-machine, the combination with a shiftable plate having an opening provided with a flexible guard or shield, of a catch adapted to engage and lock said plate, a movable goods-receptacle, a lever adapted to act upon said catch, coin-carrying devices, and means arranged between the latter and the goods-receptacle, for establishing an operative relation, whereby to unlock the plate simultaneously with the opening of the receptacle, substantially as shown and described.

23. The combination, with a goods-compartment and a goods-receptacle pivoted in an opening in one side thereof, of a push-rod pivoted to said receptacle, and a coin-carrying lever having an enlarged or extended head adapted to act upon said push-rod, and means for pushing the said lever laterally, substantially as shown and described.

24. In a vending-machine, the combination with a goods-compartment having an apertured and shiftable side plate and a flexible shield attached to and carried by such plate, of a goods-receptacle pivoted in one side of said compartment and adapted to discharge on the outer side, a rod pivoted thereto and provided with a collar as specified, a fork or slotted arm embracing said rod adjacent to the collar and attached to a rocking support, a lever pivoted as shown, and connected with

such fork and a spring catch or lock adapted to engage the upper end of said lever, whereby said catch is operated automatically for unlocking said shiftable plate, substantially as shown and described.

25. In a vending-machine, the combination with a goods-compartment, a pivoted goods-receptacle, a pivoted plunger and means arranged between said plunger and the receptacle for acting upon the latter in the manner described, of a push-bar, projecting from the case of the machine and adapted to bear upon one arm of said plunger, for depressing the same, substantially as shown and described.

26. In a vending-machine, the combination with a goods-compartment, a goods-receptacle, a push-rod, a coin-lever for acting upon the latter, a pivoted plunger adapted to act upon said coin-lever, a spring for retracting the plunger, a push-bar for depressing the same and a stop device for arresting the upward or retracting movement of the plunger, substantially as shown and described.

27. In a vending-machine, the combination, with a series of levers, having sockets for reception of coins which sockets are open at the bottom and provided with a transverse opening, of a plunger, adapted to pass through the openings in the sockets, and thereby to impinge upon a coin held in any one of the sockets, substantially as shown and described.

28. In a vending-machine, the combination, with movable coin-holding devices, adapted to be shifted laterally, and having sockets which are open at the bottom, to allow passage of a coin, of a catch or locking device arranged beneath said coin-holding devices, and adapted to engage a coin when moved to the discharging position, substantially as shown and described.

29. In a vending-machine, the combination with pivoted levers adapted to swing laterally and provided with coin-sockets which are open at the bottom, a fixed plate or bracket arranged beneath said sockets when the same are in normal position, a pivoted catch or locking device, whose point projects into the path of a coin supported in any one of said sockets, and is adapted to operate automatically, for allowing passage of the coin over the same, but preventing return movement of a coin-lever until the coin is discharged, substantially as shown and described.

30. In a vending-machine, the combination with a coin-chute, or runway, which is inclined downward and also laterally as shown, and a series of separated discharge-passages which are pendent from said chute at points where the latter is provided with lateral openings on the lower of its two parallel sides, and a series of coin-carrying levers adapted to swing horizontally and having sockets for coins of different sizes and denominations, which sockets are normally in position directly under the aforesaid discharge-passages, as shown and described, to operate as specified.

31. In a vending-machine the combination



with pivoted goods-receptacles, push-rods  
connected therewith, coin-levers adapted to  
swing laterally and to engage the said push-  
rods, coin-sockets arranged on the levers, a  
5 series of coin-passages corresponding to said  
sockets, and a stop arranged in position to  
arrest the backward movement of said levers

at a point where the sockets coincide with  
the coin-passages, substantially as shown and  
described.

GEORGE E. FORD.

Witnesses:

AMOS W. HART,  
SOLON C. KEMON.