

No. 860,478.

PATENTED JULY 16, 1907.

G. C. HUTCHESON &amp; W. REYNOLDS.

CASH REGISTER.

APPLICATION FILED OCT. 3, 1901.

3 SHEETS—SHEET 1.

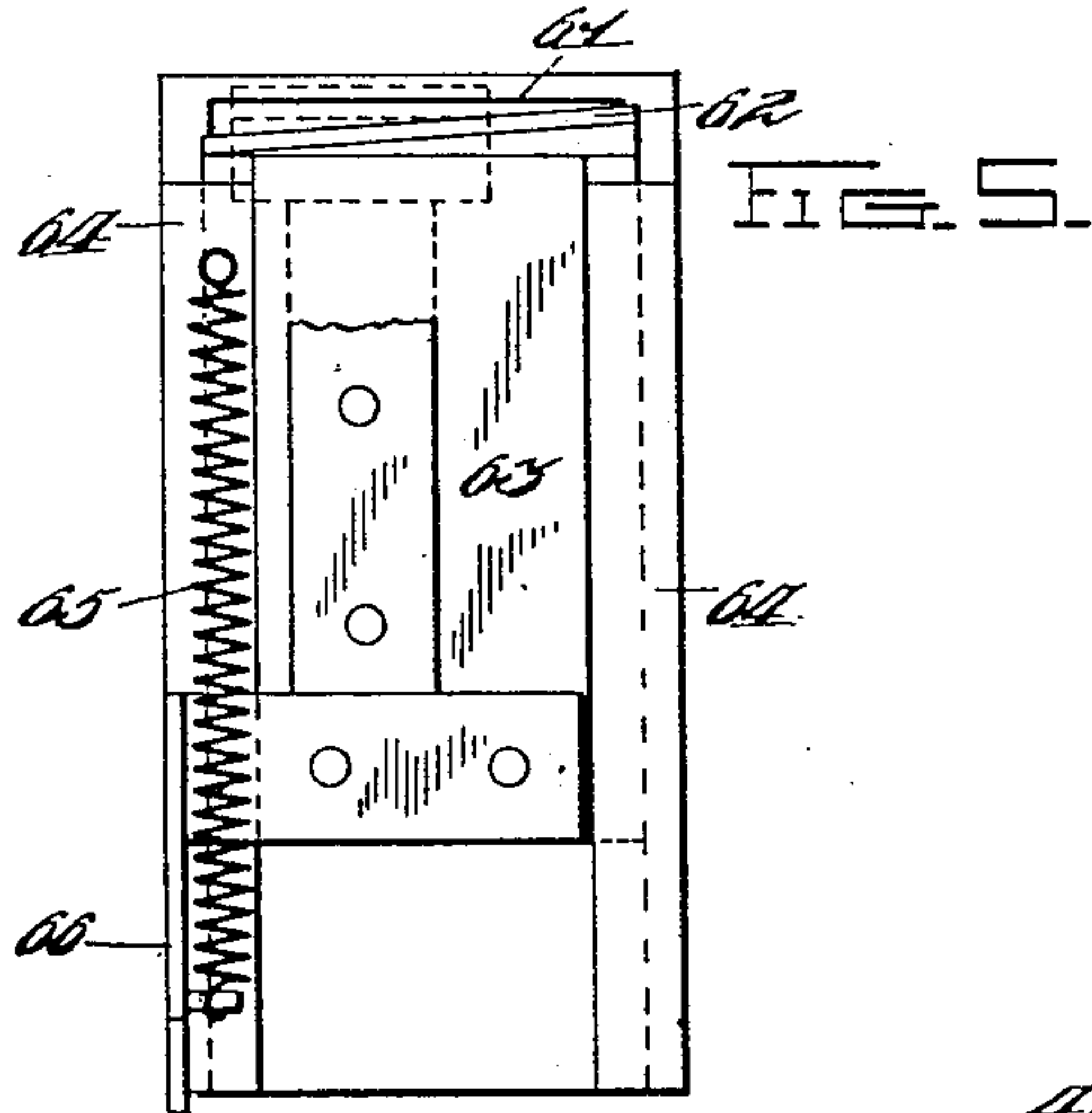
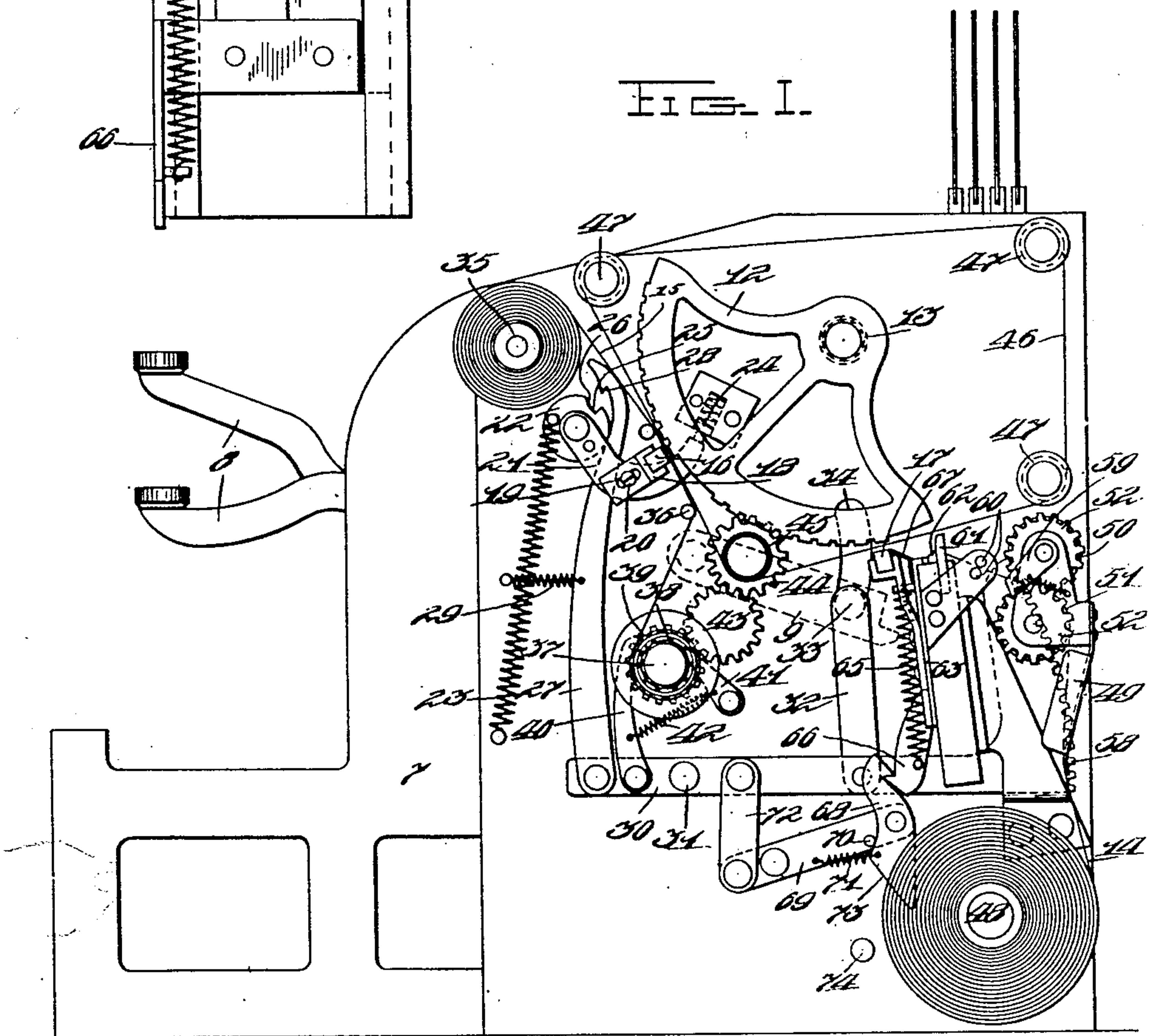


FIG. I.



Witnesses

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3 SHEETS—SHEET 2.

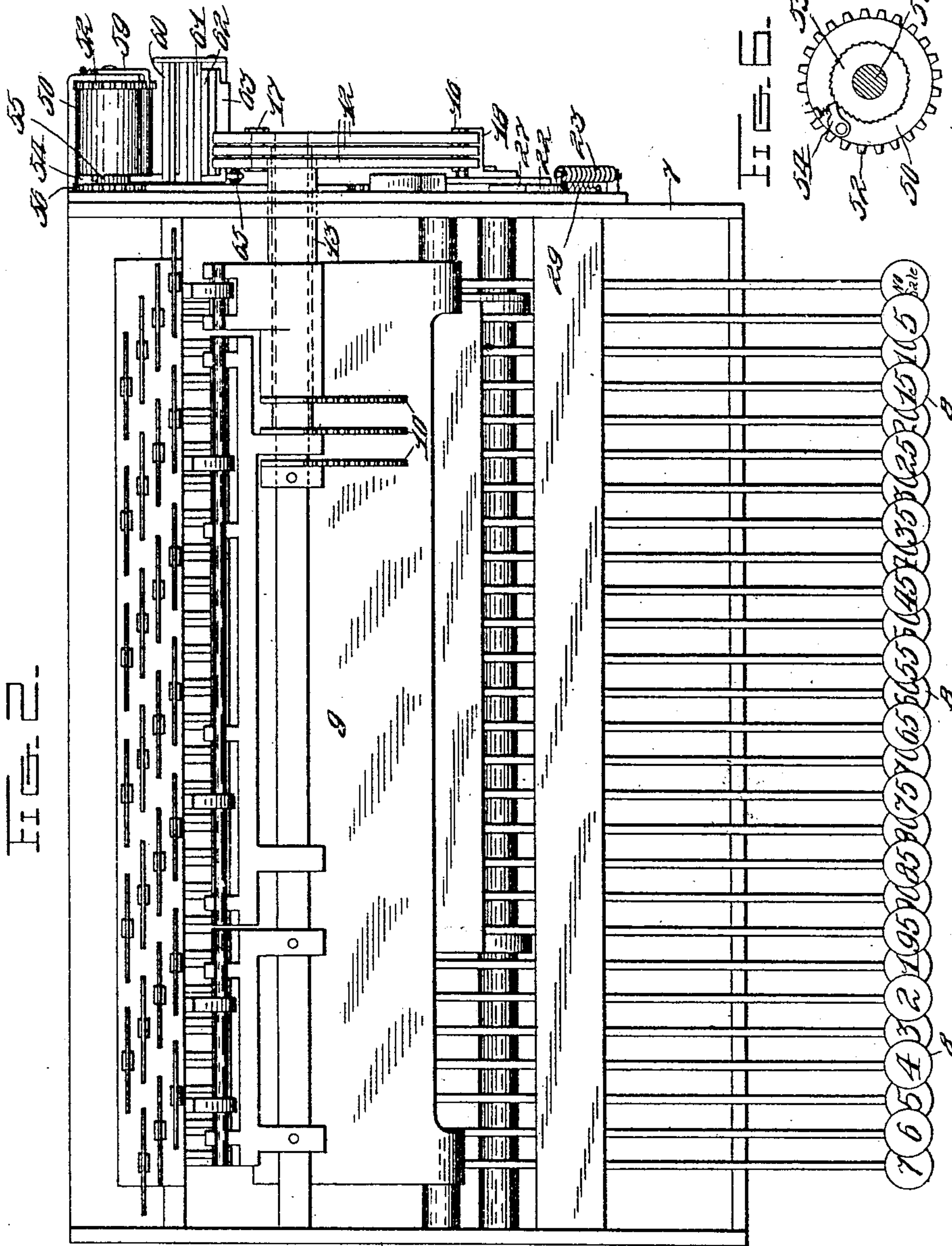


FIG. 2.

FIG. 3.

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3 SHEETS—SHEET 3.

FIG. 3.

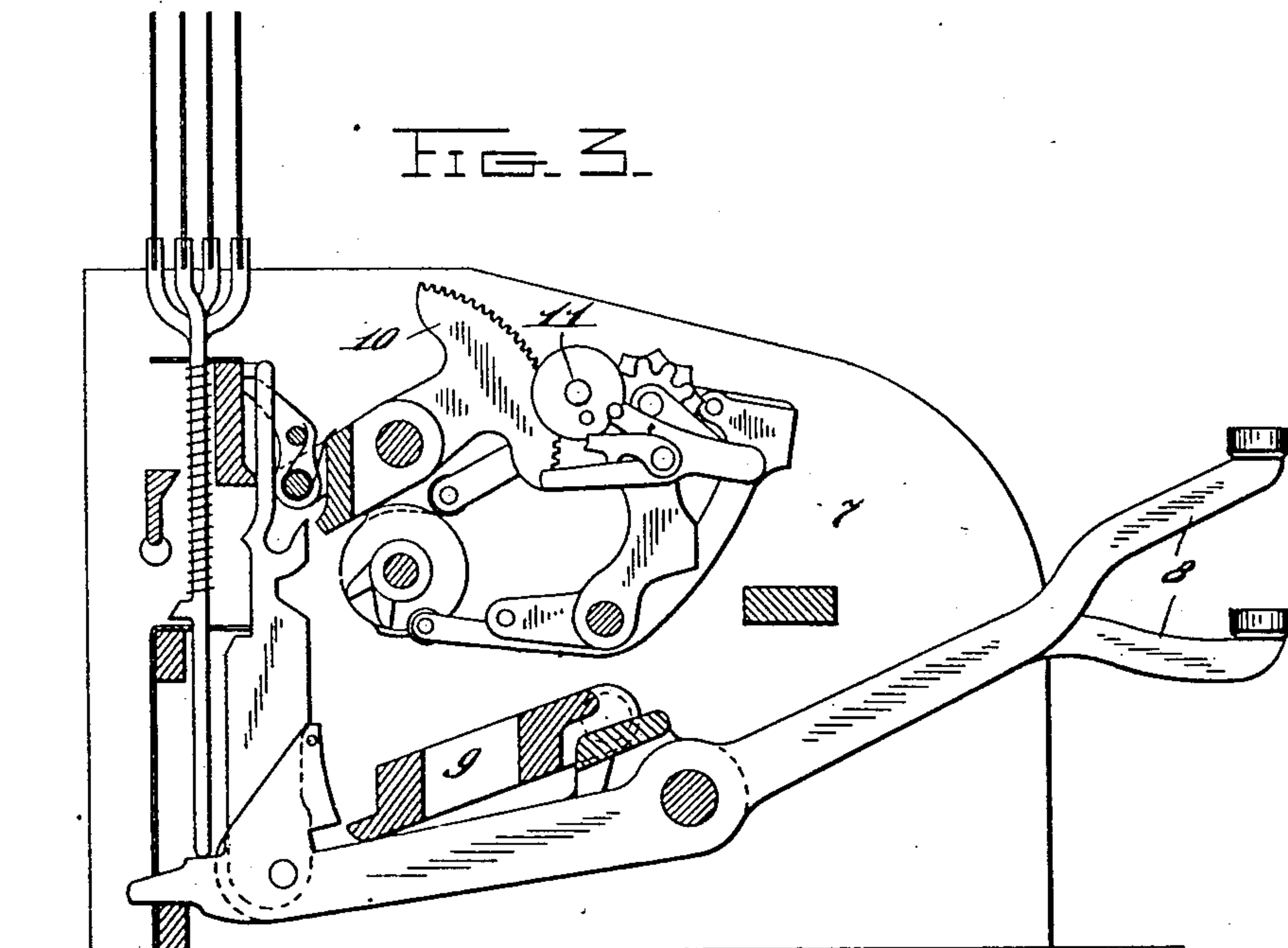
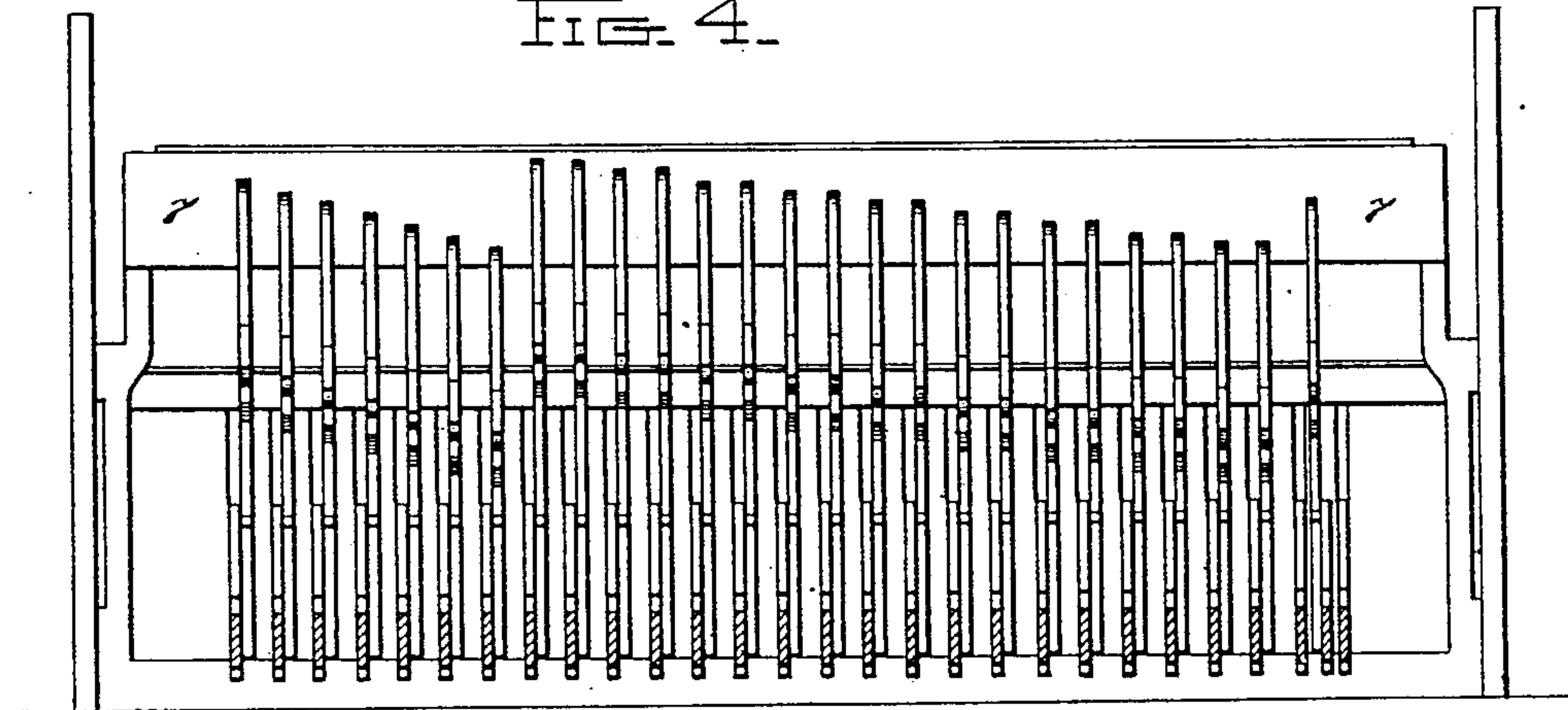


FIG. 4.



Witnesses

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# UNITED STATES PATENT OFFICE.

GEORGE C. HUTCHESON AND WILLIAM REYNOLDS, OF DAYTON, OHIO, ASSIGNORS, BY MESNE ASSIGNMENTS, TO THE NATIONAL CASH REGISTER COMPANY, OF DAYTON, OHIO, A CORPORATION OF OHIO, (INCORPORATED IN 1906.)

## CASH-REGISTER.

No. 860,478.

Specification of Letters Patent.

Patented July 16, 1907.

Application filed October 3, 1901. Serial No. 77,405.

*To all whom it may concern:*

Be it known that we, GEORGE C. HUTCHESON and WILLIAM REYNOLDS, citizens of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Cash-Registers, of which we declare the following to be a full, clear, and exact description.

This invention relates to improvements in cash registers and has more particular relation to improvements in cash registers of the check and detail strip printing type, such as was patented to Thomas Carney March 19, 1895, No. 536,015.

The invention consists of certain novel constructions, combinations and arrangements of parts, all of which will be hereinafter more particularly set forth and claimed.

In the accompanying drawings forming part of this specification, Figure 1 represents an end elevation of the devices embodying my invention applied to a machine of the class above specified, the cabinet of the same being removed. Fig. 2 represents a top plan view of the same. Fig. 3 represents a vertical transverse section through a machine of the class mentioned, the cash drawer being omitted. Fig. 4 represents a front elevation view of the lifting standards, partly in section. Fig. 5 represents an enlarged detail front elevation of the platen and knife-carrying slides, and Fig. 6 represents an enlarged detail side elevation of the clutch device for the check-feeding rollers.

In the aforesaid drawings, 7 represents the frame of the machine, 8 the operating keys, 9 the key-coupler, 10 the rack-segments, 11 the counter, and 12 the printing segments.

As the construction and operation of the keys, key-coupler, lifting standards, registering frames, segments, and counters shown in the present drawings, are old and well known in the art, as shown in the aforesaid patent, reference is made to said patent for a detailed description of said parts. Generally described, however, it may be stated that the keys 8, when operated, oscillate the key-coupler 9 and move the respective rack-segments 10 different distances according to the values of the keys operated. The graduated movements of the rack-segments 10 are utilized to secure corresponding movements of the type-segments 12 through the medium of nested sleeves 13 which connect said type-segments and the operating racks, as most clearly shown in Fig. 2. Each of said segments 12 is formed on its periphery with two sets or series of type numerals, each adapted to print from "0" to "9". One of the sets of type numerals is arranged to print upon the check-strip 14, while the remaining set is

adapted to simultaneously print upon a detail-strip 15. To effect this simultaneous printing operation, I provide two platens, 16 and 17. The platen 16 for forcing the detail-strip against its respective type is of any suitable resilient material and is mounted in the platen-bar 18 formed upon a slotted support 19. A screw 20 passes through the slot of this support to adjustably secure it to a short platen-lever 21. This lever is fast to an operating-disk 22 which is suitably journaled upon the printer-frame and is normally drawn into the position shown in Fig. 1 by a coiled spring 23 which connects it to said frame. The forward end of the lever 21 is adapted to contact with a spring-pressed plunger 24 suitably mounted in the printer-frame. The object of this construction is to allow the platen, when operated, to force the detail-strip and printing ribbon against the type with a rebounding plow, as is usual in this class of machines.

The aforesaid disk 22 has formed in its periphery a notch 25 having an inclined wall 26. A lever 27 formed at its upper end with a hooked shoulder 28 is adapted to enter the notch 25 and thus rotate the disk when said lever is drawn downward, as hereinafter described. As the lever descends, the shoulder 28 engages one wall of the notch 25 and rotates the disk 22 until the latter has been oscillated to such an extent that the inclined wall 26 engages the upper end of the lever and disengages the shoulder 28 from the shoulder of the notch 25, when the disk will be allowed to resume its normal position under the stress of the spring 23 and thus operate the platen lever. The lever 27 is normally drawn against the periphery of the disk 22 by a coiled spring 29, which connects it to the printer-frame. The lower end of the lever 27 is pivotally connected to a lever 30, which is pivoted as at 31 to the printer-frame and is oscillated upon each operation of the machine through the medium of a pivot-link 32 which connects said lever to a pin 33 projecting from one end of the key-coupler 9 and extends through a suitable slot 34 formed in the printer-frame.

The detail-strip 15 passes from the supply-roller 35, over the platen 16 and two guiding pins 36, and is finally wound upon a feeding-roller 37, suitably journaled upon the printer-frame and provided with a ratchet-wheel 38 and a pinion 39. A feeding-pawl 40 is mounted upon the lever 30 and engages the ratchet-wheel 38, whereby upon each oscillation of said lever the feeding-roller is moved a distance equal to one tooth of the ratchet-wheel. A retaining-pawl 41 is mounted upon the printer-frame and engages the ratchet-wheel 38. The pawls 40 and 41 are con-



connected by a coiled spring 42, which draws them into contact with the teeth of the ratchet-wheel 38. The pinion 39 meshes with an intermediate pinion 43 mounted on the printer-frame, which in turn meshes with a pinion 44 mounted at the end of an absorbent ink-roller 45, about which the ink-ribbon 46 passes and is thereby fed forward in a step-by-step fashion.

The ribbon 46 is of endless formation and is guided by three guide-rollers 47 mounted on the printer-frame, so that it passes between the check-strip and type, and the detail-strip and type. The check-strip 14 passes from a supply roller 48 upward through a guiding trough 49 and between two roughened feeding-rollers 50 and 51 which are suitably journaled in a portion of the printer-frame. These rollers are geared together at their outer ends by intermeshing pinions 52. The upper roller is provided at its inner end with a spring-pressed pawl 54, (see Fig. 6) which engages a ratchet 55 fast to a pinion 56, which is loosely journaled upon the roller-supporting shaft 57. The pinion 56 meshes with a segmental rack 58 formed on the rear end of the lever 30 so that when said lever is oscillated, as before described, the feed-roller 50 will be moved forward.

As the lever 30 is returned to normal position the pawl 54 simply plays over the teeth of the ratchet 55 while the gear is returned to its normal position. A spring-drawn retaining pawl 59 engages the pinion 52 of the lower feed-roller to prevent any accidental retrograde movement of the roller.

After passing between the check-roller, the check-strip passes between two spaced guide-bars 60 mounted in a portion of the printer-frame. After passing these guide-bars the strip passes under a stationary knife-blade 61 formed on a part of the printer-frame, as best shown in Fig. 5, and arranged to cooperate with an inclined movable knife 62, which is mounted upon a slide 63. This slide, as best shown in Figs. 2 and 5, is mounted in guides 64 of the printer-frame and is normally drawn upward by a coiled spring 65, which connects a hook arm 66, rigid with said slide, to a stationary part of the printer-frame. The slide 63 also carries a flexible platen 17, which is substantially the same as the platen 16. A small guard 67 is mounted upon the top of the slide 63, as best shown in Fig. 1, to guide the check-strip over the top of the platen 17 after it leaves the knives 61 and 62. The slide 63 is drawn downward to put the spring 65 under tension and then released and allowed to pass upward with a hammering blow to cause the knives 61 and 62 to sever the check-strip, and the platen 17 to simultaneously force the check-strip and ink ribbon against the types on the type-segments. To effect this result the hook-arm 66 is engaged by a pivoted pawl 68, which is mounted upon a pivoted lever 69 and is normally drawn into the position shown in Fig. 1 and against a stop-pin 70 by a coiled spring 71 which connects it to the lever 69. This latter lever is operated upon each operation of the machine by a pivot-link 72 which connects it to the lever 30. The lower portion of the pawl 68 is beveled, as at 73, so that when the lever 69 is operated and the pawl descends, this beveled portion will contact with a stationary pin 74 and thus disengage the upper end of the pawl from the hook 66 and allow the slide 63 to

pass rapidly upward and effect the printing and cutting of the check-strip. After the check has been printed and severed from the check-strip, it drops down through a suitable chute or opening in the bottom of the hood which will be placed over the printing mechanism, as is usual in machines of this class.

It will of course be understood that the position of the check-printing devices and strip-printing devices may be changed at will to bring the former nearer the front of the machine so that the check, instead of dropping down through the bottom of the printer-hood, may be projected through a slot formed in the front of the same.

While the form of mechanism here shown and described is admirably adapted to fulfil the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form of embodiment herein disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

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

1. In a cash register, the combination with an operating mechanism, of a type carrier connected thereto, a platen mounted on a pivoted arm, a spring plunger engaging said arm, a spring-drawn notched disk connected to said arm, a pivoted hook-lever connected to the operating mechanism, and a spring for drawing said hook-lever into engagement with the notched disk.

2. In a cash register, the combination with an operating mechanism, printing mechanism therefor, rollers for separately feeding a check and a strip different distances, a pivoted lever for operating both the strip-feeding and check-feeding rollers, and a platen cooperating with the type carriers and operated by said lever.

3. In a cash register, the combination with an operating mechanism, of a series of type-carriers, check-strip feeding rollers, a slide carrying a platen, a pivoted lever having a rack for operating the feeding rollers, and means for operating the slide connected to the pivoted lever.

4. In a cash register, the combination with an operating mechanism, printing mechanism controlled thereby, a slide carrying a platen, a spring for giving said slide its operative stroke, a pivoted pawl directly engaging and moving the slide against the tension of the spring, a stationary projection for disengaging the pawl from the slide, an ink ribbon carrier and a common operating means for said pivoted pawl and said ribbon carrier.

5. In a cash register, the combination with a series of keys, of a common member, a pivoted lever, means connecting said common member to said lever, check feeding devices, detail strip feeding devices, two platens, and devices operated by said lever for respectively operating the platens and the feeding devices.

6. In a cash register, the combination with a printing mechanism having duplicate series of type, of a vibrating platen operating lever, means for oscillating said lever, a reciprocating platen operated from one arm of said lever and in position to be thrown against one of said duplicate series of type, a spring-actuated platen for the other series of type, and an operating arm carried by the other arm of said lever for engaging said spring-actuated platen to operate the same.

7. In a cash register, the combination with a series of keys, of a member common thereto, a lever oscillated by said member, a printing mechanism having duplicate series of type, an inking mechanism for inking both sets of types, a platen and feeding devices for each set of types, and means operated by said oscillating lever for operating said inking mechanism, said platens and said feeding devices.

8. In a cash register, the combination with an operating mechanism, of type carriers connected thereto, two



platens, strip and check feed devices an oscillating two-arm lever, means on each arm thereof for operating one of the platens, and means on each arm for operating strip-feed devices and check-feed devices respectively.

- 5 9. In a cash register, the combination with a series of keys and a member common thereto, of an operating lever connected to said common member, platens for a check and a strip, means controlled by said lever for retracting said platens, but arranged to be disengaged therefrom to

allow the impressing stroke of said platens, and strip- 10 feeding devices operated from said lever.

In testimony whereof we affix our signatures, in the presence of two witnesses.

GEORGE C. HUTCHESON.  
WILLIAM REYNOLDS.

Witnesses:

IRA BERKSTRESSER,  
ALVAN MACAULEY.