

No. 803,234.

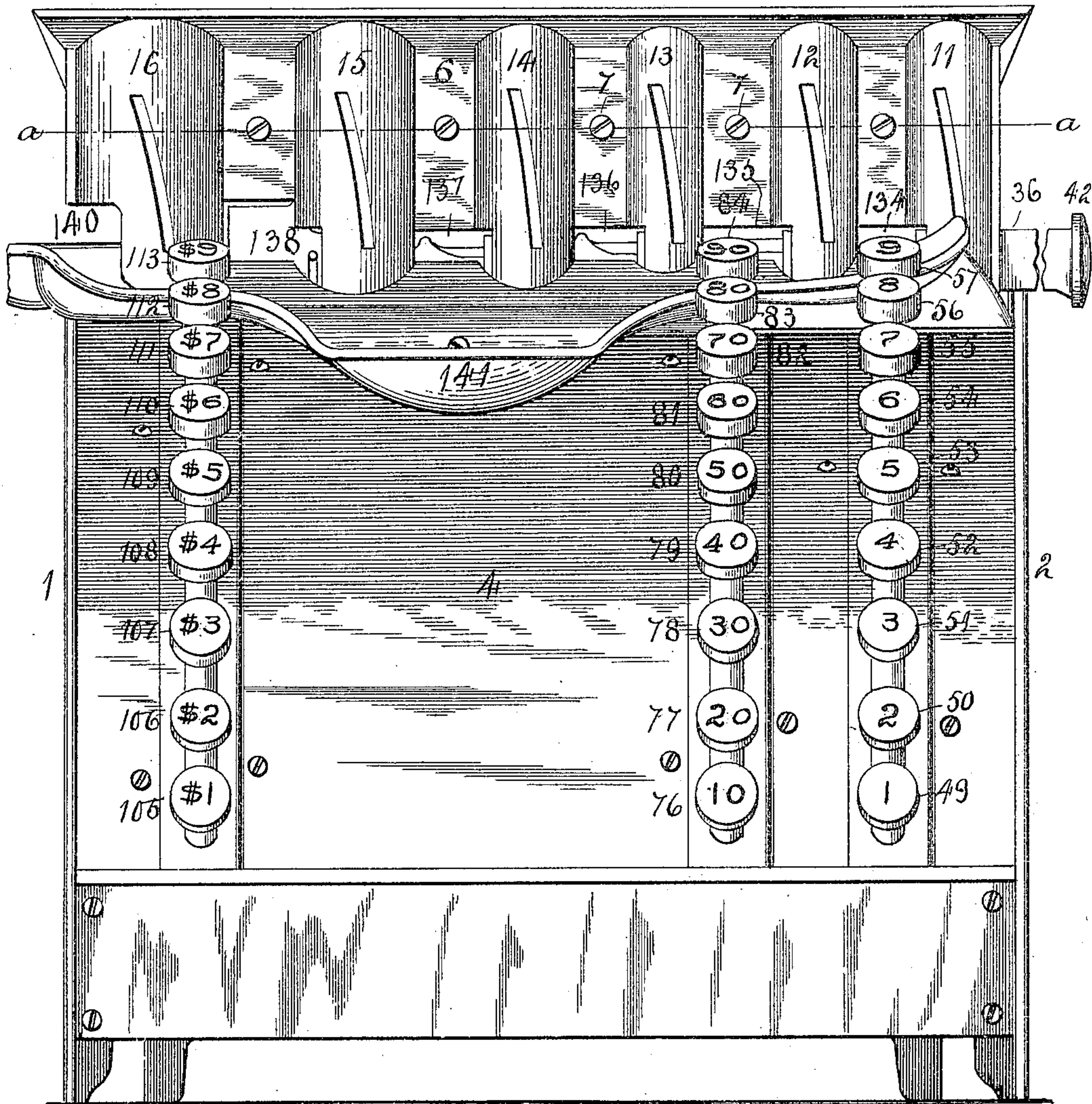
PATENTED OCT. 31, 1905.

E. G. JOHANSON.  
COIN DELIVERING MACHINE.

APPLICATION FILED OCT. 21, 1904.

10 SHEETS—SHEET 1.

Fig. 1.



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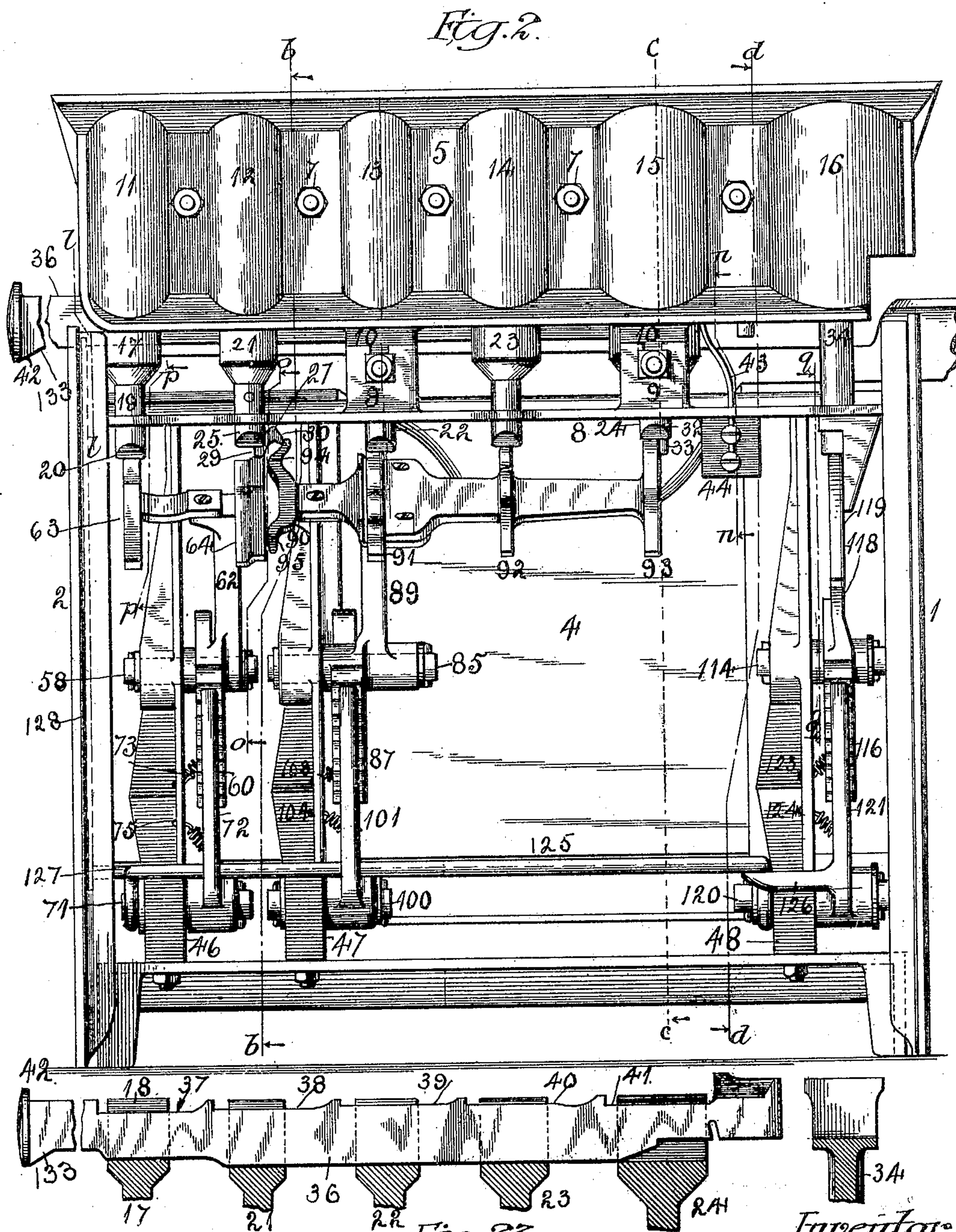
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10 SHEETS—SHEET 2.



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Fig. 23.

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Fig. 3.

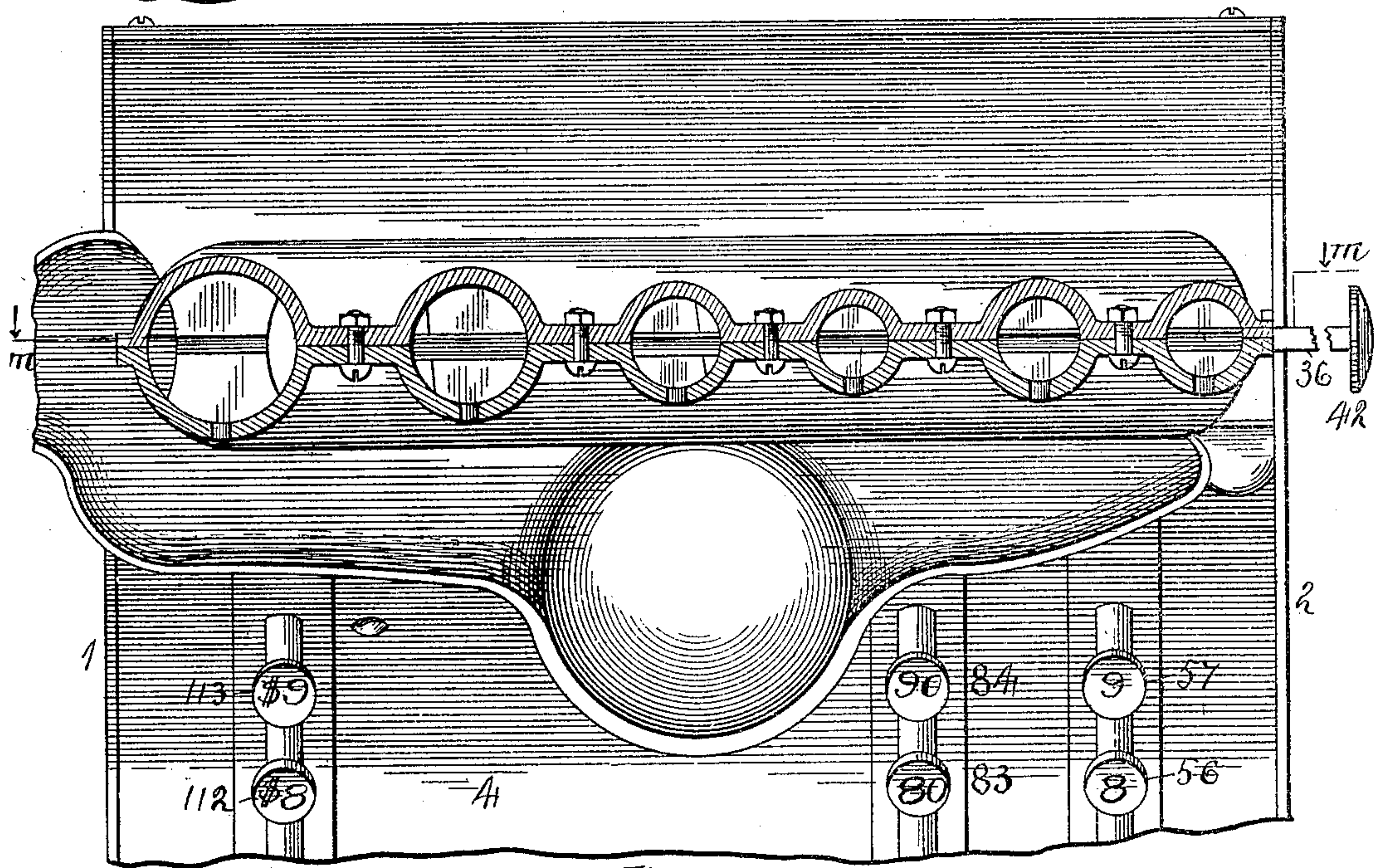
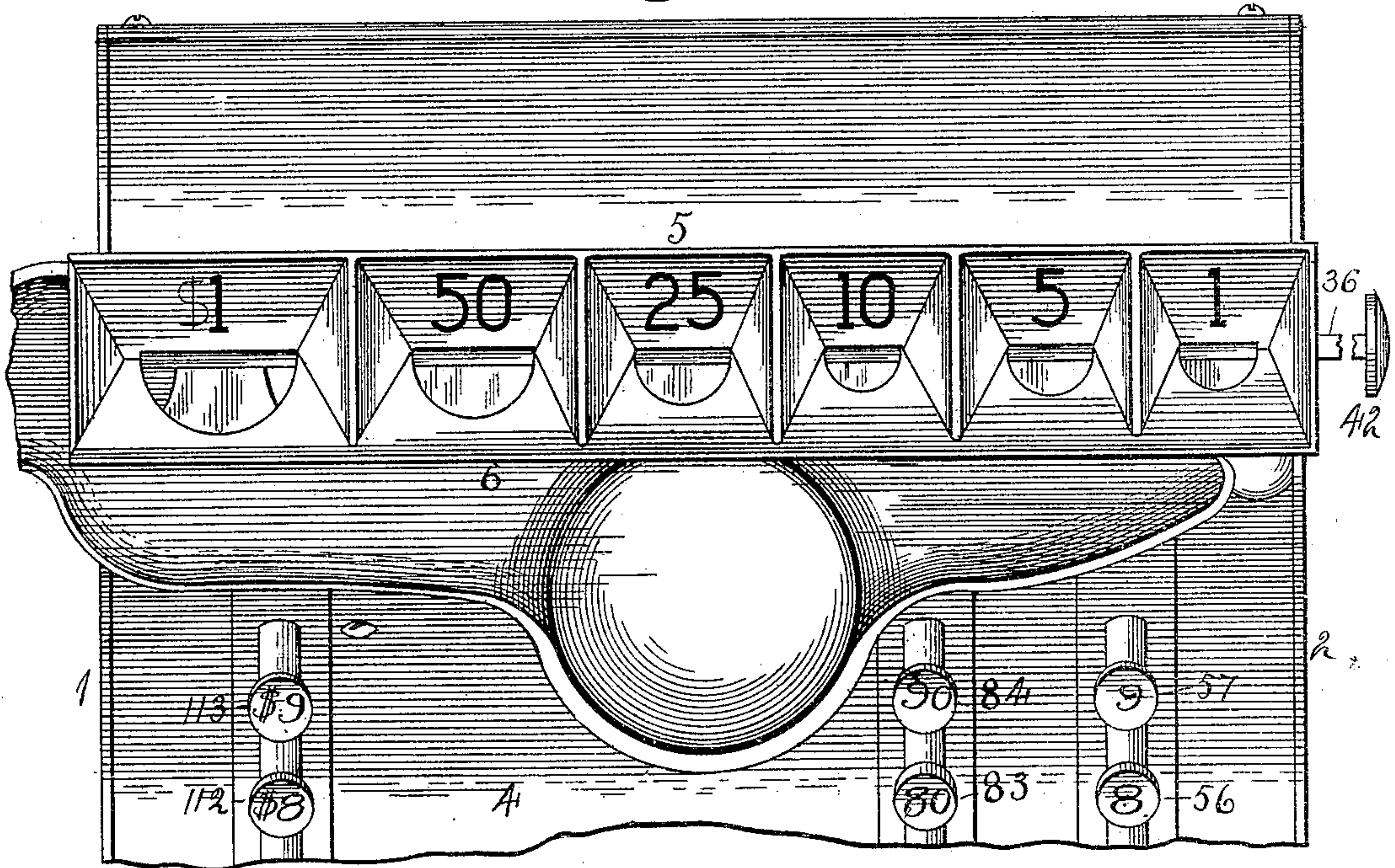


Fig. 4.

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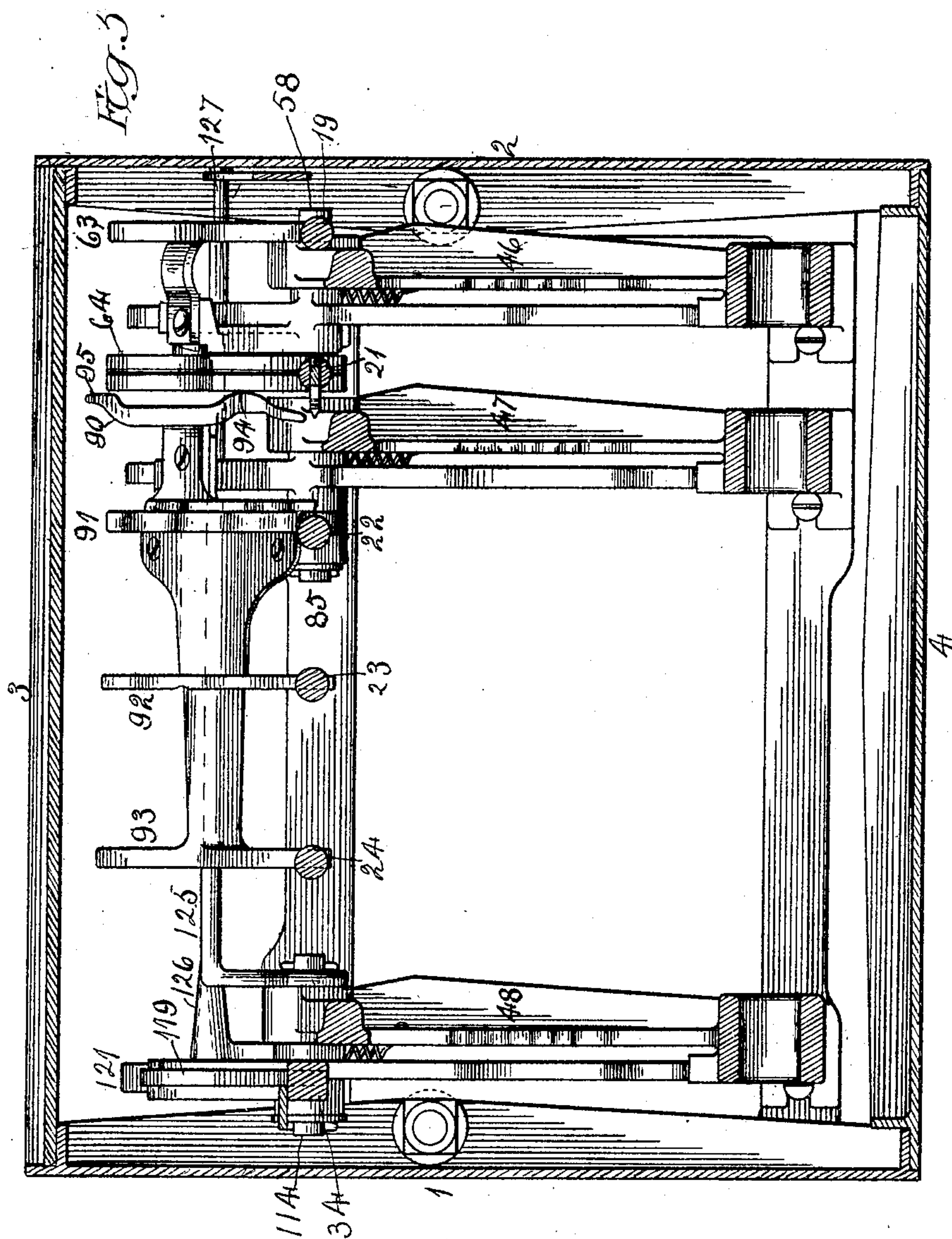
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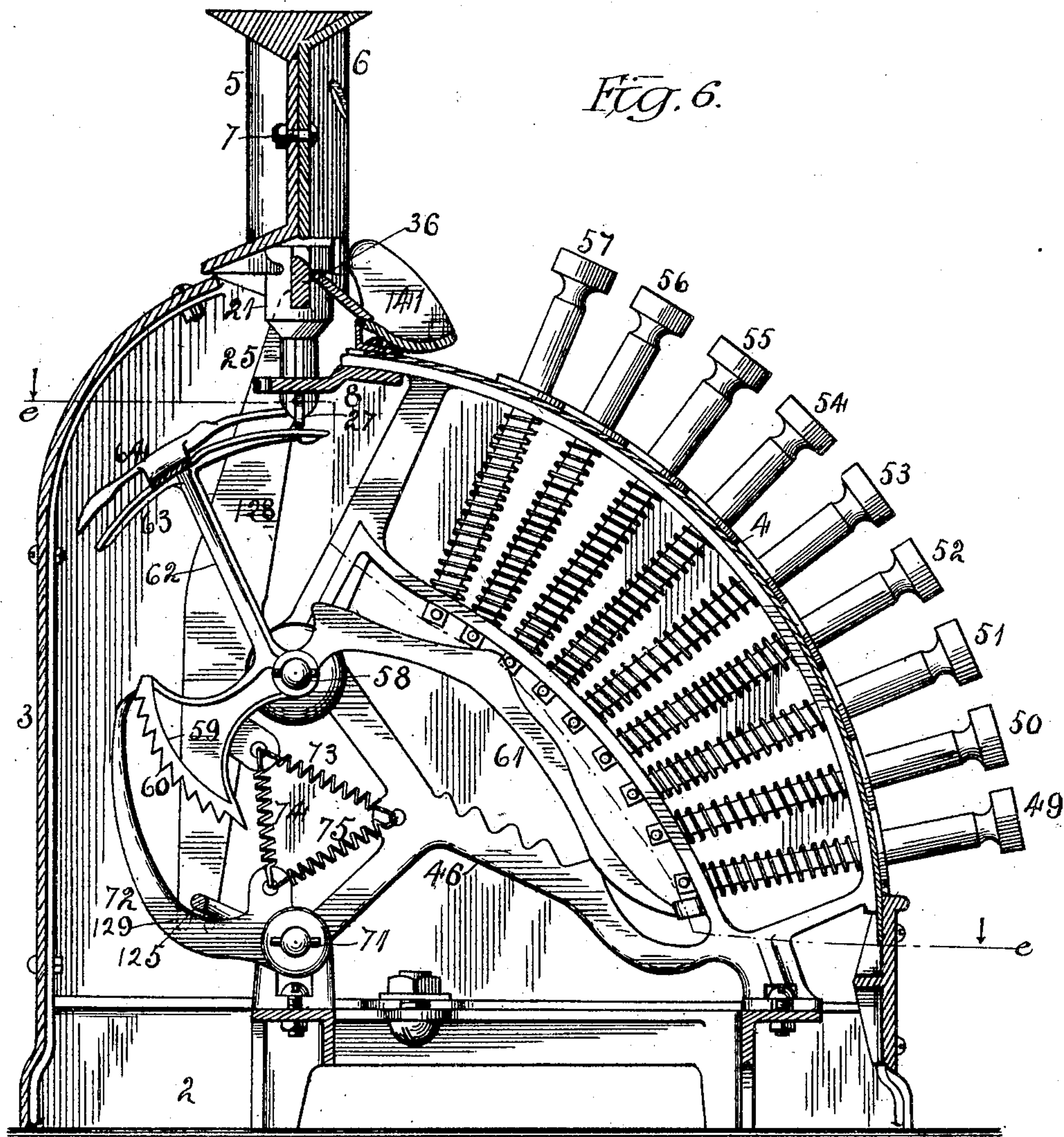
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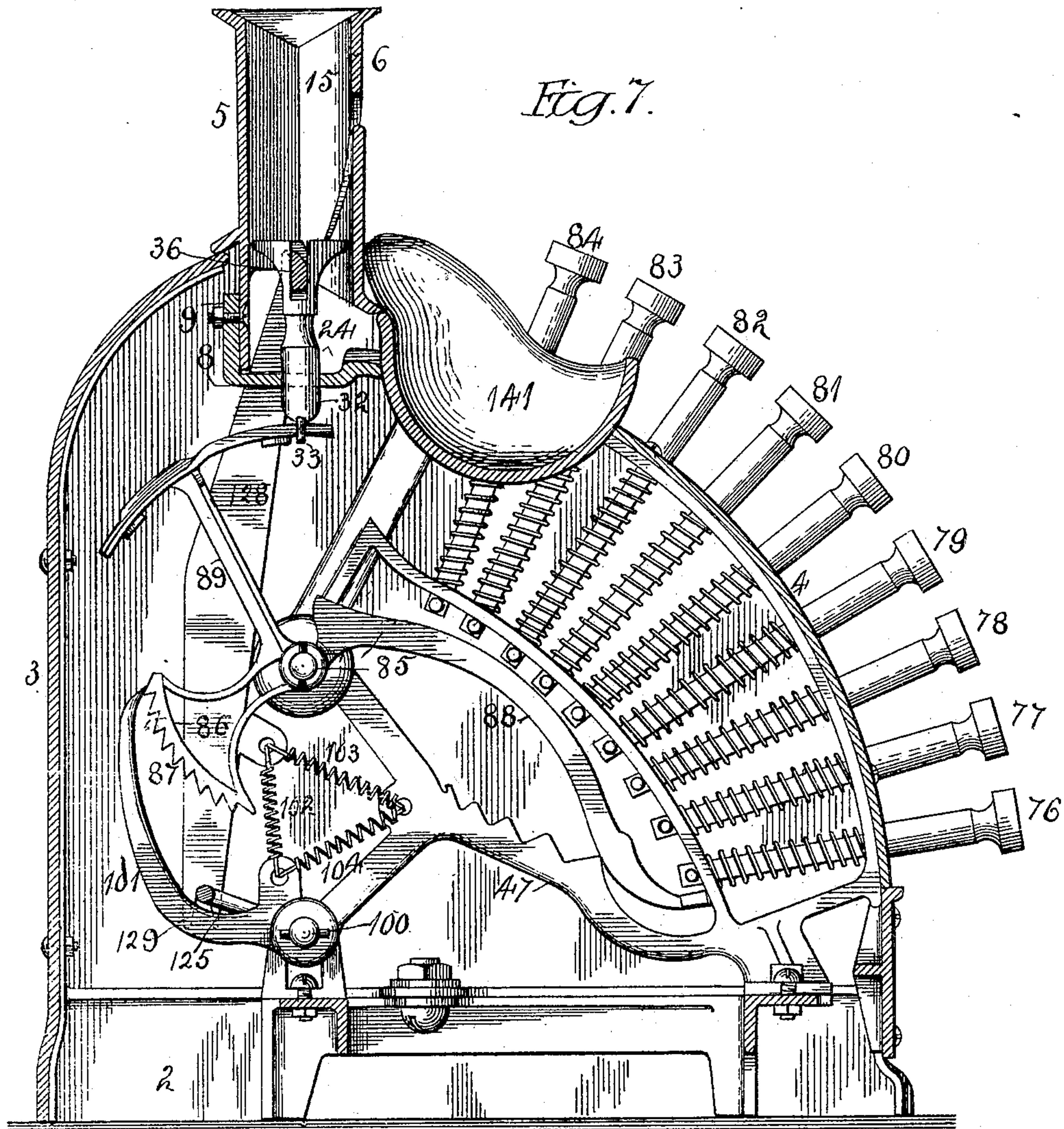
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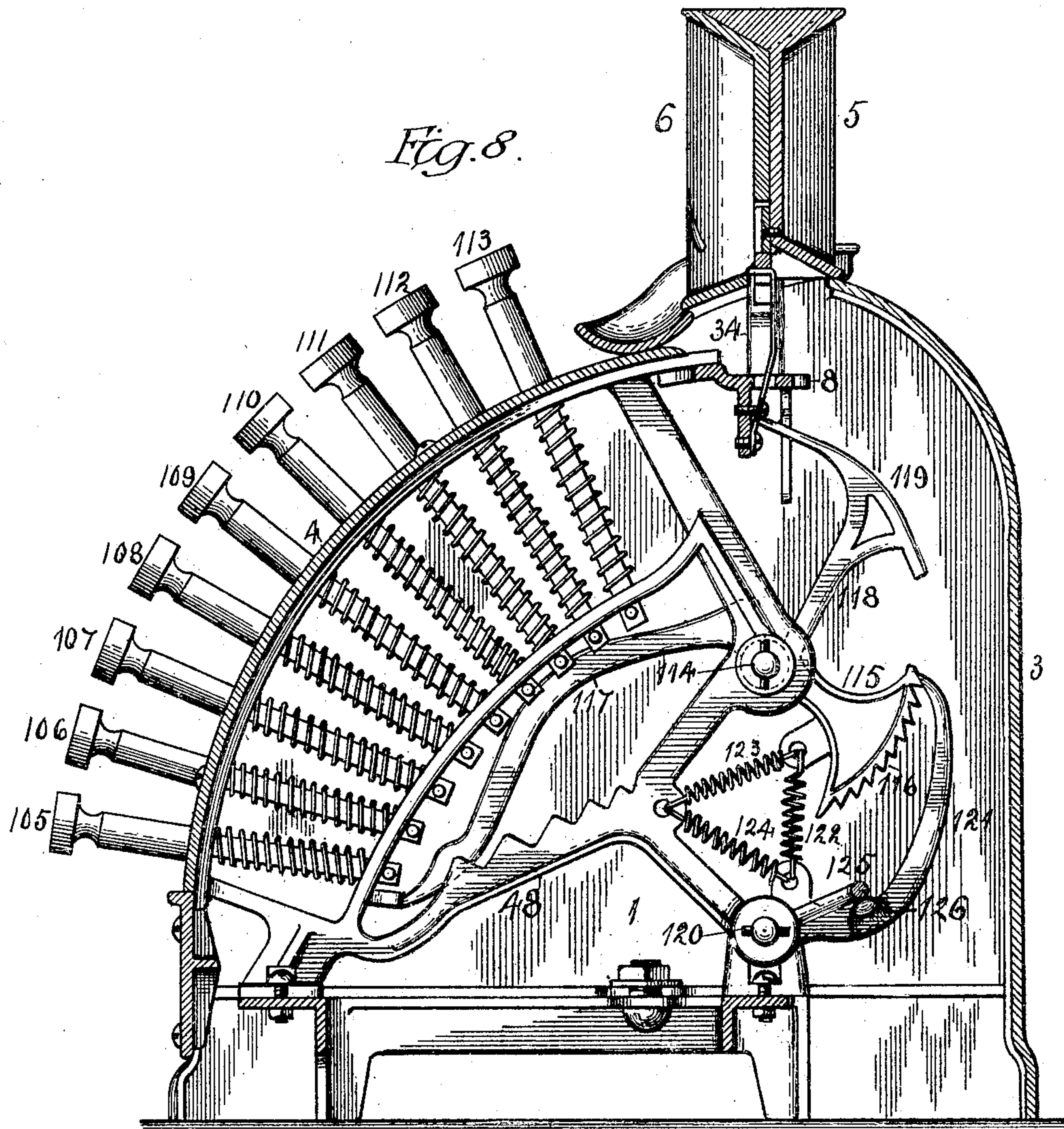
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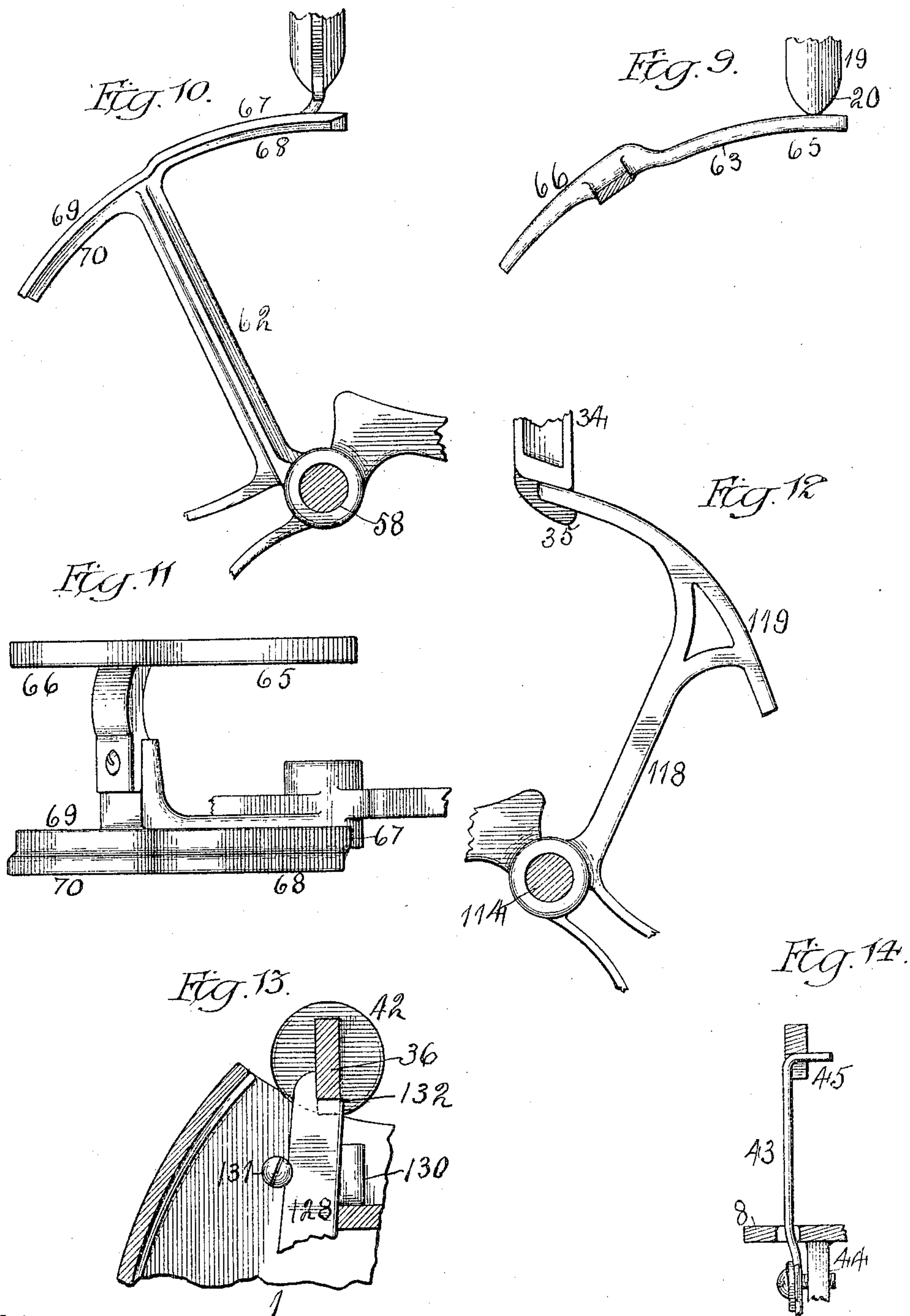
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10 SHEETS—SHEET 8.



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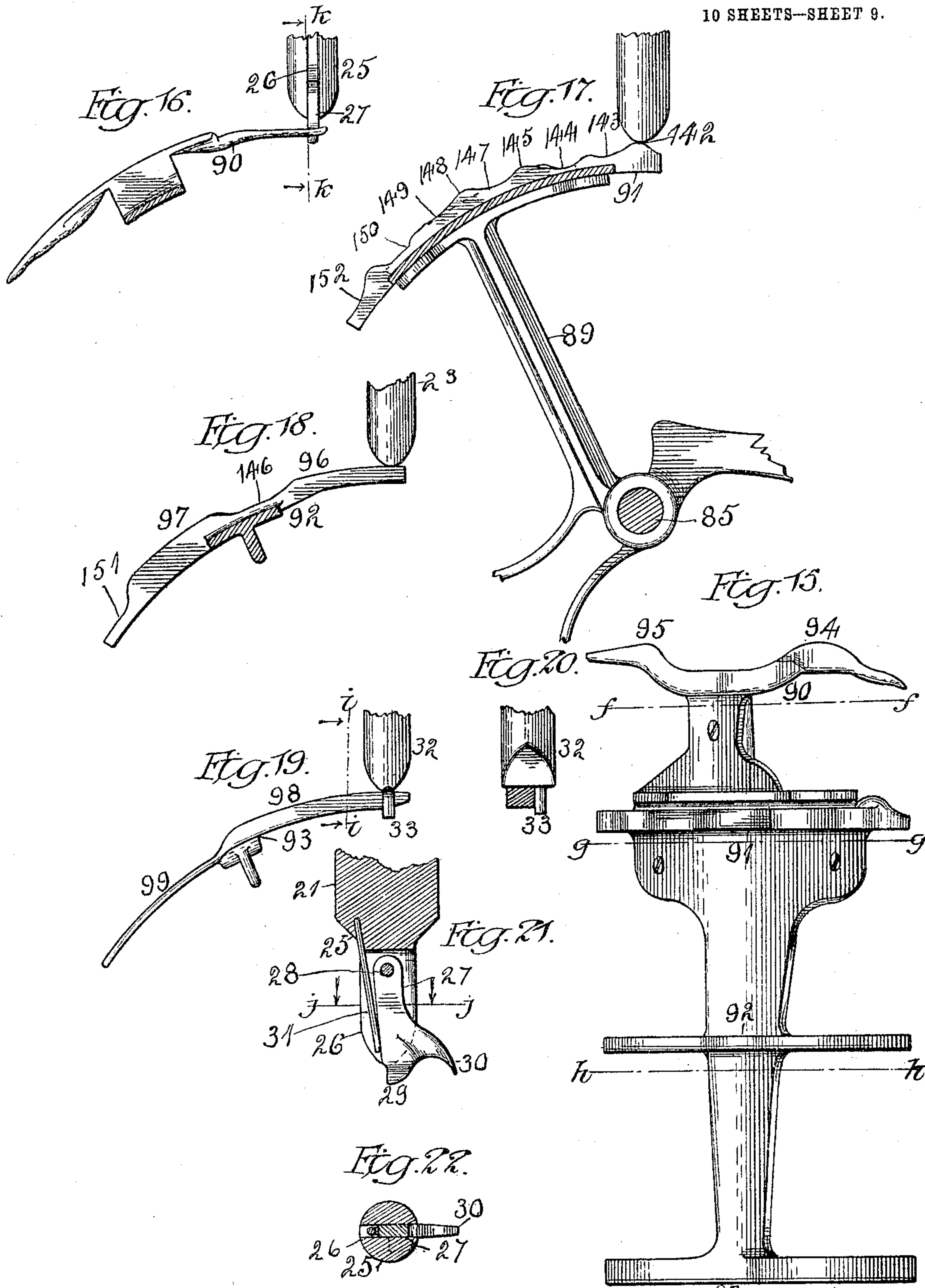
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APPLICATION FILED OCT. 21, 1904.

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10 SHEETS—SHEET 10.

Fig 24.

1, 1, 1, 1, 5. (9)

1, 1, 1, 5. (8)

1, 1, 5. (7)

1, 5, (6)

5. (5)

1. 1. 1. 1. (4)

1. 1. 1. (3)

1. 1. (2)

1. 1.

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# UNITED STATES PATENT OFFICE.

EMIL G. JOHANSON, OF ROCKFORD, ILLINOIS, ASSIGNOR TO REDIN, EKSTROM & COMPANY, OF ROCKFORD, ILLINOIS, A COPARTNER-SHIP.

## COIN-DELIVERING MACHINE.

No. 803,234.

Specification of Letters Patent.

Patented Oct. 31, 1905.

Application filed October 21, 1904. Serial No. 229,501.

*To all whom it may concern:*

Be it known that I, EMIL G. JOHANSON, a citizen of the United States, residing at Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Coin-Paying Machines, of which the following is a specification.

The object of this invention is to construct a machine for delivering the proper sum or amount of coin upon the manipulation of keys operating upon the coin-releasing devices.

In the accompanying drawings, Figure 1 is a front elevation of my improved coin-paying machine. Fig. 2 is a rear elevation of the same. Fig. 3 is a partial plan view. Fig. 4 is a horizontal section on dotted line *a*, Fig. 1. Fig. 5 is a horizontal section on dotted line *e*, Fig. 6. Fig. 6 is a vertical section on dotted line *b*, Fig. 2. Fig. 7 is a vertical section on dotted line *c*, Fig. 2. Fig. 8 is a vertical section on dotted line *d*, Fig. 2. Fig. 9 is a vertical section on dotted line *p*, Fig. 2. Fig. 10 is a vertical section on dotted line *o*, Fig. 2. Fig. 11 is a plan of Fig. 10. Fig. 12 is a vertical section on dotted line *q*, Fig. 2. Fig. 13 is a vertical section on dotted line *l*, Fig. 2. Fig. 14 is a vertical section on dotted line *n*, Fig. 2. Fig. 15 is a plan view of the cam-faces operated by the ten keys. Fig. 16 is a section on dotted line *f*, Fig. 15. Fig. 17 is a section on dotted line *g*, Fig. 15. Fig. 18 is a section on dotted line *h*, Fig. 15. Fig. 19 is an end view of Fig. 15. Fig. 20 is a section on dotted line *i*, Fig. 19. Fig. 21 is a section on dotted line *k*, Fig. 16. Fig. 22 is a section on dotted line *j*, Fig. 21. Fig. 23 is a section on dotted line *m*, Fig. 3. Fig. 24 is a representation of the keys and the arrangement of coins delivered by each key.

The casing comprises the ends 1 and 2, rear wall 3, and front 4. The front is formed with three series of openings for the reception of three series of keys. The coin-receptacles are formed by the rear plate 5 and front plate 6, connected together by the bolts 7. A bar 8 is supported by the front plate 4 and has uprising lugs 9, to which are connected lugs 10, depending from the bar 5, thereby supporting the coin-receptacles in a firm manner. The coin-receptacles are six in number, 11 holding pennies, 12 holding five-cent pieces or nickels, 13 holding ten-cent pieces or dimes, 14 holding twenty-five-cent pieces or quarters, 15 holding fifty-cent pieces or half-dollars, and

16 holding dollars. Within the coin-receptacles for holding pennies is located a plunger 17 of cylindrical form having a lengthwise-extending slot 18 and a reduced shank 19, having its end 20 pointed. The plungers 21, 22, 23, and 24 for the receptacles for the nickels, dimes, quarters, and halves are of the same construction as the one just described for the penny-receptacle with certain peculiarities which will be hereinafter explained. The shanks of these plungers are guided in openings in the bar 8.

The lower end of the shank 25 of the plunger 21 for the nickel-receptacle is shown at Figs. 16, 21, and 22, in which a lengthwise slot 26 is formed and within which is located a dog 27, pivotally supported at its upper end by the pin 28. The lower end of this dog has two prongs 29 and 30. A spring 31 holds the dog in the position shown at Fig. 21, but permits it to move for a purpose to appear hereinafter. The lower end of the shank 32 of the plunger 24 for the half-dollar receptacle is shown at Figs. 19 and 20, in which a pin 33 extends from its extreme end. The plunger 34 for the dollar-receptacle has its shank portion square and is guided in a square opening in the bar 8, and its end has an extension 35. (Shown at Fig. 12.)

A discharger comprises the rectangular bar 36, having a series of depressions in its upper edge. The depth of the depression 37 is sufficient to receive four pennies, the depth of the depression 38 is sufficient to receive two nickels, the depth of the depression 39 is sufficient to receive two dimes, the depth of the depression 40 is sufficient to receive one quarter, and the depth of the depression 41 is sufficient to receive one half-dollar. This discharger is located and movable in the slots of the plungers for the pennies, nickels, dimes, quarters, and half-dollars, as shown at Fig. 23. One end of this discharger has a knob 42, and a spring 43 has one end connected to a lug 44, extending from the bar 8, and its upper end located in a notch 45, formed in the plunger. The action of the spring is to hold the discharger so that the recesses therein will be in line with the plungers, but allowing it to move through the plungers.

Within the casing are located three cross division-bars 46, 47, and 48. The division-bar 46, in conjunction with the front of the casing, supports a series of nine keys 49, 50, 51,



52, 53, 54, 55, 56, and 57, bearing the numerals from "1" to "9," inclusive. The shank of each key has a coiled spring surrounding it, one end resting against the division-bar and its other end against a pin passed through the shank, which serves to hold the keys in their normal extended positions. A stud 58 extends from the division-bar 46 and upon which is pivotally mounted the device for operating the plungers 17 and 21, comprising a rocking bar having a segment 59, provided with nine teeth 60. A curved arm 61 extends from this bar and is located beneath the inner ends of the keys 49 to 57, inclusive. A branch 62 extends from the center portion of the rocking bar and supports two curved cam-shaped surfaces 63 and 64, the former located beneath the plunger 17 and the latter beneath the plunger 21. A side elevation of the surface 63 is shown at Fig. 9 and a plan view at Fig. 11 and comprises the two sections 65 and 66 in cam form. A side elevation of the surface 64 is shown at Fig. 10 and a plan view at Fig. 11 and comprises four sections 67, 68, 69, and 70 in concentric rings, the section 68 and 70 struck with a less radius than the sections 67 and 69. From the division-bar 61 extends a stud 71, upon which is pivotally mounted a dog 72, having its free end adapted to engage the teeth 60 of the segment 59. A series of three coiled springs 73, 74, and 75 form a connection between the division-bar 46, the dog 72, and the toothed segment 59, which will hold the segment and dog in the position shown at Fig. 6.

The cross-division bar 47, in conjunction with the front of the casing, supports a series of nine keys 76, 77, 78, 79, 80, 81, 82, 83, and 84 bearing the numerals "10," "20," "30," "40," "50," "60," "70," "80," and "90," respectively. The shank of each key has a coiled spring surrounding it, one end resting against the division-bar and its other end against a pin passed through the shank, which serves to hold the keys in their normal extended position. A stud 85 extends from the division-bar 47 and upon which is pivotally mounted the device for operating the plungers 21, 22, 23, and 24, comprising a rocking bar having a segment 86, provided with nine teeth 87. A curved arm 88 extends from the bar and is located beneath the inner ends of the keys 76 to 84, inclusive. A branch 89 extends from the center portion of the rocking bar and supports four curved cam-shaped surfaces 90, 91, 92, and 93, the surface 90 located in close proximity to the lower end of the plunger 21, the surface 91 located beneath the plunger 22, the surface 92 located beneath the plunger 23, and the surface 93 located beneath the plunger 24. A plan view of these four surfaces is shown at Fig. 15. The surface 90 has two prominences 94 and 95 on its edge nearest the plunger 21. An edge view of the surface 91 is shown at Fig. 17, said surface being

very irregular, and farther on in this specification will be divided into sections. An edge view of the surface 92 is shown at Fig. 18 and has two prominences 96 and 97. An edge view of the surface 93 is shown at Fig. 19 and consists of two concentric sections 98 and 99. The section 99 is struck from a less radius than the section 98. From the division-bar 47 extends a stud 100, upon which is pivotally mounted a dog 101, having its free end adapted to engage the teeth 87 of the segment 86. A series of three coiled springs 102, 103, and 104 form a connection between the division-bar 47, the dog 101, and the toothed segment 86, which will hold the segment and dog in the position shown at Fig. 7.

The division-bar 48, in conjunction with the front of the casing, supports a series of nine keys 105, 106, 107, 108, 109, 110, 111, 112, and 113 bearing the sign and numerals "\$1" to "\$9," inclusive. The shank of each key has a coiled spring surrounding it, one end resting against the division-bar and its other end against a pin passed through the shank, which serves to hold the keys in their normal extended positions. A stud 114 extends from the division-bar 48 and upon which is pivotally mounted the device for operating the plunger 34, comprising a rocking bar having a segment 115 provided with nine teeth 116. A curved arm 117 extends from this bar and is located beneath the inner ends of the keys 105 to 113, inclusive. A branch 118 extends from the center portion of the rocking bar and supports a cam-shaped surface 119, located beneath the plunger 34. A side elevation of this curved surface is shown at Fig. 12 and its relation with the other parts is shown at Fig. 8. From the division-bar 48 extends a stud 120, upon which is pivotally mounted a dog 121, having its free end adapted to engage the teeth 116 of the segment 115. A series of three coiled springs 122, 123, and 124 form a connection between the division-bar 48, the dog 121, and the toothed segment 115, which will hold the segment and dog in the position shown at Fig. 8.

A bail 125 has a pivotal connection with the division-bars 46 and 48 and on the pivotal centers of the dogs supported by said bars. This bail extends in the lengthwise direction of the machine and rests in contact with the dogs 72 and 101 and against a projection 126, extending from the dog 121. A pin 127 extends from that end of the bail outside of the division-bar 46. A bar 128 has a notch 129 in its lower end, which receives the pin 127, and its upper end is guided between the projection 130 and screw 131, extending from the inner face of the end 1. The extreme upper end of this bar has a notch 132, which receives the under face of the discharger-bar 36 and in the path of the movement of the incline 133 at the end of the discharger-bar having the knob 42.



As the action of two of each of the three series of coiled springs is to hold the dogs in engagement with the toothed segments, said spring force will also hold the upper end of the bar 128 in contact with the under face of the discharger-bar.

The coin-receptacles each have a discharge-opening. The opening 134 for the receptacle containing the pennies is of a height to permit the passage of four pennies. The opening 135 for the receptacle containing the nickels is of a height to permit the passage of two nickels. The opening 136 for the receptacle containing the dimes is of a height to permit the passage of two dimes. The opening 137 for the receptacle containing the quarters is of a height to permit the passage of one quarter. The opening 138 for the receptacle containing the half-dollars is of a height to permit the passage of one half-dollar, and the opening 140 for the receptacle containing the dollar is of a height to permit the passage of nine dollars. All the openings 134, 135, 136, 137, 138, and 140 discharge into a receiving-pan 141, located in the center of the front of the casing.

In all the views the parts are in their normal positions and the plungers are raised to their highest points, so that the discharger-arm 36 will pass freely through the slots in the upper ends of the plungers without discharging any of the coins contained in the tubes or receptacles. As the divisions of the teeth of the segments 59, 86, and 115 are the same, it is evident that the keys 49, 76, and 105 will by contact with the curved arms 61, 88, and 117 move the segments so that their dogs will engage the first tooth, and a movement of the keys 50, 77, and 106 will move the segments sufficiently to cause the dogs to engage the second tooth, and so on with each of the keys until the keys 57, 84, and 113 will move the segments sufficiently to cause the dogs to engage the last tooth of the segment. The dogs are released from engagement with the segments by pushing in the discharge-bar 36, causing the incline 133 thereof to engage the upper end of the bar 128 and forcing it downward, thereby moving the bail downward against the dogs. The action of the keys is to raise and lower the plungers so the one or more coins contained in the different receptacles will occupy one or more of the recesses in the discharger-bar. This is accomplished by moving the cam-shaped surfaces under the plungers, thereby either raising them or permitting them to descend. By pressing the key 49 the cam-surface 65 will be moved sufficiently to permit the plunger 17 to descend the thickness of one cent. By pressing the key 50 the same cam-surface will be moved sufficiently to permit the plunger to descend the thickness of two one-cent pieces. By depressing the key 51 the plunger will descend the thickness of three one-

cent pieces. By depressing the key 52 the plunger will descend the thickness of four one-cent pieces. During the movements of the four keys 49, 50, 51, and 52 the concentric surface 67 has held the plunger in the receptacle containing the nickels from descending; but when a nickel is desired the key 53 is pressed, which will cause the plunger 17, supporting the pennies, to raise and permit the plunger 21 to descend the thickness of a nickel. In pressing the keys 53, 54, 55, 56, and 57 the nickel will be in a position to be discharged, and the key 54 will lower a one-cent piece, the key 55 two one-cent pieces, the key 56 three one-cent pieces, and the key 57 four one-cent pieces, thereby permitting a nickel and one cent, making six cents, up to a nickel and four one-cent pieces, making nine cents. Thus far it is seen how from one to nine cents may be obtained.

By pressing the key 76 the plunger in the receptacle containing the dimes will descend the thickness of one dime by moving the cam-surfaces from the prominence 142 to a lower surface 143. The key 77 will move the cam-surface so that the plunger 22 will descend onto a lower surface 144, thereby presenting two dimes. The key 78 will raise both dimes out of operative position by the plunger resting on the prominence 145 and will allow the plunger 23 in the receptacle containing the quarters to descend into the lower level 146, thereby presenting a quarter to be discharged. The movement of this key 78 will bring the prominence 94 of the cam-surface 90 against the prong 30 of the dog supported by the shank 25 of the plunger and force the prong 21 over, so that it will ride on the lower surface 68, thereby lowering the plunger 21 and placing a nickel in position to be discharged, which with the quarter will make thirty cents. In the movement of the key 79 the plungers of the nickel and quarter receptacles will remain the same as when the key 78 was operated. With the addition of plunger 22 the dime-receptacle will be lowered sufficiently to present a dime for discharge by the plunger entering the recess 147 of the cam-surface 91, which with the nickel and quarter will make forty cents. In operating the key 80 the plunger 24 for the half-dollar receptacle will be dropped sufficiently to present one half-dollar to be discharged, which will be fifty-cents, and the plungers for the nickel, dime, and quarter operated by the key 79 will be raised, so that they will be out of operative position, the plunger for the dimes resting on the prominence 148. The key 81 will still leave the half-dollar down to be discharged and will move the cam-surface 91 so that the plunger supporting the dimes will drop into the recess 149, thereby presenting a dime for discharge, together with the half-dollar, making sixty cents. The key 82 will still keep the half-dollar down and



permit the plunger for the dimes to further drop into the recess 150, making two dimes and a half-dollar, in all seventy cents. The key 83 will leave the half-dollar down and  
 5 cause the plunger 23 for the quarters to drop into the recesses 151, thereby presenting a quarter for discharge, and the prominence 95 of the cam-surface 90 will move the dog 27 over into the lower cam 70 and allow the plun-  
 10 ger supporting the nickels to drop far enough to present one nickel for discharge, together with the quarter and half-dollar, making eighty cents. The key 84 will leave the half-dollar, quarter, and nickel down and will add  
 15 a dime by the plunger 22 dropping into the end recess 152 of the cam-surface 91, making ninety cents. By the manipulation of the two series of keys just described any sum from one cent to ninety-nine cents can be dis-  
 20 charged. As the cam-surface 119 for the plunger containing the dollars is of a gradual slant, so that the key 106 will drop the plunger twice as far as the key 105 and the key 113 nine times as far as the key 105, and as  
 25 each drop is the thickness of a dollar, it is evident that any number of dollars from one to nine may be placed in position to be discharged by the operation of a single key. This cam-surface is shown at Fig. 12. When  
 30 all the keys have been operated to place the required coins in position to be discharged, the discharger-bar 36 is moved, which will move the coins from the bottom of the piles in the receptacles and cause them to pass out  
 35 through the opening into the receiving-pan 141, where they are collected and handed to the proper party. The last portion of the inward movement of the discharge-bar will liberate the dogs of the toothed segments when  
 40 keys have been operated, and the coiled springs will return the segments to the normal positions.

This is not a change-making machine, but a machine for paying out and for use in banks,  
 45 post-offices, and such places.

At Fig. 24 of the drawings is shown a chart with the different keys and the pieces of coin arranged by each key in a manner to be discharged into the receiving-pan.

50 I claim as my invention—

1. A coin-delivering machine comprising two series of nine keys each, receptacles for holding pennies, nickels, dimes, quarters and half-dollars, the keys of one series liberating  
 55 coins from the receptacles containing pennies and nickels, and the keys of the other series liberating coins from the receptacles containing nickels, dimes, quarters and half-dollars in the following order, one key liberating one  
 60 dime; one key two dimes; one key one nickel and one quarter; one key one nickel, one dime and one quarter; one key one half-dollar; one key one dime and one half-dollar; one key two dimes and one half-dollar; one key one nickel,  
 65 one quarter and one half-dollar; and one key

one nickel, one dime, one quarter and one half-dollar.

2. A coin-delivering machine comprising receptacles for holding pennies, nickels, quarters, halves and dollars, means for releasing  
 70 coins from one or all of the receptacles and a slidable bar for disengaging the released coins.

3. A coin-delivering machine comprising a receptacle for holding coins, a movable plunger having a radially-slotted upper end and  
 75 adapted to support the coins, a discharging-bar movable in the slot and adapted to remove one or more of the bottom coins and means for moving the plunger.

4. A coin-delivering machine comprising a  
 80 series of receptacles for holding coins, a movable plunger for each receptacle having a radially-slotted upper end and adapted to support the coins, a discharging-bar movable in the slots and adapted to remove one or more  
 85 of the bottom coins, and means for moving the plunger.

5. A coin-delivering machine comprising a coin-receptacle, a movable plunger having a  
 90 radially-slotted upper end and adapted to support the coins, a discharging-bar movable in the slot and adapted to remove a bottom coin, and means for moving the plunger, said means comprising a cam-surface movable in contact with the plunger, and a key for moving the  
 95 cam-surface.

6. A coin-delivering machine comprising a coin-receptacle, a movable plunger having a  
 100 radially-slotted upper end and adapted to support the coins, a discharging-bar movable in the slot and adapted to remove a bottom coin, and means for moving the plunger, said means comprising a cam-surface movable in contact with the plunger, keys for moving the cam-  
 105 surface, a toothed segment connected with the cam-surface, a dog engaging the teeth and a bar with which the keys contact.

7. A coin-delivering machine comprising a coin-receptacle, a movable plunger having a  
 110 radially-slotted upper end and adapted to support the coins, a discharging-bar movable in the slot and adapted to remove a bottom coin, and means for moving the plunger, said means comprising a cam-surface movable in contact with the plunger, keys for moving the cam-  
 115 surface, a dog engaging the teeth, a bar with which the keys contact, and a connection between the dog and discharging-bar for releasing the dog.

8. A coin-delivering machine comprising a  
 120 receptacle for holding pennies, a movable plunger having a radially-slotted upper end and adapted to support the pennies, a cam-surface for moving the plunger comprising two similar sections, keys for moving the cam-surface  
 125 and a discharging-bar movable in the slot of the plunger and adapted to receive one or more bottom pennies.

9. A coin-delivering machine comprising a receptacle for holding nickels, a movable plun-  
 130



ger having a radially-slotted upper end, and adapted to support the nickels, two double concentric surfaces for moving the plunger, the lower end of the plunger supporting a pivoted  
5 dog held in one position by a spring, means for moving the dog into its other position, keys for moving the concentric surfaces, and a discharging-bar movable in the slot of the plunger, and adapted to receive one or more of  
10 the bottom nickels.

10. Coin-delivering machine comprising a receptacle for holding dimes, a movable plunger having a radially-slotted upper end, and adapted to support the nickels, a cam-surface  
15 for moving the plunger comprising a series of depressions, a series of half-prominence and a series of full-prominence, keys for moving the surface and a discharging-bar movable in the slot of the plunger and adapted to receive  
20 one or more bottom dimes.

11. A coin-delivering machine comprising a receptacle for holding quarters, a movable plunger having a radially-slotted upper end, and adapted to support the quarters, a cam-surface  
25 for moving the plunger comprising two recesses and two equally-high prominences, keys

for moving the surface and a discharging-bar movable in the slot of the plunger and adapted to receive the bottom quarter.

12. A coin-delivering machine comprising a  
30 receptacle for holding half-dollars, a movable plunger having a radially-slotted upper end, and adapted to support the half-dollars, two concentric surfaces having a different radius for moving the plunger, keys for moving the  
35 surface, and discharging-bar movable in the slot of the plunger, and adapted to remove the bottom half-dollar.

13. A coin-delivering machine comprising a  
40 receptacle for holding dollars, a movable plunger having a radially-slotted upper end and adapted to support the dollars, a uniformly-diminishing cam-surface for moving the plunger, keys for moving the surface, and a discharging-bar movable in the slot of the plunger  
45 and adapted to remove one or more of the bottom dollars.

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