

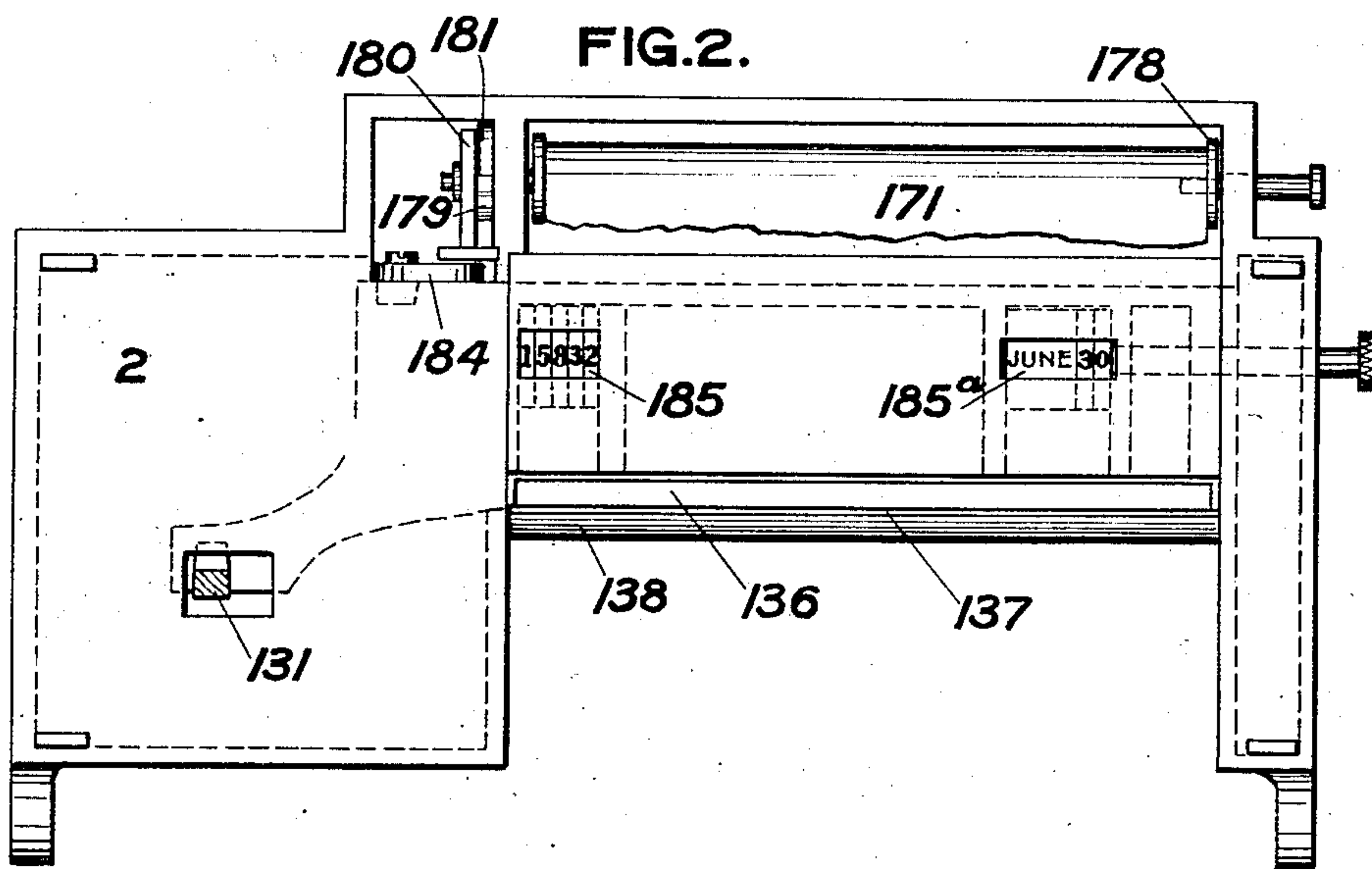
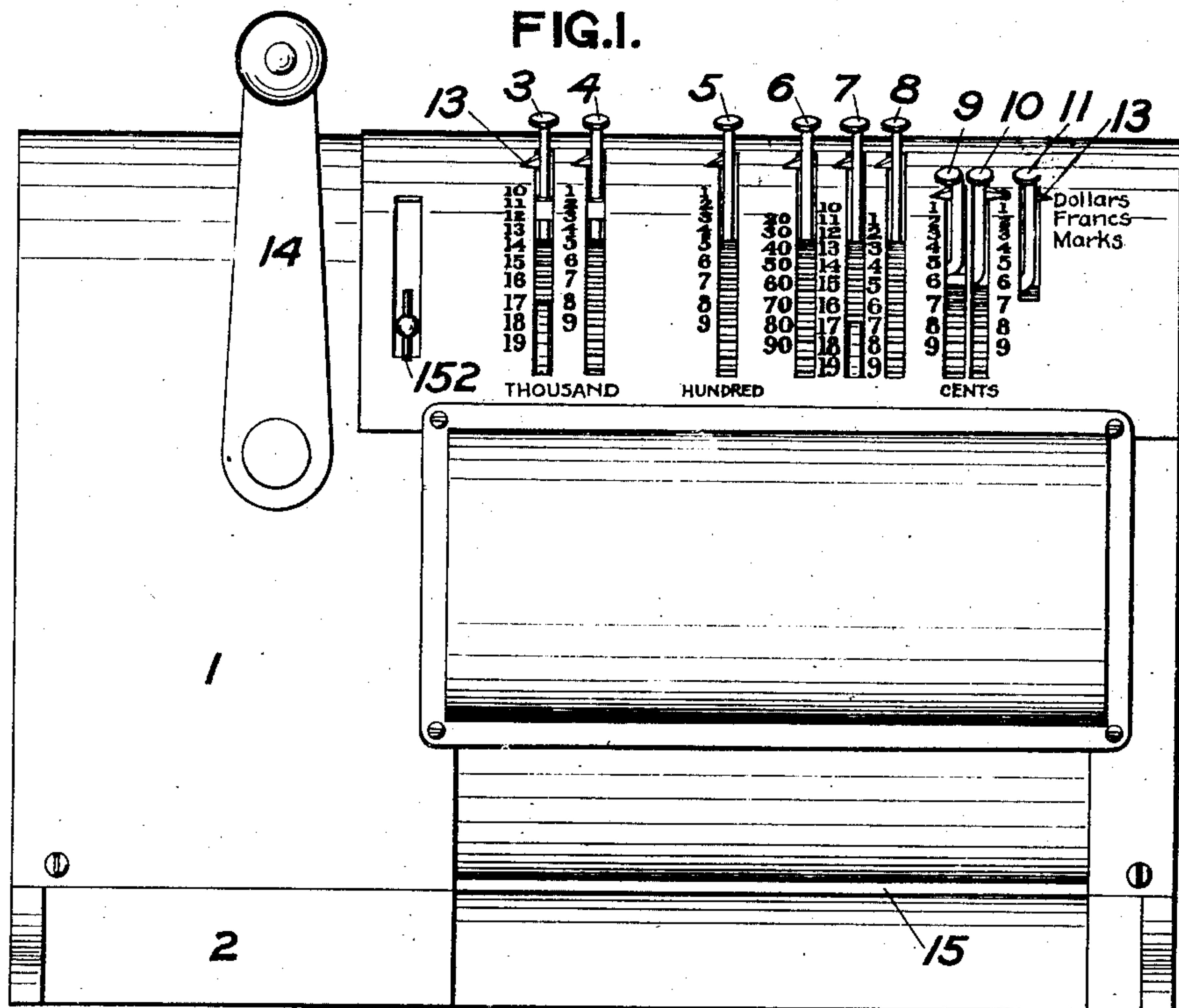
F. MUTSCHLER.
CHECK PRINTER.

APPLICATION FILED AUG. 29, 1904.

Patented Dec. 29, 1908.

5 SHEETS—SHEET 1.

907,854.



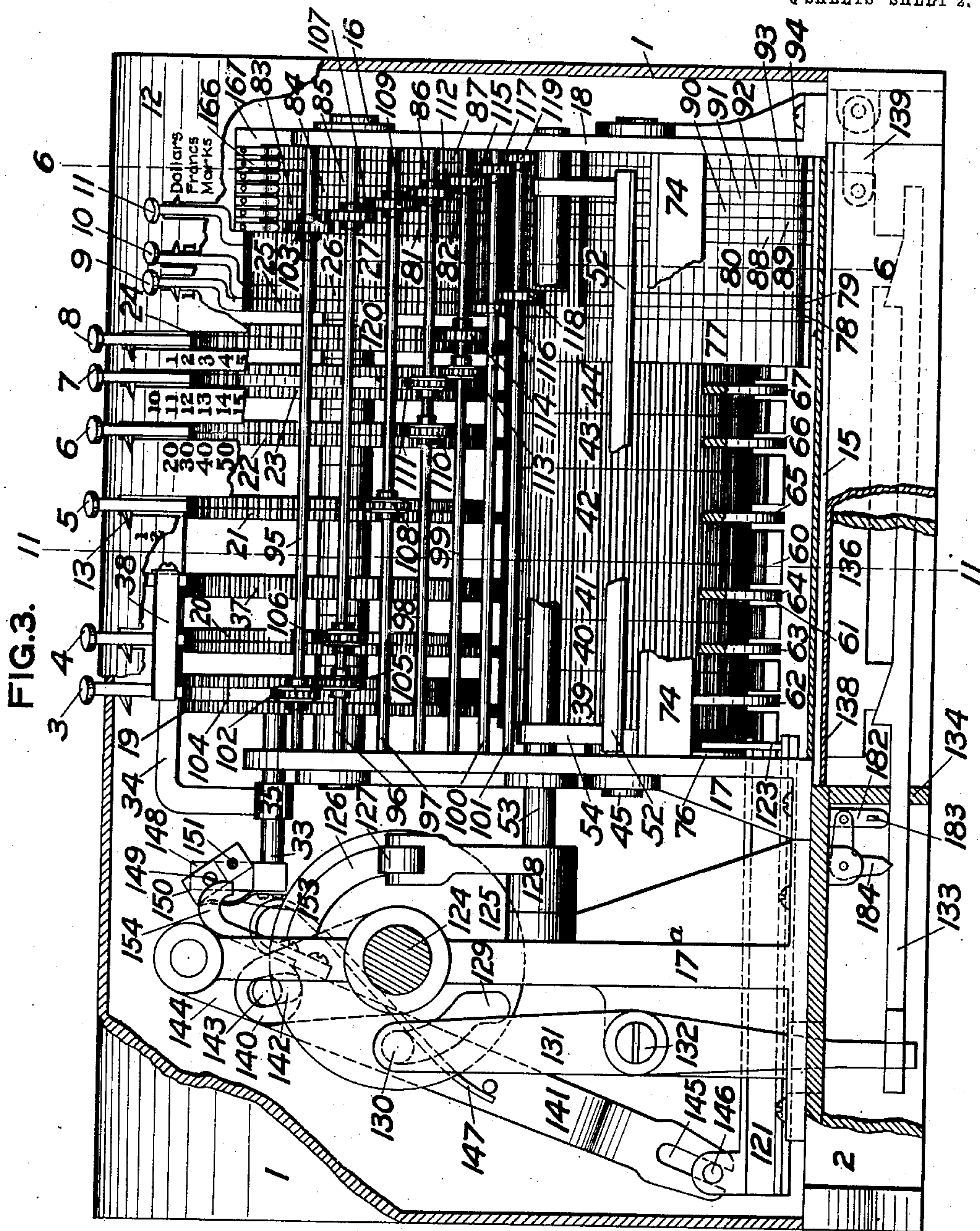
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Clarence W. Carroll.

Inventor:
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6 SHEETS—SHEET 2.



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5 SHEETS—SHEET 3.

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FIG. 4.

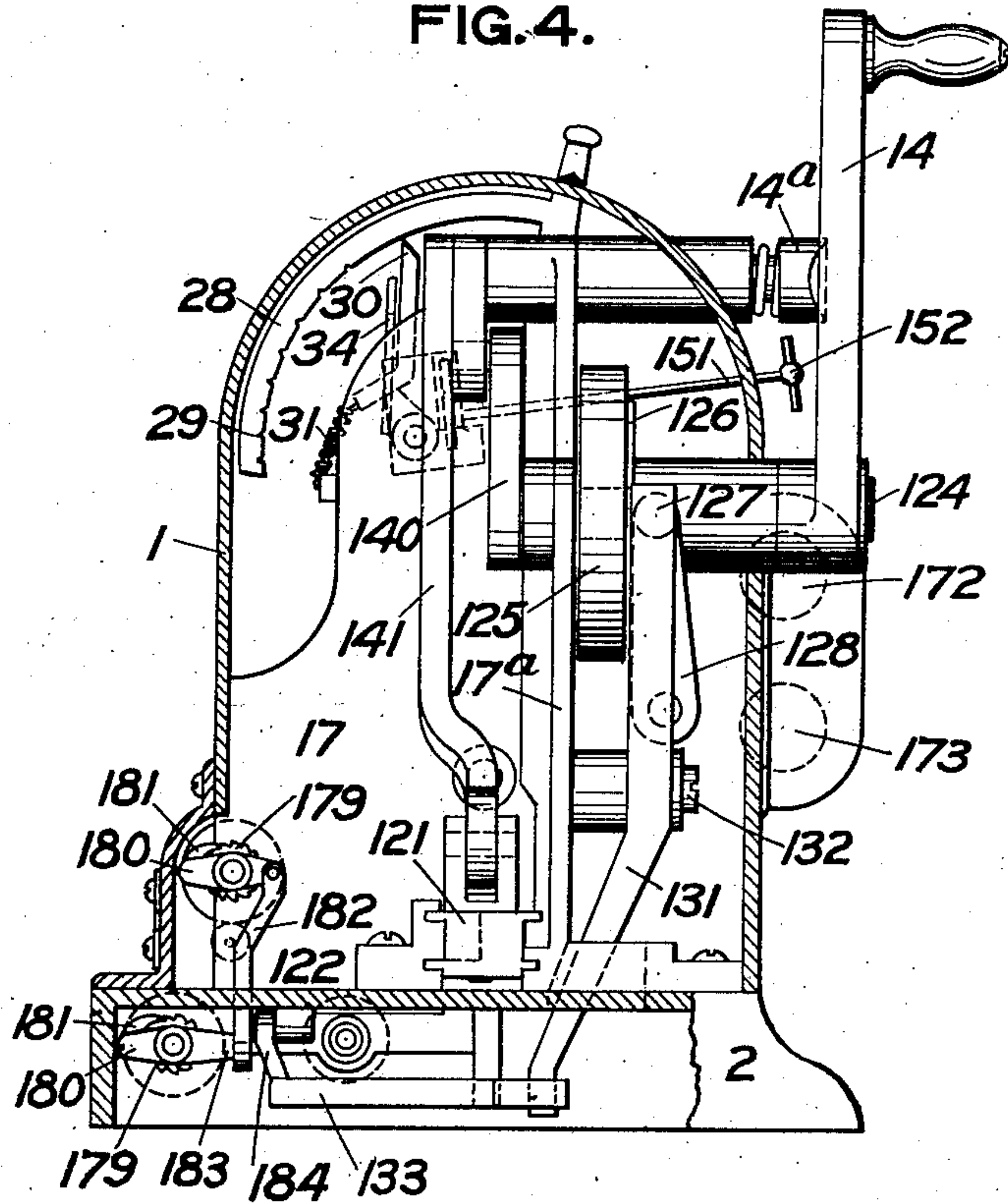
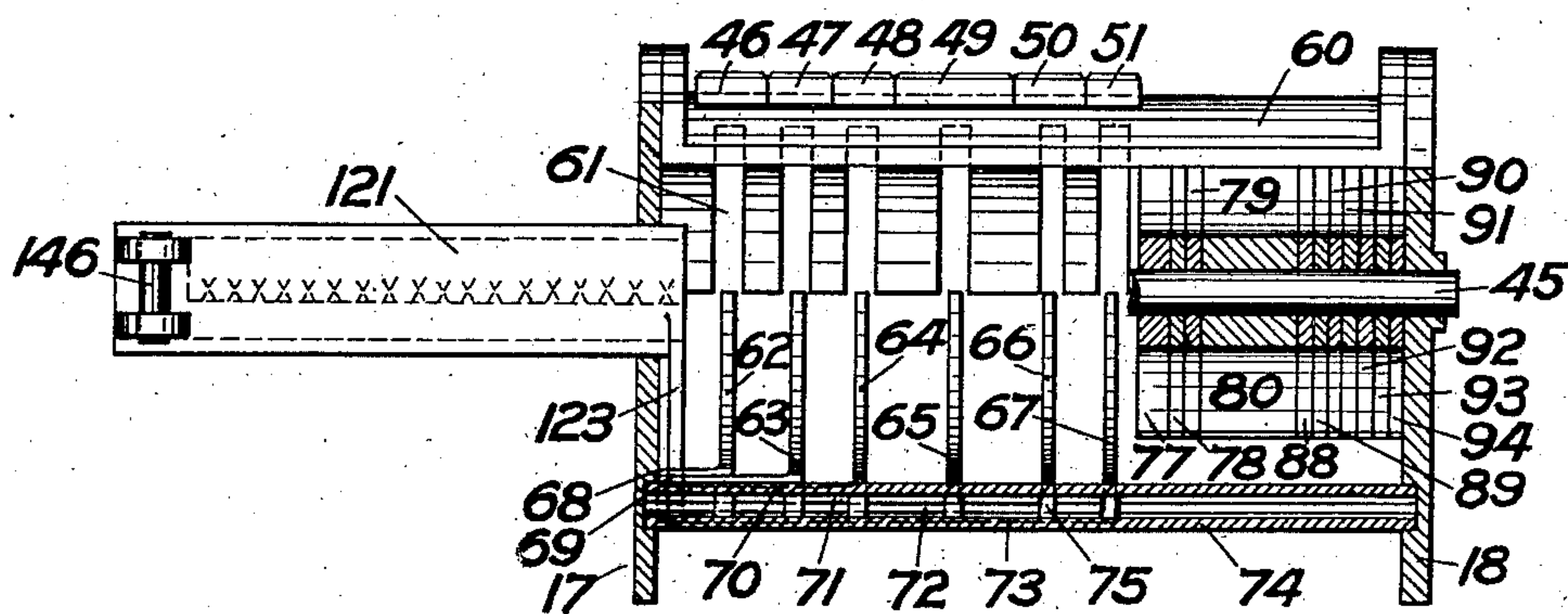


FIG. 5.



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5 SHEETS—SHEET 4.

FIG. 6.

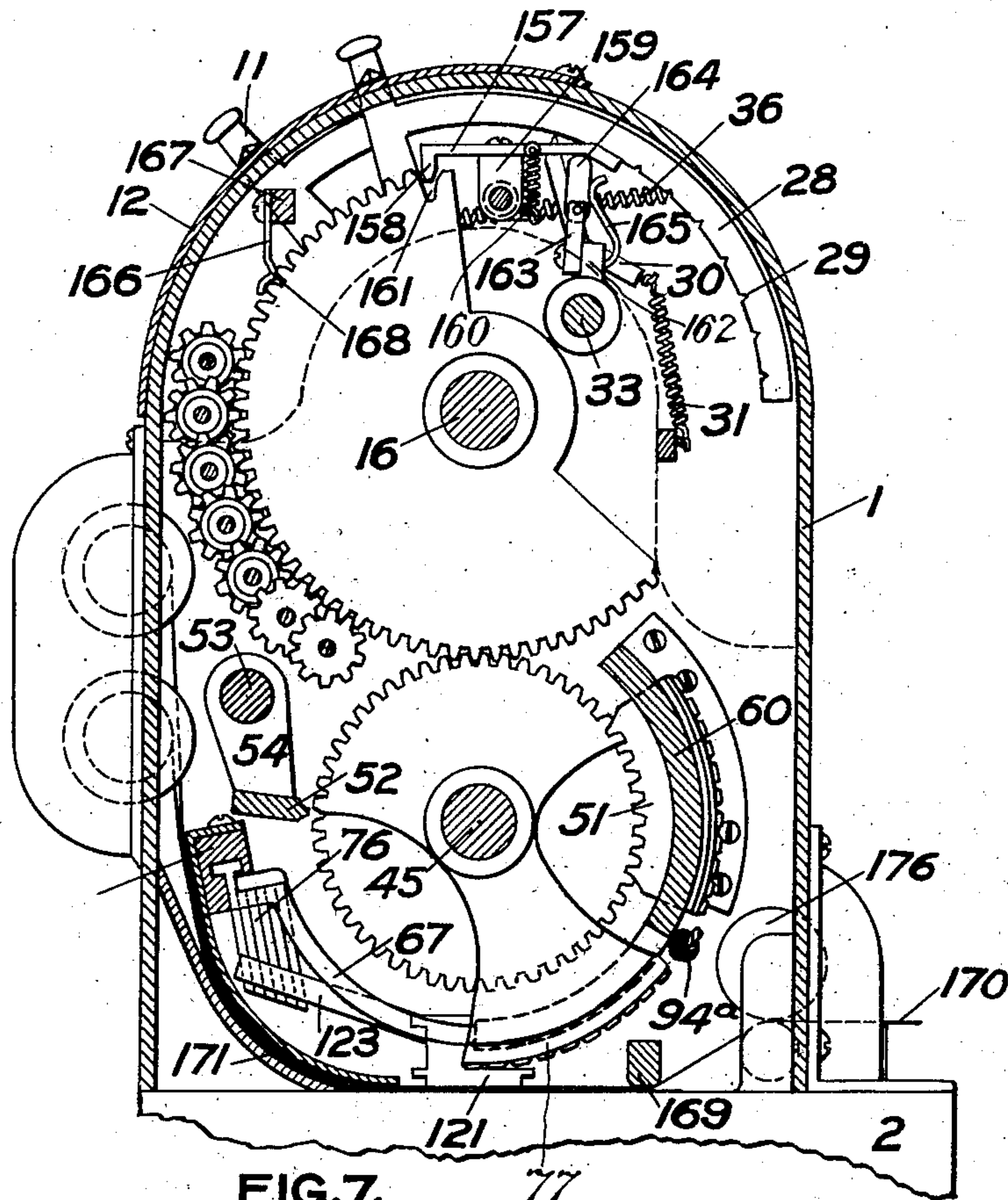


FIG. 7.

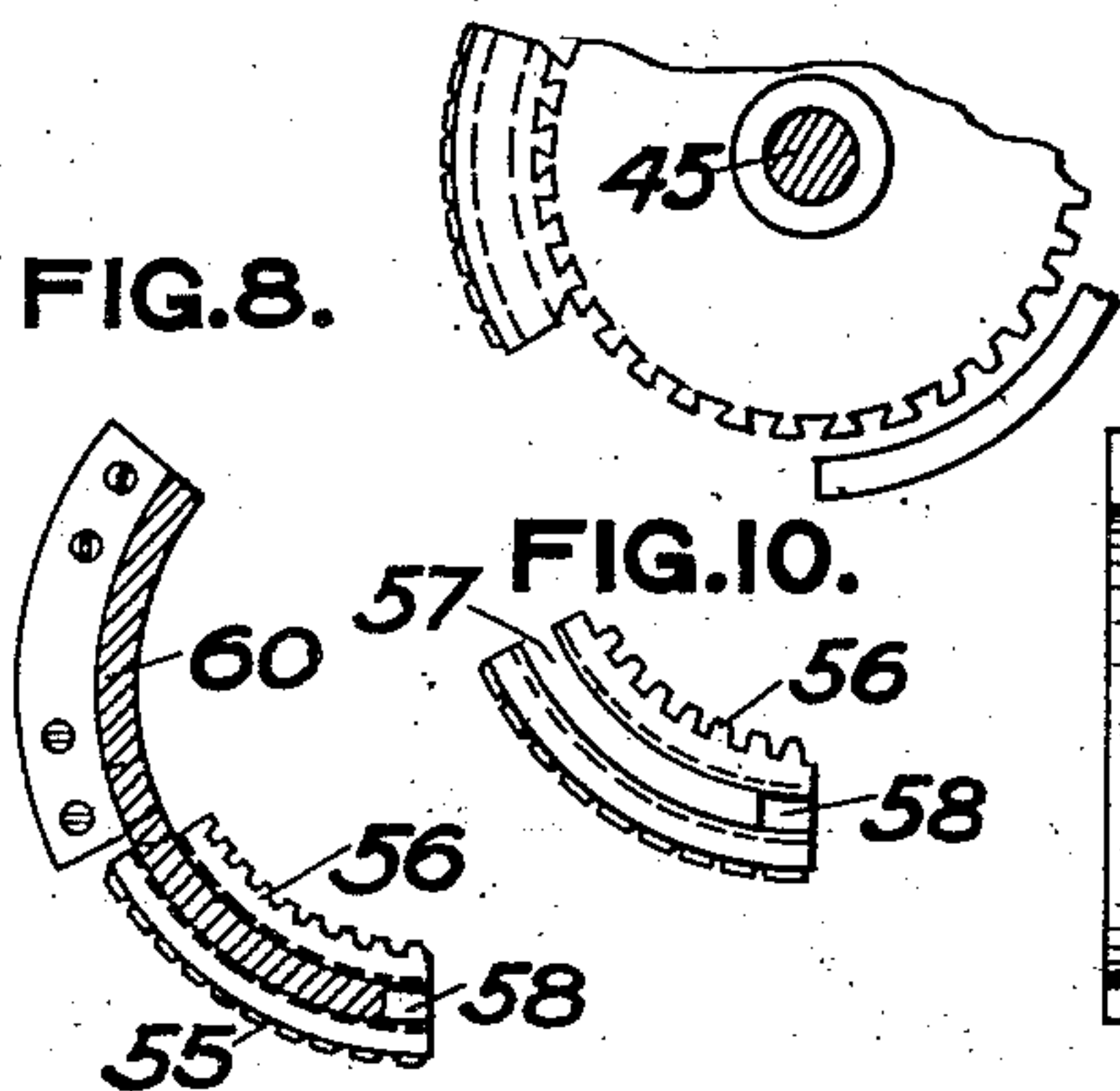


FIG. 8.

FIG. 9.

FIG. 10.

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5 SHEETS—SHEET 5.

FIG. 11.

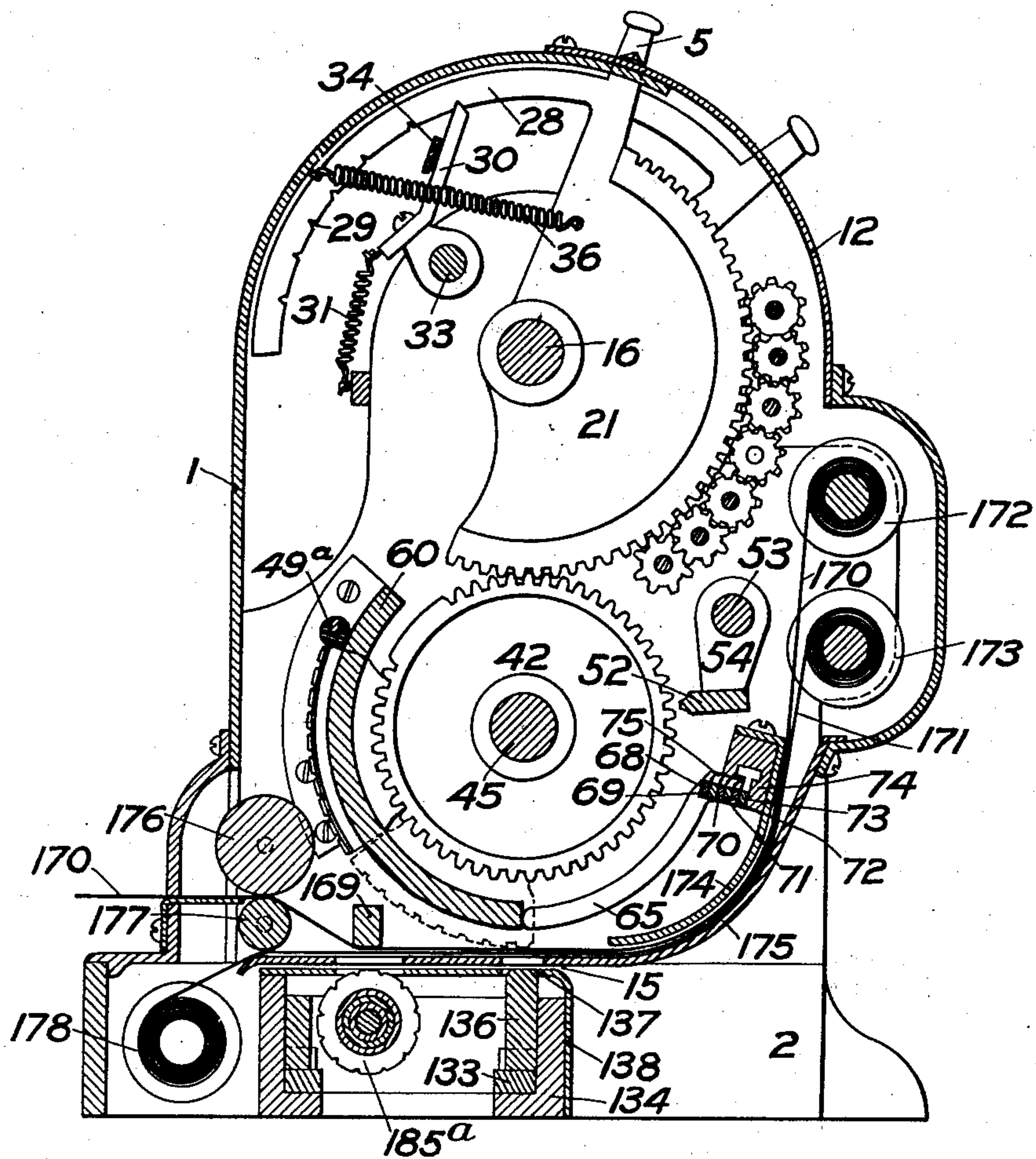
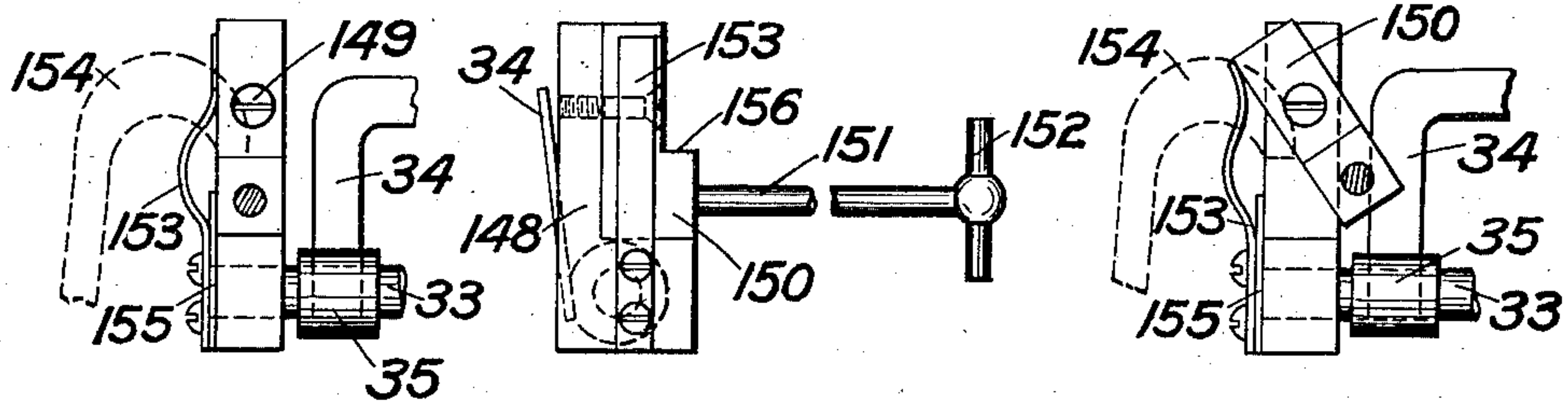


FIG. 12.

FIG. 13.

FIG. 14.



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UNITED STATES PATENT OFFICE.

FREDERICK MUTSCHLER, OF ROCHESTER, NEW YORK, ASSIGNOR TO MUTSCHLER MACHINE COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

CHECK-PRINTER.

No. 907,854.

Specification of Letters Patent.

Patented Dec. 29, 1908.

Application filed August 29, 1904. Serial No. 222,654.

To all whom it may concern:

Be it known that I, FREDERICK MUTSCHLER, a citizen of the United States, and resident of Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Check-Printers, of which the following is a specification.

The object of this invention is to provide a printing mechanism adapted to print upon the face of a check, and also, if desired, upon a record strip, words representing the exact amount for which the check is drawn without unnecessary spaces between the words, and also the same amount in numerals, both words and numerals being set in printing position by the operation of the levers for setting the words, and the whole being printed at one movement of the actuating lever.

In the drawings:—Figure 1 is a front elevation of a device embodying this invention; Fig. 2 is a top plan of the base of said device; Fig. 3 is a front elevation of the device shown in Fig. 1, with parts of the case removed, and parts of the mechanism in section; Fig. 4 is an end elevation of the device shown in Fig. 1, as seen from the left hand end thereof, and with the ends of the casing removed; Fig. 5 is a top plan view of the type-block support and some of its connected mechanism, parts being removed and parts in section; Fig. 6 is a cross section on the line 6—6 of Fig. 3; Figs. 7, 8, 9 and 10 are views of details; Fig. 11 is a section on the line 11—11 of Fig. 3 viewed in the opposite direction from that of Fig. 6; and Figs. 12, 13 and 14 are views of details.

The device has an outer casing 1 and a base 2. In the base are the platen mechanism, dating mechanism, consecutive-numbering mechanism, and a part of the inking ribbon mechanism, hereinafter to be described.

Levers 3, 4, 5, 6, 7, 8, 9, 10, and 11 with suitable finger pieces, project outward through slots in the upper part of the casing 1. On a plate 12 attached to the casing, and adjacent to said slots, are set forth numbers corresponding to the words carried by the type-blocks actuated by the respective levers. Thus in a six-lever machine, as represented in the present case, (see Fig. 1), the lever 3 toward the left may set the words and numerals from ten to nineteen, both inclusive, and the next lever 4 to the right may

set one to nine. These levers will indicate the number of thousands which it is desired to print. The word "thousand" will be set by automatic means hereinafter described. The next lever 5 may set "one to nine" indicating hundreds, since the type-block actuated by this lever 5, prints the words "one hundred", "two hundred", etc. The next lever 6 may set twenty to ninety; the next 7, ten to nineteen; and the last 8 of the series one to nine. The levers 9 and 10 each set numerals 1 to 9, and represent cents or hundredths. The lever 11 sets the denomination of the currency, as "dollars", "frances", "marks", etc., or other decimal system.

By setting each lever so that the indicator or pointer 13 on its side points to the desired numeral on the adjacent scale, the levers may be stopped at those points and remain there, and this operation sets type-blocks, so that when the platen or printing mechanism is operated, the words and figures corresponding to the indications of the set levers will be printed upon the check. The levers adapted to set up the type-blocks for the words above indicated may print numerous combinations of words, and of course by increasing the number of levers and providing the type-blocks with suitable words or characters any amount, denomination or system of currency may be printed.

In devices of this character, particularly where the whole series of desired words are to be printed at one operation of the platen mechanism, the words constituting the components of the total amount have been separated heretofore in accordance with the positions of the type-blocks—that is to say, without the special mechanisms comprised in this invention. For instance, if the levers 3 and 6 were set to print certain amounts, the printing would occur with a space between the printed words corresponding to the width of the gaps left by the non-operation of the levers 4 and 5, and this invention is directed mainly to means whereby such gaps may be prevented, and the words constituting the amount to be printed on the check may follow each other at suitable closeness, so that other words cannot thereafter be printed between them nor on either end, and thus removing the possibility of raising or altering the checks. This device is capable of printing any amount exactly.

On the outside of the case is a platen-lever

14 for operating the mechanism for printing the impression, as hereinafter described. The case has a slot 15 (see Figs. 1, 2 and 11) in which to insert the checks to be printed upon, and this slot is most conveniently made between the base 2 and the parts above it.

Each setting lever 3 to 11 is journaled on suitable bearings within the case, such as a shaft 16, fixed in end plates 17 and 18. Each lever is connected with a gear segment 19, 20, 21, 22, 23, 24, 25, 26, 27, and each lever also has an adjusting arm 28, provided with notches 29, equal in number to the words or numerals upon its type-block, for bringing the lever to the exact position to set its type-block correctly at the printing line. This is accomplished by a pawl 30, actuated by a spring 31, so that when the pawl enters any notch it centers the corresponding line of type in correct position for printing with reference to the platen mechanism. There is a pawl 30 for each lever of the machine. These pawls are fastened on lugs or bosses 32 on a shaft 33. The same shaft carries a bar 34, fastened on bosses 35 fixed on said shaft, and connected to mechanism, hereinafter to be described, whereby on rocking the bar 34 the pawls 30 are released from the notches 29, so as to permit the automatic resetting of the mechanism. Each segment 19 to 27 has a spring 36 attached to it and to the case 1, tending to pull the segment toward its normal position of rest.

In order to print the word "thousand" each time with its designating figure carried by lever 3 and 4, an additional segment 37, (see Fig. 3) without a projecting lever, is pivoted on the shaft 16, between segments 20 and 21. A bar 38 is attached to its upper portion, and is extended around close to the front of levers 3 and 4. Therefore, when either lever 3 or 4 is brought forward, it will immediately strike the bar 38, and move the type-block, carried by the segment 37, to the same relative position with reference to the printing line as that occupied by the type-block carried by the lever 3 or 4. The type-block of the segment 37 has ten lines of type, each reading "thousand". Each segment 19, 20, 37, 21, 22, 23 operates a portion of a type-block support, which, in the instance of the invention, consists of a toothed drum or wheel. There is one of these toothed drums or wheels 39, 40, 41, 42, 43, 44, for each of the segments 19, 20, 37, 21, 22, 23, respectively. They are pivoted on a shaft 45 in the end plates 17 and 18. Certain of the teeth of the wheels or drums are adapted to mesh with the teeth of the corresponding segments on the shaft 16, and others of the teeth are adapted to mesh or interlock with teeth upon the back of the type-blocks 46, 47, 48, 49, 50, 51, and the teeth of the series of drums are so proportioned that they aline with each other

so far as concerns the teeth with which the type-blocks engage, whereby the blocks may be slid along the teeth or grooves of the drums 39 to 44, until they are brought together so that no space will be left between the different words when printed. A shaft 53, supported in the end plates 17 and 18, carries a universal bar 52, on arms 54. This bar extends across all the drums 39 to 44, and has a beveled edge which is adapted to enter the teeth of all the drums, in order to produce perfect alinement thereof, so that the type-blocks may slide freely along from one drum to another and into the proper contiguity.

Figs. 7, 8 and 9 show the form of the type-blocks and certain of their supporting devices. Each type-block has upon its outer face a series of type lines 55, any one of which may be used for printing when moved to the printing line. The back of each type-block has the teeth 56 above mentioned, and each block has a curved slot 57, extending through the greater part of its length, and at the forward end a connection 58, which is the only connection between the toothed and type portions of the block. The connection 58 has a perforation 59 through it for a purpose to be described. The type blocks are normally supported by a segment of a hollow cylinder 60, attached to the end plates 17 and 18, having a curvature of the same radius as the slots 57 in the blocks. The support 60 has a series of slots 61 cut in it, with parallel side faces, so that the connection 58 of each type-block may fit and slide into one of said slots, and out of the same, whereby the connection 58 escapes entirely from the slot when the type-block is rocked to any printing position, as shown in Fig. 8. A modification of support is shown in Fig. 7, in which the teeth on the drum fit the block in the form of dovetails, rendering any support outside of the drum unnecessary.

In the form of device shown in Figs. 8, 9 and 10, provision must be made to hold the type-block up to the drum after it escapes from the support 60. For this purpose a series of movable arms 62, 63, 64, 65, 66 and 67 are provided, set normally in such a position and having such form as to project and fit into the perforation 59 of any particular block, only when said block is shifted to a printing position. Each of these arms is attached to a sliding bar 68, 69, 70, 71, 72 and 73, arranged in stationary frame 74. When a type block 46 is slid down and off the segment 60, so that its socket 59 engages on the corresponding arm 62, the teeth 56 on the back of the type block maintain engagement with the teeth on the drum 39, and the block may be slid sidewise, until all the type-blocks that have been set by movements of the levers are brought close together, and therefore print their characters in proper consecution.

tive order without undue space between them.

The frame 74, (shown most clearly in Figs. 5, 6 and 11), carries the series of sliding bars 68 to 73, to which the arms 62 to 67 are attached, respectively. The said bars have T-heads projecting from them where the arms are attached; these T-heads being adapted to slide in a correspondingly shaped groove in the frame 74. The arm 62, having the greatest range of movement, projects from the innermost bar 68, and the others in turn project from the bars having less movement. The bars are hung sufficiently below the frame 74 to allow a portion 75 to extend from the T-head to the arm of each bar, so that the arms of all the bars outside of the bar 62 will not be separated by movement thereof, but will allow the inside bars to slide under them, separately or together. At the end of the frame 74 adjacent to the arm 62 a portion 76 of each bar is bent downward. In the normal or released position of the machine, these bent-down extensions abut against the end plate 17, causing the arms 62 to 67 to stand in proper position to receive their respective type-blocks as the latter are slid down from the support 60.

In order to print the amount of the check in figures as well as words, the mechanism now to be described is provided. Adjacent to the segment 23 on the shaft 16 is a segment 24, actuated by the lever 8, and meshing with a segment 77, of the form shown in Fig. 6, on the shaft 45. This segment 77, instead of engaging with a type-block, has a series of type-characters fixed on its lower side, reading "one" to "nine". Adjacent to this pair of segments are two more pairs, 25 and 78, and 26 and 79, operated by the levers 9 and 10, respectively. These are of the same form as the segments 24 and 77, and each carries a set of figures from "one" to "nine". At the right hand side of the segments 26 and 79 are a similar pair 27 and 80, operated in the same manner by the lever 11. The type on the under side of the segment 80 prints the names of the different kinds of decimal currencies to which the machine may be adapted. Of course by changing the relations of the intermeshing gears the machine may be adapted to any currency, whether decimal or otherwise.

Between the segments 27 and 80, and the end plate 18 are a number of sets of segments 81 to 87 and 88 to 94 like those just described and corresponding in number to the segments operating the type-blocks and the segments 25-78 and 26-79. Each of these bears a set of figures "0" to "9", although some do not have all these figures, as will be described below. This latter set of segments have no projecting levers.

In front of the entire upper set of segments are a number of shafts 95, 96, 97, 98, 99, 100,

101, supported in bearings in the end plates 17 and 18. Each of these shafts carries two or more pinions fixed upon it; one pinion being adapted to engage one or more of the segments 19 to 26, and one being adapted to engage a segment in the set 81 to 87, as follows:— A pinion 102 runs in a groove on the face of the segment 19, and a pinion 103 engages the segment 81. The lower mate 88 of the segment 81 bears only the figure "1". A single tooth 104 is placed across the groove aforesaid, so that when the lever 3 is pulled down to the first figure, "10" on the indicator, the said tooth will engage the pinion 102, revolving therewith the shaft 95 and pinion 103, and consequently the segments 81 and 88, just sufficiently to move the figure "0" out of, and the figure "1" on the lower face of the segment 88, into the correct position for printing. Similarly, the pinions 105 and 106, fixed on the shaft 96, mesh with portions of the segments 19 and 20, respectively, and a pinion 107 also engages the segment 82, so that upon movement of either lever 3 or 4, the type characters "0" to "9" on the segment 89, are brought to the printing line, in corresponding relation to those on the type-blocks 46 or 47. The teeth on each segment 19 and 20 do not extend so far downward thereon as to engage the gear 105 or 106, as the case may be, when the gear 19 or 20 is in its normal position of rest. The pinions 108 and 109 on the shaft 97 engage with the segments 21 and 83 in the same manner.

Half-way across the face of the segment 22, the teeth are cut away to a point a little above the pinion 110 on the shaft 98, and a little below a single tooth 120 in the groove on the segment 23. On the same shaft is a pinion 111 adapted to be engaged by the single tooth 120, and a pinion 112 in mesh with the segment 84. Now, when the lever 7 is drawn down so that the indicator points to "10", the tooth 120 will have engaged the pinion 111, and will have revolved it and the pinion 112 sufficiently to move the connecting segments and bring the figure "1" on the segment 91 to the printing line. If, however, the lever 6 is operated instead, the lower tooth on the right hand side of the segment 22 will engage the pinion 110, and through the same means, the pinion 112 will operate to move the segment 91 far enough to bring the figure "2" into position just as the pointer on the lever 6 reaches the figure "20" on the indicator plate. Then, on further movement of the lever, to the succeeding figures on the scale, the pinions will move the said type characters on the segment 91 in equal proportions or ratio to the movement of the type-block 50, causing the two sets of type to make corresponding impressions on the inserted check when the printing mechanism is operated. In like manner, the

pinions 113 and 114 engage the segments 23 and 24, and the pinion 115 on the shaft 99, engaging with the segment 85, operates the segment 92. The pinions 116 and 117 on the shaft 100, and the pinions 118 and 119 on the shaft 101, engage the segments 25 and 86, and 26 and 87, respectively, and through them operate the segments 93 and 94, to print the number of cents or other decimal divisions of the currency for which the checks are to be drawn. It is obvious that by the addition of more levers, segments, type-blocks, etc. to the first set, and a corresponding number of segments to the second set, with pinions and shafts to operate them together, the machine may be constructed to print any desired amount.

In order to shift the type-blocks 46 to 51 into proper contiguity for printing, the following mechanism is employed:—A sliding or shifting bar 121 moves in guides 122 (see Fig. 4) set longitudinally in the machine, and over the printing opening. One end of this shifting bar is adapted to come in contact with the left hand side of any type-block 46 to 51 that may have been set as described, and to move it along to the right, so that all set type-blocks may be brought together. On the end of the bar 121 nearest the type-blocks is an arm 123 (see Figs. 5 and 6), extending at right angles to the axis of the bar and across the depending ends 76 of the sliding bars 68 to 73. It has been shown how, by a movement of the bar 121 to the right, the type-blocks and their supporting arms are shifted together. Now, to replace the type-blocks in positions to enter their respective slots in the support 60, the bar 121 is moved to the left hand end of the machine; the arm 123 then engages the extension 76 of the bars 68 to 73, and can push them all into close contact with the end plate 17, and then, as before stated, the arms or supports 62 to 67 are opposite the centers of the slots for their respective type-blocks. The type-blocks, therefore, after being thus returned, rest in place so that they may pass into their original positions on the support 60; after releasing the universal bar 52 from the teeth of said drums. The consequent automatic action of the springs 36 returns the parts to place. The limit of return is reached when the type-blocks 46, 47, etc. strike the rubber stops 46^a, 47^a, etc.

The shifting bar 121 may have upon its lower face a series of type characters, such as the crosses indicated in Fig. 5, and which are printed upon the check and record strip at each impression when the shifting bar sets any of the type-blocks. This serves to fill out the line of the printing, so that no gap or space occurs before the words and letters that are printed by the type-blocks.

The operating lever 14 is mounted on a shaft 124 having bearings in the case 1 and

in the support 17^a. A spring catch 14^a is placed on the case to prevent sudden accidental movement of the lever 14. The shaft 124 carries a cam-plate 125 having upon it a rib 126, which bears against a roller 127 on an arm 128 attached to the end of the shaft 53, to operate the locking bar 52. The cam-plate 125 also has a cam slot 129, in which moves a pin 130, at the upper end of a lever 131. This lever is pivoted at 132 to the support 17^a, and its lower end engages the platen slide 133.

The platen slide is supported in a rectangular guide frame 134 (see Fig. 11). A platen or printing-bar 136 rests upon two wedge faces on the upper side of the slide 133, and projects into the printing slot 137 in the bed plate 138. One or more links 139, or equivalent devices, prevent sidewise movement of the platen. When the slide 133 is moved to the right, the wedges on its upper face force the platen bar up through the slot 137 against the lower side of a check inserted in the opening 15 to be printed upon.

The rear end of the shaft 124 carries a crank 140, having a slot-and-pin connection with a lever 141, that is pivoted at its upper end on the standard 17^a, and has a connection at its lower end with the shifting bar 121, so that at each operation of the machine the oscillation of the crank 140 causes a to-and-fro movement of the shifting bar 121.

In the present embodiment of this invention, the crank 140 has an elongated slot 142, in which is a pin 143 attached to an arm 144 on the same shaft to which the lever 141 is fixed. The lower end of the lever 141 has a slot 145 which fits over a pin 146 on the shifting-bar 121. A spring 147 on the arm 144 presses against the lever 141, in order to actuate the shifting bar 121 and cushion the action in case of violent movement of the lever 14.

On the end of the shaft 33 nearest the support 17^a is a releasing mechanism for moving the pawls 30 out of engagement with the arms 28, to allow the return of the parts on the shafts 16 and 45 to place. This device is best shown in Figs. 12, 13 and 14.

An L-shaped block 148 is fixed on the end of the shaft 33. Pivoted on said block at 149 is another block 150, having a rod 151 extending from near its lower end to the outside of the case 1, terminating in a handle 152. A leaf spring 153 fastened to the block 148 bears at its upper end against the block 150 above the pivot 149. A hook 154 is attached to the lever 141 so that its point or end is in contact with the side of the block 150 when said block is in the position shown in Fig. 3, which it takes by turning the handle 152, thus tilting the said block against the resistance of the spring 153. When the hook 154 is raised by a motion of the lever 130

141 towards the right, the spring 153 forces the block 150 around on its pivot bringing its lower part against a stop plate 155 and allowing the hook 154 to pass over the step 156 of the block. Now when the lever 141 is swung back again, the hook 154 is lowered, engaging the step 156, and forces the blocks 150 and 148 down, swinging the shaft 33 and bar 34 attached thereto, until the said bar strikes the pawls 30, releasing them from the arms 28, with the effect hereinbefore described. If the operator, in setting the various levers of the machine for printing a certain amount, finds that he has made a mistake and has set one wrong, he may throw all the set levers back to their original positions without having to complete the operation of the machine. The releasing mechanism being normally in the position shown in Figs. 3 and 14, depression of the arm 151 as far as it will go, releases the pawls 30 from the arms 28, just as if the releaser were pulled down by the hook 154.

The springs 36 pull back the segments to which they are attached with considerable force. This does no harm to the mechanism, as the type-blocks will strike their respective rubber stops 49^a, etc. and 94^a, etc. But the segments may rebound from the stops to a position beyond normal, and stick in that position. The following stop mechanism for retarding and holding the segments in the "zero" position is therefore employed:—A plate 157, with a down-turned end 158, is fastened to a lug 159 pivoted in the end plate 18. A spring 160 tends to keep the end 158 out of the notch 161 in the top of the segments. Attached to a boss 162 on the shaft 33 is a flat piece 163. Hinged in this is another similar piece 164, normally held upright by a spring 165. When the pawls 30 are in engagement with the arms 28, the piece 164 is behind the end of the plate 157, but when the releaser arm 151 is brought down, the piece 164 strikes the rear end of the plate, which is slightly bent down, and raises it as it slips underneath, causing the end 158 to be depressed into the notch 161 when the segments fly back; just in time to catch against the back of the topmost tooth of each, and thereby preventing any stress on the connecting pinions. A set of flat pieces of spring steel, 166, fastened to a bar 167 on the end plate 18, have each a portion 168 bent to fit partly between two teeth of each of the segments 81 to 87. These pieces act as a brake to prevent too rapid movement of the segments on their return movements. The printing mechanism also comprises a consecutive numbering or counting device 185, and a dating device 185^a (see Fig. 2), which move with the platen bar 136 and operate through an aperture similar to that for the platen, pressing the check against a stationary bar 169. The

record strip 170 and the inking ribbon 171 are wound on spools 172 and 173 supported in a part of the casing 1. From the spool 172 the record strip passes between two guide plates 174 and 175, under the bar 169, and out of the case between two feed rollers 176 and 177. The inking ribbon is fed in the same path down on to another spool 178. The shafts of the roller 176 and spool 178 are properly supported in any suitable manner in the case 1, and each has a ratchet wheel 179 and a swinging arm 180 hung upon said shaft and carrying at one end a pawl 181, adapted to engage said ratchet wheel, (see Fig. 4). The other end of the swinging arm 180 is suitably connected with the platen operating frame 133, as for instance, in the paper-feed mechanism, by means of an arm 182. In the case of the inking ribbon mechanism an extension 183 of said arm rests in a socket in the arm 182. A bell crank lever 184 is hung on the base 2, and the end of one arm thereof is connected by a pivot with said arm 182, while the other arm engages a notch in the platen frame 133, or is connected by any equivalent means. Hence, whenever said frame moves to make an impression, each pawl is carried over one tooth of the ratchet wheel of each mechanism, and when the frame returns, the arm 180 of each mechanism is rocked, the roller 176 is revolved to the extent of one tooth, and the inking ribbon and paper are fed along in preparation for a new impression. The consecutive numbering device 185 is operated in any suitable well known manner, so that when the platen frame descends, the said consecutive-numbering device is shifted one unit.

The operation of the whole machine is therefore, in short, as follows:—If a number—say, "nineteen thousand three hundred one dollars and thirty-four cents" is to be printed upon a check, the setting lever 3 is depressed until its pointer is opposite "19" on the case, the lever 5 is depressed until it indicates the figure "3", the lever 8 is depressed to the figure "1", and the levers 9 and 10 are placed respectively at "3" and "4" on their scales, while the lever 13 rests at "Dollars". The setting of the levers just described moves the type-blocks carrying the words to the proper position by means of their meshing segments and drums, while the type segments carrying the figures are moved into printing position to agree with the before-mentioned segments and type-blocks, by means of their connecting pinions and shafts as hereinbefore described in detail. The printing faces of the type are then ready to impress the amount as follows:—"nineteen thousand three hundred one .34 dollars. \$19301.34". The operating lever 14 is then depressed, rocking the cam-plate 125, swinging the universal bar 52, and locking in accurate position all the drums and segments, so

that they cannot be shifted. This locking occurs at the first portion of the movement of the lever 14, and at the same time the pin on the arm 140 moves the lever 141, together with the shifting bar 121, to the right, and the end of said bar strikes the first type-block, which in turn strikes the block next to it, until all the set type-blocks are moved to their extreme positions, against the segment 77. Of course, the printing segments 77 to 87 have no longitudinal movement. As soon as the lever 141 moves sufficiently to raise the hook 154 above the releaser-block 150, the spring 153 forces the said block around its pivot, bringing it to a vertical position. As the lever 14 approaches the end of its downward stroke the cam slot 129, having the form shown in Fig. 3, operates the lever 131, shifts the platen-operating bar 133 toward the right, raising the platen-frame 136, pressing the check inserted in the slot 15 upward against the inking ribbon, and thus produces an impression not only from the type-blocks and segments, but also from the consecutive-numbering device and the dating device 185 and 185^a, as well as from the crosses on the bar 121. When the lever 14 is raised, the lever 131 returns the frame 133, permitting the platen to descend, feeds the rollers 176 and 178 for the record strip and inking ribbon, respectively and releases the bar 52 from the segments with which it had been engaged. The arm 123 on its return engages the bent ends of the type-block supporting bars, pushing them all along against the end plate 17, thus alining the type-blocks with their respective slots in the support 60. The hook 154 on the lever 141 engages the step 156 on the releaser-block 150, just before the lever reaches the end of its travel, thereby turning the shaft 33 and the bar 34 upon it; the bar strikes the pawls 30, pressing them out of engagement with the notches 29, and then the springs 30 will contract, pulling the segments and type-blocks back to place. The top ends of the slots in the case catch the setting levers of the segments, while the piece 158 stops the segments which have no levers. To prepare the machine for another operation, the bar 151 is turned by means of the handle 152, thus bringing the releaser-block 150 out from under the hook 154, and then the springs 31 snap the pawls 30 into the notches 29, and the segments are ready to be set again.

What I claim is:—

1. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, means for moving selected type-blocks laterally along the supporting means to positions thereon adapted to print without undue spaces between the printed characters, connecting means between the two series of type-block supports, whereby one series may be ac-

tuated by movement of the other series, and platen mechanism.

2. In a printing mechanism, the combination of two series of type-blocks, supporting means therefor, connecting means between the supporting means of both series, whereby certain of the one series may be actuated by certain of the other series, means for setting certain type-blocks to the printing line in one direction, means for moving the type-blocks in their set positions in another direction to a position on the supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in printing to their initial positions.

3. In a printing mechanism, the combination of two series of type-blocks, each having a series of printing characters thereon, movable supporting means therefor, connecting means from one series to another, whereby certain of the supporting means of one series are actuated by movement of certain of the other series, setting mechanism for moving said supporting means and setting one or more of said type-blocks to the printing line in one direction, means for moving the type-blocks in their set positions transversely to said direction to a position on the supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for resetting the type-blocks used in such printing to their initial positions.

4. In a printing mechanism, the combination of two series of type-blocks having teeth, movable supporting means therefor, connecting mechanism for moving certain of one series by movement of certain of the other series, means for moving each support in one direction to set the selected type-block to the printing line, and means for moving the type-blocks so set laterally along the series of supports whereby the characters are set to printing positions on the supports without undue spaces between them, platen mechanism, and means for restoring said type-blocks and said supports to their initial positions.

5. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connecting means between the two series of supports, by which members of one series may actuate members of the other series, mechanism for setting one or more of said type-blocks in printing position on the movable supporting means by two movements transverse to each other, whereby the blocks may print without undue space between the printed characters, platen mechanism, and means for restoring the type-blocks after printing to their original positions on said supporting means.

6. In a printing mechanism, the combina-

tion of two series of type-blocks each having a series of printing characters thereon, movable supports therefor, connecting means between the supports of each series, whereby members of one series may actuate members of the other series, mechanism for setting one or more of said type-blocks to the printing line, means for moving the set type-blocks laterally to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks to their original positions.

7. In a printing mechanism, the combination of two series of type-blocks, each having a series of printing characters thereon, movable supporting means therefor, connections between the first and second series whereby members of one series may actuate members of the other series, automatic means for advancing certain type-blocks the space of one digit, setting mechanism for advancing one or more type-blocks to the printing line in one direction, means for moving the type-blocks in their set positions in another direction to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in such printing to their original positions.

8. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connections between the first and second series whereby members of one series may actuate members of the other series, automatic means for advancing certain type-blocks the space of one digit, setting mechanism for moving one or more type-blocks to the printing line in one direction, means for moving the type-blocks in their set positions in another direction to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, means for resetting the type-blocks used in such printing to their original positions, and ink-ribbon-feed mechanism operated by the platen mechanism.

9. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connections between the first and second series whereby members of one series may actuate members of the other series, automatic means for advancing certain type-blocks the space of one digit, setting mechanism for moving one or more type-blocks to the printing line in one direction, means for moving the set type-blocks in another direction to positions on said supporting means adapted to print without undue spaces between the printed characters, platen mechanism, means for resetting the type-blocks used in such printing to their original positions, ink-ribbon-feed

mechanism and record strip feeding mechanism operated by the platen mechanism.

10. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connections between the first and second series whereby members of the one series may actuate members of the other series, automatic means for advancing certain type-blocks the space of one digit, setting mechanism for moving one or more type-blocks to the printing line in one direction, means for returning the type-blocks to their original positions before printing therefrom, means for moving the type-blocks when set to the printing-line in another direction to positions adapted to print without undue spaces between the printed characters, platen mechanism, and means for restoring the type-blocks used in printing to their original positions.

11. In a printing mechanism, the combination of two series of rotary toothed drums having transverse matching teeth, each of the first series carrying a toothed type-block adapted to move longitudinally along the series of drums, stationary supporting means for holding said type-blocks to said drums, a series of movable arms, one for each type-block and adapted to carry said blocks when moved off said supporting means, connections between the drums of both series whereby drums of one series actuate drums of the other series, and platen mechanism for cooperating with said type-blocks.

12. In a printing mechanism, the combination of two series of type blocks for printing on a single line, supporting means therefor set in line, the supporting means for one series being movable in two directions, connecting means from one series to the other whereby certain of the supporting means of one series are actuated by movement in one direction of certain of the supporting means of the other series, and means for retarding reverse movement of the supporting means of the last mentioned series.

13. In a printing mechanism, the combination of two series of type blocks, movable supporting means therefor, connecting means from one series to the other, whereby certain of the supporting means of one series are actuated by movement of certain supporting means of the other series, means for returning the parts to the zero position, buffer mechanism for the two series of supporting means for preventing shock and strain to them and to said connecting means, and means for retarding the movement of the supporting means and holding the supporting means at said zero position.

14. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connecting means from one series to the other, whereby certain of the supporting means of one series are ac-

tuated by movement of certain of the other series, and means for advancing certain of the type-blocks to the extent of one digit on movement of another type-block.

5 15. In a printing mechanism, the combination of two series of type-blocks, movable supporting means therefor, connecting means from one series to the other, whereby certain
10 of the supporting means of one series are actuated by movement of certain of the other series, a series of keys for actuating certain of the type-blocks, and means for setting more than one of the type-blocks by a single key.

15 16. In a printing mechanism, the combination of two series of type blocks for printing on a single line, supporting means therefor set in line, the supporting means for one series being movable in two directions, connecting means from one series to the other
20 whereby certain of the supporting means of one series are actuated by movement in one direction of certain of the supporting means of the other series, and means for retarding reverse movement of certain of said supporting
25 ing means.

17. In a printing mechanism, the combination of two series of type blocks for printing on a single line, supporting means therefor set in line, the supporting means for one
30 series being movable in two directions, connecting means from one series to the other whereby certain of the supporting means of one series are actuated by movement in one direction of certain of the supporting means of
35 the other series, spring mechanism for returning the respective parts to place, positive retaining means for holding the parts in any set

position, means for releasing said retaining means at will, and means for retarding reverse movement of certain of said supporting
40 means.

18. In a printing mechanism, the combination of two series of type blocks, movable supporting means therefor, connecting means from one series to the other, an operating
45 lever having two movements, operating mechanism whereby on one movement of said lever the type blocks are set to the printing position and upon another movement of said operating lever the parts are returned to
50 the initial position, and means for retarding the speed of the return of said supporting means to said initial position.

19. In a printing mechanism, the combination of two series of type blocks, support-
55 ing means therefor movable in two directions, connecting means from one series to the other whereby certain of the supporting means of one series are actuated by movement in one direction of certain of the sup-
60 porting means of the other series, an operating lever having two movements, means whereby on one movement of the operating lever supporting means are set to the printing position and upon the other movement of
65 said lever the supporting means so set are returned to initial position, and means for retarding the return to said initial position of certain of said supporting means.

FREDERICK MUTSCHLER.

Witnesses:

D. GURNEE,
L. THON.