

No. 750,718.

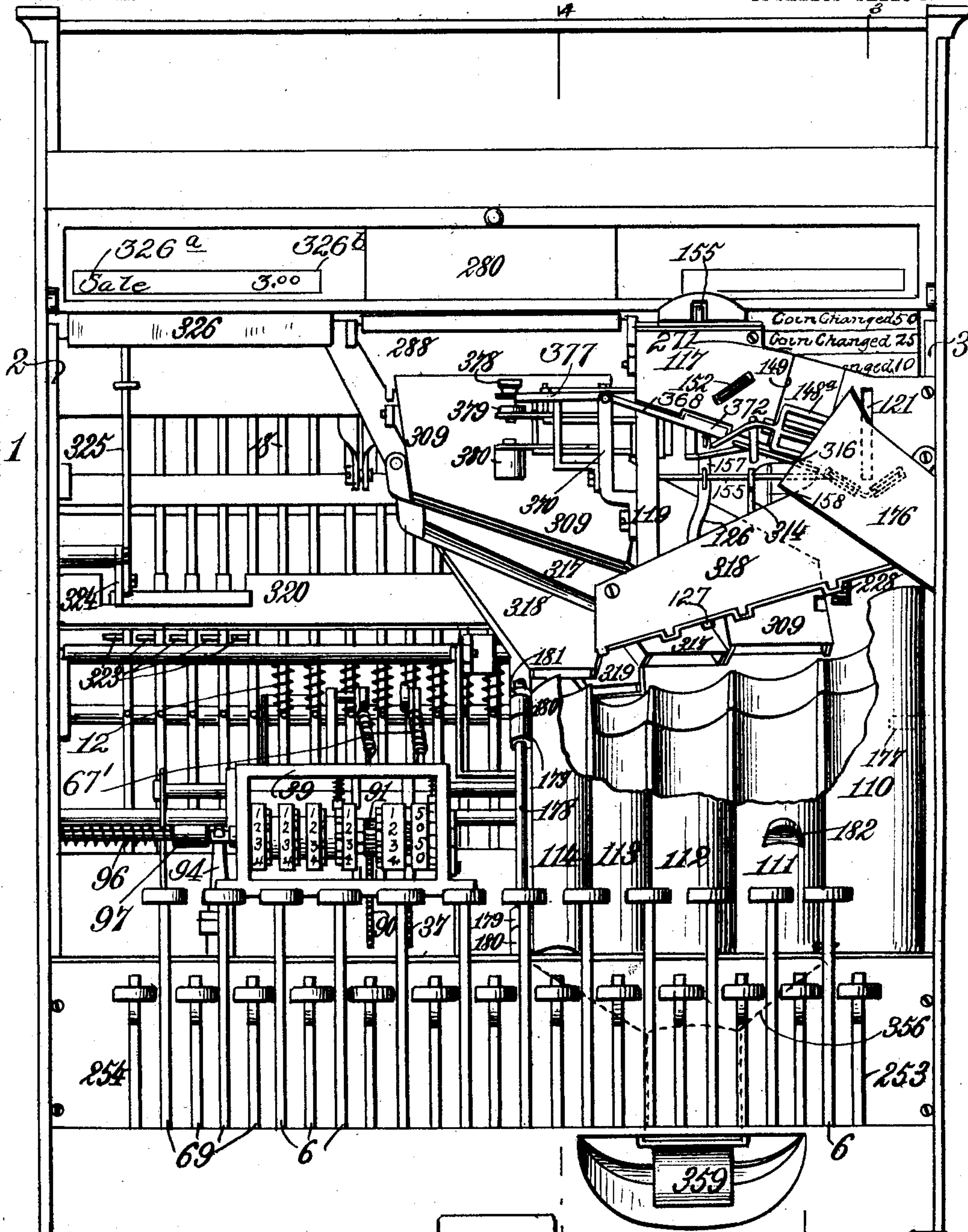
PATENTED JAN. 26, 1904.

E. H. SPEAR & E. MORIARTY.
MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
AND DETECTING COINS.

APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 1.



Witnesses.

Robert G. Gault.
C. S. Heiler

Fig. 1.

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Edward Moriarty.

By James L. Norris,
Atty.

No. 750,718.

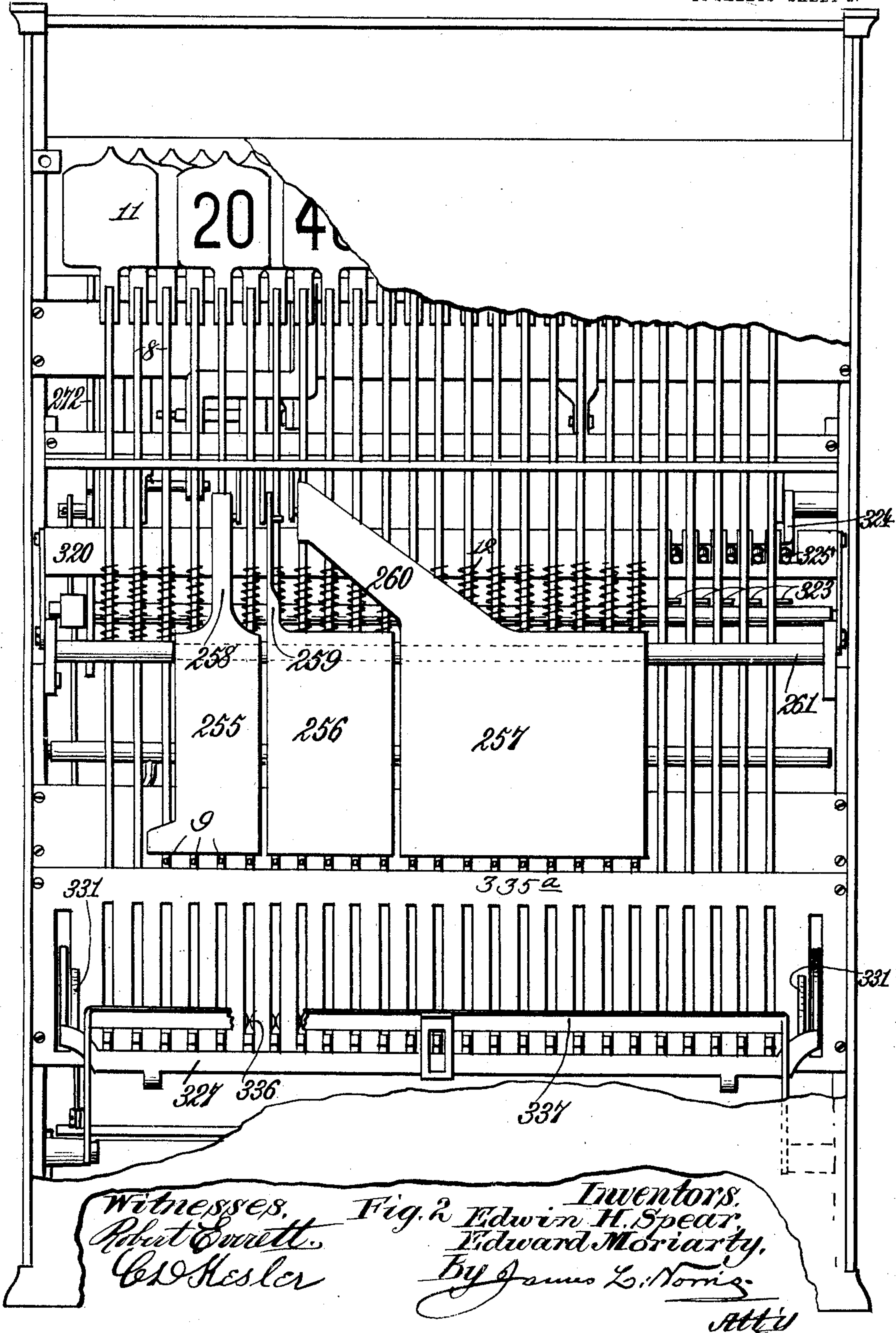
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14 SHEETS—SHEET 2.



No. 750,718.

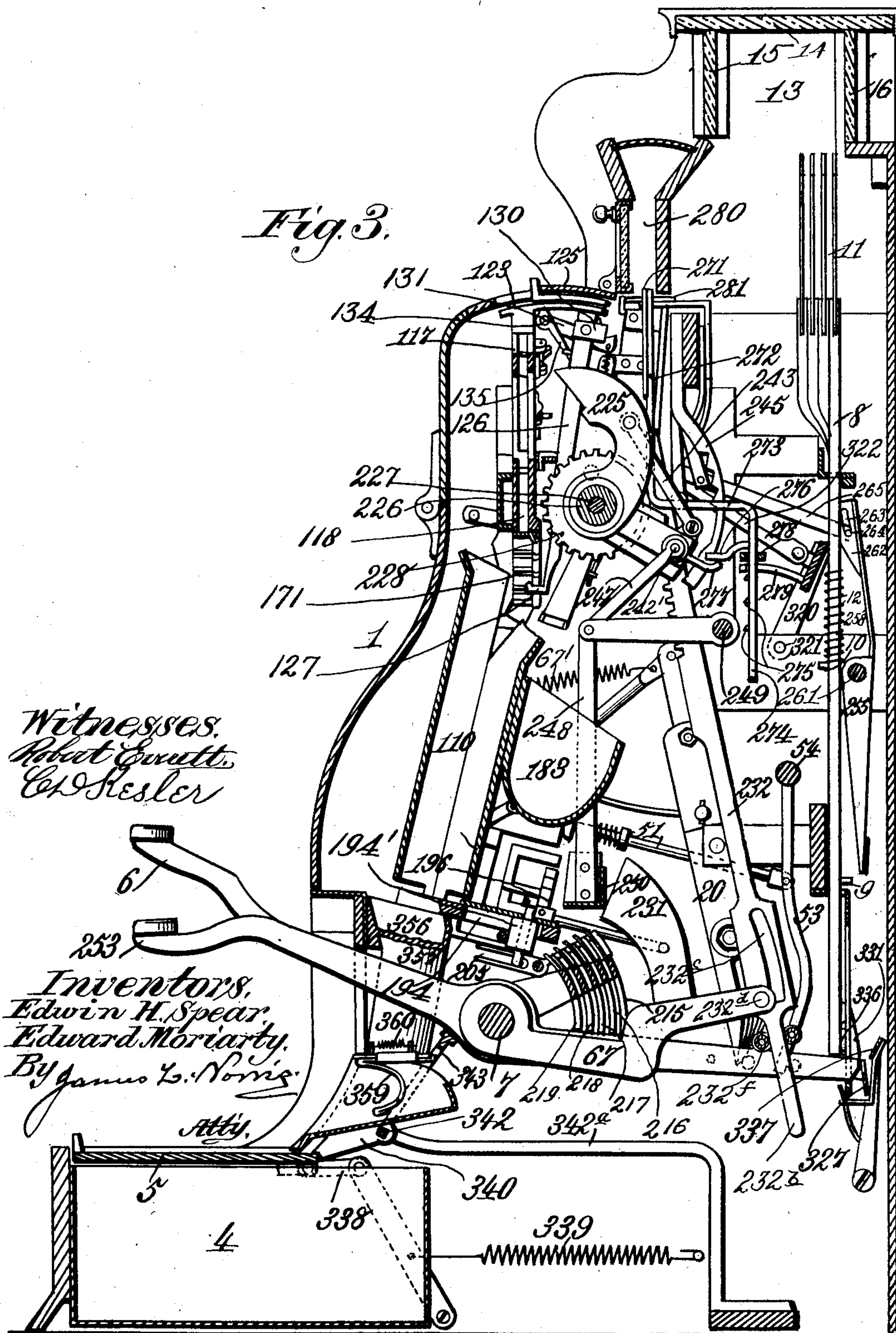
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14 SHEETS—SHEET 3.



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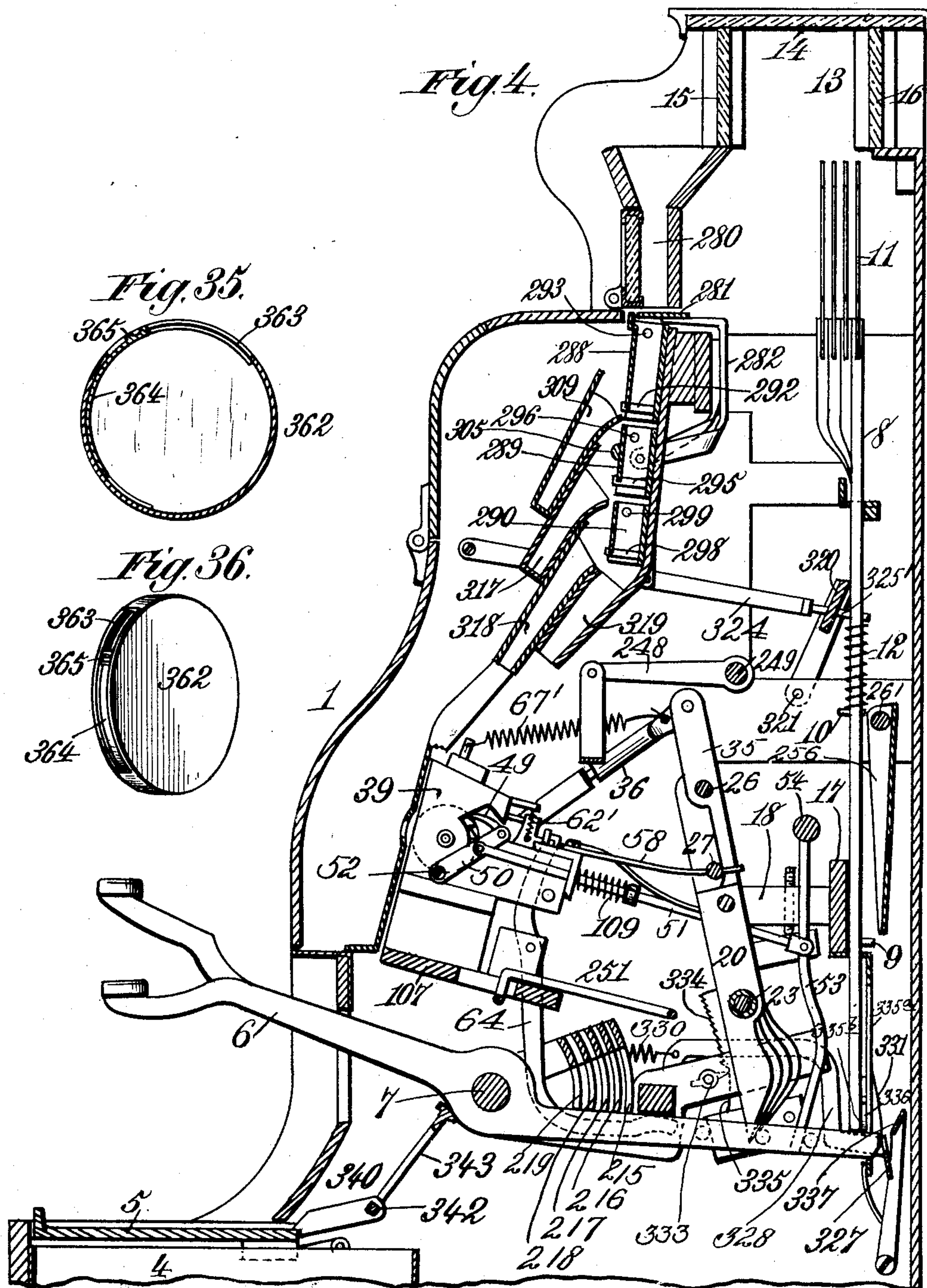
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APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 4.



Witnesses:
Robert Smith,
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NO MODEL.

14 SHEETS—SHEET 5.

Fig. 5.

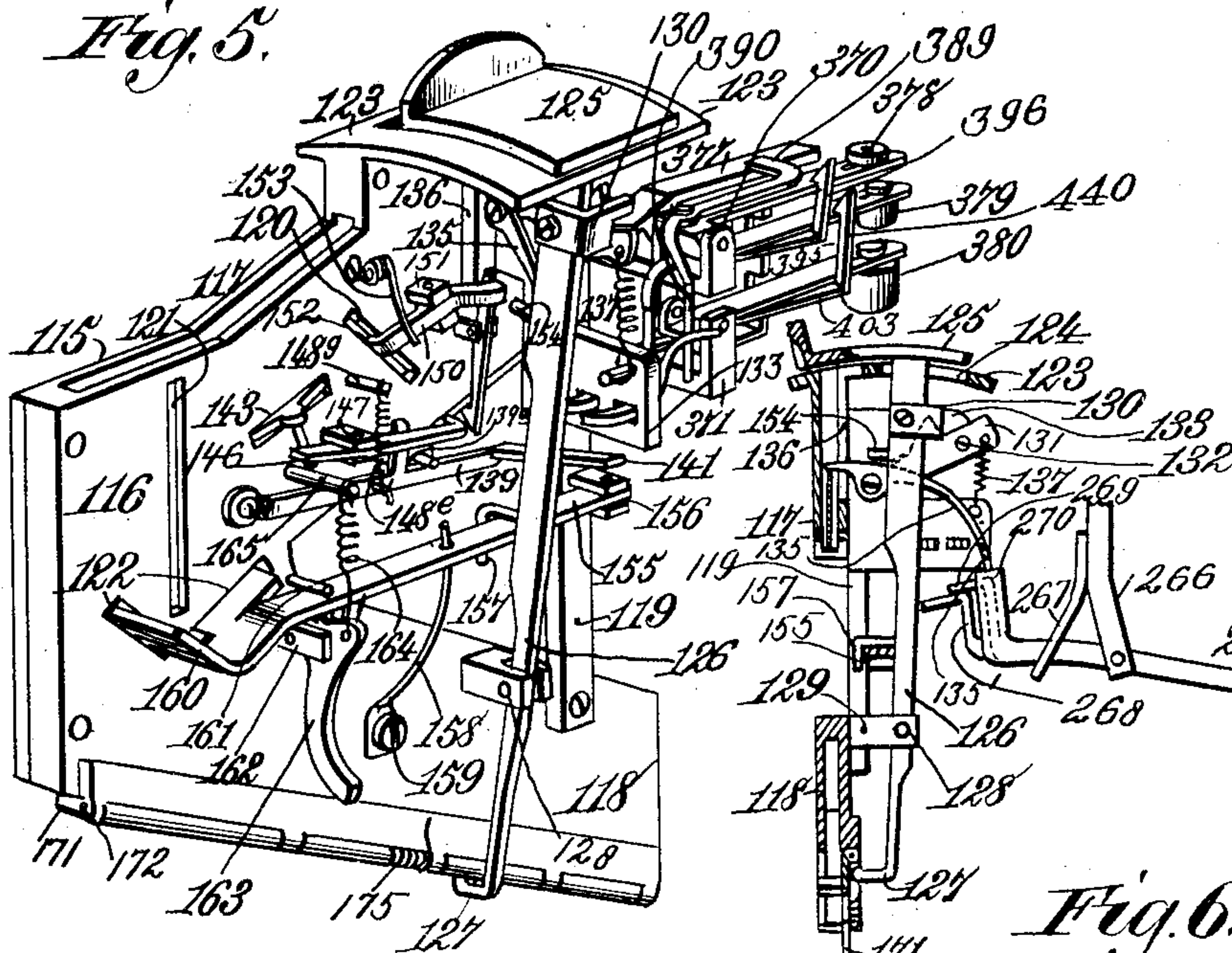


Fig. 6.

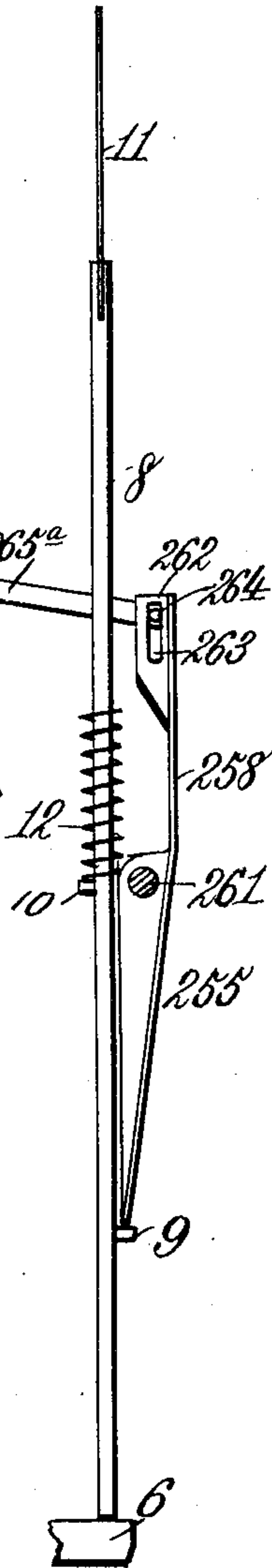


Fig. 7.

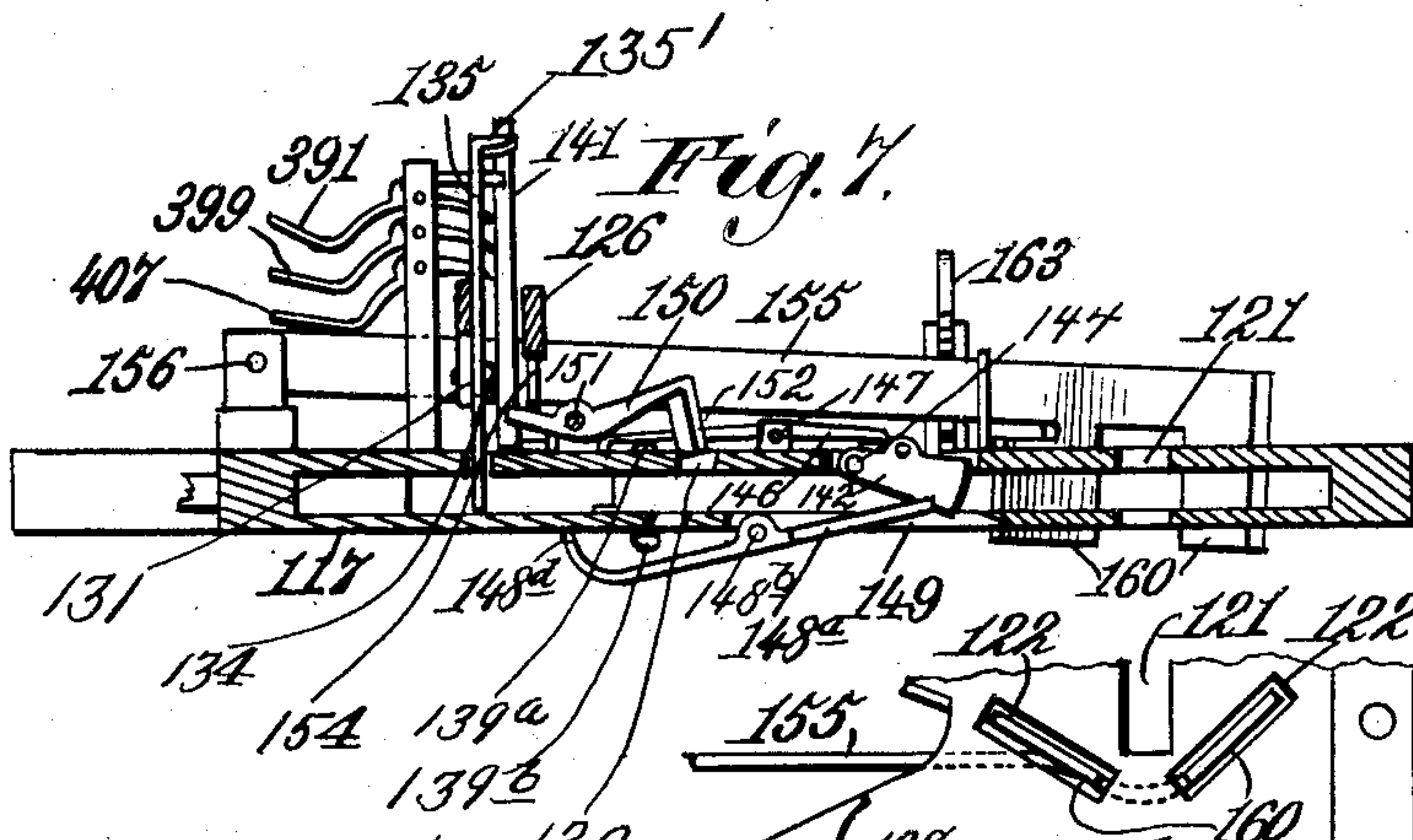


Fig. 8.

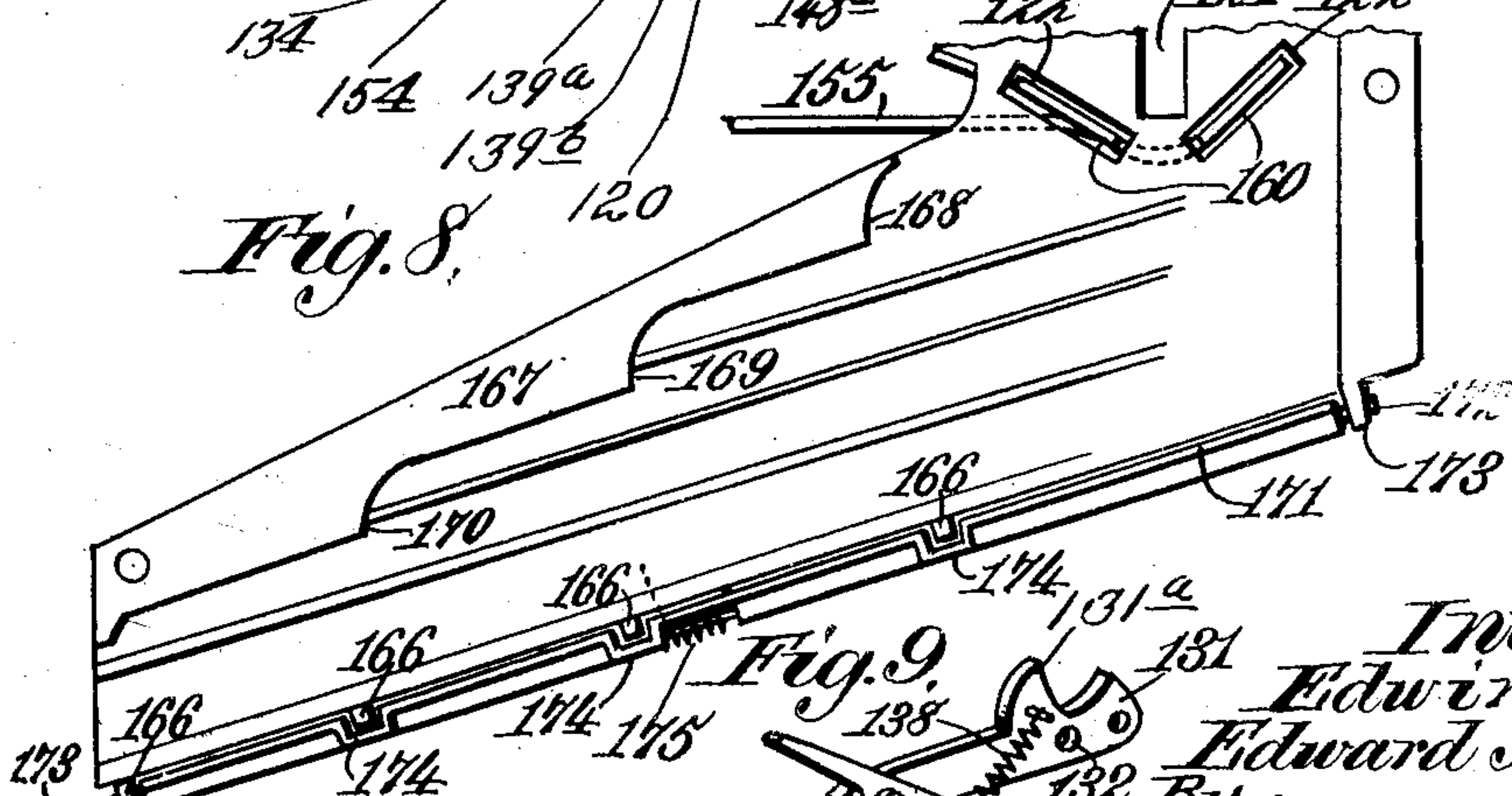
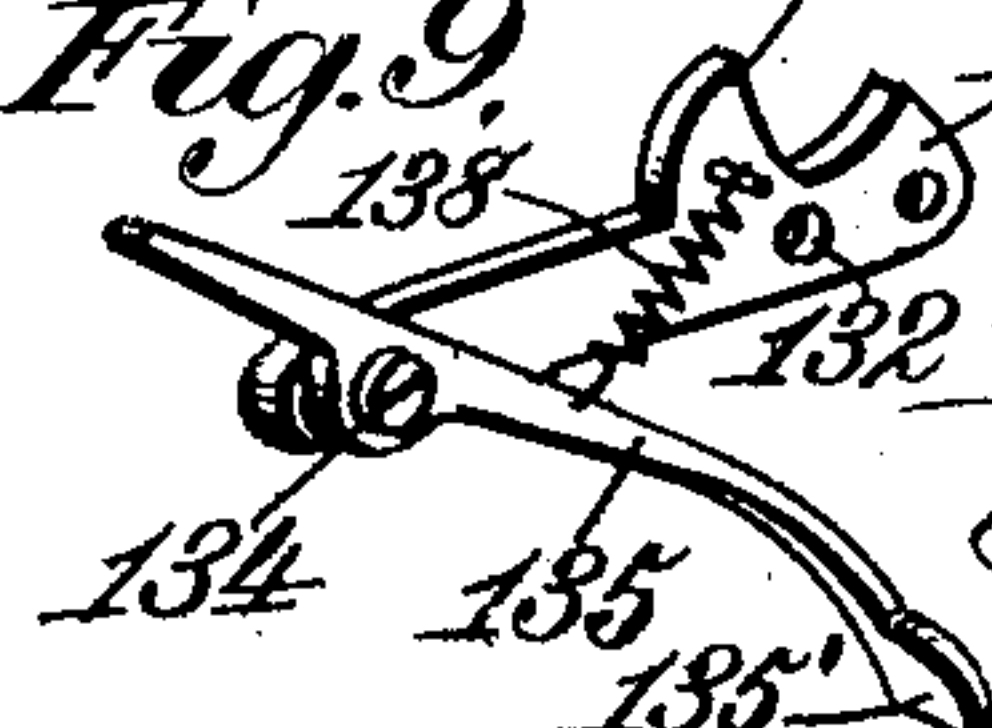


Fig. 9.



Witnesses.
Robert Emmett.
Charles Heiler.

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By James L. Norris.
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No. 750,718.

PATENTED JAN. 26, 1904.

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14 SHEETS—SHEET 6.

Fig. 10.

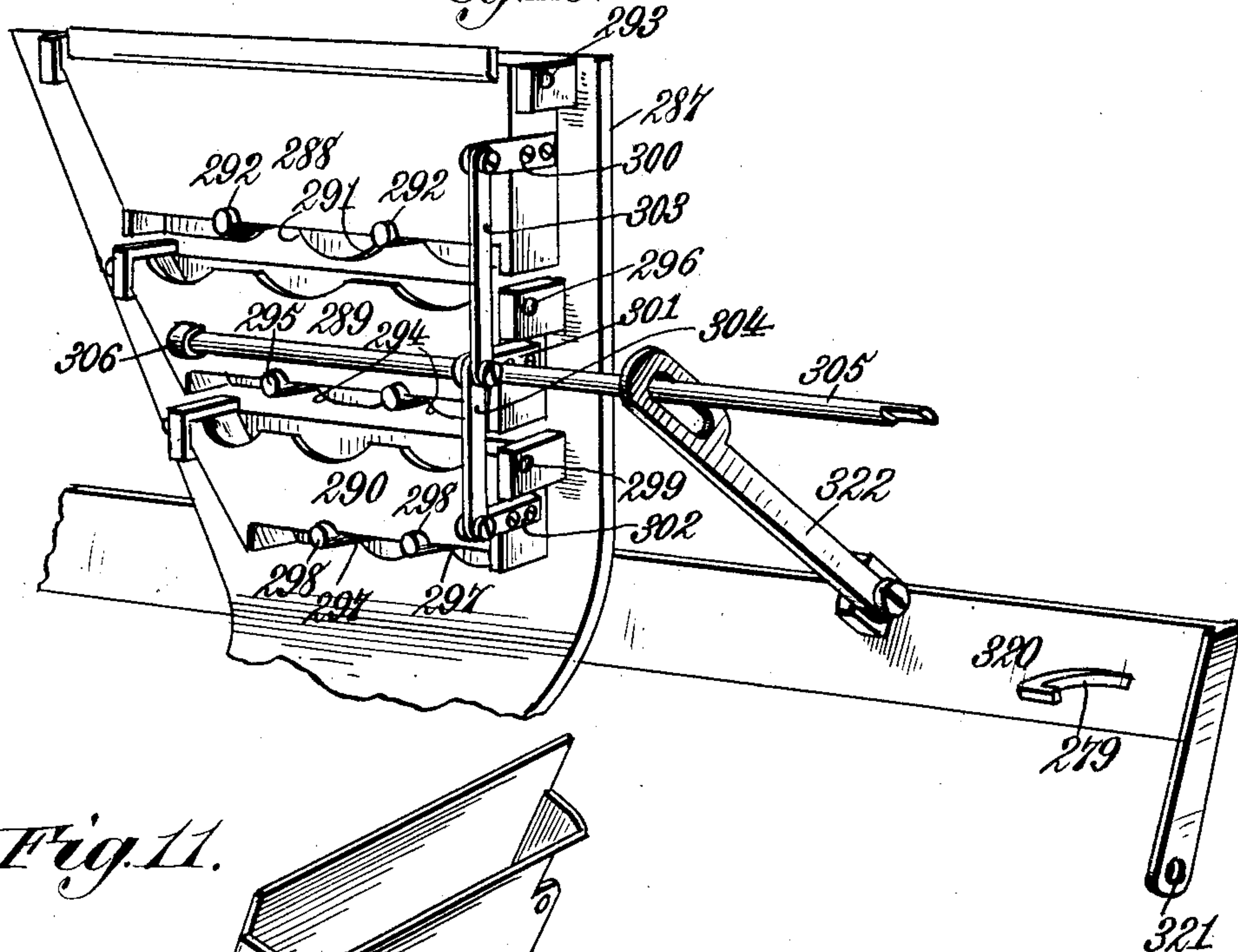


Fig. 11.

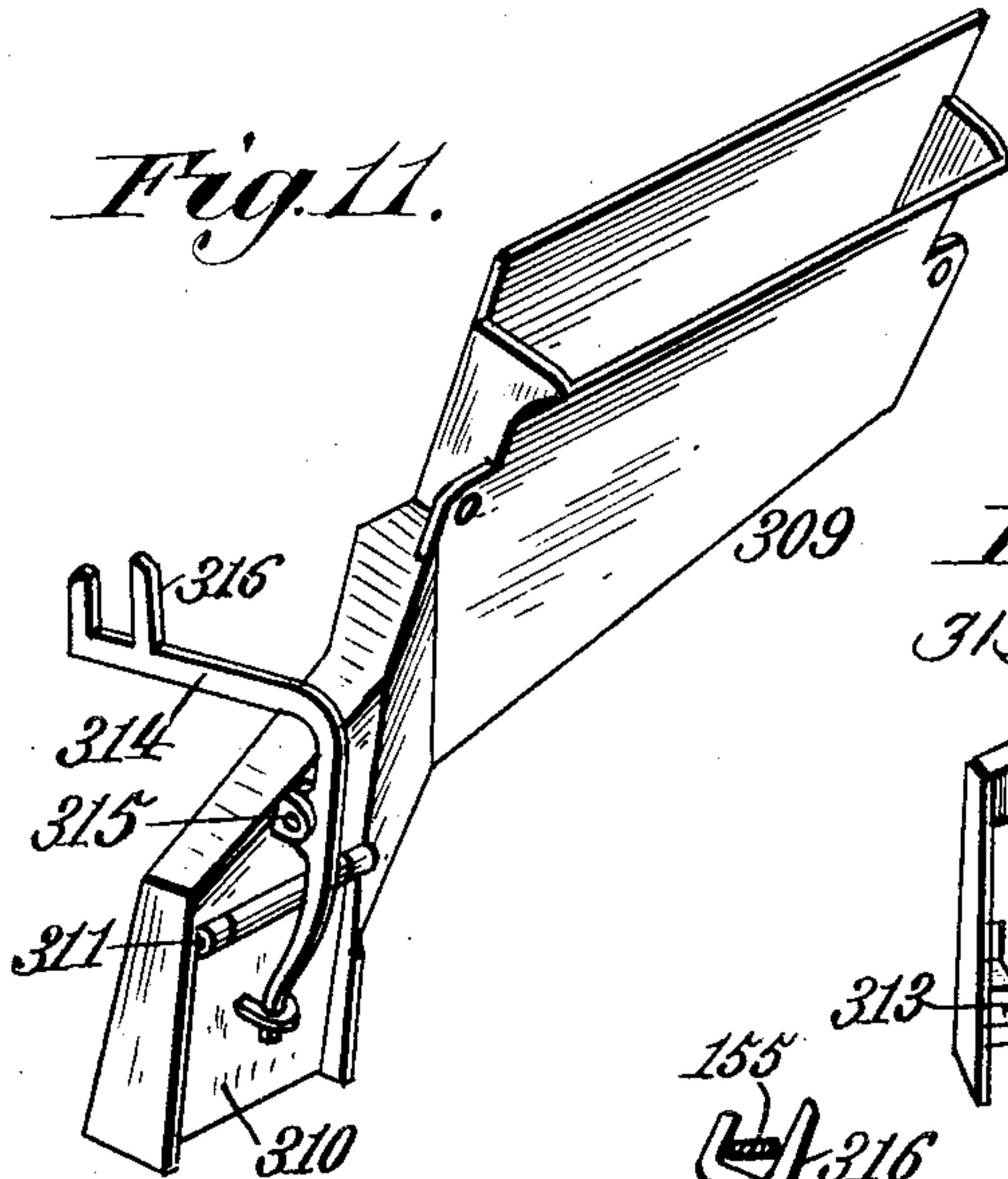


Fig. 13.

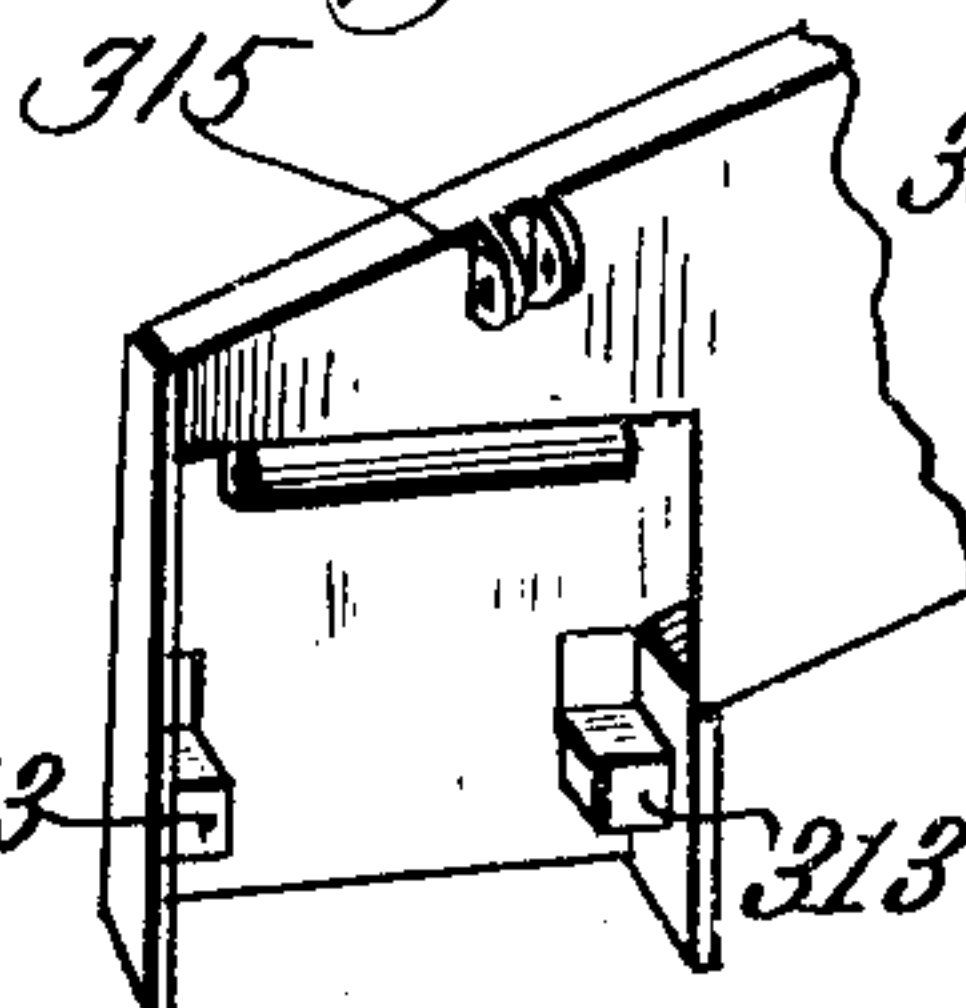


Fig. 14.

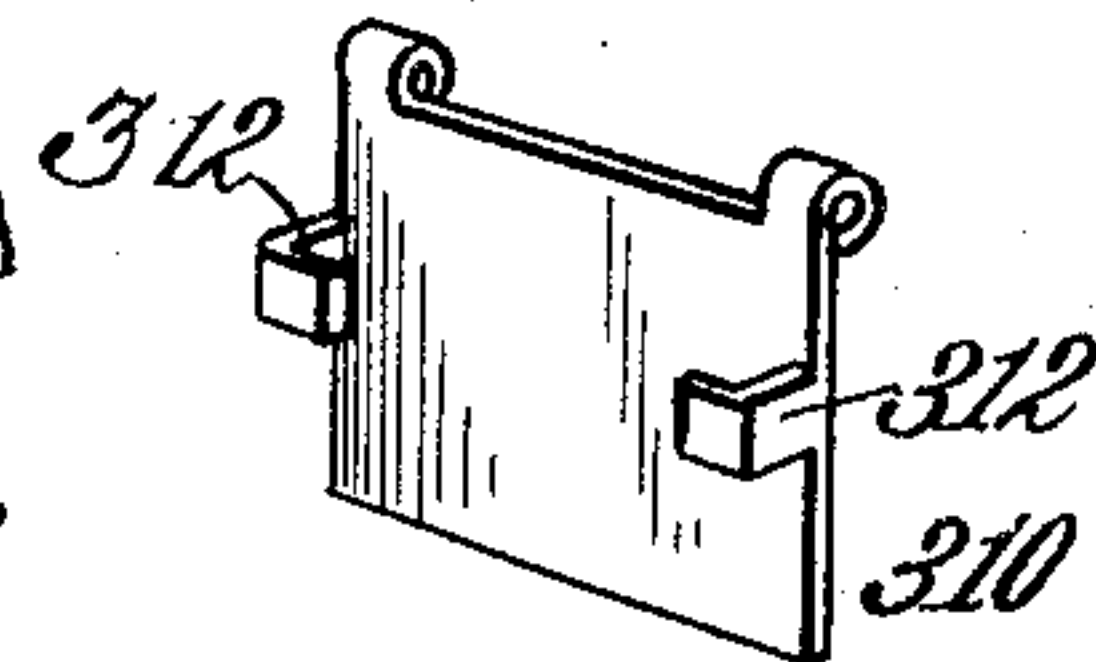
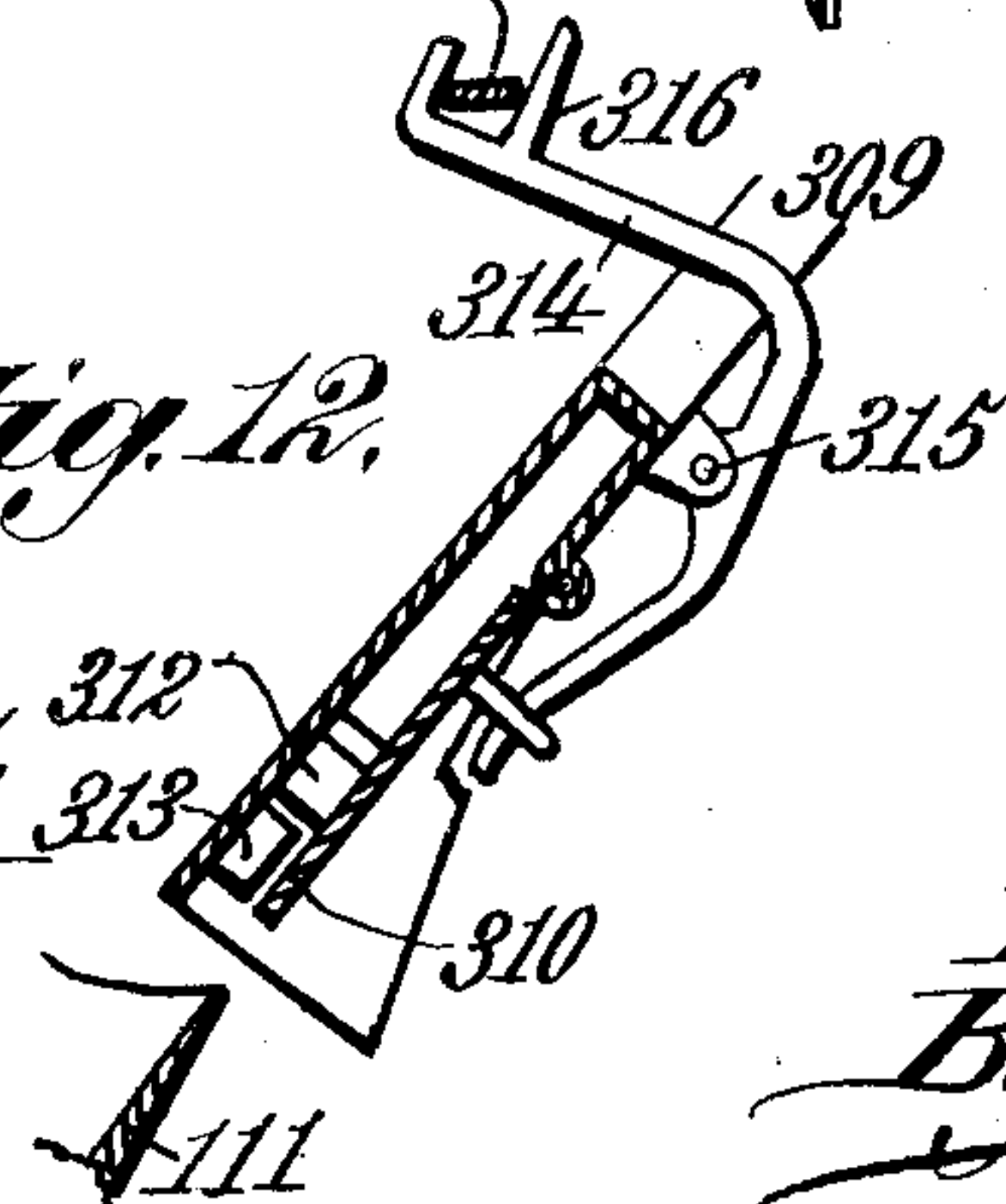


Fig. 12.



Witnesses,
Robert C. Pratt,
Ed. Kesler

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No. 750,718.

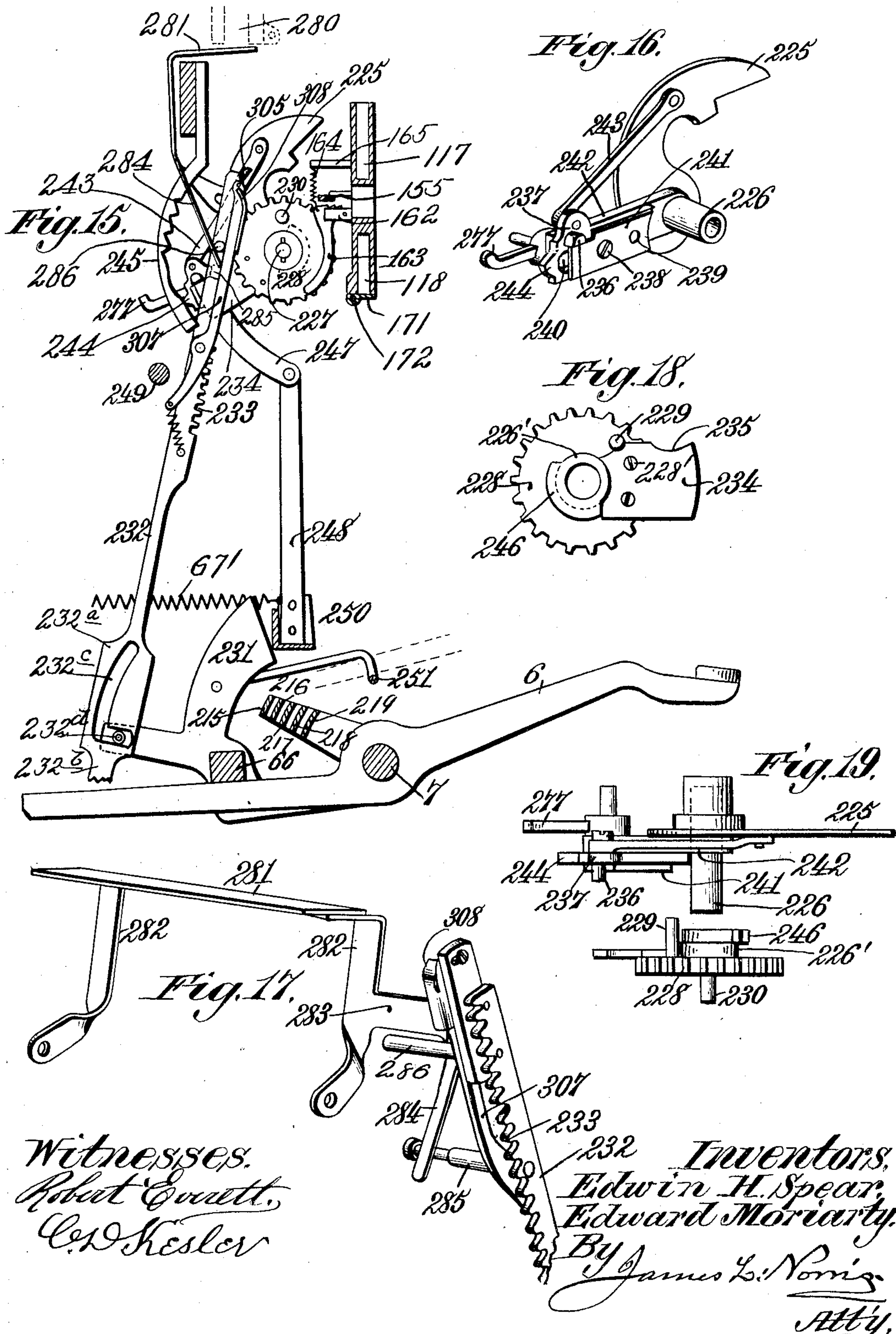
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14 SHEETS—SHEET 7.



No. 750,718.

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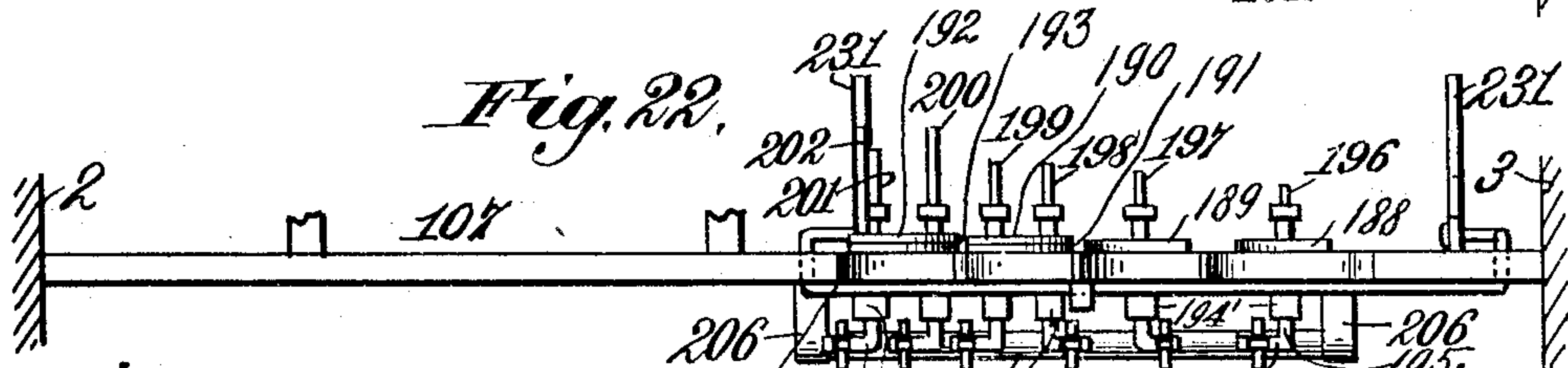
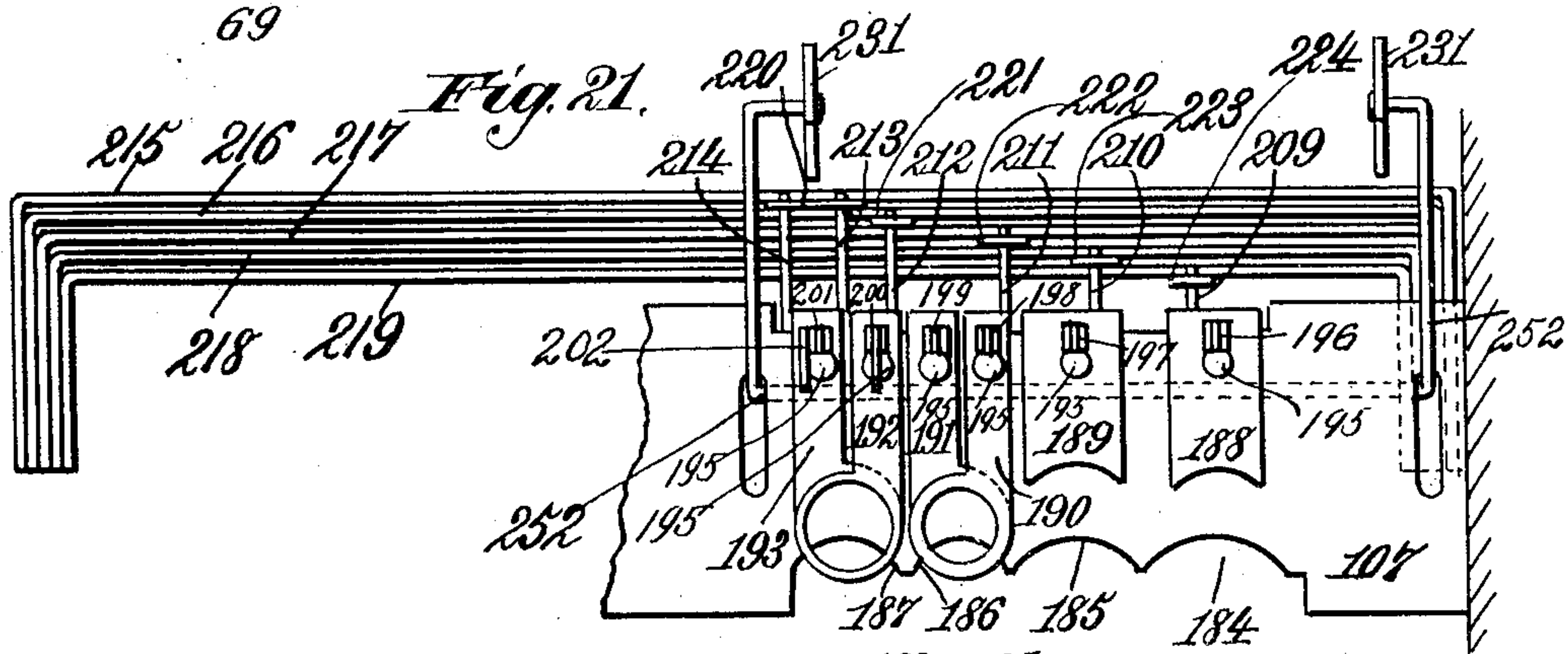
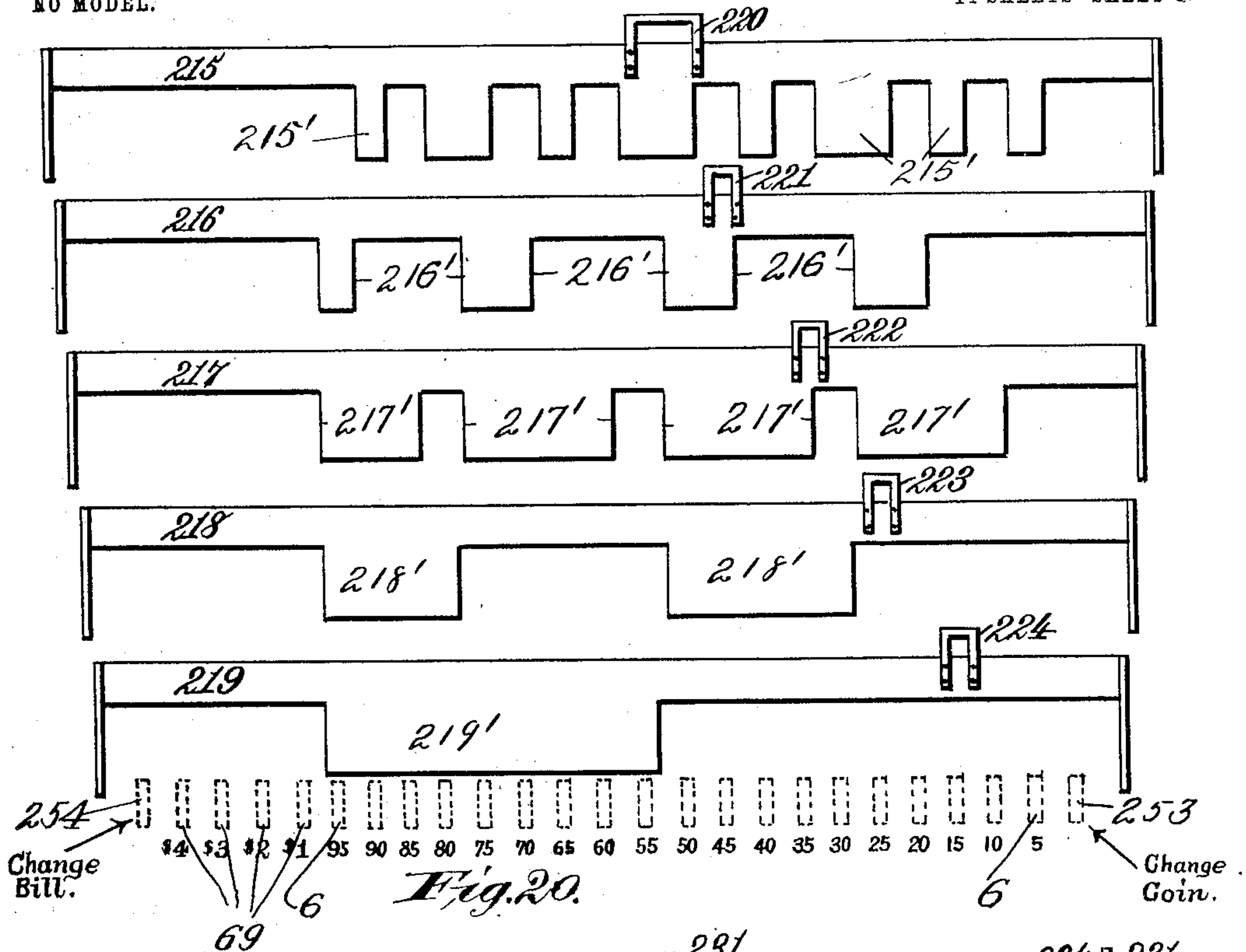
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MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
AND DETECTING COINS.

APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 8.



Witnesses.
Robert Burnett.
C. J. Kessler.

252 195 204 *Inventors.*
 205 208 *Edwin H. Spear,*
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 204 *By James L. Norris.*
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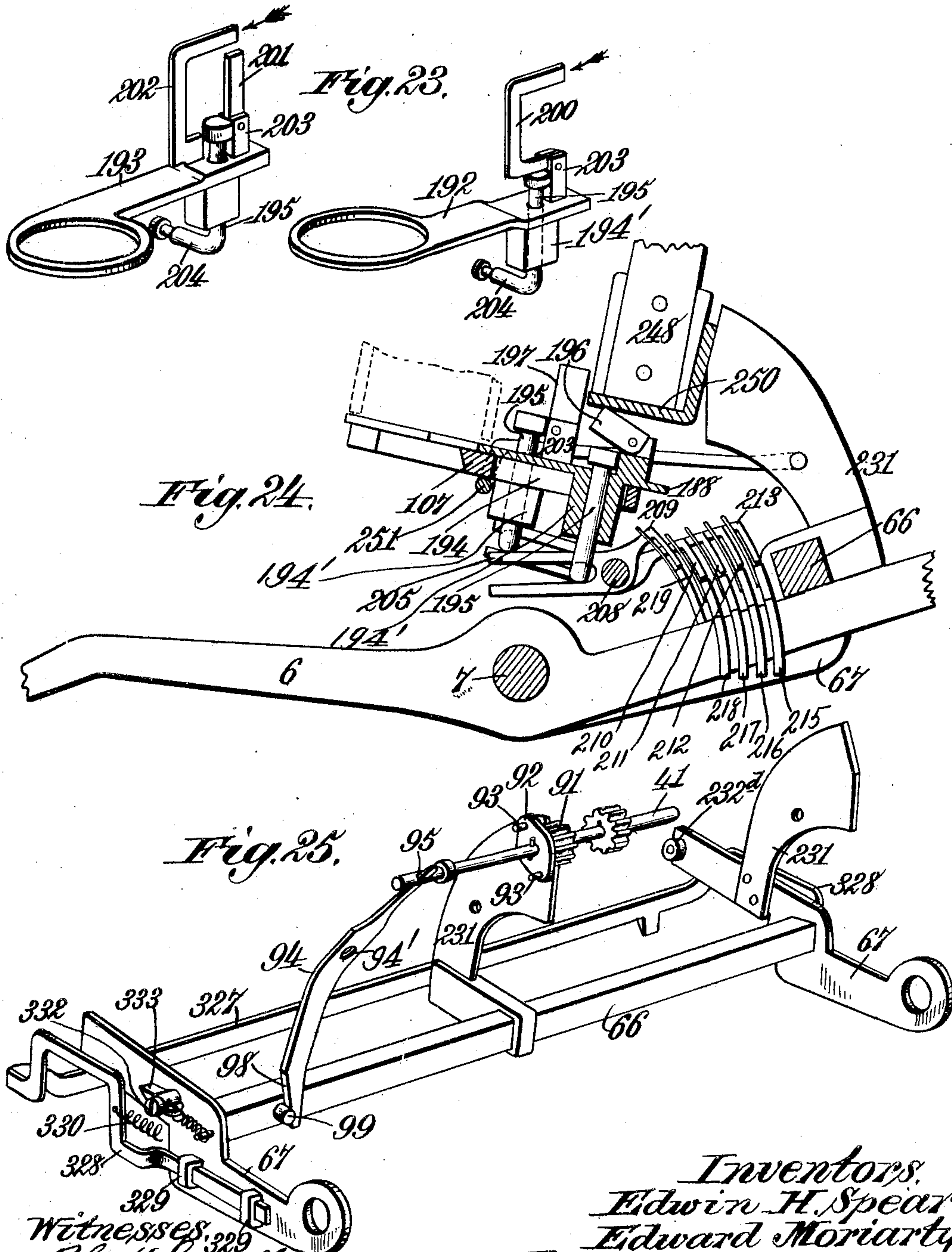
PATENTED JAN. 26, 1904.

E. H. SPEAR & E. MORIARTY.
MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
AND DETECTING COINS.

NO MODEL.

APPLICATION FILED DEC. 2, 1902.

14 SHEETS—SHEET 9.



Witnesses:
Robert Gruett,
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PATENTED JAN. 26, 1904.

E. H. SPEAR & E. MORIARTY.
MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
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APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 10.

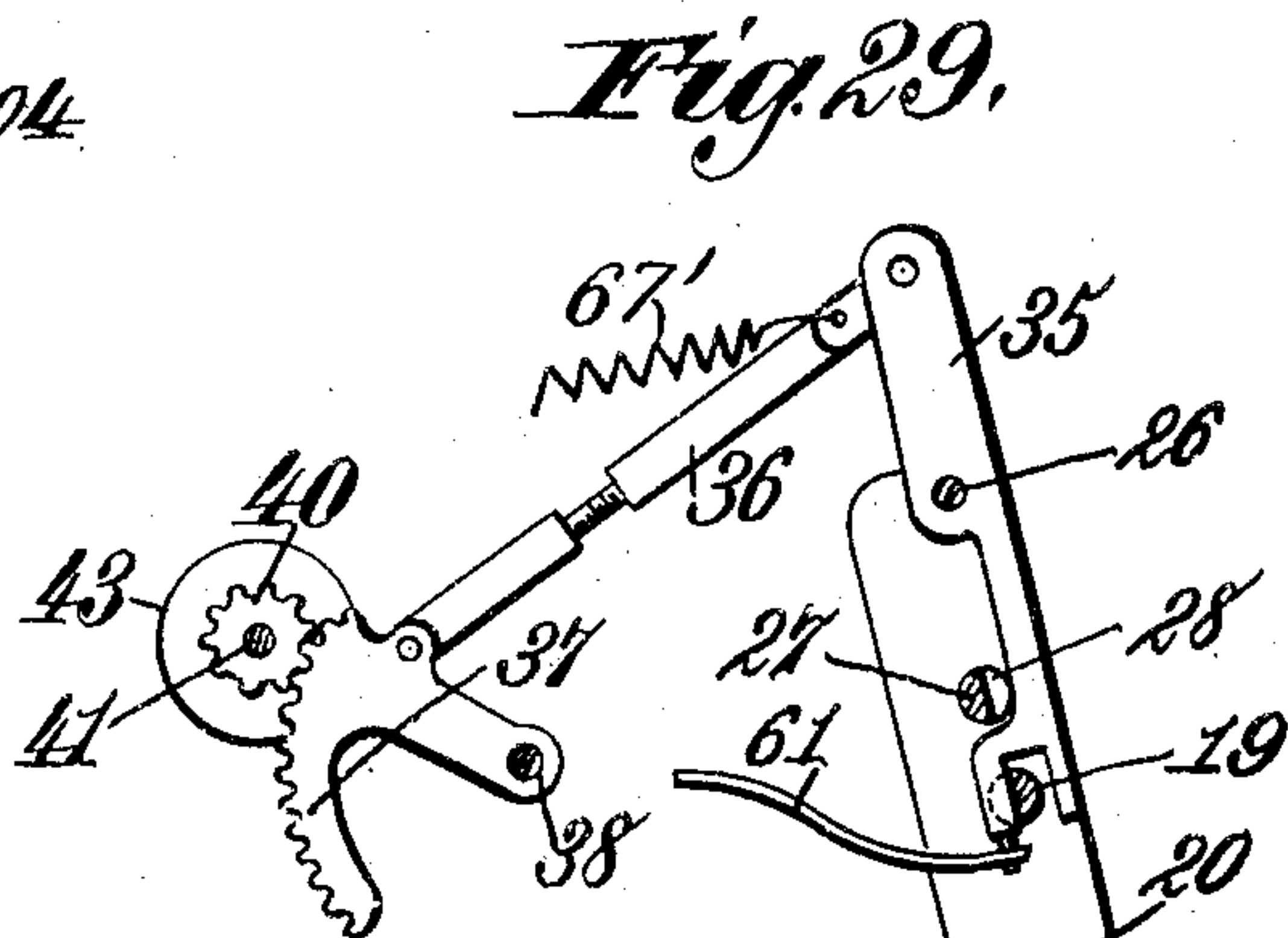
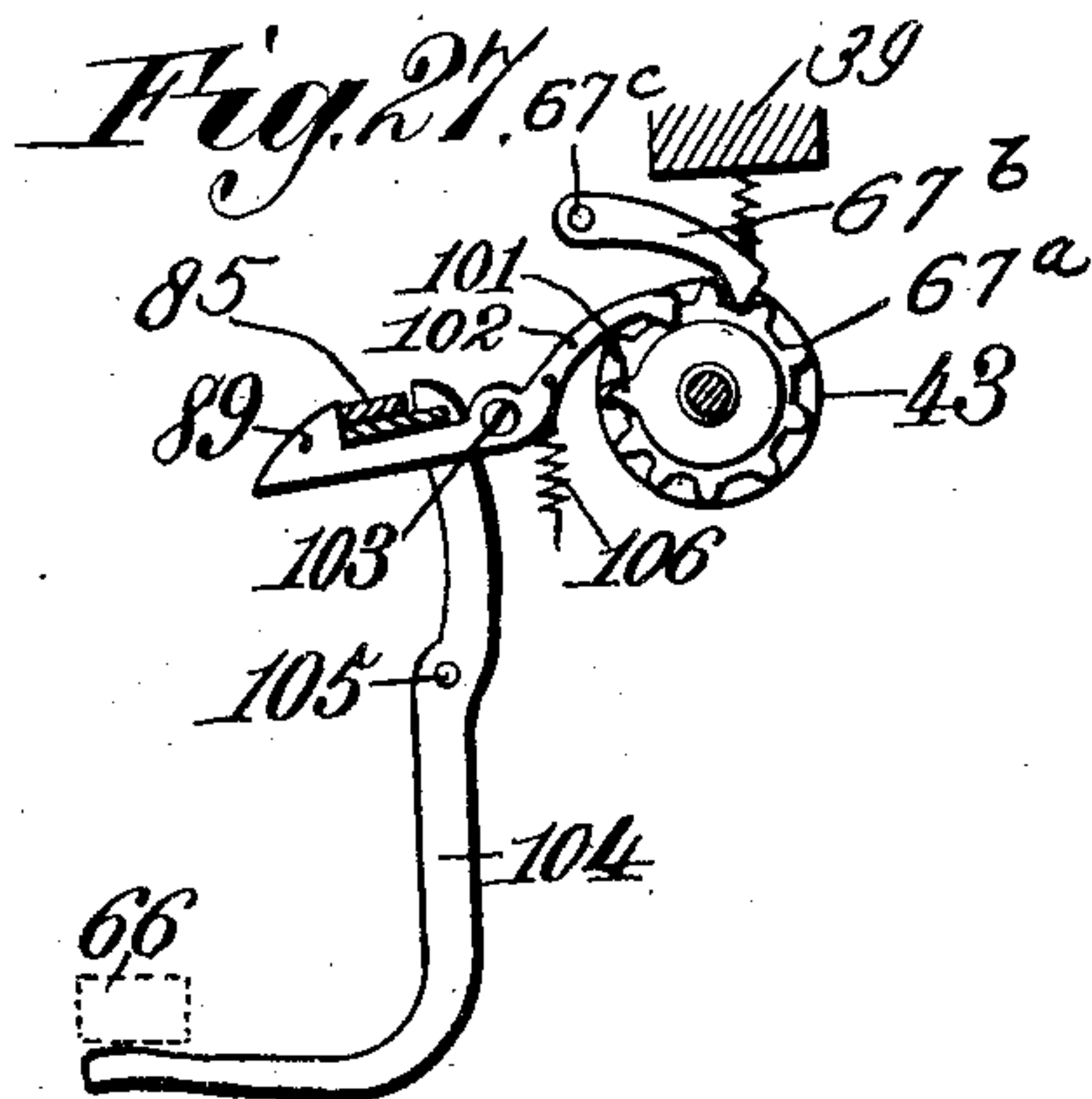
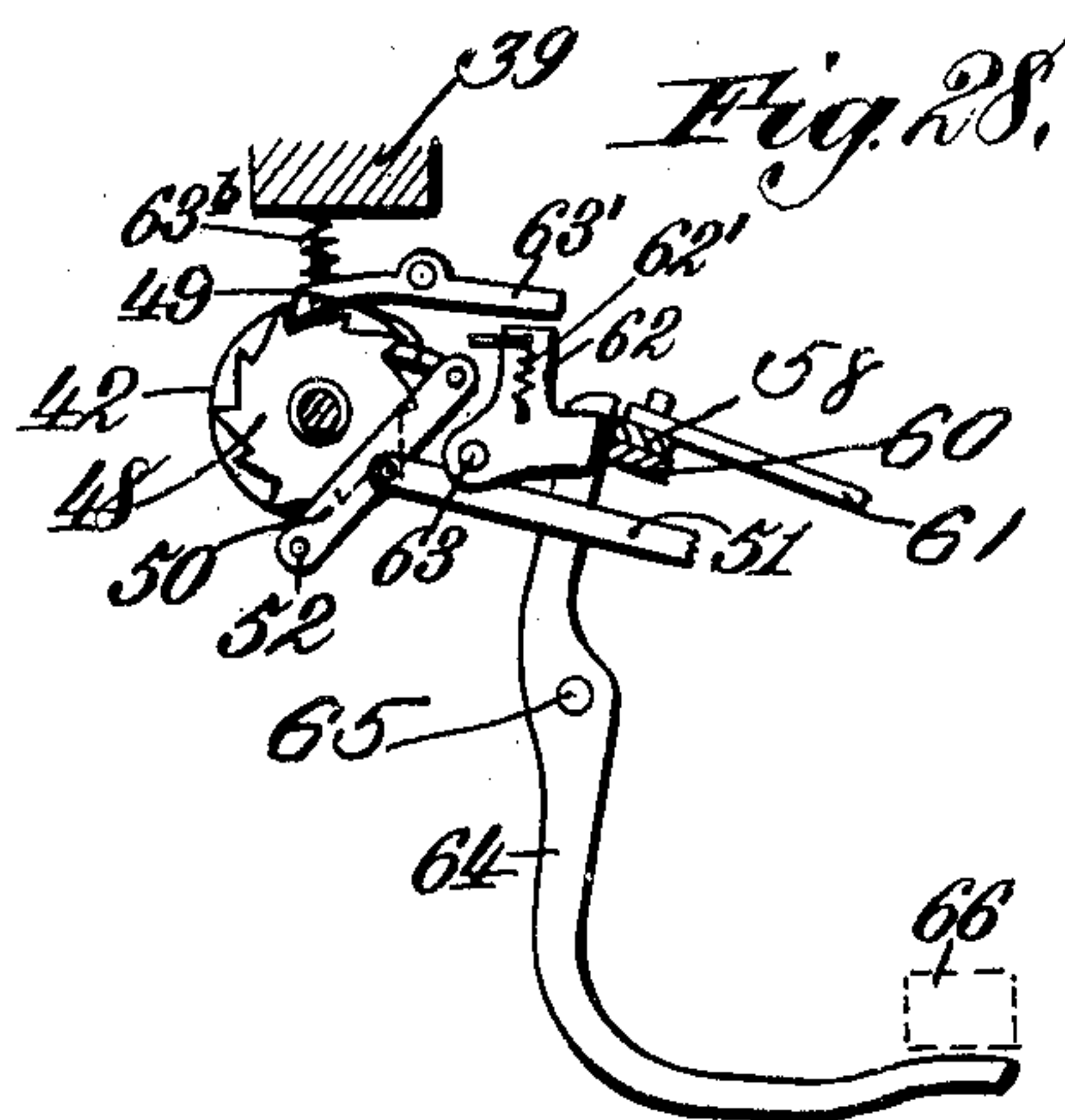
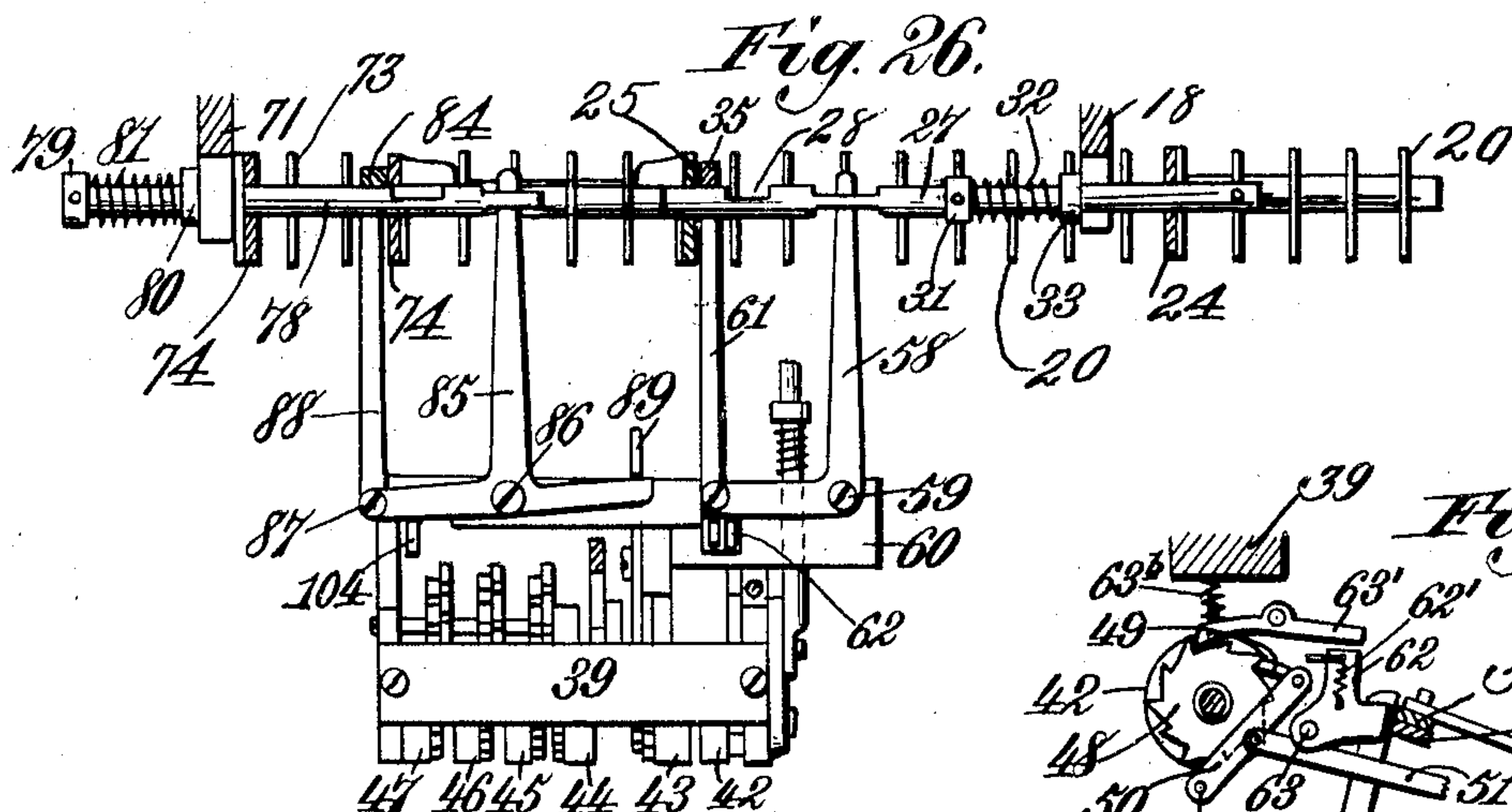
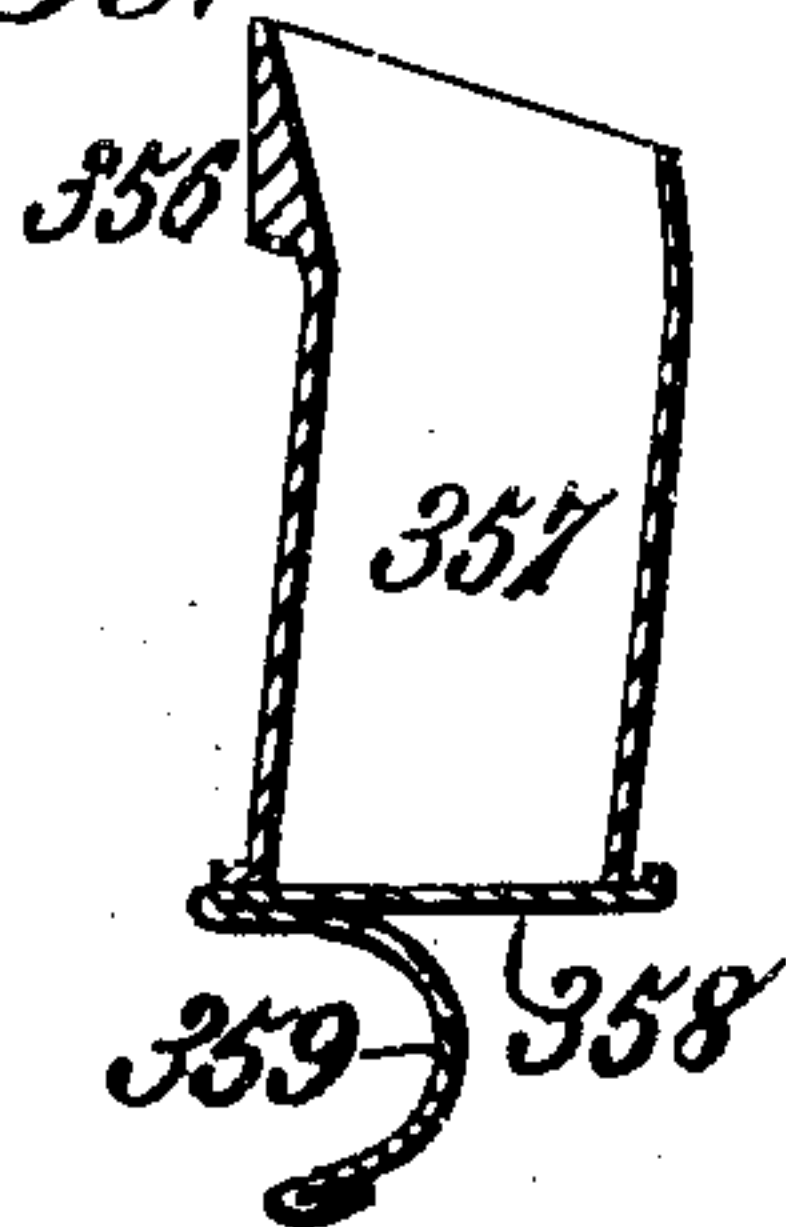


Fig. 30.



Witnesses,
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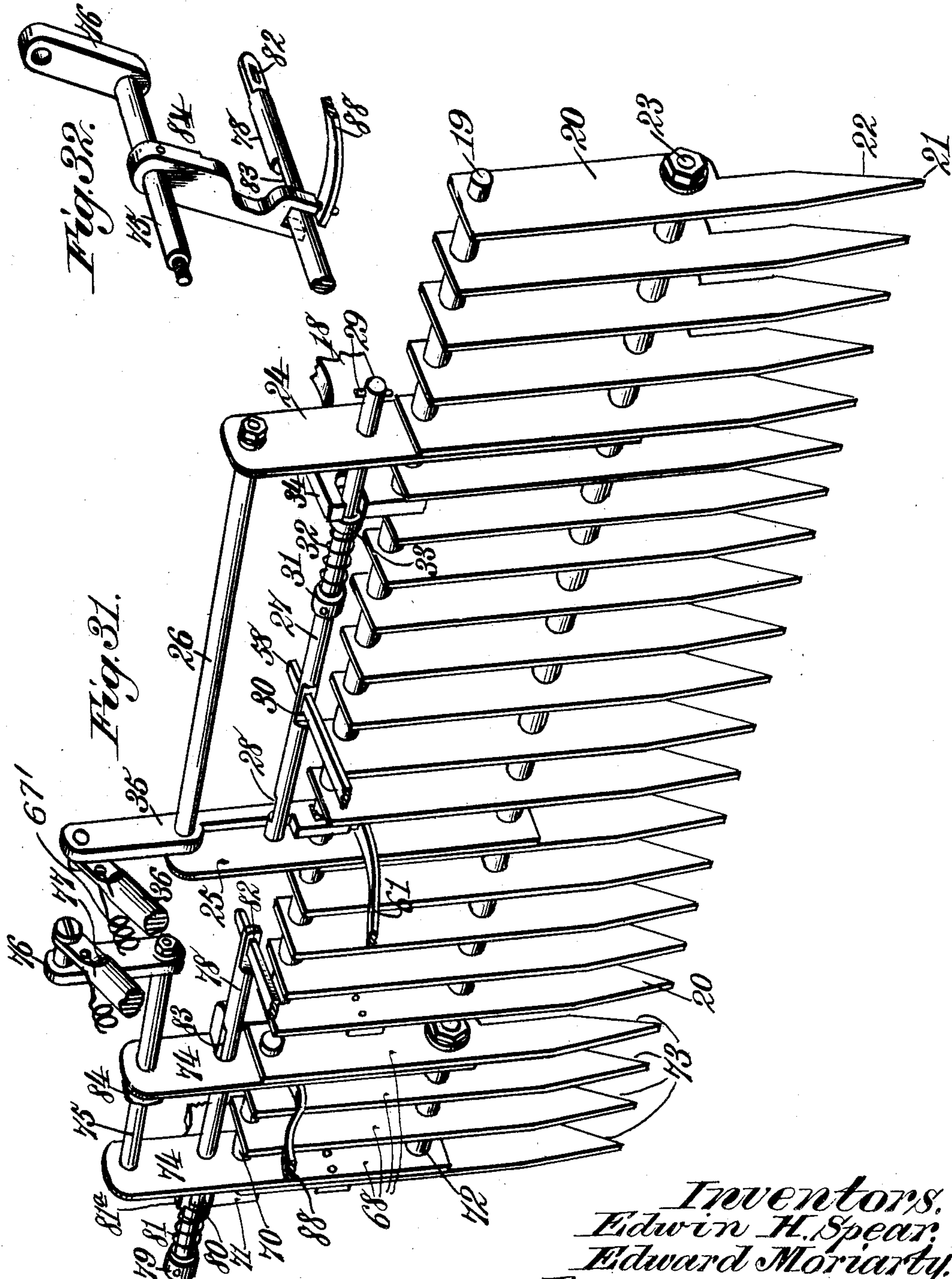
PATENTED JAN. 26, 1904.

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MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
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NO MODEL.

APPLICATION FILED DEC. 2, 1902.

14 SHEETS—SHEET 11.



Witnesses:
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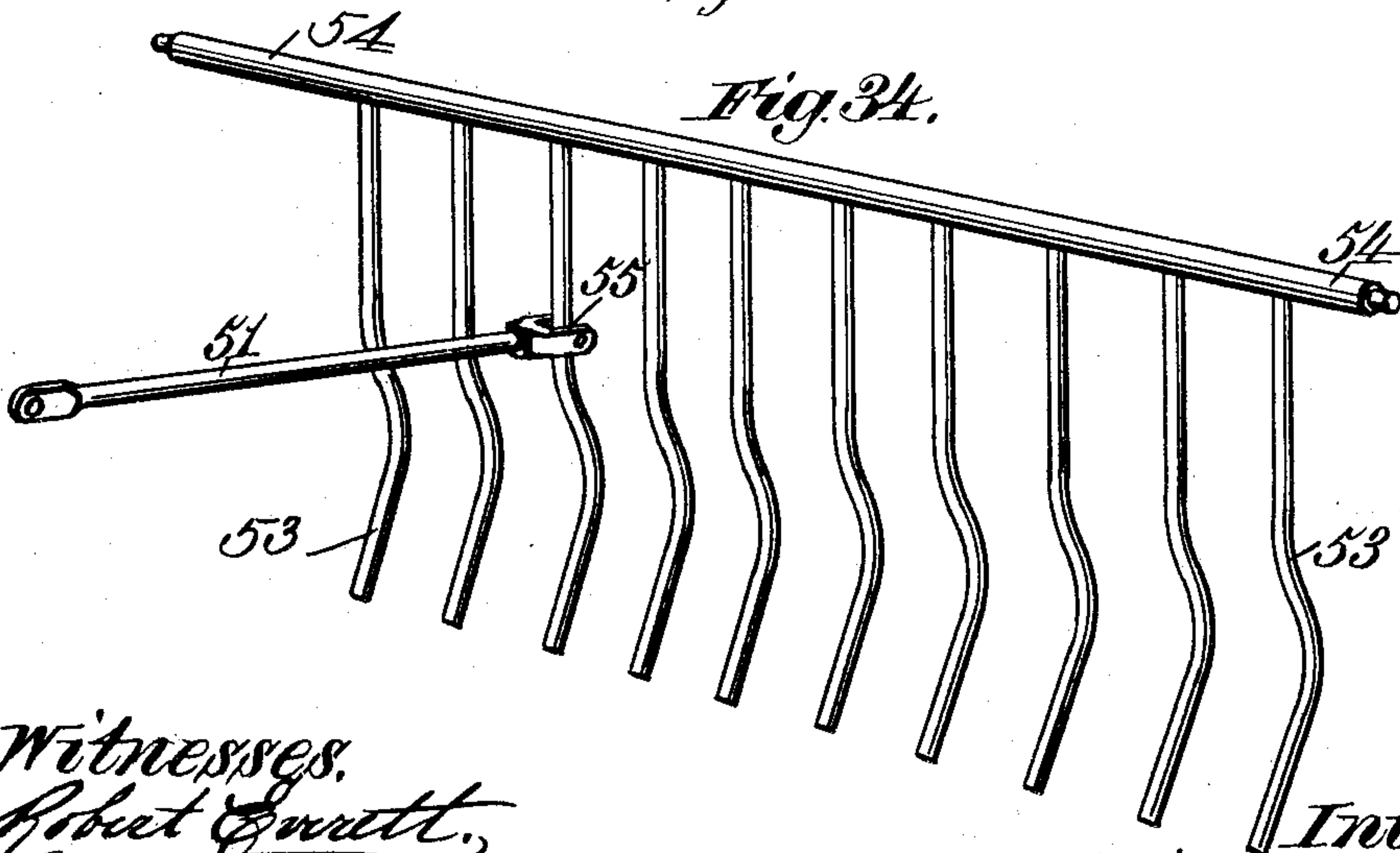
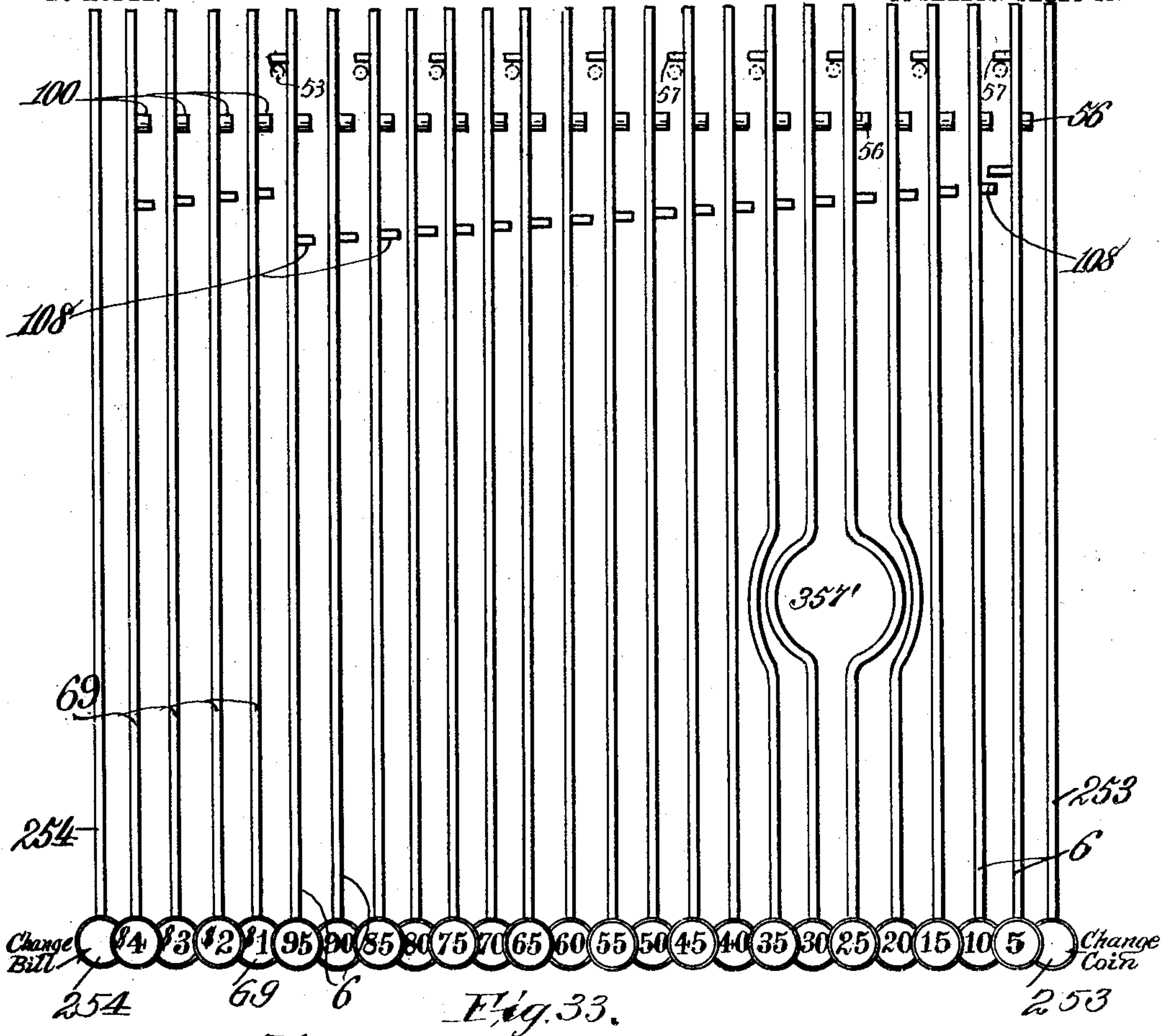
PATENTED JAN. 26, 1904.

E. H. SPEAR & E. MORIARTY.
MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
AND DETECTING COINS.

APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 12.



Witnesses.
Robert G. Smith.
C. S. Kessler

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Edward Moriarty.
By James L. Norris Att'y.

No. 750,718.

PATENTED JAN. 26, 1904.

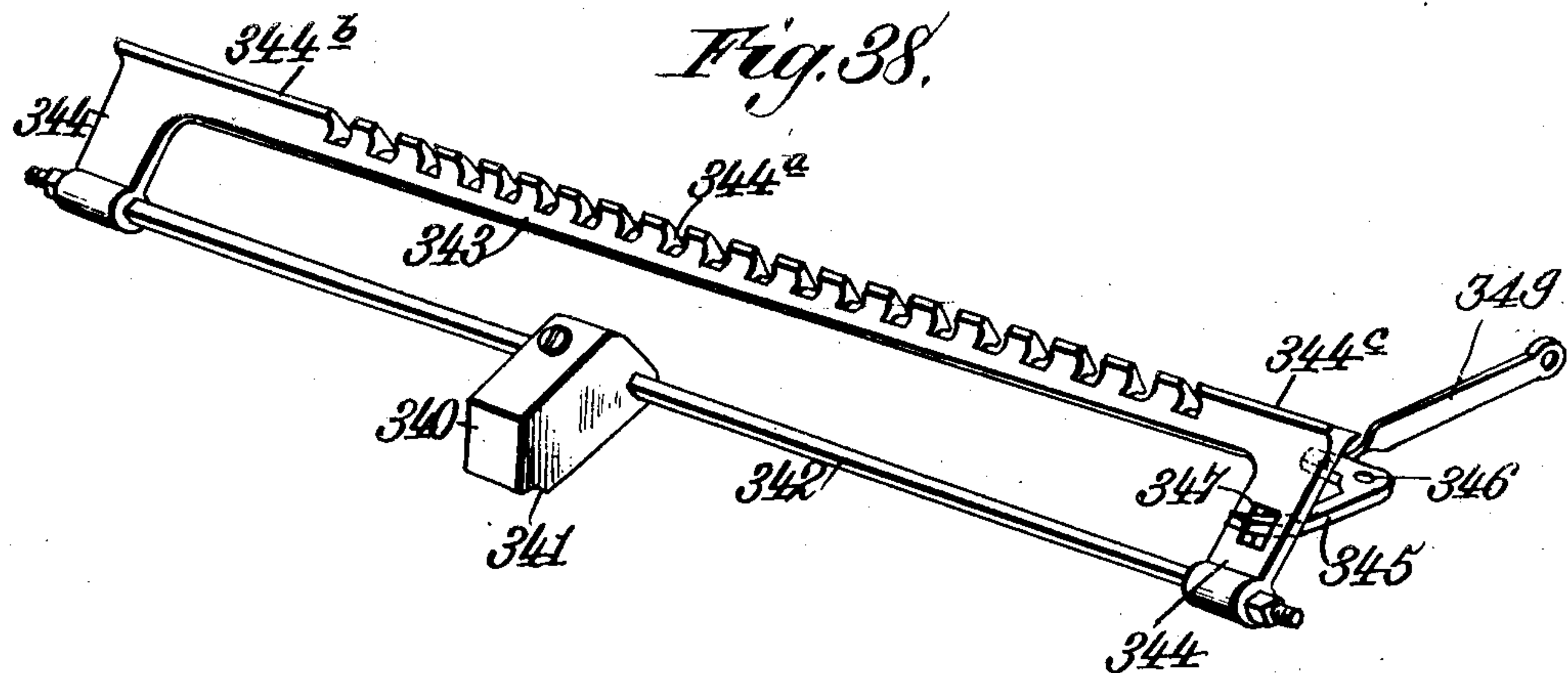
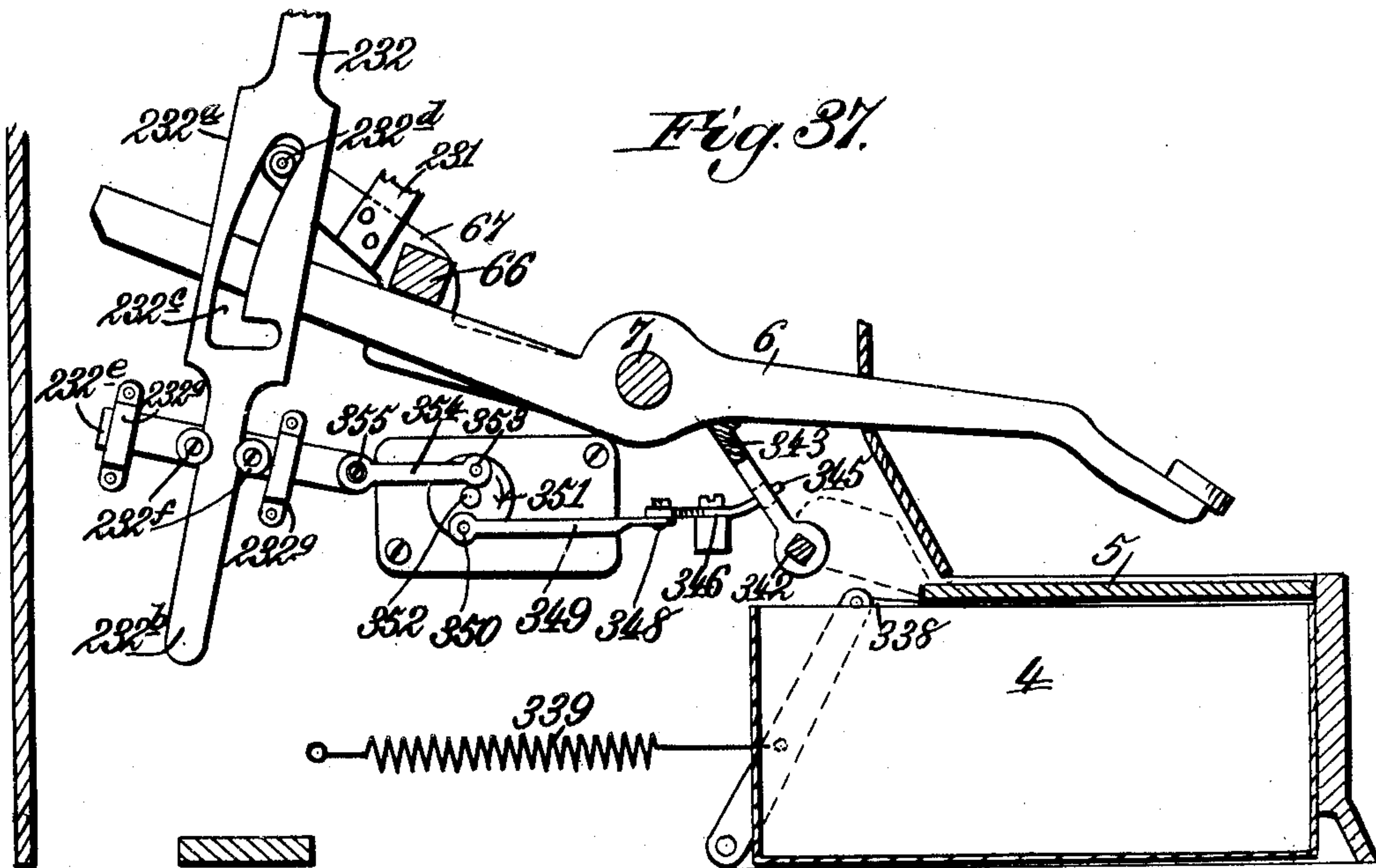
E. H. SPEAR & E. MORIARTY.

MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
AND DETECTING COINS.

APPLICATION FILED DEC. 2, 1902.

NO MODEL.

14 SHEETS—SHEET 13.



Witnesses:
Robert Gruett
Chas. Kessler

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No. 750,718.

PATENTED JAN. 26, 1904.

E. H. SPEAR & E. MORIARTY.
MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING,
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NO MODEL.

APPLICATION FILED DEC. 2, 1902.

14 SHEETS—SHEET 14.

Fig. 39.

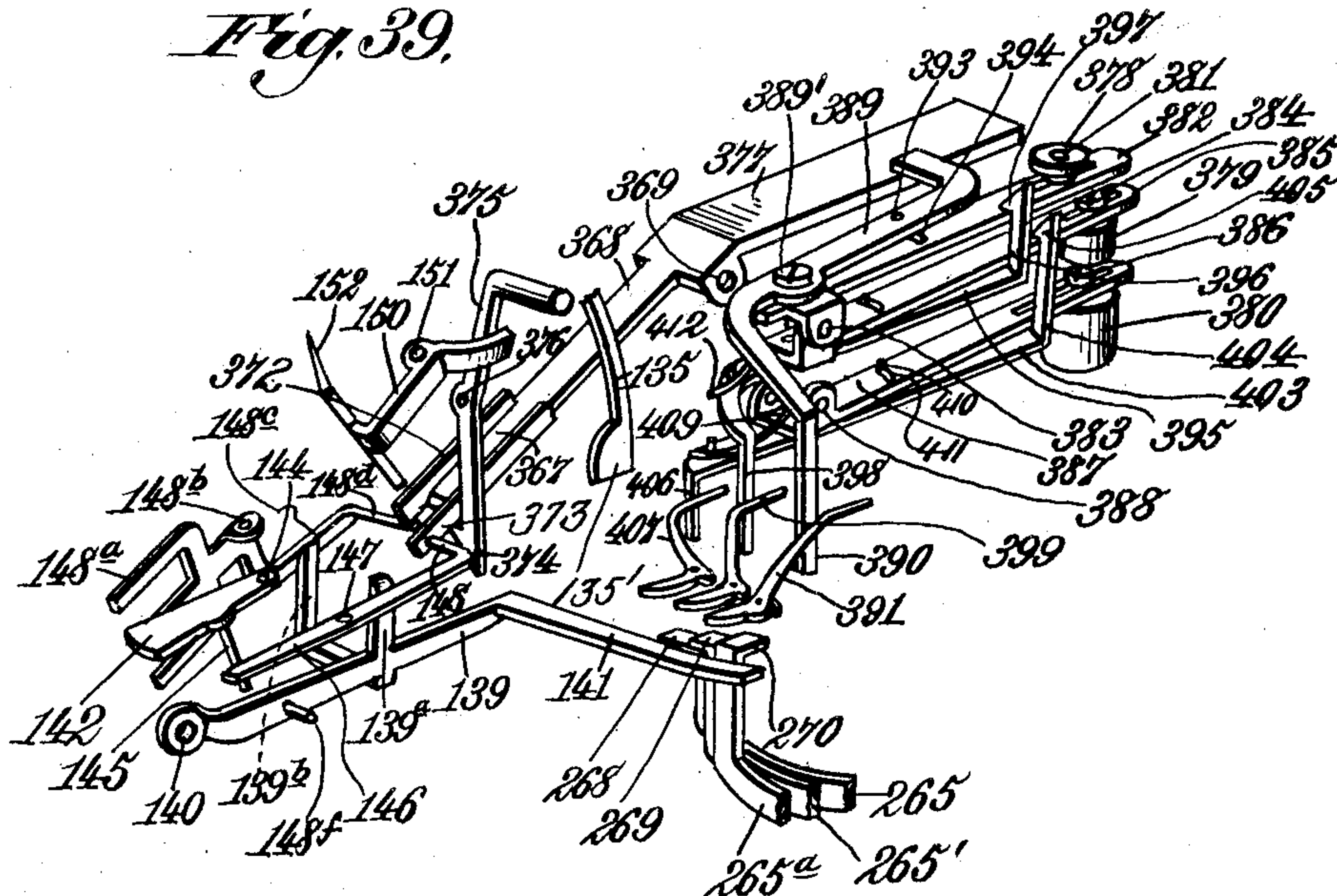


Fig. 40.

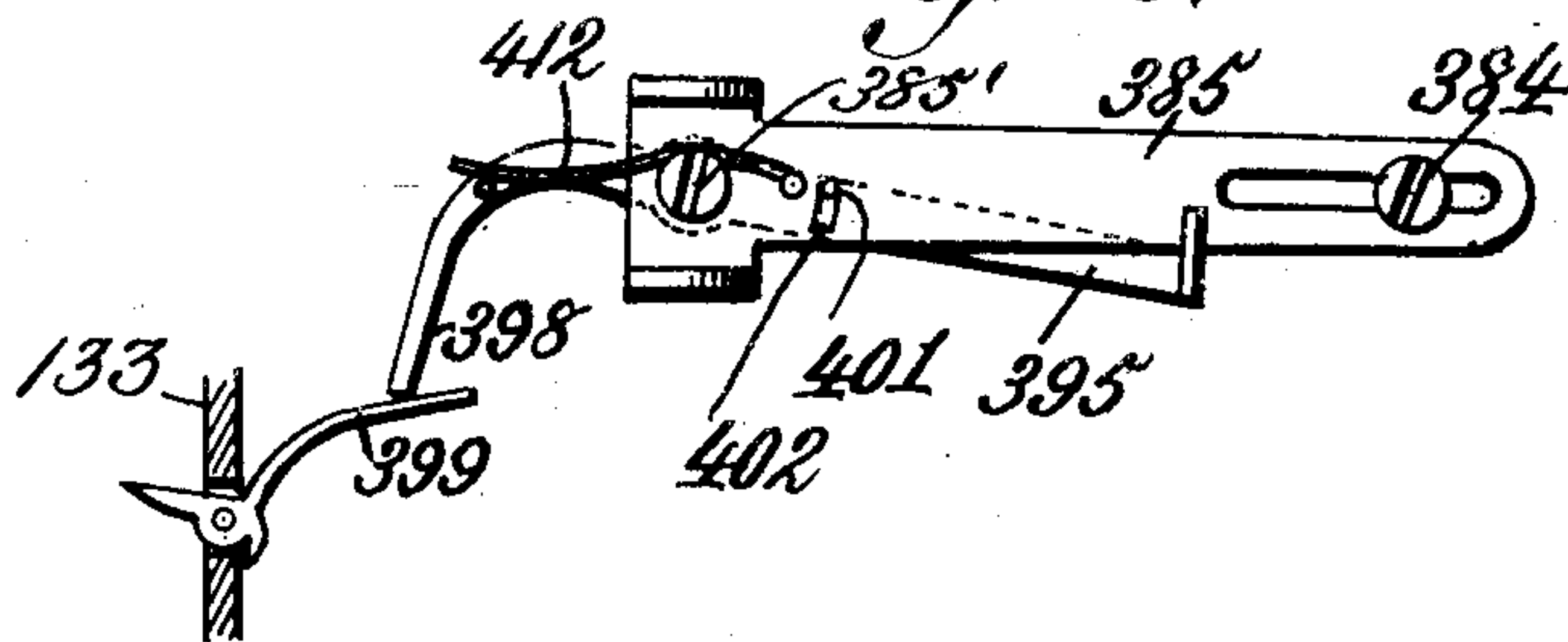
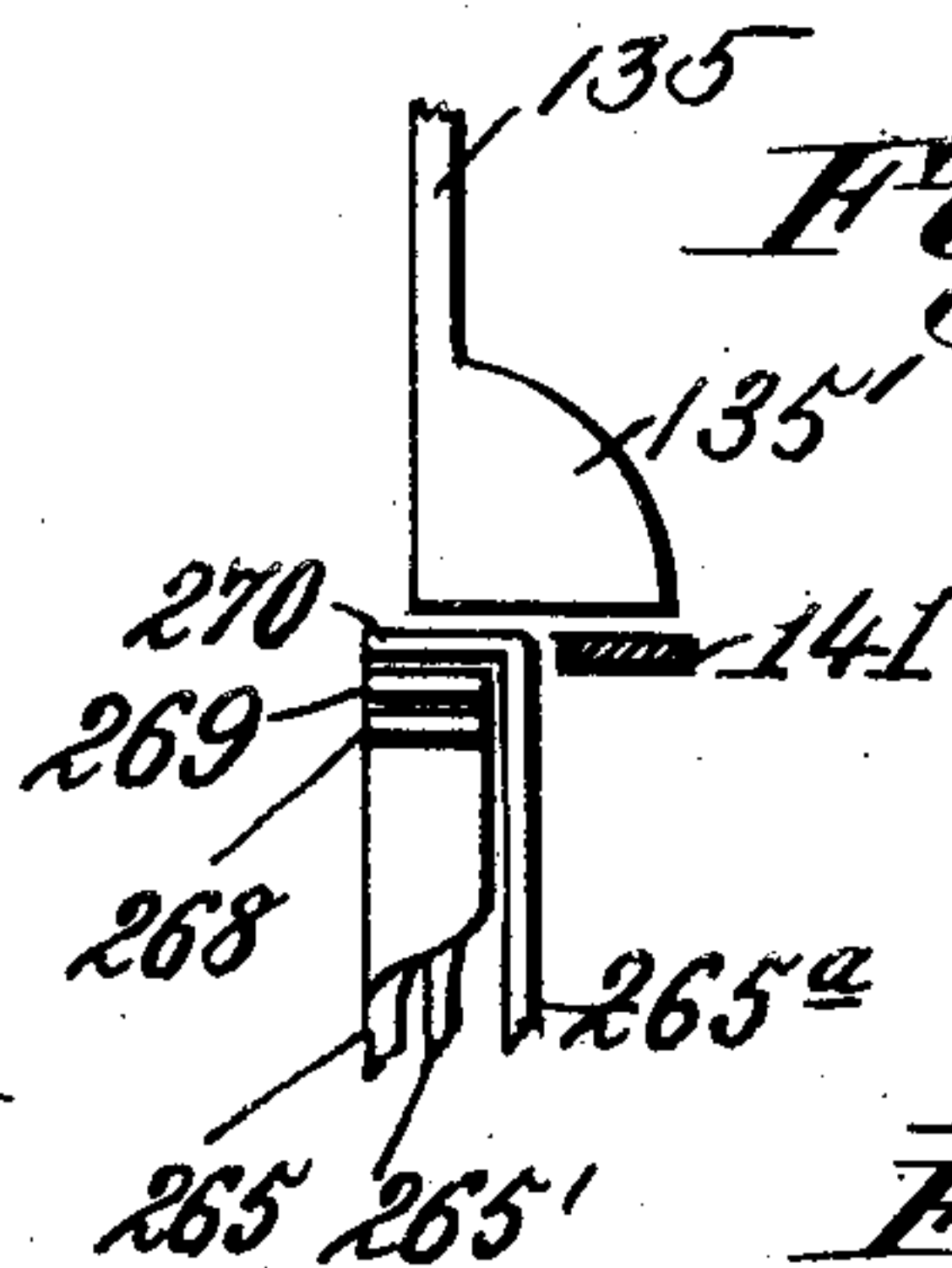


Fig. 41.



Witnesses,
Robert C. Pratt,
Chas. Kesler

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Edward Moriarty,
By James L. Norris
Att'y.

UNITED STATES PATENT OFFICE.

EDWIN HUDSON SPEAR, OF NEW YORK, N. Y., AND EDWARD MORIARTY, OF LONDON, ENGLAND, ASSIGNORS TO THE F. S. M. SYNDICATE, LIMITED, OF LONDON, ENGLAND, A CORPORATION OF GREAT BRITAIN.

MACHINE FOR RECEIVING, DELIVERING, SORTING, REGISTERING, AND DETECTING COINS.

SPECIFICATION forming part of Letters Patent No. 750,718, dated January 26, 1904.

Application filed December 2, 1902. Serial No. 133,604. (No model.)

To all whom it may concern:

Be it known that we, EDWIN HUDSON SPEAR, a citizen of the United States of America, residing at New York city, in the State of New York, and EDWARD MORIARTY, a subject of the King of Great Britain, residing at Fulham, London, W., England, have invented certain new and useful Improvements in Machines for Receiving, Delivering, Sorting, Registering, and Detecting Cash, of which the following is a specification.

This invention relates to certain new and useful improvements in machines for receiving, delivering, sorting, registering, and detecting cash.

The invention aims to provide a machine of the character above described in which is combined the principle of a cash-register and a change deliverer or maker, the principle of the change deliverer or maker being such that the machine will deliver the correct amount of change between the cost of the article and a coin of greater value than the cost of the sale or deliver change equal in value to a coin of a denomination equal to the value of the change required.

The invention further aims to provide a machine of the above-referred-to character adapted for receiving and separating coins by directing the same to various receivers or storage-receptacles and delivering for the coins received, if required, the correct amount of change necessary—that is to say, the change required between the cost of the article or sale and a coin of greater value than the cost of the article or sale or deliver change equal in value to a coin inserted in the machine and when so delivering the change between the cost of the article and the sale and the coin inserted in the machine to register the cash received or the cost of the article or sale.

The invention further aims to construct a machine for receiving, delivering, sorting, detecting, and registering cash, combining in itself the principle of a cash-register and change deliverer or maker and which shall be simple in its construction, strong, durable,

efficient in its operation, and comparatively inexpensive to set up.

To this end the invention consists of the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, wherein like reference characters denote corresponding parts throughout the several views, and in which—

Figure 1 is a front elevation of the machine with the cover removed. Fig. 2 is a rear elevation of the machine with the back removed. Fig. 3 is a vertical section taken from front to rear on the line 3 3 of Fig. 1. Fig. 4 is a like view on the line 4 4 of Fig. 1. Fig. 5 is an elevation of the coin separator and distributor for the change-making mechanism. Fig. 6 is a vertical sectional elevation of the coin separator and distributor. Fig. 7 is a horizontal sectional view of the coin separator and distributor. Fig. 8 is a front view of the lower portion of the coin separator and distributor. Fig. 9 is a detail view of the finger for operating the locking mechanism for certain key-levers. Fig. 10 is a front elevation of the coin-receiving receptacles and transferrers for the primary receiving, sorting, and delivering mechanism. Fig. 11 is a detail view of the outer coin guiding and delivering chute. Figs. 12, 13, and 14 are detail views of the outer coin guiding and delivering chute. Fig. 15 is an elevation of the change-controlling feeling-finger and its operating mechanism. Figs. 16 and 17 are detail views of the mechanism for the change-controlling finger. Figs. 18 and 19 are detail views of the operating means for the primary receiving, sorting, and delivery mechanism. Fig. 20 is a diagrammatical view of the change-regulating bars. Fig. 21 is a top plan view of the change making and ejecting mechanism. Fig. 22 is a detail view of the same. Fig. 23 is a detail view of a pair of the coin-ejectors for

the change making and ejecting mechanism. Fig. 24 is a longitudinal sectional view of the change making and ejecting mechanism. Fig. 25 is a perspective view of a portion of the mechanism of the machine employed in connection with the registering devices, change-delivering mechanism, and key-levers. Fig. 26 is a sectional plan of the registering mechanism and transferring device. Figs. 27, 28, and 29 are sectional detail views of the registering mechanism and transferring devices. Fig. 30 is a vertical sectional view of the change-discharging chute. Fig. 31 is a perspective view of the cams operated by the key-levers for operating the registering mechanism. Fig. 32 is a detail view of a portion of the mechanism for the transferring device for the registering mechanism. Fig. 33 is a plan of the key-levers. Fig. 34 is a detail view of the auxiliary cams used in connection with the registering device. Fig. 35 is a sectional elevation, and Fig. 36 is an elevation, of one of the circulating bill-receptacles. Fig. 37 is a sectional elevation showing the mechanism for releasing the door to permit of access to the cash-storage chamber. Fig. 38 is an elevation of the adjustable plate used in the mechanism for releasing the door for the cash-storage chamber. Fig. 39 is an elevation of the deflecting and detecting mechanism. Fig. 40 is a detail thereof, and Fig. 41 is a detail view showing the lower portion of the finger for operating the deflecting and detecting mechanisms for the coins and the locking mechanism for the keys.

Referring to the drawings by reference characters, the frame 1 of the machine may be of any preferred form and constructed of a series of detachable front, rear, and side plates, and within the frame is arranged a pair of vertical standards or supports 2 3 for supporting various parts of the mechanism, to be hereinafter referred to. The lower portion of the frame 1 is formed with a cash-storage chamber or receptacle 4, having an open top, the purpose of which will be hereinafter referred to. The cash-storage chamber 4 is provided with a cover 5 for closing the open top thereof. This cover 5 is automatically opened when occasion requires by an operating mechanism, to be hereinafter referred to.

The reference character 6 denotes a bank of key-levers fulcrumed on a bar 7, which is secured to the standards 2 3. The key-levers are constructed so that their rear ends are heavier than their forward ends, which will cause the key-levers to be retained normally at their outer or forward ends in an elevated position. The inner ends of the key-levers extend to the back of the frame 1, so they will engage and lie under the lower ends of the sale-indicating rods 8. These latter extend in a vertical manner and are each provided with the studs or pins 9 and 10, the former arranged below the latter and, further, carry on their

upper ends the indicators or cards 11. The rods 8 also carry a coil compression-spring 12. When a key-lever is depressed, its respective rod 8 is elevated and the indicator 11 moved up into a recess 13, so that the inscription or amount of sale upon the indicator or card 11 can be read. The recess 13 is formed by a top plate 14 and front and rear plates 15 and 16. The plates 15 and 16 are constructed of glass, so that the indicator can be read there-through.

Near the back of and to the supports 2 3 is connected a supporting-plate 17, provided with a pair of forwardly-projecting arms 18, in which is mounted a rock-shaft 19, carrying a downwardly-depending series of cams 20, Fig. 31. The number of the cams is such that one cam will be employed for each key-lever of the bank 6. The lower portion of each of the cams 20 is brought to a point, as at 21, and the inner edge of each of the cams at its lower portion is beveled, as at 22. The beveled edge 22 of each of the cams extends at a different inclination—that is to say, the lower portions of the cams are beveled in a graduating manner, the cam for the key-lever for the lowest sale having its bevel the smallest, the bevel of the other cams gradually increasing in size. The function of this manner of beveling the cams will be hereinafter set forth. The series of cams is braced and reinforced by a rod 23, which extends approximately centrally therethrough.

The reference characters 24 25 denote a pair of vertically-extending plates, which are secured to the shaft 19 and rod 23 and project a suitable distance above the shaft 19. Two of the cams 20 may be elongated, so as to extend above the shaft 19 in lieu of the employment of the plates 24 25. The plates 24 25 are connected together and reinforced at their top by the stay-rod 26, and the plates 24 and 25 also carry a transversely-movable bar 27, termed a "transferring-bar" and which extends across the top of the majority of the cams 20. The bar 27 at one end adjacent to the plate 25 and on one side is provided with a notch 28 and at its other end adjacent to the plate 24 is provided with a stop-pin 29 for limiting the transverse movement in one direction of the bar 27. The latter is also provided with a slot 30 and, further, carries a fixed collar 31 and a coil-spring 32, the latter at one end bearing against one side of the collar 31 and at its other end against a slidable collar 33 on the bar 27. The latter extends through a bifurcated guide 34, which is also adapted to limit the movement in one direction of the collar 33. The guide 34 is connected to the supporting-bar 17 and also forms a support for the rock-shaft 19. Extending above the plate 25 and slotted at its lower end, so that the rock-shaft 19 will not interfere with the motion of the transferring-arm 35, but pivoted upon the stay-rod 26, is a

transferring-arm 35. This arm 35 is pivotally connected to an adjustable link 36, which is in turn pivotally connected to a toothed quadrant 37, Fig. 29. The link 36 is pivoted at its upper end to the transferring-arm 35 and at its other end to the quadrant 37. The toothed quadrant 37 is pivoted, as at 38, to an extension of the register-supporting frame 39. The toothed quadrant 37 is adapted to mesh with the clutching-pinion 40 upon the transversely-movable register-wheel shaft 41, which is suitably supported by the frame 39. The operating means for the shaft 41 will be hereinafter referred to. The shaft 41 carries the registering-wheels 42, 43, 44, 45, 46, and 47, and the clutching-pinion 40 is adapted to engage and actuate the registering-wheel 43. The registering-wheel 43 is provided with openings to receive pins carried by the clutching-pinion 40. The latter may be of the same construction as the clutching-pinion 91, Fig. 25, or the register-wheel 43 may be hollowed out, so that the pinion 40 may be partly concealed therein. The operation of the shaft 41, pinion 40, and register-wheel 43 will be hereinafter referred to. The register-wheel 42 is provided with a ratchet 48, Fig. 28, engaged by a pawl 49, and the latter when operated will rotate the wheel 42. The pawl 49 is carried on one end of a lever 50, which is pivoted at its center to an actuating-arm 51, Figs. 28 and 34, and at its lower end pivoted to the register-frame 39, as at 52. The teeth of the ratchet 48 are formed of alternate sizes—that is to say, one tooth is smaller than the other. The registering-wheel 42 is employed for registering the cash amounts equal to five cents—that is to say, it registers the five-cent purchases one at a time. No purchase less than five cents can be registered by the wheel 42. The periphery of the wheel is arranged with alternate characters, as “5” “0,” and the larger teeth of the ratchet 48 are arranged at the side of the naughts and the smaller teeth of the ratchet 48 at the side of the fives. The actuating-arm 51 is operated by means of the auxiliary cams 53, Fig. 34, which is suspended from the rock-shaft 54, the latter journaled in the supports 2 and 3, and the cams 53 are arranged back of the cams 20. The auxiliary cams 53, at their lower ends, are constructed in a curvilinear manner, the function of which will be hereinafter referred to. The actuating-arm 51 is pivotally connected, as at 55, to one of the auxiliary cams 53. The cams 20 or what may be termed the “primary” cams are adapted to register a purchase or sale of the value of from ten to ninety cents and the auxiliary cams 53 are adapted to register the five-cent sales only—that is to say, if there be a purchase or sale amounting to sixty-five cents the primary cam 20 for its respective key-lever will register sixty cents, while the auxiliary cam 53 for its respective key-lever will register the five cents, making, therefore,

a total registration of sixty-five cents. The inner portion of each of the key-levers 6 employed for registering a purchase or sale from ten to ninety-five cents is provided with a stud 56, Fig. 33, for actuating the primary cams 20; and the inner portion of each of the key-levers 6 for indicating purchases or sales amounting to five, fifteen, twenty-five, thirty-five, forty-five, fifty-five, sixty-five, seventy-five, eighty-five, and ninety-five cents, respectively, is each provided with an actuating-stud 57, Fig. 33, for the auxiliary cams 53. Preferably the studs 56 are on the opposite side of the key-levers to that of the studs 57.

Assuming that the registering-wheels 42 and 43 are set at zero—that is to say, no sales or purchases have been registered—and it is desired to register a sixty-five-cent sale, the key-lever carrying the indication for sixty-five cents is depressed, which will move the shaft 41, so the pinion 40 will engage the registering-wheel 43. (The operating means for the shaft 41 will be hereinafter referred to, but it may be well to state that said operating means is actuated through the depression of the key-lever.) The stud 56 on the key-lever will ride against the beveled face of its respective cam 20 and bodily move the entire series of cams 20. This operation is as follows: The lower portion of the cam will be moved forwardly and the upper portion rearwardly, carrying the arm 35 therewith, as well as the link 36, imparting an upward movement to the quadrant 37, which, meshing with the clutching-pinion 40, will partly rotate the registering-wheel 43 in such a manner as to move the same so that the numeral “6” thereof will appear at a sight-opening provided for the registering mechanism. Simultaneously with the operation of the primary cams 20 the stud 57 of the key-lever will engage its respective auxiliary cam 53, rocking the shaft 54, moving the cams 53 forwardly, so that the actuating-arm 51 will also be moved forwardly, and impart a like movement to the pawl 49, which, engaging in the ratchet 48, will then move the registering-wheel 42 so that the character “5” will appear at the sight-opening for the registering mechanism and in parallel alinement with the character “6” upon the register-wheel 43, therefore indicating that a purchase or sale amounting to sixty-five cents has been registered.

The registering mechanism is provided with a transferring means adapted to be used, for example, when the wheel 42 shows a registration of five and a sale of five cents is made, the transferring mechanism when operated will act upon the wheel 43, giving it an impulse, so the total registration will be ten at the same time the cams 53 will give the necessary movement to the wheel 42 to show the “0,” or when a sale or purchase of fifteen cents is to be registered when the registering mechanism shows a total of sixty-five cents regis-

tered, to make the total registration eighty cents. In this particular the wheel 43 has recording-figure "6" exposed and the wheel 42 has recording-figure "5" exposed, the cams 5 20 and 53 will impart movement to the wheels 43 and 42, so as to register "7" "0," respectively, and then the transferring mechanism will also come into operation and move the wheel 43 so as to register "8," making the 10 total registration of the two wheels eighty, or, in other words, the transferring mechanism is employed in connection with the registering mechanism for recording sales or purchases from a five to a ten or a fifteen to a 15 twenty or a twenty-five to a thirty cent purchase, and so on to a ninety-five to a hundred. The example referred to for recording a fifteen-cent sale to a sixty-five cent registered is used for the reason, as hereinbefore referred 20 to, that the recorded sale was sixty-five cents. The transferring mechanism consists of a transferring-arm 58 in the form of a bell-crank lever, and which is pivoted, as at 59, to a plate 60, supported by the frame 39 of 25 the registering mechanism. The longer arm of the bell-crank 58 extends through the slot 30 in the transferring-bar 27, Fig. 31. The lever 58 is adapted to keep the spring 32 on the bar 27 in a state of compression and the 30 notch 28, formed in the bar 27, from engagement with the arm 35, or, in other words, the function of lever 58 is to prevent the movement of the bar 27 and to retain the bar 27 in such position that the notch 28 will be at one 35 side of the arm 35, as shown in Fig. 26. The shorter arm of the lever 58 is fixedly connected to the forward end of an actuator-bar 61, the latter connected at its rearward end to the arm 35, Fig. 29. The function of the actuator-bar 61 is to rock the arm 35 so it will 40 carry the link 36 rearwardly, operating thereby the quadrant 37 and rotating the registering-wheel 43. The lever 58 is prevented from movement by means of a trip-arm 62, Fig. 28, which is pivoted, as at 63, Fig. 28, to the 45 back of the register-frame 39. The trip-arm 62 is in the form of a bell-crank and is adapted to have its lower portion engage with the lever 58 to lock it from movement. The upper end of the trip-arm has connected thereto 50 a spring 62' for normally retaining the trip-arm in its operative position, as shown in Fig. 28. The trip-arm is released by means of a pawl 63', which is suitably pivoted to the frame 39 and held in engagement with the 55 ratchet of the registering-wheel 42 by means of the spring 63^b, suspended from the frame 39. When the forward end of the pawl 63' rides over a long tooth of the ratchet 48 of the registering-wheel 42, the outer end of the 60 pawl 63' is pressed down upon the upper portion of the trip-arm 62 and forces it from engagement with the lever 58, so that the latter will be released and movement imparted there-

to through the medium of the spring 32 on 65 the bar 27.

The reference character 64 denotes a return-lever for bringing the transferring mechanism into its inoperative position. This lever 64 is pivoted at 65 to the frame 39 of the reg- 70 istering mechanism, and its upper end extends through an opening in the plate 60. The lower end of the lever 64 projects rearwardly at an angle and is adapted to be engaged by the upwardly-movable bar 66, forming 75 a part of a rocking frame to be hereinafter referred to and which is loosely connected with the shaft 7 by means of the arms 67, also forming a part of said rocking frame, to be hereinafter referred to. The lever 64 80 in its normal position engages the shorter arm of the lever 58, and when a key-lever is depressed the bar 66 is elevated, releasing the lever 64 so it will be free of engagement with the shorter arm of the lever 58, the lever 58 riding 85 over the trip-arm 62 and carries the upper portion of the lever 64 forwardly—that is when the trip-arm 62 is actuated—that is to say, the lever 64 is free of the bar 66 when one of the 90 key-levers is depressed and remains in its normal position unless the trip-arm 62 is actuated. When the trip-arm 62 is actuated or lowered through the intervention of the pawl 63', the upper end of the lever 58 will ride 95 over the lower portion of the trip-arm 62, the lever 64 being carried forward by the shorter arm of the lever 58, and when the bar 66 is lowered it will engage the lower end of the lever 64 and swing the upper end thereof 100 rearwardly, so that it will assist in bringing the lever 58 to its inoperative position and so that the lever 58 can be engaged by the lower portion of the trip-arm 62, thereby locking the lever 58 from movement. It will be evi- 105 dent from the operation as described that the registering-wheel 43 will then be moved by the transferring mechanism a sufficient distance to record the proper amount on the wheel—that is to say, the studs 56 and 57 on the key-lever carrying the fifteen-cent indica- 110 tion will actuate in a manner, as hereinbefore set forth, the registering-wheels 42 and 43, the registering-wheel 42 to zero or naught, and the registering-wheel 43 to "7," which 115 will be parallel with the naught on the registering-wheel 42, recording "70" on the register. The transferring mechanism will at the same time come into operation and impart an additional impulse to the register-wheel 43, moving it to bring the registering character "8" 120 parallel with the naught on the registering-wheel 42, thereby recording the proper amount of the sale, which will be added to the recorded sixty-five, making the total registration eighty. The link 36 is connected by a coiled 125 returning-spring 67^a, Fig. 29, to the register-frame 39. This spring 67^a is adapted to return the link 36 to its normal position. The

register-wheel 43 is prevented from moving in one direction by means of a pawl 67^b, which is pivoted at one end, as at 67^c, to the register-frame 39. The free end of the pawl 67^b engages in the ratchet 67^a on the wheel 43 for the purpose just set forth, Fig. 27. The beveled edges of the primary cams 20 are graduated in size, so that a cam 20 will remain in engagement long enough with its respective stud of the key-lever, so that the requisite movement will be imparted to the registering-wheel 43.

The registering mechanism hereinbefore referred to is adapted for use in connection with recording the amount of sales or purchases from five cents to ninety-five cents, inclusive, and the mechanism for recording the sales above ninety-five cents is as follows:

We have shown the register adapted for recording sales to four dollars and ninety-five cents at one time, and for which purpose four additional key-levers are employed—namely, one, two, three, and four dollars; but it is obvious that the number of the dollar key-levers can be increased, if desired.

The reference character 68, Fig. 31, denotes the secondary cams for use in connection with the dollar bank of key-levers (indicated by the reference character 69) and which are arranged at the side of the cams 20. The upper ends of the cams 68 are mounted upon a rock-shaft 70, supported by the arms 71, connected to the bar 17, and connected to the cams 68, approximately centrally thereof, is a stay or reinforcing rod 72. The cams 68 have their lower portions beveled at their inner edges, as at 73, in a graduating manner or in the same manner as the cams 20.

The reference character 74 denotes a pair of plates which project above the cams 68 and support a rock-shaft 75, carrying on its inner end a vertically-extending stud 76, to which is connected the link 77. The plates 74 also carry a transversely-movable transferring-bar 78. The latter has on its outer end a fixed collar 79 and at one side of the plate 74 a sliding collar 80, between which is arranged a coiled compression-spring 81. The collar 80 bears against a guide 81^a for the bar 78. The inner end of the bar 78 is provided with a slot 82, the function of which will be hereinafter referred to. The bar 78 is further provided with a notch 83, in which is adapted to be seated the actuating-arm 84, carried by the rock-shaft 75. When the bar 78 is moved transversely, the notch 83 is adapted to receive the arm 84.

The reference character 85, Fig. 26, denotes a three-armed lever, which is pivoted, as at 86, to the plate 60 of the register-frame 39 and has one arm suitably connected, as at 87, to the actuating-link 88. The latter is connected to the arm 84, Fig. 32. The free end of the lever 85 is adapted to be engaged by the trip-hook 89, Fig. 27, for retaining the lever

85 in its inoperative position. The link 77 is connected at its lower end to the toothed quadrant 90, Fig. 1, the latter meshing with and operating the clutching-pinion 91, Fig. 25, mounted upon the shaft 41. The pinion 91 carries a plate 92, provided with pins 93, adapted to engage in the registering-wheel 44, the latter on one side being provided with openings to receive the pins 93. The pinion-clutch 91 is brought into engagement with the registering-wheel 44 by means of a shifting-arm 94. This arm is pivoted to an extension of the frame 39, as at 94', and at its upper end extends through a slot 95 in the shaft 41, Fig. 25. The shaft 41 carries a coiled compression-spring 96, Fig. 1, and also carries a sleeve 97 for the purpose of compressing the spring 96 when the shaft 41 is moved by means of the arm 94. The lower end of the latter is beveled, as at 98, and is in contact with a stud 99, carried by the bar 66, Fig. 25. When the bar 66 is elevated through the action of depressing a key-lever of the bank 69 or 6, the stud 99, riding against the beveled end of the rod 94, will rock the same on its pivot and transversely move the shaft 41, so that the clutching-pinion 91 will engage the registering-wheel 44 or the clutching-pinion 40 will engage the registering-wheel 43. Each of the keys 69 is provided with a pin or stud 100, Fig. 33, adapted to contact with the beveled edges 73 of the cams 68. When it is desired to record a dollar sale, the respective key of the bank 69 is depressed, causing the stud 100 thereof to ride against the face of its respective cam 68, forcing the lower portion of the cams 68 forwardly and the upper portion thereof rearwardly. Such movement will carry the link 77 therewith and impart movement to the quadrant 90, which meshing with the pinion-clutch 91 will impart the desired movement to the registering-wheel 44, so that the proper recording will be made. Simultaneously with the movement imparted to the cams 68 by means of a key-lever of the bank 69 the key-lever will elevate the bar 66, so that the stud 99 will ride against the shifting-arm 94 and bring the clutch-pinion 91 into engagement with the registering-wheel 44, so that the same will be rotated through the medium of the quadrant 90 and link 77. The registering-wheels 44 45 46 are provided with suitable connecting means for imparting the necessary rotation for recording, as occasion requires. This means is of the ordinary construction in devices of this character.

The transferring mechanism employed for the registering-wheels for recording the dollar sale is released, so it can operate by means of a pin 101, Fig. 27, carried by the registering-wheel 43. This pin engages and operates an arm 102, carried by the trip-hook 89. The trip-hook 89 is pivoted, as at 103, to the register-frame 39. When the pin 101 elevates the arm 102, the trip-hook 89 is lowered, re-

leasing one arm of the lever 85, so that the action of the spring 81 will move the bar 78 in a transverse manner and bring the notch 83 in front of the arm 84, so that the arm 84 will seat itself in the notch. Simultaneously with this movement the actuating-arm 88 will rock the shaft 75, imparting a rear movement to the link 77, which in turn imparts movement to the quadrant 90 and clutching-pinion 91, thereby imparting the necessary rotation to the registering-wheel 44. The transferring mechanism used in connection with the registering of the dollar sale operates in the same manner as the transferring mechanism hereinbefore referred to for the sales up to ninety-five cents, and it is thought unnecessary to further describe the same.

The reference character 104, Fig. 27, denotes a lever pivoted, as at 105, to the frame 39 for returning the lever 85 to its normal or inoperative position. The lower end of the lever 104, which extends rearwardly, is adapted to be retained in its operative position by the bar 66. When the bar 66 is elevated by depressing a key-lever of the bank 69, and the arm 102 is released when the lever 85 swings on its pivot 86, owing to the fact that the trip-hook 89 has been lowered, the lever 85 will carry the upper end of the lever 104 therewith, and when the bar 66 is brought to its normal position it will carry the upper end of the lever rearwardly at the same time one of the arms of the lever 85 and return the lever 85 to its inoperative position and hold it there. The arm 102 is connected to a spring 106, so that it will return the trip-hook 89 to its normal position and engage with the free arm of the lever 85, when the lever 85 is returned to its normal position through the intervention of the lever 104.

Preferably the frame 39 for the registering mechanism is supported upon a flat plate 107, arranged near the front of the machine at an inclination and secured to the supports 2 3, although the frame 39 can be arranged at any position desired within the machine.

Each of the key-levers of the banks 6 and 69 is provided with stop-pins 108, Fig. 33, for limiting the forward movement of the lower part of the cams 20 and 68.

The bar 51 connected to the auxiliary cams is provided with a coil-compression spring 109 for normally returning it to its inoperative or normal position.

The cash changing and delivering mechanism comprises a cash separating and delivering mechanism, Figs. 5, 6, 7, 8, and 9, which is arranged at the front of the machine, so that the cash can be inserted therein, and is also arranged above the cash or coin tubes or receptacles 110, 111, 112, 113, and 114. The coin tubes and receptacles virtually form a part of the change mechanism and are preferably arranged at the front of the machine at the side of the register-frame 39. These

coin tubes and receptacles will be hereinafter described; but it will be well to state that the tube 110 is for the dollars, the tube 111 for the half-dollars, the tube 112 for the quarters, the tube 113 for the dimes, and the tube 114 for the nickels. The lower portion of the cash separating and delivering mechanism is arranged above the upper end of these tubes. The rear portion of the latter at their upper ends projects rearwardly.

The coin separating and delivering mechanism comprises a front plate 115 and a rear plate 116, Fig. 5. These plates are suitably spaced apart and cut away, so as to form an upper chute 117 and a lower chute 118. The upper chute 117 extends downwardly at an inclination, as well as the lower chute 118; but the lower chute 118 extends in an opposite direction to that of the chute 117 and is somewhat longer. The two chutes are suitably connected together and also braced apart by means of a vertically-extending rod 119. If desired, the upper and lower chutes may be constructed of a single casting instead of formed from the separate plates 115 and 116. The upper chute 117 near its upper end is provided with a slightly-inclined slot 120 and at its lower end with a vertically-extending slot 121. In the top of the chute 118, where it joins the chute 117, a pair of slots extending diagonally in opposite directions is provided, as at 122. The slots 120, 121, and 122 extend entirely through their respective chutes. Extending rearwardly at the upper end of the chute 117 is a curved plate 123, provided with a longitudinally-extending slot 124, Fig. 6, and upon the plate 123 operates an actuating-slide 125 for operating the cash separating and delivering mechanism. The inner face of the slide 125 is connected to an elongated trip-lever 126, Figs. 5 and 6, provided at its lower end with a hook 127. The trip-lever 126 is of a length sufficient so that the hook 127 will engage the bottom of the chute 118. The trip-lever 126 is fulcrumed, as at 128, to the studs 129, carried on the inner face of the chute 118. The trip-lever 126 extends through the slot 124 in the plate 123 and carries on its upper end immediately below the plate 123 an actuating-finger 130. The finger 130 is cut away at its free end so as to contact with and operate a lever mechanism for locking the key-levers and also for operating a detecting mechanism for throwing out cents and nickels, as no change is given for them by the machine, as well as throwing out counterfeit coin. The lever mechanism for locking the key-levers and operating the detecting mechanism comprises an arm 131, pivoted at 132 to an offset 133, connected with the chute 117. The arm 131 is provided with a nose 131^a, adapted to be engaged by the finger 130, so as to operate said arm 131. The arm 131 at its forward end has pivoted thereto, as at 134, a finger 135, the latter being so connected as to have its

forward portion of less length than its rear portion. The finger 135 has its rear end enlarged, as at 135'. The forward portion of the finger 135 is adapted to operate in an opening 5 136, formed in the chute 117, so as to engage the edge of a coin when inserted in said chute 117, the movement of the finger 135 being governed by the diameter of the coin. As the arm 131 moves downwardly the rearward portion of the finger 135, owing to its engagement 10 with the edge of the coin, is caused to move downwardly and rearwardly, the arm 131 and the coin both causing the finger 135 to move downwardly and rearwardly so it will engage 15 and suitably operate a locking mechanism for the key-levers and the detecting mechanism, to be hereinafter referred to.

The reference character 137, Fig. 6, denotes a spring for returning the arm 131 to its normal position, and the reference character 138, 20 Fig. 9, denotes a spring which is connected to the arm 131 and to the finger 135 for returning the finger 135 to its normal position. The finger 135, as before stated, is also adapted to actuate or operate the mechanism for deflect- 25 ing a one-cent coin or a five-cent coin or a counterfeit coin when placed in the chute 117, and this mechanism forms a part of the detecting mechanism. The deflecting mechanism, 30 Figs. 5 and 39, consists of a lever 139, pivoted to the back of the chute 117, as at 140. The free end of the lever 139 is provided with a rearwardly-extending arm 141. The lever 139 is also provided with a vertically-extending 35 beveled stud 139^a and an L-shaped projection 139^b, the latter extending under and at the front of the chute 117.

The reference character 142 denotes a deflecting-arm having a beveled edge. The arm 40 142 extends through an opening 143 in the chute 117 and is hinged at one end, as at 144, to the rear face of the chute 117. The arm 142 carries a depending stud 145, engaged by the retaining-lever 146, bearing against the 45 stud 139^a, Figs. 7 and 37, pivoted to the rear of the chute 117, as at 147, and has one end provided with a forwardly-projecting pin 148, extending under the chute 117 and rearwardly engaging the lower end of the coin- 50 pan of the detecting mechanism, to be hereinafter described.

The reference character 148^a denotes a deflecting and holding fork arranged at the front of the chute 117 and hinged thereto, as 55 at 148^b. The fork 148^a is provided with an extension 148^c, having its free end carrying a rearwardly-projecting pin 148^d, adapted to extend below the chute 117 and normally below the lower end of the coin-pan of the detecting mechanism, to be hereinafter described. The extension 148^c normally engages 60 the vertically-extending arm of the L-shaped projection 139^b to prevent the swinging outwardly of the deflecting-fork 148^a unless the lever 139 is operated. The lever 139 is re-

turned to its normal position by means of the spring 148^e, secured to the pin 148^f, carried thereby, and to the pin 148^g on the rear of the chute 117. The fork 148^a extends in the chute 117 through an opening 149 in the front there- 70 of. This opening is termed an "outlet-opening" for deflecting the cents, nickels, or counterfeit coins. The operation of the deflecting mechanism, which is in conjunction with the detecting mechanism, will be hereinafter 75 referred to.

The chute 117, Fig. 5, is provided with a stop-lever 150, which is pivoted in the studs 151 and provided with an offset extending at an angle thereto, as at 152, the offset being 80 adapted to normally extend in the slot 120.

The reference character 153 denotes a spring for normally retaining the offset 152 in the slot 120.

The offset 152 is adapted to prevent the coin 85 from passing down the chute 117 until the lever 150 is moved to bring the offset 152 out of the slot 120 by actuation of the lever 126, operated by the slide 125. The lever 150 is operated by means of a stud or pin 154, car- 90 ried by the upper end of the trip-lever 126. Assuming that the offset 152 extends through the slot 120, when a coin is placed in the chute 117 its downward movement will be arrested by the offset 152; but when the slide 125 is 95 moved forwardly it will operate the lever 126, bringing the stud 154 into engagement with one end of the lever 150, rocking the same and causing the withdrawal of the offset 152 from the slot 120. This will permit the coin, 100 no matter of what denomination, to pass down the chute 117, and if it be a nickel or one cent or a counterfeit the coin will be deflected from the chute in a manner as hereinafter set forth. When the trip-lever 126 is moved to 105 its normal position in the manner as hereinafter described, the lever 150 will be released so that the offset 152 will resume its normal position—that is to say, extending through the slot 120. 110

The reference character 155, Fig. 5, denotes a holding-arm for the coin, so that the coin can be engaged by a feeling-finger of the change mechanism for controlling the latter 115 mechanism. The feeling-finger and the change mechanism will be hereinafter described. The holding-arm 155 is pivoted, as at 156, to the bar 119 and is also surrounded by an L-shaped pin 157, carried by the trip-lever 126. The arm 155 has extending therethrough one end 120 of a return-spring 158. The other end of the return-spring is connected to the chute 118, as at 159. The function of the spring 158 is to return the holding-arm 155 to its inoperative position. The holding-arm 155 carries 125 on its free end a pair of forwardly-projecting offsets 160. These offsets are arranged to extend in a diagonal manner and adapted to project through the slots 122 and are also adapted to hold the coin the required time, so that the 130

coin can be engaged by the feeling-finger and regulate the operation of the change mechanism. The feeling-finger and change mechanism will be hereinafter described. The holding-arm 155 operates between a guide-pin 161 and the bearing-studs 162 and is adapted to be engaged by the upper end of a stop-lever 163. The upper edge of the stop-lever 163 is indented or knurled, so that the top edge of the arm 155 will be engaged by the lever 163, and the latter will hold the arm 155 in its operative position—that is to say, when the arm 155 is moved so that the offsets 160 project or extend through the slots 122. The stop-lever 163 may also be termed a “releasing-lever” for the coin separating and delivering mechanism and is released in a manner as hereinafter set forth.

The reference character 164 denotes a coil-spring connected to the lever 163 and to the pin 165. The spring 164 is adapted to assist in bringing the lever 163 into engagement with the arm 155. The arm 155 is operated by means of the trip-lever 126, as follows: When the lever 126 is operated by means of the slide 125, it carries the arm 155 forwardly therewith and causes the offsets 160 to project into the slots 122. At the same time the spring 164 brings the upper end of the lever 163 into engagement with the arm 155 and holds it in position, so the offsets 160 will be retained in the slots 122. When the lever 163 is released in the manner as hereinafter set forth, the action of the spring 158 returns the arm 155 to its normal position, the arm 155 on returning carrying the trip-lever 126 therewith and returning said lever 126 to its normal position. It will be evident that when the offset 152 is moved out of the slot 120, the coin, if it be a twenty-five cent piece, for example, will pass down the chute 117 and be arrested from entering the chute 118 by means of the offsets 160. The offsets 160 are moved into the slot 122 simultaneously with the removal of the offset 152 from the slot 120. When the lever 163 is released from engagement with the arm 155, the latter will be moved rearwardly, so that the offsets 160 will be moved out of the slots 122 and permit the coin to pass in the chute 118. The chute 118, Fig. 8, is divided off at its bottom, which forms the outlet for the chute, by means of the pins 166 into a series of outlets of different sizes. The pins 166 are arranged at different distances apart, so as to form outlets, respectively, for the dimes, quarters, half-dollars, and dollars. The dollar-outlet is arranged immediately below the slots 122 or immediately below the outer side of the chute 117. Then comes the outlet for the half-dollars, then the quarters, and then the dimes. The chute 118 is provided with a distributing-bar 167. This bar is secured at the top of and within the chute 118 and projects downwardly and has its inner edge formed with the stops 168 169 170, or,

in other words, the lower edge of the distributing-bar 167 is cut away to form a series of shoulders 168 169 170, which extend one below the other. The shoulder 168 is substantially in alinement with the pin 166, forming the inner side of the outlet for the dollars, the shoulder 169 is substantially in alinement with the pin 166, forming the inner side of the outlet for the half-dollars, and the shoulder 170 is substantially in alinement with the pin 166, forming the inner side of the outlet for the quarters. The bottom of the chute 118 is closed by a plate 171.

The function of the shoulders formed on the distributing-bar 167 is as follows: Assuming that a dollar is dropped from the chute 117 into the chute 118, the passage of the dollar down the chute 118 will be arrested by the shoulder 168, and when the closure-plate 171 is released in a manner hereinafter set forth the dollar will be discharged from the chute 118 through the dollar-outlet. The manner of distributing the half-dollars and quarters is the same as distributing the dollars—that is to say, the passage of the half-dollars will be interrupted by the shoulder 169, and they will be discharged through their outlet, and the passage of the quarters will be interrupted by the shoulder 170 and be discharged through their outlet; but the dimes will pass to the inner end of the chute, as their diameter is such as not to engage either of the shoulders 168, 169, or 170. The dimes will then be discharged through their outlet. The outlet for the dollar is arranged above the coin-receiving tube 110, the outlet for the half-dollars above the coin-receiving tube 111, the outlet for the quarters arranged above the tube 112, and the outlet for the dimes above the tube 113, and by this arrangement the coins will be distributed to their respective tubes.

The closure-plate 171 is carried by the rod 172, pivotally connected in the studs 173, suitably secured to the chute 118. The closure-plate 171 is stamped in such a manner that the offsets 174 will be formed to surround the pins 166. The rod 172 carries a coil-spring 175 and which is adapted to force when released the closure-plate away from the bottom of the chute 118, so that the discharge-outlet for the coins will be opened. The plate 171 is retained in its closing position—that is to say, against the bottom of the chute 118—by means of the hook or nose 127, Fig. 5, on the lower end of the trip-lever 126. When the lever 126 is operated through the movement of the slide 125, the hook or nose 127 is released from its engagement with the plate 171, so that the action of the spring 175 will tend to force the closure-plate 171 away from the bottom of the chute 118 and permit of the delivering of the coins to their respective tubes, the coins being distributed in the manner as hereinbefore set forth. The operation of distributing the coins is such that after a

coin is placed in the chute 117 and passes into the chute 118 its travel is toward its respective shoulder, the plate 171 being in its closed position, and the plate 171 is not released, so that the coin cannot be delivered to its respective tube until the slide 125 is again operated, which is generally done when it is desired to change another coin, or, in other words, it requires two operations of the slide 125 and the lever 126 to distribute the coins. By this arrangement it prevents the coins being distributed to the wrong receptacle and allows the coins to pass to their proper positions in the chute 118 before they are delivered to their respective tubes.

Communicating with the opening 149 in the chute 117 is an auxiliary chute 176 for receiving the coins deflected from the chute 117 and transferring them to one side of the machine, as well as throwing the deflected coins out of the machine—that is to say, to prevent the deflected coins from dropping into or at front of the machine. The chute, as before stated, carries the deflected coins to one side of the machine. (See Fig. 1.)

The coin-tubes 110 to 114 are supported upon the plate 107 and at one end rest against a supporting-arm 177, projecting inwardly from the support 3. The coin-tubes or receptacles are formed of a pair of hinged sections connected together at one end by means of a vertically-extending rod 178, Fig. 1. The inner section of the coin tubes is provided with an apertured lug 179 and the outer section with an apertured lug 180. The rod 178 extends through these apertured lugs and is connected at its lower end to the plate 107 and at its upper end to the apertured offset 181, Fig. 1. The outer section forming the coin-tube is provided with a handle 182, Fig. 1, so that this outer section can be opened and the tubes swung outwardly or the outer section removed and access gained to the tubes. Each of the sections is corrugated in a semicylindrical manner, and when these sections are brought together the coin tubes or receptacles 110 to 114, inclusive, are formed. At the back of the inner section forming the coin-tubes an overflow-pocket 183, Fig. 3, is provided. This pocket is adapted to receive the overflow of coins when the tubes 110 to 114 are filled. As the coin-tubes are arranged at an angle, the overflow-coins will easily slide off into the pocket 183. The plate 107 sets in the machine at an angle, so that the coin-tubes will also be arranged at an angle for the purpose just set forth. The plate 107 beneath the coin tubes or receptacles 111, 112, 113, and 114 is cut away in a semicircular manner, as at 184, 185, 186, and 187, respectively. This cutting away of the plate assists in discharging the coins, as it permits of less stroke being required for such purpose.

The change making and ejecting mechanism, Figs. 20, 21, 22, 23, 24, and 25, is construct-

ed as follows: Slidably mounted upon the plate 107 and adapted to operate toward the cut-away portion 184 is the ejector 188 for the half-dollars. Slidably mounted upon the plate 107 and adapted to operate toward the cut-away portion 185 is the ejector 189 for the quarters. Slidably mounted upon the plate 107 and adapted to operate toward the cut-away portion 186 is a pair of ejectors 190 191, Fig. 21, for the dimes, the ejector 190 having its outer end overlapping the ejector 191. The outer end of each of the ejectors 190 191 is in the form of a ring, so that it will surround the dime when ejecting it. Slidably mounted upon the plate 107 and adapted to operate toward the cut-away portion 187 is a pair of ejectors 192 193, Figs. 21 and 23, for the nickels; the ejector 192 having its outer end overlapping the ejector 193. The outer end of each of the ejectors 192 193 is in the form of a ring, so that it will surround the nickel when ejecting it. The plate 107 below each of the ejectors 188 to 193, inclusive, respectively, is provided with a slot 194, Figs. 3 and 24. Through each of the slots 194 depends a lug 194', carried by each of the ejectors. Through each of the lugs 194' extends a vertically-movable regulating-pin 195. The pins 195 project a suitable distance above and below the lugs 194'. The pins 195 are adapted to retain in a vertical position the operating-pins 196, 197, 198, and 199 for the ejectors 188 to 191, inclusive. The operating-pins are of different sizes, Fig. 22—that is to say, the pin 196 is the smallest and the other pins 197, 198, and 199 increasing in size, the pin 199 being the largest of this series of pins. The ejector 192 is provided with an operating-pin 200, Fig. 23, and its construction is different from the pins 196 to 199, inclusive, it being in the form of a yoke. The ejector 193 is provided with an operating-pin 201, Fig. 23, of the same construction as the pins 196 to 199, inclusive, and the ejector 193 is further provided with a yoke-shaped arm 202, Fig. 23. The operating-pins 196 to 201, inclusive, are pivoted at their lower ends to the studs 203, Fig. 24, secured to the upper face of the ejectors 188 to 193, inclusive. The vertically-movable regulating-pins 195 are of such length that when in their elevated position they will project above the pivotal points of and at the front of the operating-pins and retain them in a vertical position. The regulating-pin 195 for the ejector 192 when in its uppermost position engages one arm of the pin 200 and retains it in a vertical position. The function of constructing the pins 200 in the form of a yoke and the employment of the arm 202 for the ejector 193 will be hereinafter set forth. The lower ends of each of the regulating-pins 195 are bent transversely below the plate 107, as at 204, Fig. 22, and the angular portions 204 of the pins 195 engage in the forks 205, Figs. 22 and 24—that is to say,

for each angular portion 204 a fork 205 is provided. Suspended from the plate 107 by means of the depending lugs 206, Fig. 22, is a shaft 208, upon which the forks 205 are pivotally mounted. Each of the forks 205 is provided with a rearward extension, Fig. 21. The fork for the ejector 188 has its rearward extension indicated by the reference character 209, the fork for the ejector 189 having its rearward extension indicated by the reference character 210. The fork for the ejector 190 has its rearward extension indicated by the reference character 211. The fork for the ejector 191 has its rearward extension indicated by the reference character 212, and the forks for the ejectors 192 and 193 have their rearward extensions indicated by the reference characters 213 214. The extension 209 is shorter than the extension 210, the extension 210 is shorter than the extension 211, and the extension 211 is shorter than the extension 212. The extensions 213 and 214 are of the same length, but are longer than the extension 212. The extensions 209 to 214, inclusive, project upwardly and rearwardly at an inclination and then downwardly in the form of a crank. (See Fig. 24.) The function of this construction of the extensions will be hereinafter described.

Pivotaly mounted upon the shaft 7 is a series of change-regulating bars 215, 216, 217, 218, and 219. The bar 215 is adapted to operate the regulating-pins for the nickels. The bars 216 and 217 are adapted to operate the regulating-pins for the dimes. The bar 218 is adapted to operate the regulating-pin for the quarters, and the bar 219 is adapted to operate the regulating-pin for the half-dollars. As before stated, these bars are pivotally mounted upon the shaft 7 and project forwardly at an inclination and arranged at the rear of the plate 107. The bar 215 is adapted to have the downwardly-projecting end of the extensions 213 and 214 to rest thereon and is provided with a yoke 220, which surrounds the extensions 213 and 214. This yoke is adapted to return the extensions to their normal positions. The bar 216 is adapted to have the downwardly-projecting end of the extension 212 to rest thereon and is provided with a yoke 221, which surrounds the extension 212. This yoke is adapted to return the extension 212 to its normal position. The bar 217 is adapted to have the downwardly-projecting end of the extension 211 to rest thereon and is provided with a yoke 222, which surrounds the extension 211. This yoke is adapted to return the extension 211 to its normal position. The bar 218 is adapted to have the downwardly-projecting end of the extension 210 to rest thereon and is provided with a yoke 223, which surrounds the extension 210. This yoke is adapted to return the extension 210 to its normal position, and the bar 219 is adapted to have the downwardly-

extending end of the extension 209 to rest thereon and is provided with a yoke 224, which surrounds the extension 209. This yoke is adapted to return the extension 209 to its normal position. The bars 215 to 219, inclusive, are so constructed that when operated they will move forwardly and upwardly and will pass the various yokes and inner ends of the various extensions. The bar 215 is constructed with a series of depending projections 215', so that it will rest upon the key-levers for registering five, fifteen, twenty-five, thirty, forty, fifty, fifty-five, sixty-five, seventy-five, eighty, and ninety cents. The other key-levers (not enumerated) between five and ninety-five cents will not operate this bar. The bar 216 is constructed with a series of depending projections 216', so that it will rest upon the key-levers for registering twenty, twenty-five, forty-five, fifty, seventy, seventy-five, and ninety-five cents. The other key-levers (not enumerated) will not operate this bar. The bar 217 is constructed with a series of depending projections 217', so that it will rest upon the key-levers for registering ten, fifteen, twenty, twenty-five, thirty-five, forty, forty-five, fifty, sixty, sixty-five, seventy, seventy-five, eighty-five, ninety, and ninety-five cents. The other key-levers (not enumerated) will not operate this bar. The bar 218 is constructed with a pair of depending projections 218', so that it will rest upon the key-levers for registering thirty, thirty-five, forty, forty-five, fifty, sixty, eighty-five, ninety, and ninety-five cents. The other key-levers (not enumerated) will not operate this bar, and the bar 219 is constructed with a depending projection 219', so that it will rest upon the key-levers for registering fifty-five, sixty, sixty-five, seventy, seventy-five, eighty, eighty-five, ninety, and ninety-five cents. The other key-levers (not enumerated) will not operate this bar. The arrangement of the bars in connection with the key-levers from five to ninety-five cents is shown in Fig. 20.

The change-controlling mechanism, Figs. 15, 16, 17, 18, and 19, is constructed as follows:

The reference character 225; Fig. 15, denotes what may be termed a "change-controlling feeling-finger," which is adapted to project through the opening or slot 121 in the chute 117 to engage with the edge of the coin supported by the offsets 160, extending through the slots 122. The diameter of the coin regulates the downward movement of the finger 225, this regulation of the downward movement of the finger 225 forming a function to be hereinafter referred to. The finger 225 is mounted upon a sleeve 226, the latter being loosely mounted upon a shaft 227, secured to the support 3. The shaft 227 also carries a sleeve 226', upon which is mounted a gear-wheel 228, provided on one side with a stop-pin 229 and on its opposite side with a

stud 230, adapted to engage the lever 163, Figs. 5 and 15, for releasing the said lever to permit of the coin separating and delivering mechanism assuming its normal position.

5 The reference character 231, Fig. 25, denotes a pair of forwardly-projecting arms, which, in connection with the arms 67, form a rocking frame. As before stated, the arms 67 are pivoted upon the shaft 7, and, as here-
10 inbefore referred to, the arms 67 carry the bar 66, which rests upon the key-levers, the bar 66 also forming a part of the rocking frame. It will be evident that when any of the key-levers are depressed the same engag-
15 ing with the bar 66 will rock the frame upon the shaft 7. Operatively connected with the rocking frame in a manner as hereinafter set forth is a rack-bar 232, which is adapted to rise and fall by the rocking of the frame by
20 the key-levers. At its upper end the rack-bar 232 is formed with teeth 233, adapted to mesh with the gear-wheel 228. The lower end of the rack-bar 232 is enlarged, as at 232^a, Fig. 37, and the lower end of this enlarged
25 portion 232^a terminates in a depending projection 232^b. The enlarged portion 232^a is formed with a substantially L-shaped slot 232^c, the longer arm of which is substantially in the form of an arc of a circle having as its center
30 the shaft 7. The rack-bar 232 is connected to one of the arms 67 of the rocking frame by means of a roller 232^d, carried on the rear end of the said arm. The roller 232^d is adapted to operate in the slot 232^c and the normal po-
35 sition of which is in the shorter or lower end of the L-shaped slot. As before stated, the normal position of the roller 232^d is in the lower or shorter portion of the L-shaped slot, and the manner in which the roller 232^d is
40 brought into the L-shaped portion of the slot 232^c will be hereinafter referred to.

The reference character 232^e denotes a slide-bar provided with a pair of flanged rollers 232^f, through which operates the projecting
45 end 232^b of the rack-bar 232. The slide-bar 232^e is retained in position at one side of the frame of the machine by means of the keepers or brackets 232^g. The manner in which the slide-bar 232^e is operated will be hereinafter referred to.

50 The gear-wheel 228 or the sleeve 226' has fixed to it, as at 228', a plate or cam 234, Figs. 18 and 19, having its upper edge cut away, as at 235, and upon which operates the
55 pin 236, carried by the radially-sliding plate 237, which is slotted to receive guide-pins 238 239, Fig. 16. The slot is indicated by the reference character 240, Fig. 16. The guide-
60 pins 238 239 are connected with the guide-plate 241. The guide-pins 238 239 connect the guide-plate 241 with the radial arm 242, the latter projecting from the sleeve 226. The
finger 225 is connected to the plate 237 by the rod 243. On one end of the plate 237 is a tooth
65 or dog 244, and on the frame of the machine is

fixed a curved ratchet-bar 245, Fig. 15, whose center is in the axis of the shaft 227. On the sleeve 226' is an eccentric or cam 246, Fig. 18, which when the plate 237 is caused to slide rearwardly (which it does when the finger 225
70 is stopped by coming against a coin in the chute 117) to bring its tooth 244 into engagement with the curved ratchet-bar 245 will pass behind the inner end or heel of the plate 237 to prevent its return. When the rocking
75 frame is raised by the depression of one of the key-levers, the gear 228 is turned by the rack 232, and the plate or cam 234, which is connected with the said pinion, turns also and carries with it the pin 236 of the radially-slid-
80 ing plate 237 and the radial arm 242 carrying it, thus moving together and through the intervention of the rod 243 likewise turns the finger 225. This finger thus moves down the slot 121 in the chute 117 until the edge of said
85 finger rests on the edge of the coin supported by the offsets 160. When the said finger meets the edge of the coin, the latter prevents it moving farther, and thus arrests its motion. The movement of the other parts, however,
90 continues and causes first the rod 243 to push longitudinally rearward the plate 237, thus bringing the tooth or dog 244 into engagement with the ratchet-bar 245 at some posi-
95 tion higher or lower, according to the diameter of the coin which stops the finger 225. This longitudinally-rearward movement of the plate 237 causes the pin 236 to be shifted out of engagement with the plate or cam 234 and
100 permits the latter to move past the pin 236, thus permitting the gear-wheel 228 to continue its movement, while the other parts remain stationary. The longitudinally-sliding plate 237 is locked in its rearward position of
105 engagement with the ratchet-bar 245, first, by the exterior edge of the plate or cam 234 coming behind the pin 236, and, secondly, by the eccentric or cam 246 moving around behind the heel of the plate 237, as above stated.
110 The rocking frame is therefore able to perform a full stroke regardless of the position in which the finger is stopped by the coin. To the radial arm 242, as at 242', Fig. 3, is attached a rod 247, Figs. 3 and 15, which is connected to a rocking frame 248 for operating
115 the coin-ejectors. The rock-frame 248 is fixed to a rocking shaft 249, Fig. 3, which is supported by the supports 2 3. The lower end of the frame 248 carries a transverse member 250, Figs. 3 and 15. It will be obvious from this
120 construction that the height to which the transverse member 250 is raised will depend upon the distance to which the feeling-finger 225 has been moved before being arrested by a coin. It will also be evident that on the forward move-
125 ment of the arms 231 they will engage the transverse member 250, bringing the latter into contact with the pins 196 to 201, and carry the ejectors forward and discharge the coins from the tubes or receptacles. The arms 231 have con-
130

nected thereto a bar 251, which extends under the plate 107 and engages the front of the depending lugs 194', carried by the ejectors, as at 252, Fig. 22, so that when the arms 231 are returned to their normal position the ejectors will be carried back therewith.

The operation of the change making and delivering mechanism and which includes the change-controlling feeling-finger mechanism is as follows: It will be assumed that a fifty-cent piece is tendered by a customer in payment of a fifteen-cent sale. The fifty-cent piece is placed into the chute 117 in a manner as hereinbefore set forth and the slide 125 operated, which will retain the coin in the chute 117 by means of the offsets 160 extending through the openings 122. The key-lever to indicate a sale of fifteen cents is depressed and the registering mechanism operated in a manner as hereinbefore set forth to register the sale. When the key-lever to register the sale is depressed, the feeling-finger 225 is moved forwardly into and downwardly within the slot 121 and engages with the edge of the coin in a manner as hereinbefore set forth. Simultaneously with this movement the bars 215 and 217 are elevated, which imparts movement to the extensions 213, 214, and 215, thereby rocking their respective forks 205 and lowering the regulating-pins 195 of the ejectors 190, 192, and 193. Therefore when the transverse member 250 moves forward it will ride over the pins 198, 200, and 201; but in the forward movement of the transverse member it will contact with the rigid pins 197 and 199, carrying the ejectors 189 and 191 therewith and discharging from the coin-tubes 112 and 113 a quarter and a dime, being the change less the sale. The transverse member 250 will always ride over the pin 196 unless it is necessary to eject a half-dollar from the tube 111. The feeling-finger mechanism which operates the transverse bar 250, as hereinbefore stated, raises and lowers the bar according to the diameter of the coin resting in the chute 117 upon the offsets 160. For example, when a five-cent sale is made and a twenty-five cent piece is tendered in payment thereof and the key-lever to indicate the five-cent sale has been depressed the bar 215 will be elevated so as to lower the pin 195 of the ejector 193 through the operation of the respective fork 205. The height of the transfer-bar will be regulated by the feeling-finger mechanism so that the transverse bar will pass over the pins 196, 197, 200, and 201 and engage the pins 198 199 and move the ejectors 190 and 191 forwardly, which engaging with two dimes will discharge the twenty cents change from the coin-tube 113. The pin 200 is cut away, so that when it is desired to get one nickel out of the machine the transverse bar 250 will strike the pin 201 and eject the nickel, but will not strike the pin 200, as the straight portion of the pin 200 projects a sufficient dis-

tance forwardly so that it cannot be engaged by the transverse bar. If it be desired to change a dime, (the no-sale change mechanism will be hereinafter referred to,) the transverse bar 250 is elevated to such a height by the operation of the feeling-finger that it will engage the rearward end of the pin 200 and the arm 202 at the point indicated by the arrow, Fig. 23, and on the forward movement of the transverse member 250 it will carry the ejectors 192 and 193 therewith, discharging two nickels from the tube 114.

The change no-sale key-levers are indicated by the reference characters 253 and 254. The bar 66 rests upon these levers, so that when a coin to be changed is placed into the chute 117 and is supported by the offsets 160 to be engaged by the feeling-finger when either of the levers are depressed the bar 66 operates the rocking frame and elevates the rack-bar 232 and imparts an operation to the feeling-finger, as hereinbefore set forth; but the key-levers 253 and 254 do not engage with either of the bars 215, 216, 217, 218, and 219, and consequently the full change for the coin will be given, owing to the fact that the regulating-pins 198 will not be moved, therefore causing the pins or certain of the pins 196 197 198 199 200 201 to be engaged by the transverse bar 250 and ejecting the coins, owing to the forward movement of the ejectors. Of course the height of the transverse bar 250 is regulated by the diameter of the coin, so that if a fifty-cent piece is to be changed the transverse bar 250 will pass over the pin 196. If a dollar is to be changed, the height of the transverse bar will be such that it will engage the pins 196, 197, 198, 199, and 201. If a twenty-five-cent piece is to be changed, the height of the transverse bar 250 will be regulated so that it will ride over the pins 196 and 197. The manner in which the dime will be changed has been hereinbefore referred to.

To prevent the registration or recording of a larger amount than the coin placed in the machine, the key-levers of the bank 6 for recording sales from five to ninety-five cents are provided with a locking mechanism, Figs. 2, 6, 39, and 41, when operated engaging the studs 9 on the vertically-extending rods 8, this locking mechanism preventing a vertical movement of the rods 8, and as these latter engage the inner end of the key-levers of the bank 6 it will arrest the movement of the levers. The locking mechanism consists of a series of vertically-hanging flat locking-plates, (designated by the reference characters 255, 256, and 257, Fig. 6,) each of which is provided with an elongated extension or neck 258, 259, and 260. The locking-plates are loosely suspended upon a bar 261, connected to the supports 2 3, and normally lie parallel with the vertically-extending rods 8 and slightly above the studs or pins 9. The locking-plates lie slightly away from the rods 8, so that when a rod 8 is moved

by a key-lever of the bank 6 in a vertical manner the stud 9 will pass the lower edge of the locking-plates; but when the locking-plates are in their operative position they are swung inwardly, so that if an attempt is made to depress a key-lever after one has been depressed the stud 9 on its respective vertical rod 8 will engage the lower edge of its respective locking-plate and arrest the vertical movement of the rod 8 and prevent the movement of the key-levers of the bank 6. The operation of the locking-plates is regulated by the operation of the finger 135, which is controlled by the diameter of the coin held in the chute 117 by the offset 152, extending through the slot 120. Each of the extensions 258 259 260' is provided with a forwardly-projecting portion 262, slotted as at 263. Within the slots 263 operate the pins 264 of the operating-arms 265, 265', and 265^a. These arms are pivotally connected to the support 266, Fig. 6, suspended from the frame of the machine. At the front of the support 266 is a guide 267, Fig. 6, for the arms 265, 265', and 265^a. These arms as they project forwardly are arranged parallel with one another, but at their forward ends are adapted to overlap. The forward end of the arm 265 is bent upwardly and then forwardly, as at 268. The forward end of the arm 265' is bent upwardly and then forwardly, as at 269, and overlaps the end 268 of the arm 265, but does not entirely overlap the same. The forward end of the arm 265^a is bent upwardly and then in a transverse manner, as at 270, so as to overlap the arm 265'; but the forward end of the arm 265^a does not entirely overlap the forward end of the arm 265'. This overlapping of the forward ends of the operating-arms 265, 265', and 265^a, Figs. 6, 39, and 41, will permit of them being operated simultaneously and will also permit of the arms being operated independently of one another. The operation of this locking mechanism is as follows: When a coin is placed in the chute 117, it is held by the offset 152, and when the stud 154 is moved forward to release the offset 152 the forward end of the finger 135 will engage the edge of the coin, and the movement of the finger 135 will be controlled according to the diameter of the coin. The end 135' of the finger 135 is adapted to engage with the overlapping end of the arms 265, 265', and 265^a. If, for example, a twenty-five cent piece is placed in the chute 117 and is engaged by the forward end of the finger 135, the finger 135 will be so guided and regulated that its end 135' will engage the forward end of the arm 265^a, and as the same overlaps the arm 265 the finger will carry the arms 265 and 265' downwardly and swing the locking-plates 257 and 256 over the pins 9 of the vertical rods 8 for the key-levers 30 to 95, respectively, and prevent the movement of the latter. If, for example, a dime is placed in the chute 117, the finger 135 will be so guided and regulated as to have its end 135' engage the

forward portion of the arm 265^a, and as it overlaps the forward end of the arm 265' and the latter overlaps the forward end of the arm 265 the three arms will be moved downwardly and the three plates will be swung in against the rods 8 and over the pins 9, so that the key-levers from 10 to 95 will be locked. If, for example, a half-dollar is placed in the chute 117, the finger 135 will be so regulated and guided that its end 135' will engage the forward end of the arm 265, depressing it and swinging forwardly the plate 257 and locking the keys from 55 to 95, respectively.

The machine is provided with an indicator, Figs. 1 and 3, for indicating the amount of the coin placed in the chute 117 or, rather, the coin to be changed, and this indicator consists of a card with any suitable inscriptions thereon to designate the value of the coin to be changed—for example, the dollar, fifty, twenty-five, and ten, and also with an inscription stating "No coin changed." This card is designated by the reference character 271, Fig. 3, which is carried by the upper portion of the vertically-movable rod 272. The rod 272 approximately centrally thereof extends rearwardly, as at 273, and then depends downwardly, as at 274, and the depending end 274 is provided with a series of beveled studs 275. (See Fig. 3.) The depending portion 274 of the rod 272 is provided with a forwardly-projecting arm 276, which normally rests in engagement with a projection 277, connected with the radially-extending plate 242.

The reference character 278 denotes a guide from the support 3 and assists in directing the vertical movement of the rod 272.

The reference character 279 denotes a forwardly-projecting arm which is adapted to suitably engage the studs 275 on the portion 274 of the rod 272 for holding the card 271 in its elevated position to expose it. The vertical movement of the rod 272 is governed by the finger 225—that is to say, the movement of the finger 225 is governed by the diameter of the coin. Therefore the movement of the finger 225 is imparted through the intervention of the projection 277 to the arm 276 and the rod is elevated, carrying the card therewith. If the coin changed is a half-dollar, the vertical movement imparted to the rod will be such that the inscription "50" will appear through the sight-opening at the top of the register. If the coin is a twenty-five-cent piece, it will be evident that the forward and downward movement of the feeling-finger will be such that it will raise the arm 277 higher, consequently imparting a higher movement to the rod 271 and exhibiting through the sight-opening the inscription "25." When the arm is moved to exhibit the proper inscription through the sight-opening, it is retained in such position by means of the arm 279, engaging one of the studs 275. The operation of the arm 279, engaging with the rod 272

and disengaging from the rod 272, will be hereinafter referred to.

The mechanism for receiving, sorting, and delivering a coin or coins to the coin tubes or receptacles when no change is required, or when the coin or coins are of a value equal to the purchase or sale, Figs. 1, 4, 10, 11, 12, 13, and 14, is as follows: At the top of the machine is formed a coin-receiving chamber 280, in which the coin or coins are placed when no change is required. The chamber 280 is normally closed at the bottom by means of a slidable plate 281, carried by the rock-arms 282, pivotally suspended from the top of the machine. One of the rock-arms 282 has extending sidewise therefrom a projection 283 and which terminates at its outer end in a downwardly-depending curved finger 284, adapted to be engaged at its lower end by a pin 285, carried by the rack-bar 232, and on the upward movement of the rack-bar 232 the pin 285 engages with the finger 284 and rocks the arms 282 rearwardly, carrying the plate 281 in the same direction and opening the chamber 280, so that the coin or coins placed therein can be discharged therefrom. The rack-bar 232 is provided with a pin 286, Fig. 17, which engages the outer face of the finger 284, so that when the rack-bar 232 is moved downwardly the pin 286 will contact with the lower end of the finger 284 and rock the arms 282 forwardly, carrying the plate 281 in the same direction and closing the bottom of the chamber 280.

Registering with the bottom of the chamber 280 and arranged below the plate 281 is the primary coin receiving, separating, and delivering mechanism and which consists of a plate 287, Fig. 10, suspended from the top of the machine, and which has hinged to the outer face thereof the coin receivers and transferrers 288, 289, and 290.

The coin receiver and transferrer 288 consists of a hollow receptacle open at its top and bottom with its inner wall engaging normally the outer face of the plate 287 and projecting below the outer wall of the said receptacle. The inner wall of the receptacle 288, which projects below the outer wall, is notched, as at 291, and engages the forwardly-projecting headed separating-pins 292, which are secured to the outer face of the plate 287. The outer wall of the receptacle 288 has its lower edge also notched and resting close to and above the pins 292. The top of the receptacle 288 is hinged to the plate 287, as at 293.

The coin receiver and transferrer 289 consists of a hollow receptacle open at its top and bottom, with its inner wall engaging normally the outer face of the plate 287 and projecting below the outer wall of the said receptacle. The inner wall of the receptacle 289, which projects below the outer wall, is notched, as at 294, and engages the forwardly-projecting headed separating-pins 295, which

are secured to the outer face of the plate 287. The outer wall of the receptacle 289 has its lower edge also notched and resting close to and above the pins 295. The top of the receptacle 289 is hinged to the plate 287, as at 296.

The coin receiver and transferrer 290 consists of a hollow receptacle open at its top and bottom, with its inner wall engaging normally the outer face of the plate 287 and projecting below the outer wall of the said receptacle. The inner wall of the receptacle 290, which projects below the outer wall, is notched, as at 297, and engages the forwardly-projecting headed separating-pins 298, which are secured to the outer face of the plate 287. The outer wall of the receptacle 290 has its lower edge also notched and resting close to and above the pins 298. The top of the receptacle 290 is hinged to the plate 287, as at 299.

The normal position of the receivers and transferrers 288, 289, and 290 is that they are in vertical alinement with one another. The receiver and transferrer 288 is the upper of the series of receivers and transferrers and is the largest of the three. The receiver and transferrer 289 is the intermediate one of the series of receivers and transferrers and is arranged below receiver and transferrer 288 and is smaller than the latter receiver and transferrer. The receiver and transferrer 290 is the bottom one of the series, is arranged below the receiver and transferrer 289, and is smaller than the receiver and transferrer 289. One side of each of the receivers and transferrers 288, 289, and 290 has secured thereto a forwardly-projecting stud 300, 301, and 302, respectively. The stud 300 has pivotally connected thereto one end of a link 303, and the other end of this link 303 is pivoted to the stud 301. The latter has also pivoted thereto one end of a link 304, and the opposite end of the link 304 is pivoted to the stud 302. The receivers and transferrers are swung forwardly by means of a shifting arm 305. This arm extends through the stud 301 and has one end fixed to the receiver and transferrer 289, as at 306. The other end of the shifting arm 305 is adapted to be engaged by a spring-pressed arm 307, carried on one side at the top of the rack-bar 232. The upper end of the spring-pressed arm 307 is beveled, as at 308. When the rack-bar 232 is elevated, the spring-arm 307 will be brought into engagement with the end of the shifting arm 305, forcing the said arm 305 outwardly, which, owing to the link connections 303 and 304, will swing forwardly the coin receivers and transferrers 288, 289, and 290. The coin receiver and transferrer 288 is adapted to receive the fifty-cent pieces and the dollars, the coin receiver and transferrer 289 is adapted to receive the quarters, and the coin receiver and transferrer 290 is adapted to receive the nickels. The pins 292 prevent the passage of the half-dollars or dollars from the coin receiver

and transferer 288 to the coin receivers and transferers arranged below the same, but will not interrupt the passage of the quarters, which will fall into the coin receiver and transferer 289; but the passage of the quarters from the coin receiver and transferer 289 will be interrupted by the pins 295. The pins 292 and 295 will not interrupt the passage of the nickels which will fall into the receiver and transferer 290. The pins 298 will arrest the passage of the nickels. The dimes will pass through all of the receptacles—that is to say, the diameter of the dimes is such that the pins 292, 295, and 298 will not interrupt the passage of the dimes. When the coin receivers and transferers are swung forwardly, they are adapted to communicate with a series of chutes for delivering and guiding the coins to their proper tubes or receptacles. These chutes are suitably secured to and supported by the plate 287. When the coin receiver and transferer which receives the half-dollars and dollars is swung forward, it communicates with the chute 309. This chute is so constructed as to have its lower end extend above the coin tube and receptacle 111. The chute 309 has a portion of its inner wall at its lower end movable, as at 310, and which is hinged at 311. Projecting forwardly from the movable portion 310 is a pair of L-shaped studs 312, which normally rest upon a pair of studs 313, projecting rearwardly from the inner face of the front wall of the chute 309 at its lower end. Connected to the movable portion 310 of the chute 309 is a shifting arm 314, which is pivoted at 315 and at its forward end is provided with the fork 316, which surrounds the arm 155. (See Fig. 12.) The chute 309 is so constructed that when a half-dollar passes through the same its passage will be between the lugs 313, and it will be discharged into the coin tube or receptacle 111. If a dollar should be passing through the chute 309, its movement will be arrested by the upper face of the studs 313. Consequently the L-shaped studs 312 will lie against one face of the dollar, so that when the arm 155 is operated through the operation of the trip-lever 126 it will carry the shifting arm 314 therewith, which in turn will move the portion 310 of the chute rearwardly and carry the dollar therewith and transfer the same into the overflow-pocket 183 at the back of the coin tubes or receptacles. The manner in which the dollar or half-dollar is transferred from the receiver or transferer 288 is as follows: When the rod 305 is operated by the vertical movement of the bar 232 and the receiver is swung forwardly, it will be carried free of the pins 292, and as the receiver carries the coin therewith over the chute 309 the coin will then pass or be transferred from the receiver into the chute 309 and delivered in the manner as hereinbefore set forth.

The reference character 317 denotes a chute

for delivering and guiding the quarters to a tube or receptacle 112. The receiver or transferer 289, when swung forward in the manner as hereinbefore described, is adapted to communicate with the chute 317, so the quarters will be transferred from the receiver 289 into the chute 317 and there guided into the receptacle 112.

The reference character 318 denotes a chute for guiding the nickels to the tube or receptacle 114. The receiver or transferer 290 when swung forward in the manner as hereinbefore described is adapted to communicate with the chute 318 for guiding and delivering the nickels into the tube or receptacle 114.

The reference character 319 denotes a chute for guiding and delivering the dimes into the chute or receptacle 113. The chute 319 communicates at its lower end with the tube or receptacle 113 and at its upper end with the receiver or transferer 290. When a dime is placed in the chamber 280 and the plate 281 shifted, the dime will immediately pass through the entire series of receivers and transferers into the chute 319 and be delivered into the tube or receptacle 113.

Mounted at the back of the supports 2 3 is a rocking plate 320 and which is pivoted, as at 321. This plate carries the arm 279, Fig. 3, and is connected, by means of a slotted link 322, Fig. 10, to the arm 305. When the arm 305 is moved forwardly, it will carry the plate 320 therewith as well as the arm 279, consequently releasing the arm from engagement with the studs 275 on the rod 272 and permitting the rod to fall. The plate 320 is also adapted to engage the studs or pins 10 when the bars 8 are vertically moved, so as to retain the said bars 8 in an elevated position, and when the plate 320 is released by the operation of the arm 305 it will be drawn forward from beneath the pins or studs 10, so that the bars 8 can be dropped.

The bars 8, carrying the indicator-cards for the dollar-bank of key-levers 69, are each provided with a transversely-extending stud or pin 323, Fig. 2, which is adapted to engage and elevate the forked arm 324, carrying the vertically-movable rod 325. The rearward end of this arm is provided with tines 325', Figs. 2 and 3, which are engaged by the studs or pins 323. The rod 325 carries on its upper end a card 326, having an inscription 326^a thereon setting forth that an even-dollar sale has been made, and this inscription 326^a is read through a suitable sight-opening 326^b. When the bar 320 is drawn forward by the link 322 and the rods 8 are released, the forked arm 324 will be lowered, carrying the bar 325 therewith.

The key-levers have engaging therewith a lifting mechanism to prevent the return of the levers when operated unless a complete stroke has been made—that is to say, if a key-

lever is partly depressed the mechanism will retain it in such position and prevent its return to its normal position, or, in other words, a key-lever will have to be depressed its entire stroke before it can return to its normal position. This locking mechanism consists of a bar 327, Figs. 2 and 25, which lies normally below the rear end of the key-levers and projects slightly rearwardly therefrom. The function of the bar 327 is such that when it is operated it is moved upwardly and forwardly against the back of the machine, so it will lie immediately below the rear end of the key-lever which has been depressed—that is to say, it will lie below the rear end of the key-lever if a part stroke has been made, and if the pressure is released from the key-lever it will be prevented from returning to its normal position by the fact that its rear end will contact with the bar 327, consequently preventing any return movement of the key-lever. If the key-lever is depressed, its full stroke and pressure is released therefrom. The bar 327 will then move downwardly and outwardly, so that the rear end of the key-lever will not contact with the bar. The bar 327 at each end is bent forwardly, as at 328, and is slidably connected by the keepers 329 to the arm 67 of the rocking frame. The forwardly-projecting portions 328 of the bar 327 are also connected to the arm 67 by means of the spring 330. When the frame is rocked, the arm 67 thereof will carry the bar 327 therewith—that is to say, impart an upward movement to the bar 327—and on this upward movement the bar 327 will pass over the beveled projecting pieces 331, Fig. 2, so it can be drawn in toward the rods 8 by the spring 330 and underneath the rear end of the key-lever which is depressed. When the key-lever is released and the bar 327 moves down, it will engage the beveled pieces 331 and will carry the rod 327 rearwardly to its normal position. The spring 330, when the bar 327 is moved forwardly, draws the bar 327 toward the rods 8.

The machine is provided with a locking mechanism for locking the entire mechanism of the machine unless the key-lever is depressed the full stroke. This mechanism consists of a projection carried by the bar 66, Fig. 4. Connected to the projection 332 is a double-acting pawl 333, which is adapted to engage a rack 334, fixed to the support 2. The rack 334 at its lower end is provided with an opening 335 to receive the projecting end of the pawl when the mechanism is in its normal position. The pawl 333 is provided with suitable springs. When a key-lever is depressed, the bar 66 is moved upwardly, carrying the projection 332 and pawl 333 therewith, and if the stroke of the key-lever is not a complete one the pawl will engage in the teeth of the rack 334 and prevent the mechanism of the machine from returning;

but if the lever-key has completed its stroke the pawl will ride above the teeth of the rack and engage the top thereof, so that when the key-lever is released the pawl will ride over the face of the teeth until it reaches the opening 335. The pawl 333 is also adapted to lock the mechanism of the machine in case the key-lever is being returned to its normal position. If during the return movement of the key-lever it is stopped and the operator endeavors to depress the key-lever before it has returned to its normal position after a complete downward stroke has been made, the pawl will engage in the rack and prevent any movement or depressing of the key-lever. Therefore the pawl is adapted to lock the mechanism when depressing a key-lever and is also adapted to lock the mechanism on the return of the key-lever if the operator should endeavor to depress the key-lever on the return movement thereof.

The machine is further provided with means to prevent the depression of two of the key-levers 6 or two of the key-levers 69 at the same time, but will permit of depressing one of the key-levers 6 and one of the key-levers 69 at the same time. This means consists in arranging at the back of the machine above the rear ends of the key-levers a series of disks 336 between the slotted plates 335^a and 335^b, Figs. 2 and 4, through which extend the rear ends of the key-levers, the diameters of these disks being such that when a key-lever is depressed and its inner end raised it can pass between two of the disks; but such movement will force the remaining disks in contact with each other, so that if another key-lever is depressed the disks will be held tightly against one another and prevent the upward movement of the rear end of the bank of key-levers. The disks for the key-levers 69 are separated by a stud or other suitable device from the disks for the bank of key-levers 6, so that a key-lever 69 can be depressed at the same time as a key-lever 6 is depressed.

The machine is further provided with a spring-pressed swinging arm 337, Figs. 2, 3, and 4, at the back thereof, which is normally retained upon the back of the machine by the bar 327, and when the bar 327 is moved forwardly it will permit of the arm 337, owing to the action of its spring, to move against the back of the machine above the key-levers, so that it will prevent the upward movement of the rear end of the key-levers. It will be assumed that a key-lever has been depressed and the rear end thereof elevated, so it can be engaged by the bar 327. The arm 337 when the bar 327 is raised through the action of its spring will be brought in position directly above the rear end of the remaining key-levers.

The door 5 for the cash-storage chamber 4 has connected to each side thereof, Figs. 37 and 38, a pivoted link 338, and attached to each

of the links 338 is one end of a coiled spring 339. The other end of the coiled spring 339 is suitably fixed to the machine. The function of the links 338 and the springs 339 is to draw back the door 5, so access can be had to the cash-storage chamber 4. The door 5 is normally held in its closed position by means of a retaining-arm 340, having its forward end provided with a shoulder 341, adapted to engage the top inner corner of the door. The arm 340 is fixed to a longitudinally-extending rock-shaft 342, the latter being suitably supported within the machine by the frame thereof and also by the supporting-bracket 342^a. Mounted upon the rock-shaft 342, so it will be longitudinally adjustable thereon and so that when operated it can rock the shaft 342, is a yoke-shaped plate 343, connected by its arms, as at 344, to the rock-shaft 342. The plate 343 is provided in its top with a series of notches 344^a and unbroken portions 344^b 344^c. The plate 343 extends rearwardly at an inclination and lies normally below the key-levers. The position of the plate 343 when in its normal position is such that the unbroken portions 344^c and 344^b on depressing any of the key-levers 69, 253, and 254 will be engaged thereby, moving the plate downwardly, rocking the shaft 342, and elevating the arm 340, thereby releasing the door 5, and through the intervention of the springs 339 the door will be drawn back rearwardly, so access can be had to the cash-storage receptacle 4. The position of the plate 343 when in its normal position is such that the notches 344^a will lie below the key-levers 6, and as the notches are of such depth that when any of the key-levers 6 are depressed the key-levers 6 will not engage the plate 343 to lower it, and consequently the door 5 will remain in its normal or closed position. The position of the plate 343 in its adjusted position is such that when one of the key-levers is depressed they will engage the plate, depressing it, thereby rocking the shaft 342 and releasing the arm 340 from its engagement with the door 5, so the latter will be drawn backwardly through the medium of the springs 339.

The plate 343 is adjusted longitudinally by means of an angle-lever 345, pivoted to the frame of the machine, as at 346, and having its forward arm extending through the opening 347 in one of the arms of the plate 343. The lever 345 may be termed a "shifting" lever. The rear arm of the shifting lever 345 is pivoted, as at 348, to the forward end of a link 349, the latter having its rear end pivoted, as at 350, to the disk 351, mounted on a shaft 352. The shaft 352 forms a part of a lock mechanism of any suitable construction and operated through the frame of the machine by a suitable key, so that when the said mechanism is operated it will rotate the disk in the direction of the arrow, Fig. 37, carrying the link 349 rearwardly, rocking the lever

345, and shifting the plate 343 longitudinally, thus bringing the notches 344^a out of alignment with the key-levers 6. Therefore when any of the key-levers 6, 69, 253, and 254 are depressed the plate 343 will be operated and the door 5 released, so it can be drawn backwardly by the springs 339 and access can be had to the cash-storage chamber 4. Simultaneously with the shifting of the plate 343, so it will be engaged and operated by any of the key-levers, the controlling mechanism for the coin separating and delivering mechanism and for the coin changing and ejecting mechanism is thrown out of operation—that is to say, the controlling mechanism is released from being operatively connected to the key-levers through the medium of the rocking frame and its roller 232^d. By this arrangement when the coin changing and ejecting mechanism is injured or the coin delivering and separating mechanism is tampered with, stopped up, or impaired the controlling mechanism therefor will not be operated, thus preventing the latter from being injured. The operation of the primary receiving, sorting, and delivering mechanism will also be thrown out of operation owing to the discontinuing of the operation of the controlling mechanism. The manner in which the operation is as follows: Pivotaly connected to the disk 351, as at 353, is one end of a link 354. The other or rear end of the link 354 is pivotally connected, as at 355, to the inner end of the slide-bar 232^e. It is obvious that when the disk 351 is turned in the direction of the arrow, Fig. 37, it will carry forward the link 354 therewith, moving the bar 232^e in the same direction and shifting the lower end of the rack-bar 232, so that the roller 232^d will move vertically in the arc-shaped portion of the slot 232^c. Under such circumstances when any of the key-levers are depressed, the roller 232^d being free to move in the arc-shaped portion of the slot 232^c, the rack-bar 232 will not be elevated or lowered. When the disk 351 is returned to its normal position, the plate 343 is shifted to its normal position and the roller 232^d will lie in the lower end of the slot 232^c. This lower end of the slot 232^c is of such length that the roller 232^d will be retained therein unless shifted therefrom through the operation of the disk 351 in a manner as hereinbefore set forth. It is obvious that when the roller 232^d in the lower portion of the slot 232^c when the key-lever is depressed and through the action of the arm 67 and bar 66 the rack-bar will be elevated and lowered. The throwing out of operation of the mechanisms, as stated, enables the cash-storage chamber 4 to receive the cash for all subsequent purchases, as it is evident that by the depression of any of the key-levers the cash-storage chamber will become open, it being assumed that the registering mechanism has not been

impaired, and will register the sales as the key-levers are depressed.

Arranged below the plate 107, Figs. 1, 3, and 30, is a chute for receiving the change ejected from the coin-tubes. This chute consists of an upper section having its bottom inclined and of such length as to extend a sufficient distance to receive the coins ejected from any of the coin-tubes. The upper portion of this chute is designated by the reference character 356, Figs. 1 and 30. The portion 356 of the chute terminates at its bottom in a cylindrical portion 357. This cylindrical portion 357 is adapted to extend between certain of the key-levers at the front of the plate 343. The key-levers are so constructed as to surround this cylindrical portion, as indicated by the reference character 357', Fig. 33. The cylindrical portion 357 extends a suitable distance below the key-levers and is closed at its bottom by means of a slide-plate 358, provided with a depending curved extension 359. The plate 358 is connected to the bottom of the cylindrical portion 357 by a flange-and-bead connection; but this connection is such as to permit of the plate 358 sliding. Connected to each side of the cylindrical portion 357 at its lower end is one end of a spring 360, while the other end of the spring 360 is connected to the plate 358. By this arrangement when the plate is forced rearwardly to permit of the coin dropping from the cylindrical portion 357 and when pressure is released on the plate 358 the action of the springs 360 will cause the plate 358 to resume its normal position. It is essential that the cylindrical portion 357 of the chute be closed to prevent the dropping out of the machine of the change ejected from the coin-tube until the operator is ready to receive it. Therefore it will be evident from the foregoing construction that the change ejected will not fall out of the machine until the plate 358 is shoved rearwardly by the operator.

In Figs. 35 and 36 is shown one of a series of circulating bill-receptacles 362. These receptacles are substantially cylindrical in form and are substantially the shape of a coin, are hollow, and are closed, with the exception that in the side a slot 363 is provided to permit of placing a folded bill within the receptacle. The slot 363 may be, if desired, closed by means of a slide 364, suitably connected to the inner face of the side of the receptacle. The slide 364 is provided with an outwardly-projecting lug 365 to prevent the movement thereof after the slot 363 is closed and to limit the movement of the slide when opening the slot 363. These receptacles are used when changing a bill or a note—such as one dollar, two dollars, five dollars, ten dollars, twenty dollars, and so on. The receptacles are all of different diameters, the one for the dollar-bill being the smallest, the diameters of the receptacles gradually increasing. The ma-

chine is shown with the coin tubes or receptacles for use in receiving nickels, dimes, quarters, half-dollars, and dollars, as well as the necessary chutes for delivering and guiding the coins to these receptacles and the necessary coin receiving and transferring receptacles for the nickels, quarters, half-dollars, and dollars; but it is obvious that if the circulating bill-receptacles are used for the dollar-notes, two-dollar notes, five-dollar notes, &c., additional tubes or receptacles, additional guiding and delivering chutes, and additional cash receivers and transferrers will be employed. The ejecting mechanism will of course be extended and provided with suitable ejectors for discharging the desired circulating bill-receptacles from the tubes or receptacles adapted to receive the circulating bill-receptacles, or, in other words, the same principle employed for the changing, sorting, and delivering of the coins will be employed for the circulating bill-receptacles, these circulating bill-receptacles being substantially the same shape as a coin, and the diameter of these circulating bill-receptacles will regulate the movement of the feeling-finger 225 in the same manner as the diameter of the coins regulates the movement of said finger.

The detecting mechanism for throwing out counterfeit coins from the machine, as shown in Figs. 5, 39, and 40, is essentially a weighing device and consists of what may be termed a "coin-pan" 367 at the lower end of what may be termed a "counterfeit" balance-arm 368. The latter is pivoted, as at 369, upon one side of the top of a forked-shaped bracket 370, secured to and supported by the brace rod or bar 119. The bracket 370 at its rear side, below the top thereof, carries a rearwardly-extending L-shaped arm 371, the purpose of which will be hereinafter referred to. The sides of the coin-pan 367 are formed by a pair of flanges 372 373, the latter projecting beyond the former, but both extending beyond the lower end of the pan 367, which is beveled. The position of the pan is below the bottom of the upper portion of the chute 117. The coin-pan 367 is normally retained in position by means of a hook-shaped end 374 of a lever 375, having a weighted upper end, and which is pivoted, as at 376, to the rear of the chute 117, and, further, has its upper portion engaged by the stop-lever 150. The detecting mechanism comprises a series of weights and are employed as follows for the coins: The weighted portion 377 of the arm 368 forms the weight for the dime. The adjustable weight 378 forms, in connection with the weighted portion 377, the weight for the quarters. The adjustable weight 379 forms, in connection with the weight 378 and weighted portion 377, the weight for the half-dollars, and the weight 380 forms, in connection with the weights 379 378 and the weighted portion 377, the weight for the dollars. The detecting

mechanism is shown, for example, as employed and adjusted for silver coins; but it is obvious that the weights can be adjusted or additional weights be added and adjusted for gold coins. The manner of connecting the weights is as follows: The weight 378 is adjustably connected by a slot-and-screw connection, as at 381, to one end of the lifting-arm 382, pivoted at its other end, as at 383, to the rear side of the top of the bracket 370. The weight 379 is adjustably connected by a slot-and-screw connection, as at 384, to one end of the lifting-arm 385. The latter is pivoted at its other end, as at 383, to the rear side of the top of the bracket 370 below the lifting-arm 382. The latter can be moved independently of the arm 382 when occasion requires. The weight 380 is adjustably connected by a slot-and-screw connection, as at 386, to one end of a lifting-arm 387, the latter being pivoted at its other end, as at 388, to the L-shaped arm 371, carried by the bracket 370. The balance-arm 368, carrying the coin-pan 367 in the example shown, is adapted to move the weights as follows: For a dime, the weighted portion 377; for a quarter, the weighted portions 377 and 378; for a half-dollar, the weighted portions 377, 378, and 379, and for the dollars the weighted portions 377 and the weights 378, 379, and 380. The various weights are connected, when required, with a weighted portion 377 through the means of a series of spring-return connecting-arms operated by a series of angle-levers, one lever for each connecting-arm, these angle-levers being operated by the rear end of the finger 135 and their movement controlled by the diameter of a coin placed in the chute 117. The spring-return connecting-arm between the weight 378 and the weighted portion 377 is indicated by the reference character 389 and which is substantially Z-shaped and has its forward end lying normally upon the weighted portion 377 and its rear end terminating into a depending extension 390, engaged and operated by one arm of the angle-lever 391, pivoted in the offset 133 at the rear thereof. The connecting-arm 389 is pivoted to the lifting-arm 382, as at 389', and is provided with a depending stud 393, operating in the slot 394, formed in the arm 382 for limiting the movement in either direction of the connecting-arm 389. The connecting-arm between the weights 378 379 and weighted portion 377 is indicated by the reference character 395 and has one end provided with a vertical extension 396, terminating in a hook 397. The latter is adapted to engage the lifting-arm 382. The other end of the connecting-arm 395 is curved rearwardly and terminates into a depending extension 398, which is engaged and operated by one arm of the angle-lever 399, pivoted in the offset 133 at the front of the angle-lever 391. The connecting-arm 395, Fig. 40, lies below the lift-

ing-arm 385, is pivoted thereto, as at 385', and is provided with an upwardly-projecting stud 401, operating in the slot 402, formed in the arm 385 for limiting the movement of the connecting-arm 395 in either direction. The connecting-arm between the weights 378 379 380 and the weighted portion 377 is indicated by the reference character 403 and has one end provided with a vertical extension 404, terminating in a hook 405, adapted to engage the lifting-arm 385. The other end of the connecting-arm 403 terminates into a depending extension 406, engaged and operated by one arm of the angle-lever 407, pivoted in the offset 133 at the front of the angle-lever 399. The connecting-arm 403 lies below the lifting-arm 387, is pivotally connected thereto, as at 409, and is provided with an upwardly-projecting stud 410, operating in the slot 411, formed in the arm 387 for limiting the movement of the connecting-arm 403. Each of the connecting-arms 389, 395, and 403 is provided with a leaf-spring 412. One of the arms is shown in Fig. 40 with the leaf-spring 412. This spring is adapted to return the arms to their normal or connecting positions. The normal position of the arms 389, 395, and 403 is that the arm 389 will lie in contact with the weighted portion 377 and the balance-arm 368. The arm 395 will engage, through its hook 397, the lifting-arm 382, and the arm 403 through its hook 405 will engage the lifting-arm 385. As before stated, the arms 389, 395, and 403 are retained in such position through the action of their springs 412. The action of the springs 412 will also cause the arms of the angle-levers which engage with the arms 389, 395, and 403 to project rearwardly, the rearward movement of the angle-levers being limited by the pins or studs carried by the arms 389, 395, and 403, these pins or studs engaging in the slots 394, 402, and 411 in the manner as hereinbefore set forth. The other arms of the angle-levers are engaged and operated by the finger 135, the engagement of the finger 135 being controlled by the diameter of the coin placed in the chute 117.

The operation of the deflecting mechanism and the detecting mechanism, the deflecting mechanism forming a part of the detecting mechanism, is as follows: In connection with the deflecting mechanism for the cents or nickels it will be stated that as the cents or nickels are inserted in the chute 117 they will not rock the arm 368. Consequently the lever 146 will not be released, and the deflecting-arm 142 projects into the chute 117, and as the coin passes down the chute it will engage the deflecting-arm 142 and be deflected out of the chute. The forked arm 148^a having its pin 148^d lying below the lower end of the coin-pan, the coin will engage the fork and move it outwardly, so that the movement of the coin as it is being deflected

from the chute 117 will not be retarded. The coin will be discharged from the machine in the manner as hereinbefore set forth. The diameter of the cent or nickel is such that when the finger 135 is moved downwardly it will not engage any of the angle-levers 390, 399, and 407. The operation of the holding-lever 150 has been hereinbefore set forth. The manner of deflecting a counterfeit coin is the same as the cents or nickels, for the reason that the coin being lighter than a genuine coin the coin-pan 367 will not be lowered. The operation of the detecting mechanism when a genuine coin is placed in the machine is, for example, that (we will use a fifty-cent piece) when the finger 135 is operated through the medium of the lever 126 the lower end of the finger will engage the angle-lever 407 and release the connecting-arm 403 from its engagement with the lifting-arm 385. At the same time the finger will depress the rearward extension 141 of the lever 139 and release the lever 146. When the connecting-arm 403 is released from the lifting-arm 385, the weighted portion 377 and weights 378 and 379 will be connected together. When the lever 126 is moved forwardly and the holding-lever 150 released, the lever 375 will have its hooked end removed from beneath the pan 367, so that the pan will be lowered. When the pan 367 is lowered, the pin 148 of the lever 146 will ride over the pan; but the flange 373 will engage the pin 148^a of the fork 148^a and hold the fork so that it will project into the chute 117. When the coin passes down the chute, owing to the fact that the holding-lever 150 has been released it will engage the beveled arm 142, and owing to the fact that the latter is released from its engagement with the lever 146 the weight of the coin will swing the arm 142 rearwardly, and the coin will pass down the chute to be delivered to its proper receptacle in a manner as hereinbefore set forth. When the lever 126 is brought to its normal position in a manner as hereinbefore set forth, the rearward extension 141 is released from its engagement with the finger 135, causing the lever 139 to resume its normal position and the projection, stud, or pin 139^a to engage one side of the lever 146 and bring it into engagement with the stud 145 of the arm 142, so as to hold it in its projecting position within the chute 117. The scale-pan 367 resumes its normal position, owing to the action of the weights employed for the coin, and the hook on the lever 375 engages underneath the pan 367 and retains it in its normal position. The pan is then above the pin 148^a; but the flange 373, forming the inner side of the pan, is engaged by the pin 148.

The detachable plates forming the inclosing frame of the machine are suitably connected together so that they can be removed and the front plates locked in position so that no one can have access to the mechanism of

the machine unless they possess a key to unlock the front plates. The machine is also provided with a suitable locking mechanism, connected to one side thereof, of any known construction and which is provided with suitable means engaging a portion of the mechanism for locking the entire machine from operation. The machine is such that the money and circulating bill-receptacles placed therein cannot be removed unless egress is had to the coin tubes or receptacles by unlocking the front plates. The cash-storage chamber is also provided with a lock mechanism of any suitable construction, so that the same will have to be operated before the plate 5 can be drawn back through the action of its springs.

The coin-storage chamber 4 is used for receiving bills or notes—such as one dollar, two dollar, five dollar, ten dollar, &c.—when the circulating bill-receptacles are not used. Within the coin-chamber 4 is placed a number of silver dollars. The door 5 is then closed. It will be assumed that a two-dollar bill has been tendered in payment of a one-dollar-and-seventy-cent sale. The “no-sale” key-lever at the side of the key-levers 69 is depressed, which will open the door 5 and permit the two-dollar bill to be changed into two silver dollars. One of these silver dollars is placed in the coin-chute 117. The key-lever 69 for registering a dollar is depressed, as well as the key-lever 6 for indicating seventy cents. This will cause the register to record one dollar and seventy cents, and the operation of the key-lever 6 will cause the mechanism to be operated in the manner hereinbefore set forth by ejecting thirty cents change. The other silver dollar is then placed in the chamber 280, where it will remain in sight until the lever or levers are again depressed, when it will pass down the chute 219 and be discharged in a manner as hereinbefore set forth into the overflow-pocket.

The operation of the various parts has been specifically set forth, and it is thought that a specific operation of the entire machine is unnecessary, so that the operation of the machine will be referred to in a general manner. The machine is so constructed and the various mechanisms operatively connected together that the change making and ejecting mechanism, the controlling mechanism, the coin separating and distributing mechanism, and the registering mechanism will be operated simultaneously, and the registering mechanism and the primary receiving, sorting, and delivering mechanism will be operated simultaneously. When a coin is placed in the machine of greater value than the sale, a key-lever indicating the value of the sale is depressed, and on such movement the key-lever will operate the registering mechanism to record the value of the sale. Simultaneously with this operation the controlling mechanism will engage the coin and control the op-

eration of the change-ejecting mechanism. Simultaneously with the depression of the key-lever the change-making mechanism will be so regulated that when the ejecting mechanism is operated the correct change will be ejected from the coin tubes or receptacles and through the chute into the hands of the operator. If a coin or coins of the value of the sale is or are placed into the machine, the depression of a key-lever indicating the value of the sale should first be made. The registering mechanism will be operated and the sale recorded. Then the coin or coins are to be placed in the receiving-chute 280, where they remain in sight until the machine is again operated by the depressing of a key lever or levers. Then the primary receiving, sorting, and delivering mechanism is operated so that the coin or coins will be distributed to the proper coin receptacle or receptacles.

It is thought the many advantages of a machine for receiving, delivering, sorting, registering, and detecting coins can be readily understood from the foregoing description, taken in connection with the accompanying drawings, and it will furthermore be evident that changes, variations, and modifications can be resorted to without departing from the spirit of the invention or sacrificing any of its advantages, and we therefore do not wish to restrict ourselves to the details of construction hereinbefore described, and as shown in the accompanying drawings, but reserve the right to make such changes, variations, and modifications as come properly within the scope of the protection prayed.

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

1. In combination, an ejecting-plate, an operating-pin therefor, a movable regulating-pin adapted when in its normal position to retain said operating-pin in its operative position and when in its inoperative position adapted to permit of said operating-pin assuming an inoperative position, operating means for said operating-pin, and means for operating said regulating-pin.

2. In combination, an ejecting-plate, an operating-pin therefor, a vertically-movable regulating-pin adapted to engage said operating-pin for retaining it in an upright position, a fork engaging with and adapted to suitably operate said regulating-pin, means for operating said fork, and means adapted to engage and operate said operating-pin when the latter is in its upright position causing thereby the operation of said ejecting-plate.

3. In a machine of the character described, a change making and ejecting mechanism adapted to have its operation controlled by the diameter of a circular object, a registering mechanism for recording the value of a sale, means for indicating the amount of cash inserted in the machine and adapted to have its

movement controlled by the diameter of a circular object, means for indicating the amount of a sale, means for distributing the cash inserted in the machine, and means for operating said mechanisms, cash-indicating, sale-indicating and cash-separating means, said mechanisms, cash-indicating, sale-indicating and separating means operatively connected with each other.

4. In a machine of the character described a change making and ejecting mechanism, said mechanism adapted when operated to eject the change between the value of a sale and the value of the money tendered in payment thereof, mechanism for controlling the operation of said change making and ejecting mechanism, a cash-separating means adapted to be engaged and operated by said controlling mechanism when the latter is operated, a registering mechanism for recording the value of the sale, and means for simultaneously operating said mechanisms.

5. In a machine of the character described a change making and ejecting mechanism, said mechanism adapted, when operated, to eject the change between the value of a sale and the value of the money tendered in payment thereof, mechanism adapted to engage the edge of and have its movement controlled by the diameter of a coin for controlling the operation of said change making and ejecting mechanism, registering mechanism for recording the value of the sale, and means for suitably operating said mechanisms.

6. A machine of the character described comprising a series of cash-receptacles, a cash separating and delivering mechanism for delivering cash to the said receptacles, a cash detecting and deflecting mechanism engaging with and operated by said delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, a registering mechanism, and means engaging with and operating the registering mechanism, cash ejecting and changing mechanism and said controlling mechanism.

7. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver the cash to said receptacles, a cash deflecting and detecting mechanism engaging with and operated by said delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, and means engaging with and operating the cash-ejecting and change-making mechanism and said controlling mechanism.

8. In a machine of the character described, a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver the cash to said receptacles, a cash detecting and deflecting mechanism

operated by said delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, a registering mechanism, and means engaging with and simultaneously operating said registering mechanism, cash ejecting and changing mechanism and said controlling mechanism.

9. In a machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver cash to said receptacles, a cash deflecting and detecting mechanism engaged and operated by said delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, and means engaging with and simultaneously operating the said cash-ejecting and change-making mechanism and said controlling mechanism.

10. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver the cash to said receptacles, a cash deflecting and detecting mechanism engaged and operated by said delivering and separating mechanism, a change making and ejecting mechanism adapted to engage the cash in, and eject the same from the said receptacles, a controlling mechanism for said change making and ejecting mechanism, a primary cash receiving, sorting and delivering mechanism communicating with the said receptacles and adapted to be engaged and operated by said controlling mechanism, and means engaging with and operating the change making and ejecting mechanism and said controlling mechanism.

11. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver the cash to said receptacles, a cash deflecting and detecting mechanism engaged and operated by said delivering and separating mechanism, a change making and ejecting mechanism adapted to engage the cash in, and eject the same from the said receptacles, a controlling mechanism for said change making and ejecting mechanism, a primary cash receiving, sorting and delivering mechanism communicating with the said receptacles and adapted to be engaged and operated by said controlling mechanism, and means engaging with and simultaneously operating the change making and ejecting mechanism and said controlling mechanism.

12. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver cash to said receptacles, a cash deflecting and detecting mechanism engaged and operated by said delivering and separating mechanism, a change making and ejecting mechanism adapted to engage the

cash in, and eject the same from said receptacles, a controlling mechanism for said change making and ejecting mechanism, a primary cash receiving, sorting and delivering mechanism communicating with the said receptacles and adapted to be engaged and operated by said controlling mechanism, a registering mechanism, and means engaging with and operating the said registering mechanism, change making and ejecting mechanism and said controlling mechanism.

13. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism adapted, when operated, to deliver cash to said receptacles, a cash deflecting and detecting mechanism engaged and operated by said delivering and separating mechanism, a change making and ejecting mechanism adapted to engage the cash in, and eject the same from said receptacles, a controlling mechanism for said change making and ejecting mechanism, a primary cash receiving, sorting and delivering mechanism communicating with the said receptacles and adapted to be engaged and operated by said controlling mechanism, a registering mechanism, and means engaging with and simultaneously operating the said registering mechanism, change making and ejecting mechanism, and said controlling mechanism.

14. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with said receptacles and adapted to suitably deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the said ejectors, means engaging with the ejectors for operating them, mechanism for operating and controlling said operating means for the ejectors, and means for operating said regulating and controlling mechanisms.

15. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with said receptacles and adapted to suitably deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the said ejectors, operating means for the said ejectors, mechanism for operating and controlling the operating means for the ejectors, a registering mechanism, and means for operating said regulating, controlling and registering mechanisms simultaneously.

16. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with said receptacles and adapted to suitably deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the said ejectors, means engaging with the ejectors for operating them, mechanism for controlling and operating the operating means for the

ejectors, key-levers for operating said regulating and controlling mechanism, and a locking mechanism for the key-levers suitably engaged and operated by said cash delivering and separating mechanism.

17. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with the said receptacles and adapted, when operated, to deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the ejectors, means engaging with the ejectors for operating them, mechanism for controlling and operating the operating means for the ejectors, a registering mechanism, key-levers for operating said regulating, controlling and registering mechanisms, and a locking mechanism for the key-levers suitably engaged and operated by said cash delivering and separating mechanisms.

18. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with the said receptacles and adapted, when operated, to deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the ejectors, means engaging with the ejectors for operating them, mechanism for controlling and operating the operating means for the ejectors, a registering mechanism, key-levers engaging with and simultaneously operating said regulating, controlling and registering mechanisms, a cash deflecting and detecting mechanism suitably engaged and operated by said cash delivering and separating mechanism, and a locking mechanism for the key-levers suitably engaged and operated by said cash delivering and separating mechanism.

19. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with the said receptacles and adapted when operated, to deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the movement of the ejectors, means engaging with the ejectors for operating them, mechanism for controlling and operating the operating means for the ejectors, a registering mechanism, key-levers engaging with and simultaneously operating said regulating, controlling and registering mechanisms, and a locking mechanism for the key-levers suitably engaged and operated by said delivering and separating mechanism.

20. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism communicating with the said receptacles and adapted, when operated, to deliver cash thereto, ejectors for discharging cash from the said receptacles, mechanism for regulating the move-

ment of the ejectors, means engaging with the ejectors for operating them, mechanism for controlling and operating the operating means for the ejectors, a registering mechanism, key-levers for simultaneously operating said regulating, controlling and registering mechanisms, a cash deflecting and detecting mechanism suitably engaged and operated by said cash delivering and separating mechanism, a primary cash receiving, sorting and delivering mechanism engaged and operated by said controlling mechanism, and a locking mechanism for the key-levers suitably engaged and operated by said delivering and separating mechanism.

21. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from the said receptacles, a regulating mechanism for said ejectors, means engaging with the ejectors for operating them, a controlling mechanism for the ejectors' operating means, means for operating said regulating and controlling mechanisms, and a cash deflecting and detecting mechanism engaged and operated by the cash delivering and separating mechanism.

22. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from the said receptacles, regulating mechanism for said ejectors, means engaging with the ejectors for operating them, a controlling mechanism for the ejectors' operating means, a registering mechanism, means for operating said regulating, controlling and registering mechanisms, and a deflecting and detecting mechanism engaged and operated by the cash delivering and separating mechanism.

23. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from the said receptacles, regulating mechanism for said ejectors, means engaging with the ejectors for operating them, a controlling mechanism for the ejectors' operating means, a registering mechanism, means for simultaneously operating said regulating, controlling and registering mechanisms, and a deflecting and detecting mechanism engaged and operated by the said delivering and separating mechanism.

24. A machine of the character described comprising a series of cash-receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from the said receptacles, regulating mechanism for said ejectors, means engaging with the ejectors for operating them, a controlling mechanism for the ejectors' operating means, a registering mechanism, means for simultaneously operating said regulating, controlling and registering mechanisms, a deflecting and detecting mechanism engaged and operated by the cash

delivering and separating mechanism, and a primary cash receiving, sorting and delivering mechanism engaged and operated by said controlling mechanism.

25. A machine of the character described comprising a cash-changing mechanism adapted to have its movement controlled by the diameter of a movable circular object, a registering mechanism for registering the amount of a sale, and means for operating said mechanisms simultaneously.

26. A machine of the character described comprising a cash-changing mechanism, a primary cash receiving, sorting and delivering mechanism, a registering mechanism, mechanism for controlling the operation of the cash-changing mechanism and for operating the said primary cash receiving, sorting and delivering mechanism, and means for simultaneously operating said cash-changing mechanism, controlling mechanism and registering mechanism.

27. A machine of the character described comprising a cash-changing mechanism adapted to have its movement controlled by the diameter of a movable circular object, a cash deflecting and detecting mechanism, operating means for said detecting mechanism, a registering mechanism, and means engaging with and when operated adapted to operate said cash changing and registering mechanisms.

28. A machine of the character described comprising a cash-changing mechanism adapted to have its movement controlled by the diameter of a movable circular object, a cash deflecting and detecting mechanism, operating means for said detecting mechanism, a registering mechanism, and means engaging with and when operated adapted to simultaneously operate the said cash changing and registering mechanisms.

29. A machine of the character described comprising a plurality of cash-receptacles, a primary cash receiving, sorting and delivering mechanism for said receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from said receptacles, regulating means for the ejectors, means for operating the ejectors, means for controlling the movement of said ejectors' operating means and for operating said primary cash receiving, sorting and delivering mechanism, a registering mechanism, and means engaging with and operating said regulating means, said ejectors' operating means, said controlling means, and said registering mechanism.

30. A machine of the character described comprising a plurality of cash-receptacles, a primary cash receiving, sorting and delivering mechanism for said receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from said receptacles, regulating means for the ejectors, means for operating the ejectors,

means for controlling the movement of said ejectors' operating means and for operating said primary cash receiving, sorting and delivering mechanism, a registering mechanism, and means engaging with and simultaneously operating said regulating means, said ejectors' operating means, said controlling means, and said registering mechanism.

31. A machine of the character described comprising a plurality of cash-receptacles, a primary cash receiving, sorting and delivering mechanism for said receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from said receptacles, regulating means for the ejectors, means for operating the ejectors, means for controlling the movement of said ejectors' operating means and for operating said primary cash receiving, sorting and delivering mechanism, a registering mechanism, and a series of key-levers engaging with and operating said regulating means, said ejectors' operating means, said controlling means, and said registering mechanism.

32. A machine of the character described comprising a plurality of cash-receptacles, a primary cash receiving, sorting and delivering mechanism for said receptacles, a cash delivering and separating mechanism for said receptacles, ejectors for discharging cash from said receptacles, regulating means for the ejectors, means for operating the ejectors, means for controlling the movement of said ejectors' operating means and for operating said primary cash receiving, sorting and delivering mechanism, a registering mechanism, and a series of key-levers engaging with and simultaneously operating said regulating means, said ejectors' operating means, said controlling means and said registering mechanism.

33. A machine of the character described comprising a rocking frame, keys cooperating therewith, a vertically-movable key-lifting bar slidably connected to said frame, and operable devices cooperating with said bar.

34. A machine of the character described comprising a rocking frame, keys cooperating therewith, a vertically-movable key-lifting bar slidably connected with said frame and operated when said frame is operated, means for retaining the bar in its operative position, and operable devices cooperating with said bar.

35. A machine of the character described comprising a rocking frame, a bank of key-levers for operating said frame, and a vertically-movable bar slidably connected with said frame and adapted when the frame is operated to move under and engage and elevate the lever or levers which has or have been operated.

36. A machine of the character described comprising a rocking frame, a series of key-levers for operating said frame, a vertically-movable bar slidably connected with said frame and adapted when the frame is operated

to move under and engage and elevate the lever or levers which has or have been operated, and means for retaining the bar in its operative position.

37. In a machine of the character described, a bank of key-levers, a rocking frame adapted to be operated when one or more of said key-levers of the bank is or are operated, and a vertically-movable bar slidably connected with said frame and adapted when the frame is operated to move under and engage and lift the lever or levers which has or have been operated.

38. A machine of the character described, comprising a series of key-levers, means for indicating the amount of a sale adapted to be engaged and operated by said key-levers, a series of pivotal plates adapted to engage with and suitably lock the key-levers from movement, a series of levers connected with said plates and adapted to operate them, and means having its movement controlled by the diameter of a circular object and adapted to engage and suitably operate said levers, causing thereby the operation of said plates.

39. In a machine of the character described, a bank of key-levers, a rocking frame adapted to be operated when one or more of said key-levers is or are operated, a vertically-movable key-lifting bar slidably connected with said frame and adapted when the frame is operated to move under and engage and elevate the lever or levers which has or have been operated, and a key-arresting bar normally extending over the rear end of said key-levers and in the path of said lifting-bar, said arresting-bar moved from its normal position when the said lifting-bar is elevated and assumes its normal position when said lifting-bar is above it and thereby prevents the operation of those key-levers of said series which have not been operated.

40. A machine of the character described comprising a change making and ejecting mechanism, mechanism controlled by the diameter of a coin for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, and operating means for said mechanisms.

41. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, and means for simultaneously operating said mechanisms.

42. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said control-

ling mechanism for indicating the amount of cash to be changed, and a series of key-levers for operating said mechanisms.

43. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, and a series of key-levers for simultaneously operating said mechanisms.

44. A machine of the character described comprising a change making and ejecting mechanism, mechanism controlled by the diameter of a coin for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, a registering mechanism, and operating means for said mechanisms.

45. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, a registering mechanism, and means for simultaneously operating said mechanisms.

46. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, a registering mechanism, and a series of key-levers for operating said mechanisms.

47. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, a registering mechanism, and a series of key-levers for simultaneously operating said mechanisms.

48. A machine of the character described comprising a change making and ejecting mechanism, mechanism controlled by the diameter of a coin for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, and operating means for said mechanisms.

49. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of

cash to be changed, releasing means for the said indicating means, and means for simultaneously operating said mechanisms.

50. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, and a series of key-levers for operating said mechanisms.

51. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, and a series of key-levers for simultaneously operating said mechanisms.

52. A machine of the character described comprising a change making and ejecting mechanism, mechanism controlled by the diameter of a coin for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, a registering mechanism, and operating means for the said mechanisms.

53. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, a registering mechanism, and means for simultaneously operating said mechanisms.

54. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, a registering mechanism, and a series of key-levers for operating said mechanisms.

55. A machine of the character described comprising a change making and ejecting mechanism, mechanism for controlling the operation of said change making and ejecting mechanism, means operated by said controlling mechanism for indicating the amount of cash to be changed, releasing means for the said indicating means, a registering mechanism, and a series of key-levers for simultaneously operating said mechanisms.

56. A machine of the character described comprising means for indicating the amount of cash to be changed, consisting of a vertically-

movable rod provided with a series of beveled studs, a stop-pin, and a card having suitable inscriptions thereon, and operative devices cooperating with said indicating means, said indicating means adapted to have its movement controlled by the diameter of a circular object.

57. A machine of the character described comprising a vertically-movable means for indicating the amount of cash to be changed, means for suitably elevating the said indicating means, said elevating means having its movement controlled by the diameter of a circular object, means engaging with the indicating means for retaining it in elevated position, and means for releasing the indicating means to permit of its return to its normal position.

58. A machine of the character described comprising means for indicating the amount of cash to be changed consisting of a vertically-movable rod provided with a series of beveled studs, a stop-pin, and a card provided with suitable inscriptions, means for suitably elevating the said rod, said elevating means adapted to have its movement controlled by the diameter of a circular object, means engaging the studs for retaining the rod in its elevated position, and means for releasing the rod to permit of its return to its normal position.

59. A machine of the character described comprising means for indicating the amount of cash to be changed consisting of a vertically-movable rod provided with a series of beveled studs, a stop-pin, and a card provided with suitable inscriptions, means for suitably elevating the said rod, said elevating means adapted to have its movement controlled by the diameter of a circular object, means engaging the studs for retaining the rod in its elevated position, means for releasing the rod to permit of its return to its normal position, and means engaging with the said pin for arresting the return movement of the rod.

60. A machine of the character described comprising means for indicating the amount of cash to be changed, means controlled by the diameter of the coin and engaging therewith for suitably operating it, means engaging with the indicating means for retaining it in its operating position, means for releasing the said indicating means to permit of its return to its normal position and means for limiting the return movement of the said indicating means.

61. A machine of the character described comprising an indicator consisting of a vertically-movable rod provided with a card having an inscription thereon and a forked arm pivoted to the rod and provided with a series of operating-tines and adapted when operated to operate said rod, and means for operating the tines.

62. A machine of the character described comprising an indicator consisting of a vertically-movable rod provided with a card having

an inscription thereon and a forked arm pivoted to the rod and provided with a series of operating-tines for operating said rod, means engaging with the said tines for operating said arm to suitably elevate the rod, and means for releasing said arm from its operating means to permit said rod to return to its normal position.

63. A machine of the character described comprising an indicator consisting of a vertically-movable rod provided with a card having an inscription thereon and a forked arm pivoted to the rod and provided with a series of operating-tines for operating said rod, means engaging with the said tines for operating said arm to suitably elevate the rod, means for releasing said arm from its operating means to permit said rod to return to its normal position, and means for engaging said tines to limit the return movement of said rod.

64. A machine of the character described comprising a vertically-movable indicator, a forked arm for operating said indicator, means engaging with said arm for operating it, means for releasing said arm to permit the indicator to return to its normal position, and means engaging the said arm to limit the return movement of the said indicator.

65. A machine of the character described, comprising a stationary cash-storage chamber, a series of key-levers, a spring-actuated door for closing said chamber, and an adjustable releasing means for the door, said means when in its adjusted position adapted to be engaged and operated by any of the key-levers of the series to release said door to open the chamber and when in its normal position adapted to be engaged and operated by certain of the keys of the series of key-levers to release the door to open the chamber.

66. A machine of the character described, comprising the combination a cash-receptacle and a series of keys, and means cooperating with the keys for opening the cash-receptacle, said means being adjustable to operative or inoperative relation to the keys.

67. A machine of the character described comprising a stationary cash-storage receptacle, a releasable cover for closing the said receptacle, a plurality of banks of key-levers, means engaging with said cover and adapted when operated by any lever of one of the banks of key-levers to release and open said cover, thereby permitting access to be had to said receptacle, and money-changing devices operated by one of the banks of key-levers.

68. A machine of the character described, a cash-storage chamber, a normally closed spring-actuated door for said chamber, means engaging with the door for retaining it in its closing position, a series of key-levers, and an adjustable slotted plate connected with said retaining means for operating it, said plate when in its adjusted position adapted to be engaged by and operated by any one of the

series of key-levers to operate said retaining means and when in its normal position adapted to be engaged by and operated by certain of the key-levers of the series to operate the retaining means while the remaining levers of the series are adapted to enter the slots of the plate to prevent its operation.

69. In a machine of the character described a cash-storage chamber, a normally closed door for said chamber, a series of key-levers, and an adjustable releasing means for the door engaged and operated by the levers, said means in its normal position adapted to be engaged and operated by certain of the key-levers and when in its adjusted position engaged and operated by all of the key-levers.

70. A machine of the character described, comprising a cash-storage chamber, a spring-actuated means for normally closing the said chamber, an arm engaging with the said means for retaining it in its closing position, a rock-shaft connected to said arm, a slotted plate connected to said rock-shaft and adapted when operated to rock the shaft to move the said arm out of engagement with the said means so that the latter can open, and two banks of key-levers, the levers of one bank adapted when operated to engage said plate and operate it, and the levers of the other bank when operated adapted to engage in the slots of said plate to prevent its operation.

71. A machine of the character described, comprising a cash-storage chamber, a spring-actuated door for normally closing the said chamber, an arm engaging with the said door for retaining it in its closing position, a rock-shaft connected to said arm, an adjustable slotted plate connected to said rock-shaft and adapted when operated to rock the shaft to move the said arm out of engagement with the said door, so that the said door can open, and two banks of key-levers, said plate when adjusted adapted to be engaged and operated by any lever of either bank of key-levers when depressed and when in its normal position adapted to be engaged and operated by any key-lever of one bank of key-levers when operated, and the levers of the other bank of key-levers when operated adapted to engage in the slots of the plate to prevent its operation.

72. A machine of the character described comprising a series of key-levers, and a mechanism for suitably locking the key-levers consisting of a series of pivoted plates terminating at their top in a neck portion, levers suitably connected to the neck portions for operating the plates, and means for selectively operating said levers.

73. A machine of the character described comprising a series of key-levers, a mechanism for suitably locking the key-levers from movement consisting of a series of pivoted plates which terminate at their top in a neck portion, and levers suitably connected to the neck portions for operating the plates and

having their forward ends overlapping each other.

74. A machine of the character described comprising a series of key-levers, a series of
5 pivoted plates for suitably locking the said levers, each of said plates at its top terminating in a neck portion, overlapping levers connected to the neck portions for operating the plates, and means engaging with the overlapping
10 ping ends of the levers for suitably operating them.

75. A machine of the character described comprising a series of key-levers, a series of
15 pivoted plates for suitably locking the said levers, each of said plates at its top terminating in a neck portion, overlapping levers connected to the neck portions for operating the plates, means engaging with the overlapping
20 ping ends of the levers for operating them, and means for suitably releasing the plates.

76. A machine of the character described comprising a series of key-levers, a series of
25 plates adapted, when operated, to engage with said levers to prevent their movement, levers connected with said plates for operating them, said levers provided with overlapping ends, means controlled by the diameter of the coin
30 and suitably engaging with the overlapping ends of the levers for operating them, thereby bringing the plates into locking engagement with the key-levers.

77. A machine of the character described comprising a series of key-levers, a series of
35 plates adapted, when operated, to engage with said levers to prevent their movement, levers connected with said plates for operating them, said levers provided with overlapping ends, means controlled by the diameter of the coin
40 and suitably engaging with the overlapping ends of the levers for operating them, thereby bringing the plates into locking engagement with the key-levers, and means for suitably releasing the plates from their engagement with the key-levers.

78. A machine of the character described, comprising a series of regulating-bars each
45 provided with an upwardly-extending yoke, and regulating means cooperating with said yokes.

79. In combination with a series of regulating-bars each suitably cut away and provided
50 with a yoke, a series of forks having rearward extensions projecting through the yokes and engaging the bars, a shaft for supporting the forks, a series of forwardly-movable ejectors, a series of regulating-pins extending
55 through said ejectors and engaging in said forks, and a series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably engaged by the regulating-
60 pins.

80. In combination with a series of regulating-bars each suitably cut away and provided
with a yoke, a series of forks having rear-

ward extensions projecting through the yokes
65 and engaging the bars, a shaft for supporting the forks, a series of forwardly-movable ejectors, a series of regulating-pins extending through said ejectors and engaging in said
70 forks, a series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably engaged by the regulating-pins, and a yoke-shaped arm fixedly connected to the top of said ejectors.

81. In combination with a series of regulating-bars, each suitably cut away and provided
75 with a yoke, a series of forks having rearward extensions, projecting through the yokes and engaging the said bars, a shaft for supporting the forks, a slotted supporting-plate, a series
80 of forwardly-movable ejectors mounted upon said plate and provided with lugs depending through the slots of the plate, a series of regulating-pins extending through said ejectors and their lugs and engaging in said forks, a
85 series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably engaged by the regulating-pins, and a yoke-shaped arm fixedly connected to one of
90 said ejectors.

82. In combination with a series of regulating-bars each suitably cut away and provided
95 with a yoke, a series of forks having rearward extensions projecting through the yokes and engaging in the said bars, a shaft for supporting the forks, a slotted supporting-plate, a series
100 of forwardly-movable ejectors mounted upon said plate and provided with lugs depending through the slots of the plate, a series of regulating-pins extending through said ejectors and their lugs and engaging in said
105 forks, a series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably engaged by the regulating-pins, a yoke-shaped arm fixedly connected to one
of said ejectors, and a bar extending through
said plate and engaging with the said lugs and adapted when operated to move the said ejectors rearwardly.

83. In combination with a series of regulating-bars each suitably cut away and provided
110 with a yoke, a series of forks having rearward extensions projecting through said yokes and engaging the said bars, a shaft for supporting the forks, a slotted supporting-plate, a series
115 of forwardly and rearwardly movable ejectors mounted upon said plate and provided with depending lugs extending through the slots of the plate, a series of regulating-pins extending through said ejectors and their lugs
120 and engaging in said forks, a series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably engaged by the regulating-pins, a yoke-shaped arm pivotally connected to one of said ejectors, a
125 bar adapted when operated to suitably engage said regulating-pins and move the ejectors forward, and a bar extending through said

plate and engaging the lugs of the ejectors and adapted when operated to move the said ejectors rearwardly.

84. A machine of the character described comprising a series of regulating-bars each suitably cut away and provided with a yoke, a plurality of ejecting-plates, operating-pins therefor, regulating-pins for controlling the operation of the operating-pins and adapted to be operated by said bars and returned to their normal positions by said yokes, and means for operating said bars.

85. In combination with a series of movable regulating-bars each suitably cut away and provided with a yoke, a series of rocking forks having rearward extensions projecting through the yokes and engaging the said bars, a shaft for supporting the forks, a series of forwardly and rearwardly movable ejectors provided with depending lugs, a series of vertically-movable regulating-pins extending through said ejectors and engaging in and operated by said forks, a series of operating-pins pivotally connected to the top of the ejectors and adapted to be suitably retained in a vertical position by the regulating-pins, an arm fixedly connected to one of said ejectors, a bar adapted when operated to suitably engage said operating-pins for forwardly moving the ejectors, and a bar adapted when operated to engage the said lugs for moving the ejectors rearwardly.

86. A machine of the character described comprising a change making and ejecting mechanism, mechanism adapted to engage the edge of and have its movement controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a registering mechanism for recording the value of a sale, means for indicating the amount of a sale, and means engaging with and adapted to operate said indicating means and mechanism simultaneously.

87. A machine of the character described comprising a discharge-chute consisting of an enlarged upper portion terminating into a cylindrical portion, and a spring-actuated closure-plate for the cylindrical portion and having a downwardly-depending curved extension.

88. A machine of the character described comprising a rack-bar having an enlarged portion provided with a slot, a rocking frame connected to the slotted portion of said bar, means for throwing said bar out of and into operative connection with said frame, operatable devices cooperating with said bar, and operatable devices cooperating with said frame.

89. A machine of the character described comprising a rack-bar having an enlarged portion provided with an L-shaped slot, a rocking frame connected to the slotted portion of said bar, means for throwing said bar out of and into operative connection with said frame, operatable devices cooperating with said bar, op-

eratable devices cooperating with said frame, and a series of key-levers for operating said frame.

90. In combination with a plurality of chutes, one of which is provided with a hinged portion having L-shaped arms and further provided in its interior with a pair of lugs, of a series of cash-receptacles communicating with the said chutes, a series of coin receivers and transferrers communicating with the said chutes, operating means for said coin receivers and transferrers, and means for operating the hinged portion of one of the said chutes.

91. In a machine of the character described, a cash delivering and separating mechanism comprising a pair of chutes 117 and 118, said chute 117 provided with a holding-lever and a deflecting mechanism, and said chute 118 provided with a distributing means for the coins, said chute 118 further provided with a closure-plate for the bottom thereof, a sliding plate carried by the chute 117, a finger pivotally connected with the said chute 117, said finger having an enlarged lower end, a lever adapted to engage the closure-plate for the chute 118 and retain it in its closing position, said lever connected with said sliding plate and adapted when operated to engage with the finger to operate the finger and to release the closure-plate, and selective devices engaged and operated by the enlarged end of said finger.

92. A machine of the character described comprising a series of key-levers provided with studs, a bodily-movable series of cams engaged and operated by certain of said studs when the key-levers are operated, a bodily-movable series of auxiliary cams engaged and operated by the other of said studs when the key-levers are operated, a registering mechanism operated by said cams, a change making and ejecting mechanism operatively connected with said key-levers, mechanism controlled by the diameter of a circular object for controlling the movement of said change making and ejecting mechanism, means operatively connected with said key-levers for indicating the amount of cash received, and means operatively connected with said key-levers for indicating the amount of a sale.

93. In combination with a chute provided with a deflecting mechanism and a holding-lever, of a balance-bar having a weighted upper end, a coin-pan carried by the lower end of said bar, a series of weights, lifting-arms for the said weights, spring-actuated connecting-arms adapted to engage with the lifting-arms for connecting the weights with the weighted portion of the balance-bar, a series of angle-levers adapted to suitably engage with the connecting-arms to operate them, a lever for retaining the coin-pan in its normal position, and means connected with the chute and adapted when operated to suitably operate the said angle-levers and the said holding and retaining levers.

94. A machine of the character described, comprising a cylindrical cash - circulating closed receptacle provided with a slot, a slide for closing said slot, and means for limiting the movement of said slide.

95. In combination, an ejecting-plate, an operating-pin carried thereby, a vertically-movable regulating-pin extending through said plate and adapted to retain said operating-pin in an upright position, and suitable means for operating said regulating-pin.

96. In combination, an ejecting-plate, an operating-pin carried thereby, a vertically-movable regulating-pin extending through said plate and adapted to retain said operating-pin in an upright position, a fork engaging with said regulating-pin and adapted when operated to vertically move said regulating-pin, and suitable means for operating said fork.

97. A machine of the character described comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacles, communicating therewith and adapted when operated to deliver cash to the said receptacles, a series of ejectors mounted upon said plate and when operated adapted to move between said plate and receptacles to eject cash from the latter, a series of forwardly-movable regulating-bars arranged in the frame, connected with the ejectors and adapted when operated to regulate the movement of the ejectors, means suspended in the frame and adapted to suitably engage with the ejectors to operate them, means for controlling the operation of the ejectors' operating means and engaging with the separating and delivering mechanism for returning it to its normal position, operating mechanism for the registering device supported in the frame, and a series of key-levers engaging with and operating the regulating-bars, said controlling means and the operating mechanism for the registering device.

98. A machine of the character described comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacles, communicating therewith and adapted when operated to deliver cash to the said receptacles, a series of ejectors mounted upon said plate and when operated adapted to move between said plate and receptacles to eject cash from the latter, a series of forwardly-movable regulating-bars arranged in the frame, connected with the ejectors and adapted when operated to regulate the movement of the ejectors, means suspended in the frame and adapted to suitably engage with

the ejectors to operate them, means for controlling the operation of the ejectors' operating means and engaging with the separating and delivering mechanism for returning it to its normal position, operating mechanism for the registering device supported in the frame, and a series of key-levers engaging with and simultaneously operating the regulating-bars, said controlling means and the operating mechanism for the registering device.

99. A machine of the character described, comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacles, communicating therewith and adapted when operated to deliver coin to the said receptacles, a cash-deflecting mechanism carried by the cash separating and delivering mechanism and operated thereby, a cash-detecting mechanism supported by the cash separating and delivering mechanism and operated thereby simultaneously with the operation of the deflecting mechanism, a series of ejectors mounted upon said plate and operating between the same and said receptacle and adapted to eject cash from the latter, a series of regulating-bars arranged in the frame, connected with the ejectors and adapted when operated to regulate the movement of the ejectors, means arranged in the frame and engaging with the ejectors for operating them, means for controlling the movement of the ejectors' operating means and engaging with the cash separating and delivering mechanism for returning it to its normal position, operating mechanism arranged in the frame for the registering device, and a series of key-levers engaging with and operating the said regulating-bars, said controlling means and the operating mechanism for the registering device.

100. A machine of the character described, comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacles, communicating therewith and adapted when operated to deliver coin to the said receptacles, a cash-deflecting mechanism carried by the cash separating and delivering mechanism and operated thereby, a cash-detecting mechanism supported by the cash separating and delivering mechanism and operated thereby simultaneously with the operation of the deflecting mechanism, a series of ejectors mounted upon said plate and operating between the same and said receptacles and adapted to eject cash from the latter, a series of regulating-bars arranged in the frame, connected with the ejectors and

adapted when operated to regulate the movement of the ejectors, means arranged in the frame and engaging with the ejectors for operating them, means for controlling the movement of the ejectors' operating means and engaging with the cash separating and delivering mechanism for returning it to its normal position, operating mechanism arranged in the frame for the registering device, and a series of key-levers engaging with and simultaneously operating the said regulating-bars, said controlling means and operating mechanism for the registering device.

101. A machine of the character described comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacles, communicating therewith and adapted when operated to deliver cash to the said receptacles, a series of ejectors mounted upon said plate and operating between the same and said receptacles and adapted to eject cash from the latter, a series of regulating-bars arranged in the frame, connected with the ejectors and adapted when operated to regulate the movement of the ejectors, means engaging with the ejectors for operating them, means connected with the operating means for the ejectors for controlling the movement thereof and engaging with the cash separating and delivering mechanism for returning it to its normal position, a primary receiving, sorting, and delivering mechanism communicating with said receptacles for delivering cash thereto and engaged and operated by the said controlling means, operating mechanism arranged in the frame for said registering device, and a series of key-levers engaging with and operating the said regulating-bars, said controlling means and the operating mechanism for the registering device.

102. A machine of the character described comprising a frame, a slotted supporting-plate suitably secured therein, a series of cash-receptacles mounted upon said plate and provided with an overflow-pocket, a registering device suitably supported within said frame, a cash separating and delivering mechanism arranged above said receptacle, communicating therewith and adapted when operated to deliver cash to the said receptacles, a series of ejectors mounted upon said plate and operating between the same and said receptacles and adapted to eject cash from the latter, a series of regulating-bars arranged in the frame, connected with the ejectors and adapted when operated to regulate the movement of the ejectors, means engaging with the ejectors for operating them, means connected with the operating means for the ejectors for controlling the movement thereof and engaging with the cash separating and delivering mechanism for

returning it to its normal position, a primary receiving, sorting and delivering mechanism communicating with said receptacles for delivering cash thereto and engaged and operated by the said controlling means, operating mechanism arranged in the frame for said registering device, and a series of key-levers engaging with and simultaneously operating the said regulating-bars, said controlling means and the operating mechanism for the registering device.

103. A machine for receiving, delivering, sorting, registering and detecting coins, comprising a shaft, a series of key-levers mounted thereon, a series of regulating-bars connected with the shaft and suitably engaging with and operated by the key-levers when they are operated, a rocking frame connected with the shaft and normally engaged by the key-levers and adapted to be rocked when the key-levers are operated, a series of ejectors connected with the regulating-bars and adapted to be regulated thereby when the said bars are operated, a series of cash-receptacles arranged in suitable relation to the said ejectors, means arranged in suitable relation to the ejectors and when operated adapted to suitably operate the ejectors, said means adapted to be engaged and operated by the rocking frame, a controlling mechanism for the said means operatively connected with the said rocking frame and adapted to be operated when the rocking frame is operated, and a chute adapted to receive the cash ejected from the said receptacles.

104. A machine for receiving, delivering, sorting, registering and detecting coins comprising a shaft, a series of key-levers mounted thereon, a series of regulating-bars connected with the shaft and suitably engaging with and operated by the key-levers when they are operated, a rocking frame connected with the shaft and normally engaged by the key-levers and adapted to be rocked when the key-levers are operated, a series of ejectors connected with the regulating-bars and adapted to be regulated thereby when the said bars are operated, a series of cash-receptacles arranged in suitable relation to the said ejectors, means arranged in suitable relation to the ejectors and when operated adapted to suitably operate the ejectors, said means adapted to be engaged and operated by the rocking frame, a controlling mechanism for the said means operatively connected with the said rocking frame and adapted to be operated when the rocking frame is operated, a chute adapted to receive the cash ejected from said receptacles, a cash-storage chamber, automatic operating means for opening said chamber, a retaining means engaging with the opening means for holding it in its closing position, said retaining means adjustable and engaged by and released from its engagement with the opening means by the key-levers, and means for adjusting the retain-

ing means and for throwing out the operative connection between the rocking frame and the said controlling means.

105. A machine of the character described comprising a cash separating and delivering mechanism, a series of cash-receptacles communicating therewith, a change making and ejecting mechanism adapted when operated to eject cash from said receptacles, a chute arranged in relation to the cash-receptacles and adapted to receive the cash ejected therefrom, operating means for said change making and ejecting mechanism, a rocking frame engaging with and operating the operating means for the change making and ejecting mechanism, a controlling mechanism operatively connected with said rocking frame and adapted when operated to control the movement of the operating means for the change making and ejecting mechanism, a cash-storage chamber, automatically-operating means for opening the said chamber, an adjustable releasing means for the said opening means, a series of key-levers for operating said rocking frame and said adjustable retaining means, and means for adjusting the said retaining means and for throwing out the operative connection between the said rocking frame and said controlling means.

106. A machine of the character described, comprising a cash separating and delivering mechanism, a series of cash-receptacles communicating therewith, a change making and ejecting mechanism adapted when operated to eject cash from said receptacles, a chute arranged in relation to the cash-receptacles and adapted to receive the cash ejected therefrom, operating means for said change making and ejecting mechanism, a rocking frame engaging with and operating the operating means for the change making and ejecting mechanism, a controlling mechanism operatively connected with said rocking frame and adapted when operated to control the movement of the operating means for the change making and ejecting mechanism, a cash-storage chamber, automatically-operating means for opening the said chamber, an adjustable releasing means for the said opening means, a registering mechanism, a series of key-levers for simultaneously operating said registering mechanism, said rocking frame and said retaining means, and means for adjusting said retaining means and throwing out the operative connection between the rocking frame and said controlling means.

107. In a machine of the character described, a controlling mechanism comprising a rack-bar having its lower end enlarged and provided with an L-shaped slot, one portion of which being substantially in the form of an arc, and operating devices cooperating with the said slot.

108. In a machine of the character described, a controlling mechanism comprising a rack-bar

having its lower portion enlarged and provided with a slot substantially L-shaped in contour, the vertical part of the slot extending in the form of an arc and of greater length than the horizontal portion, a rocking frame engaging with the horizontal portion of said slot and adapted when operated to operate the said bar, and means for shifting the engagement of the frame with the bar out of the horizontal portion of the slot so that when the rocking frame is operated, the connection between the frame and bar will be such that the bar will not be operated when the frame is.

109. In a machine of the character described, mechanism adapted to receive cash of a greater value than a sale, a change making and ejecting mechanism adapted when operated to deliver an amount of cash equal to the difference between the value of the sale and the cash inserted in the receiving mechanism, means for regulating the operation of the change making and ejecting mechanism and adapted to cause the change making and ejecting mechanism to deliver an amount of cash between the value of the sale and the value of the cash inserted in the receiving mechanism, means for operating said ejecting mechanism, a controlling mechanism for the said operating mechanism, means for operating simultaneously the said regulating and controlling mechanisms, and a receiving means for the cash ejected.

110. In combination with a shaft, of a pair of arms 67 mounted thereon, a bar connecting the arms together, a forwardly-projecting arm connected to one of said arms 67, a forwardly-projecting arm connected with said bar, a roller connected to the rear end of one of said arms 67, and operating devices cooperating with said arms and bar.

111. In combination with a shaft, of a pair of arms 67 mounted thereon, a bar connecting the arms together, a forwardly-projecting arm connected to one of said arms 67, a forwardly-projecting arm connected with said bar, a roller connected to the rear end of one of said arms 67, a bar having its ends connected to the said forwardly-projecting arms and operating devices cooperating with said arms and bars.

112. In a machine of the character described, a cash separating and delivering mechanism comprising a pair of chutes 117 and 118 communicating with each other, a vertically-extending rod connecting the two chutes together at one end, said chute 117 provided with an inclined slot 120, a vertically-extending slot 121, and a pair of slots 122 extending diagonally in opposite directions, a slotted curved plate extending rearwardly from the upper end of said chute 117, an actuating-slide mounted upon said slotted plate, an elongated trip-lever 126 having a hook at its lower end and connected at its upper end to the said actuating-slide, an actuating-finger connected to said trip-lever, an arm 131 pivoted to the chute

117, a finger 135 pivoted to the forward end of said arm 131 and having its rear end enlarged, the forward end of said finger adapted to operate in the chute 117, springs for returning the said arm 131 and finger 135 to their normal positions, a stop-lever 150 pivoted to the chute 117 and provided with an offset adapted to extend in the slot 120, a spring for retaining the offset in the slot 120, a stud 154 carried by the lever 126 and adapted to engage the lever 150 for operating it, a holding-arm 155 pivoted to the bar 119, an L-shaped pin carried by the lever 126 and adapted to surround the arm 155, a spring connected to the arm 155, a pair of forwardly-projecting offsets carried by the arm 155 and adapted to extend through the slots 122, a stop and releasing lever 163 adapted to engage the arm 155, a spring connected to the lever 163, a distributing-bar arranged in the chute 118 and provided with a series of shoulders on its lower edge, said shoulders extending one above the other, a spring-actuated closure-plate connected to the bottom of the chute 118 and adapted to be retained in its closing position by the engagement therewith of the hook on the lower end of the lever 126, and a series of pins connected to the bottom of the chute 118 and surrounded by the said closure-plate.

113. In a machine of the character described, a cash separating and delivering mechanism comprising a pair of chutes 117 and 118 communicating with each other, a vertically-extending rod connecting the two chutes together at one end, said chute 117 provided with an inclined slot 120, a vertically-extending slot 121, and a pair of slots 122 extending diagonally in opposite directions, a slotted curved plate extending rearwardly from the upper end of said chute 117, an actuating-slide mounted upon said slotted plate, an elongated trip-lever 126 having a hook at its lower end and connected at its upper end to the said actuating-slide, an actuating-finger connected to said trip-lever, an arm 131 pivoted to the chute 117, a finger 135 pivoted to the forward end of said arm 131 and having its rear end enlarged, the forward end of said finger adapted to operate in the chute 117, springs for returning the said arm 131 and finger 135 to their normal positions, a stop-lever 150 pivoted to the chute 117 and provided with an offset adapted to extend in the slot 120, a spring for retaining the offset in the slot 120, a stud 154 carried by the lever 126 and adapted to engage the lever 150 for operating it, a holding-arm 155 pivoted to the bar 119, an L-shaped pin carried by the lever 126 and adapted to surround the arm 155, a spring connected to the arm 155, a pair of forwardly-projecting offsets carried by the arm 155 and adapted to extend through the slots 122, a stop and releasing lever 163 adapted to engage the arm 155, a spring connected to the lever 163, a distributing-bar arranged in the chute 118 and

provided with a series of shoulders on its lower edge, said shoulders extending one above the other, a spring-actuated closure-plate connected to the bottom of the chute 118 and adapted to be retained in its closing position by the engagement therewith of the hook on the lower end of the lever 126, a series of pins connected to the bottom of the chute 118 and surrounded by the said closure-plate, a series of cash-receptacles arranged below the bottom of the chute 117 and having their rear portions at their top extending rearwardly, and an overflow-pocket connected to the back of said cash-receptacles.

114. A machine of the character described comprising a series of cash-receptacles, a cash separating and delivering mechanism communicating with said receptacles, a deflecting and a detecting mechanism engaging with and operated by the said separating and delivering mechanism, a deflecting-chute communicating with said separating and delivering mechanism, a primary cash receiving, sorting and delivering mechanism communicating with said receptacles and engaged and suitably operated by the said cash delivering and separating mechanism, and mechanism for operating the said primary receiving, sorting and delivering mechanism before the same is operated by the cash separating and delivering mechanism.

115. In a machine of the character described, a change making and ejecting mechanism adapted to have its operation controlled by the diameter of a circular object, a registering mechanism for recording the value of a sale, means for indicating the amount of cash placed in the machine, means for indicating the amount of a sale, means for distributing the cash placed in the machine, and means for operating said mechanisms, cash-indicating, sale-indicating and separating means, said mechanism, cash-indicating, sale-indicating and distributing means operatively connected with each other.

116. A machine of the character described comprising a change making and ejecting mechanism, said mechanism adapted when operated to eject the change between the value of a sale and the value of the money tendered in payment thereof, mechanism adapted to engage the edge of and have its movement controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a cash-separating mechanism engaged and operated by said controlling mechanism, a registering mechanism for recording the value of a sale, and means operatively connected with said mechanisms for operating the same in conjunction with one another.

117. A machine of the character described comprising a cash separating and delivering mechanism, a cash detecting and deflecting mechanism engaging with and operated by said delivering and separating mechanism, a change

making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, a registering mechanism, and means engaging with and operating the registering mechanism, cash-ejecting and change-making mechanism and said controlling mechanism.

118. A machine of the character described comprising a change-ejecting and change-making mechanism, said mechanism when operated adapted to eject the change between the value of a sale and the value of the money tendered in payment thereof, mechanism adapted to engage the edge of and have its movement controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, means for indicating the amount of a sale, a cash separating and delivering mechanism, a deflecting mechanism engaging with and operated by said delivering and separating mechanism, a registering mechanism for recording the value of a sale, and means engaging with and operating the registering mechanism, cash-ejecting and change-making mechanism, controlling mechanism and indicating means in conjunction with one another.

119. A machine of the character described comprising a series of key-levers, a series of pivotal plates for suitably locking said levers, each of said plates terminating at its top in a neck portion, overlapping levers connected to the neck portions for operating the plates, means engaging with the overlapping ends of the levers for operating them, said means adapted to have its movement controlled by the diameter of a circular object, and means for suitably releasing the plates.

120. A machine of the character described comprising a cash separating and delivering mechanism, a deflecting and detecting mechanism carried by the said cash separating and delivering mechanism, a change making and ejecting mechanism, a series of key-levers adapted to operate said change making and ejecting mechanism, mechanism controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a series of pivotal plates for suitably locking the key-levers, and means carried by the cash separating and delivering mechanism and controlled by the diameter of a coin for suitably operating said detecting mechanism and said plates.

121. A machine of the character described comprising a cash separating and delivering mechanism, a deflecting and detecting mechanism carried by the said cash separating and delivering mechanism, a change making and ejecting mechanism, a series of key-levers adapted to operate said change making and ejecting mechanism, mechanism controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a series of pivotal plates

for suitably locking the key-levers, means carried by the cash separating and delivering mechanism and controlled by the diameter of a coin for suitably operating said detecting mechanism and said plates, and a registering mechanism operating in conjunction with said change making and ejecting mechanism.

122. A machine of the character described comprising a cash separating and delivering mechanism, a deflecting and detecting mechanism carried by the said cash separating and delivering mechanism, a change making and ejecting mechanism, a series of key-levers adapted to operate said change making and ejecting mechanism, mechanism controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a series of pivotal plates for suitably locking the key-levers, means carried by the cash separating and delivering mechanism and controlled by the diameter of a coin for suitably operating said detecting mechanism and said plates, a registering mechanism operating in conjunction with said change making and ejecting mechanism, means for indicating the amount of a sale operated by said key-levers and in conjunction with said change making and ejecting mechanism and said registering mechanism, and means for indicating the amount of cash placed in the machine operated by said controlling mechanism and having its movement controlled by the diameter of a circular object.

123. In a machine of the character described, a series of key-levers, a registering mechanism operated thereby, a change making and ejecting mechanism operated by the key-levers and in conjunction with said registering mechanism, mechanism having its movement controlled by the diameter of a circular object and operated by the key-levers and adapted to control the movement of said change making and ejecting mechanism, means for suitably locking the key-levers, a cash separating and delivering mechanism, and means carried by said cash separating and delivering mechanism and adapted to have its movement controlled by the diameter of a circular object and when operated adapted to suitably operate the said locking means.

124. In a machine of the character described, a series of key-levers, a registering mechanism operated thereby, a change making and ejecting mechanism operated by the key-levers and in conjunction with said registering mechanism, mechanism having its movement controlled by the diameter of a circular object and operated by the key-levers and adapted to control the movement of said change making and ejecting mechanism, means for suitably locking the key-levers, a cash separating and delivering mechanism, means carried by said cash separating and delivering mechanism and adapted to have its movement controlled by the diameter of a circular object and when

operated adapted to suitably operate the said locking means, means for indicating the amount of a sale engaging with and operated by said key-levers and operating in conjunction with said registering mechanism and cash changing and ejecting mechanism, and means for indicating the amount of cash placed in the machine engaged by and operated by said controlling mechanism for the change making and ejecting mechanism, said cash-indicating means operating in conjunction with the registering mechanism, sale-indicating means and cash changing and ejecting mechanism.

125. A machine of the character described comprising a rocking frame, a bank of key-levers adapted to operate the frame, means slidably connected with the frame and adapted when the frame is operated to move under a depressed key-lever or a plurality of key-levers to elevate said lever or levers, means for guiding said elevating means to its operative and inoperative position, and means for retaining the said elevating means in its operative position.

126. A machine of the character described comprising a lever, a finger eccentrically pivoted to one end of said lever and having its rear end enlarged, said finger adapted to have its movement controlled by the diameter of a circular object, and selective devices engaged and operated by said finger.

127. A machine of the character described comprising a series of key-levers, means for indicating the amount of a sale adapted to be engaged and operated by said key-levers, a series of pivotal plates adapted to engage said indicating means to arrest the movement thereof thereby locking the key-levers from movement, a series of levers connected with said plates and adapted to move them into and out of engagement with said indicating means, and means having its movement controlled by the diameter of a circular object and adapted to engage the said levers for suitably operating them, causing thereby the operation of said plates.

128. A machine of the character described comprising a cash-receiving mechanism, a change making and ejecting mechanism, a bank of key-levers for operating said change making and ejecting mechanism, and means for locking those key-levers of said bank that register a larger amount than the value of the cash inserted in the machine.

129. A machine of the character described comprising a cash-receiving mechanism, a change making and ejecting mechanism, means controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a bank of key-levers for operating said change making and ejecting mechanism and controlling means, and means for locking those key-levers of said bank that change or register a larger

amount than the value of the cash inserted in the machine.

130. A machine of the character described comprising a cash-receiving mechanism, a change making and ejecting mechanism, mechanism for controlling the movement of said change making and ejecting mechanism, a bank of key-levers for operating said mechanisms, and means having its operation controlled by the diameter of a circular object and adapted when operated to lock those key-levers of said bank that register a larger amount than the value of the cash inserted in the machine.

131. A machine of the character described comprising a cash-receiving mechanism, a bank of key-levers, operative devices cooperating with said key-levers, and means for locking those key-levers of said bank that register a larger amount than the amount of cash inserted in the cash-receiving mechanism.

132. A machine of the character described comprising a cash-receiving mechanism, a bank of key-levers, operative devices cooperating with said key-levers, and means controlled by the diameter of a circular object for locking those key-levers of said bank that register a larger amount than the value of the cash inserted in the cash-receiving mechanism.

133. In a machine of the character described, a change making and ejecting mechanism, mechanism adapted to engage the edge of and have its movement controlled by the diameter of a circular object for controlling the operation of said change making and ejecting mechanism, a registering mechanism for recording the value of a sale, a bank of key-levers for operating said mechanisms in conjunction with one another, and means for locking those key-levers of said bank that register a larger amount than the value of the cash inserted in the machine.

134. A machine of the character described comprising a cash separating and delivering mechanism, a cash detecting and deflecting mechanism engaging with and operated by said delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, a registering mechanism, a series of key-levers engaging with and operating the registering mechanism, cash-ejecting and change-making mechanism and said controlling mechanism, and means for locking those key-levers of said series that register a larger amount than the value of the cash inserted in the machine.

135. In a machine of the character described, a series of cash-receptacles, a cash delivering and separating mechanism adapted when operated to deliver the cash to said receptacles, a cash-deflecting mechanism operated by said delivering and separating mechanism, a change making and ejecting mechanism, a con-

trolling mechanism for said change making and ejecting mechanism, a registering mechanism, a series of key-levers for operating said registering, cash-ejecting and change-making
5 and controlling mechanisms, and means for locking those key-levers of said series that register a larger amount than the value of the cash inserted in the machine.

136. In a machine of the character described,
10 a series of cash-receptacles, a cash delivering and separating mechanism adapted when operated to deliver the cash to said receptacles, a cash-deflecting mechanism operated by said
15 delivering and separating mechanism, a change making and ejecting mechanism, a controlling mechanism for said change making and ejecting mechanism, a registering mechanism, a bank of key-levers for operating said
20 registering, cash-ejecting and change-making and controlling mechanisms, and means having its movement controlled by the diameter of a circular object and adapted when operated to lock those key-levers of said bank that
25 register a larger amount than the value of the cash inserted in the machine.

137. A machine of the character described, comprising a cash separating and delivering mechanism, a change making and ejecting mechanism, a controlling mechanism for said
30 change making and ejecting mechanism, a registering mechanism, means operated by the controlling mechanism for indicating the amount of cash inserted in the machine, means

for indicating the amount of a sale, a bank of key-levers for operating said sale-indicating
35 means, a registering mechanism, controlling mechanism and change making and ejecting mechanism, and means for locking those key-levers of said bank that register a larger amount than the value of the cash inserted in
40 the machine.

138. A machine of the character described, comprising a cash separating and delivering mechanism, a change making and ejecting mechanism, a registering mechanism, means
45 operated by the controlling mechanism for indicating the amount of cash inserted in the machine, means for indicating the amount of a sale, a bank of key-levers for operating said sale-indicating means, registering mechanism,
50 controlling mechanism and change making and ejecting mechanism, and means having its operation controlled by the diameter of a circular object and adapted when operated to lock those key-levers of said bank that register
55 larger amounts than the value of the cash inserted in the machine.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

EDWIN HUDSON SPEAR.
EDWARD MORIARTY.

Witnesses:

F. B. KEEFER,
GEO. W. REA.