

No. 693,741.

Patented Feb. 18, 1902.

A. C. REICHEL.

SAVINGS BANK.

(Application filed Feb. 21, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 1.

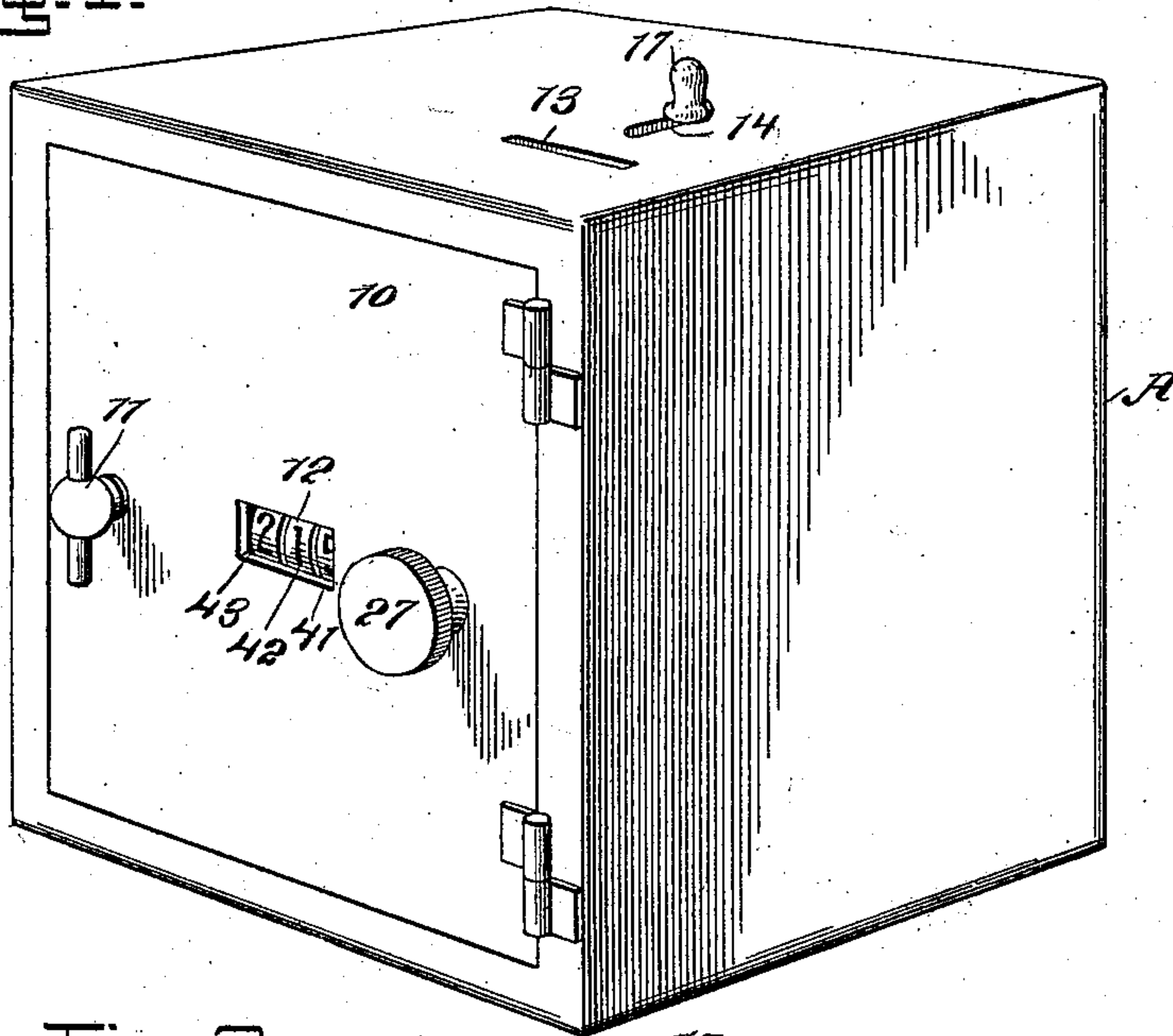
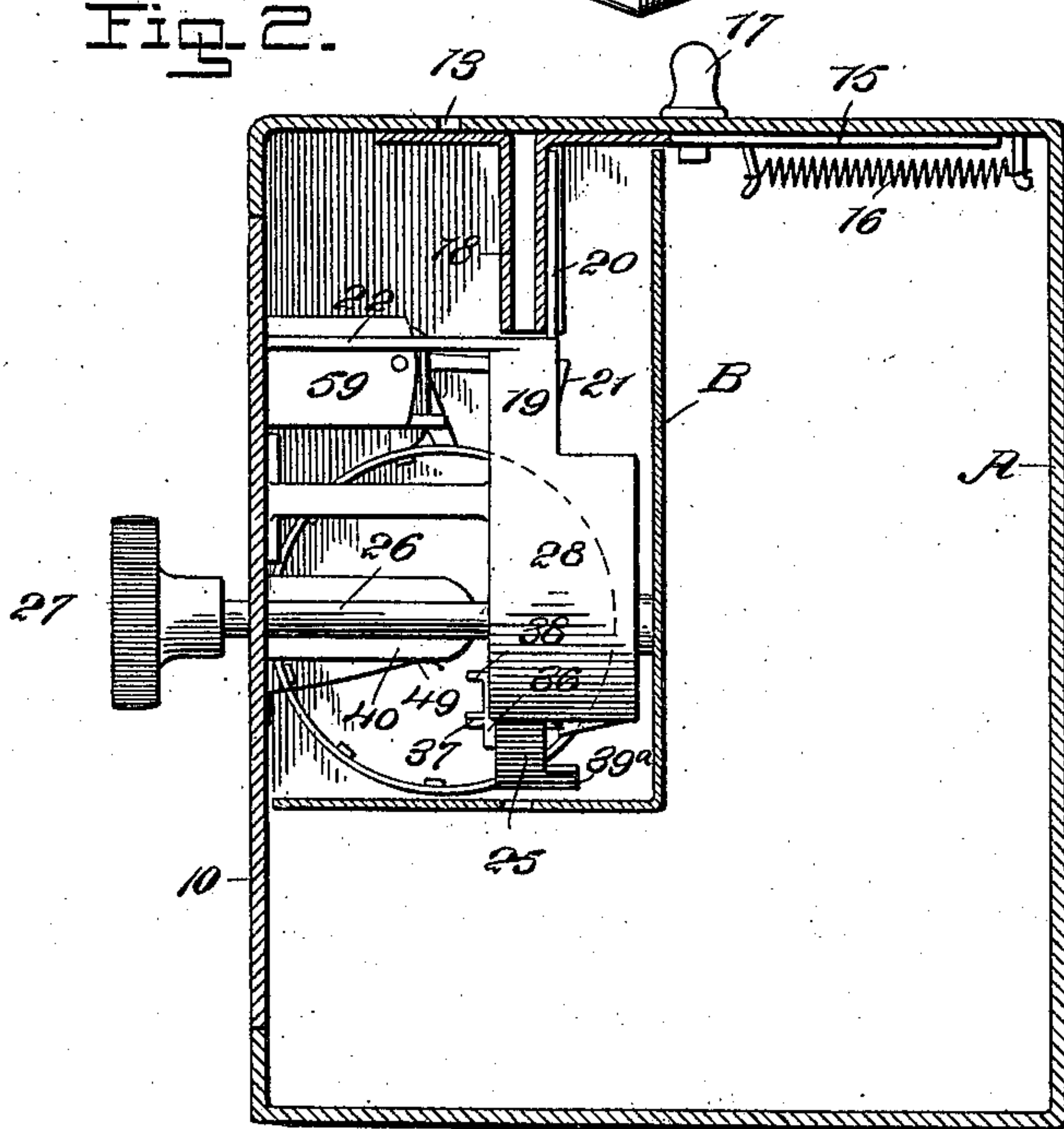


Fig. 2.



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Fig. 3.

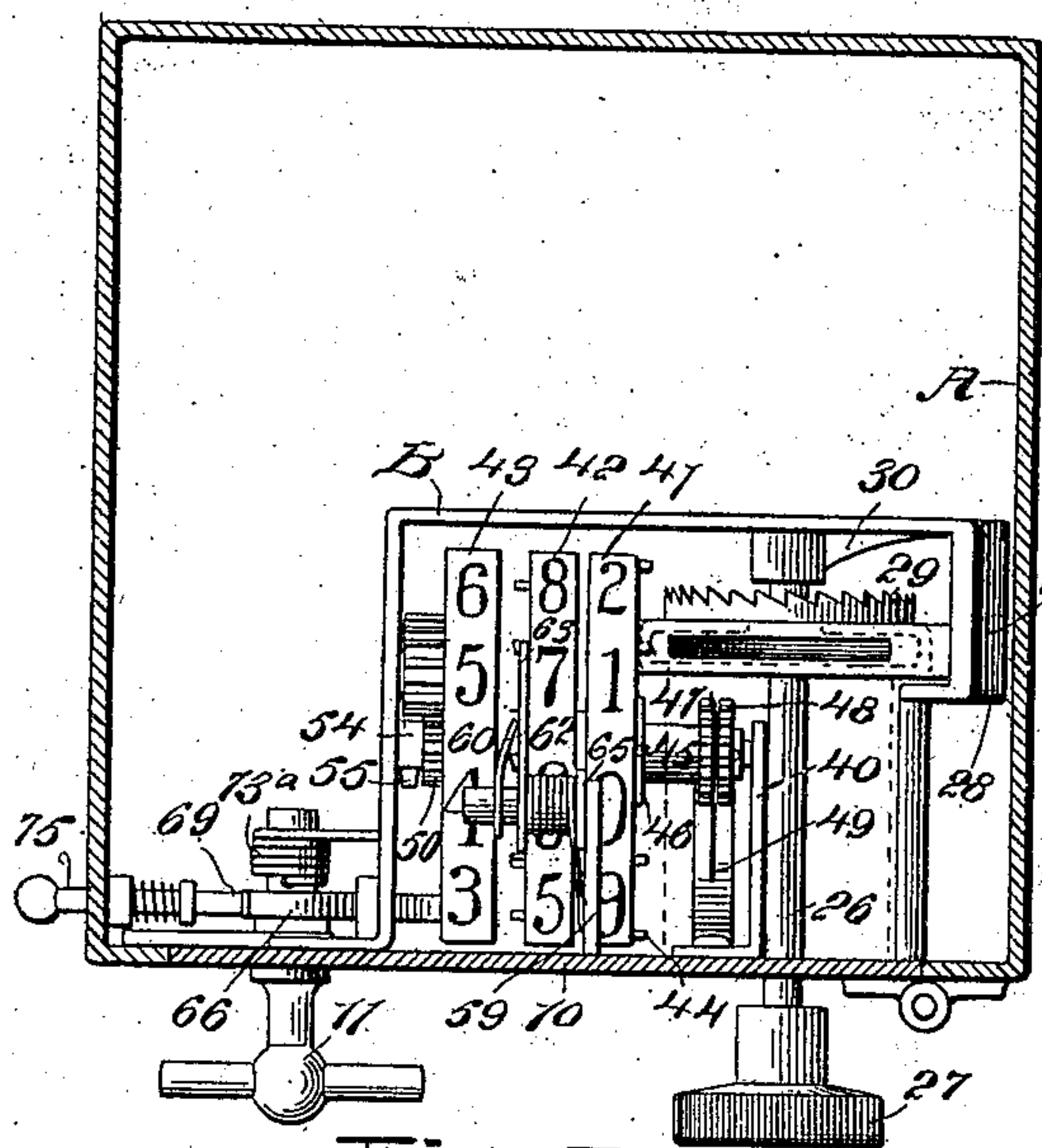


Fig. 4

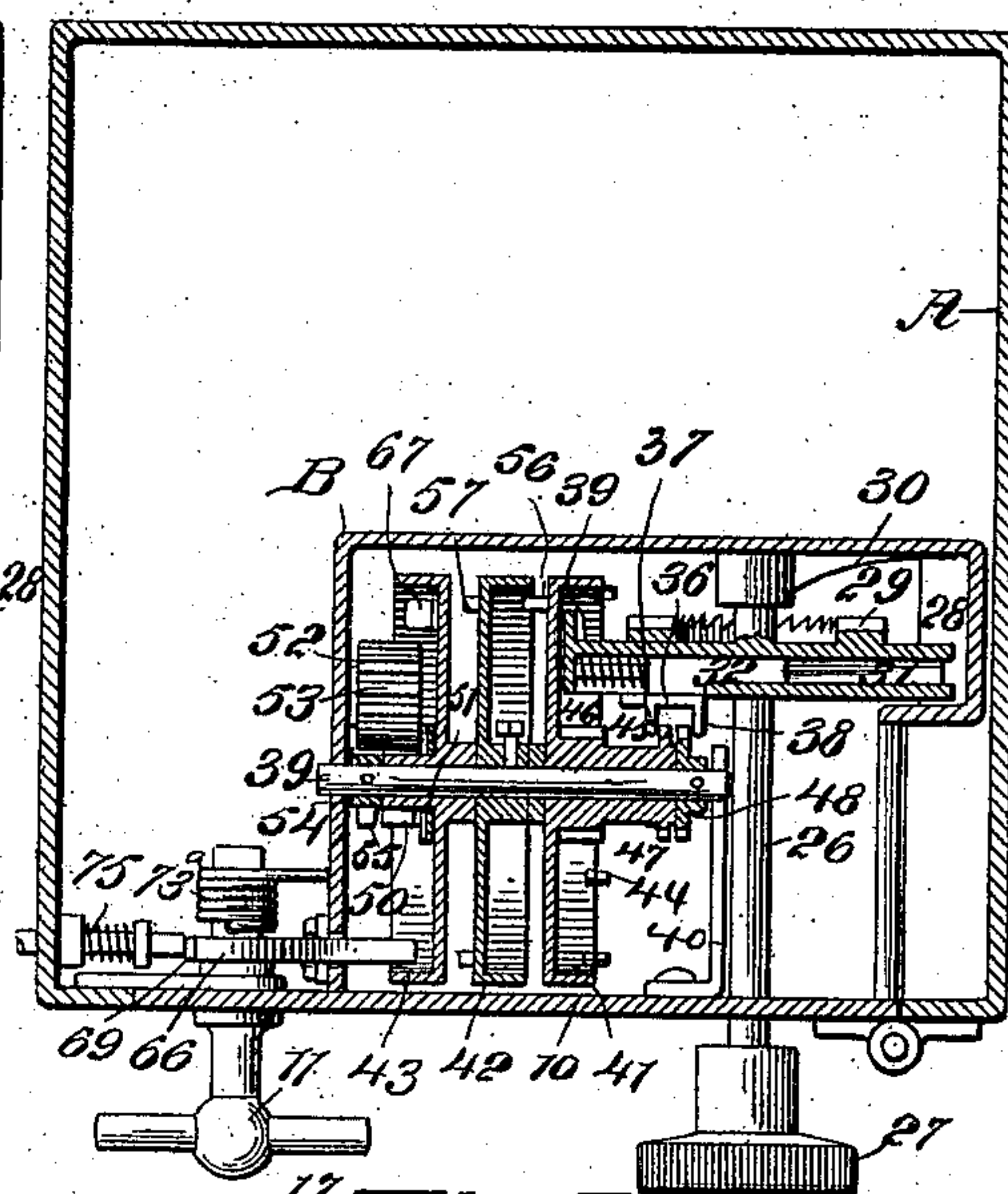


Fig-5.

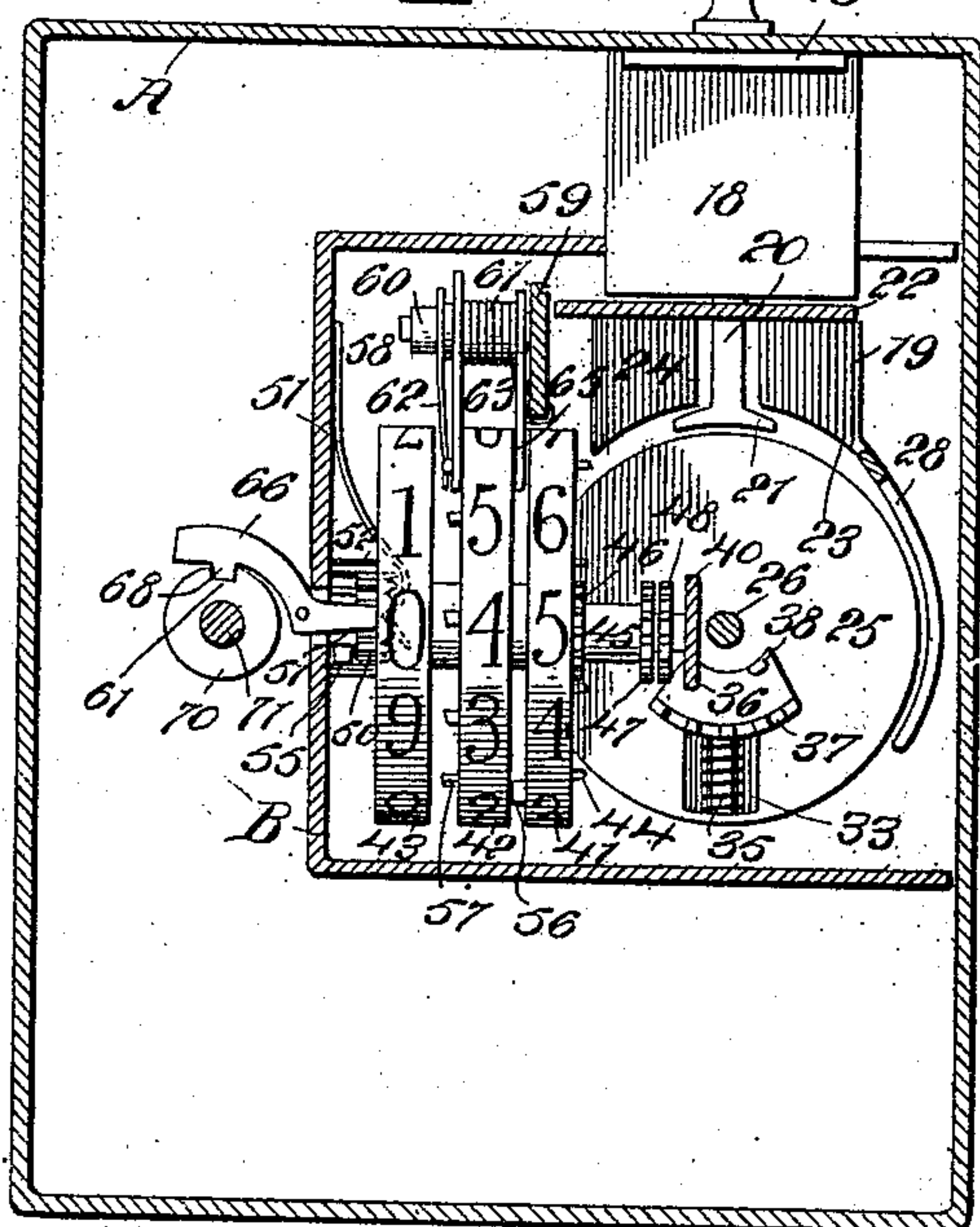
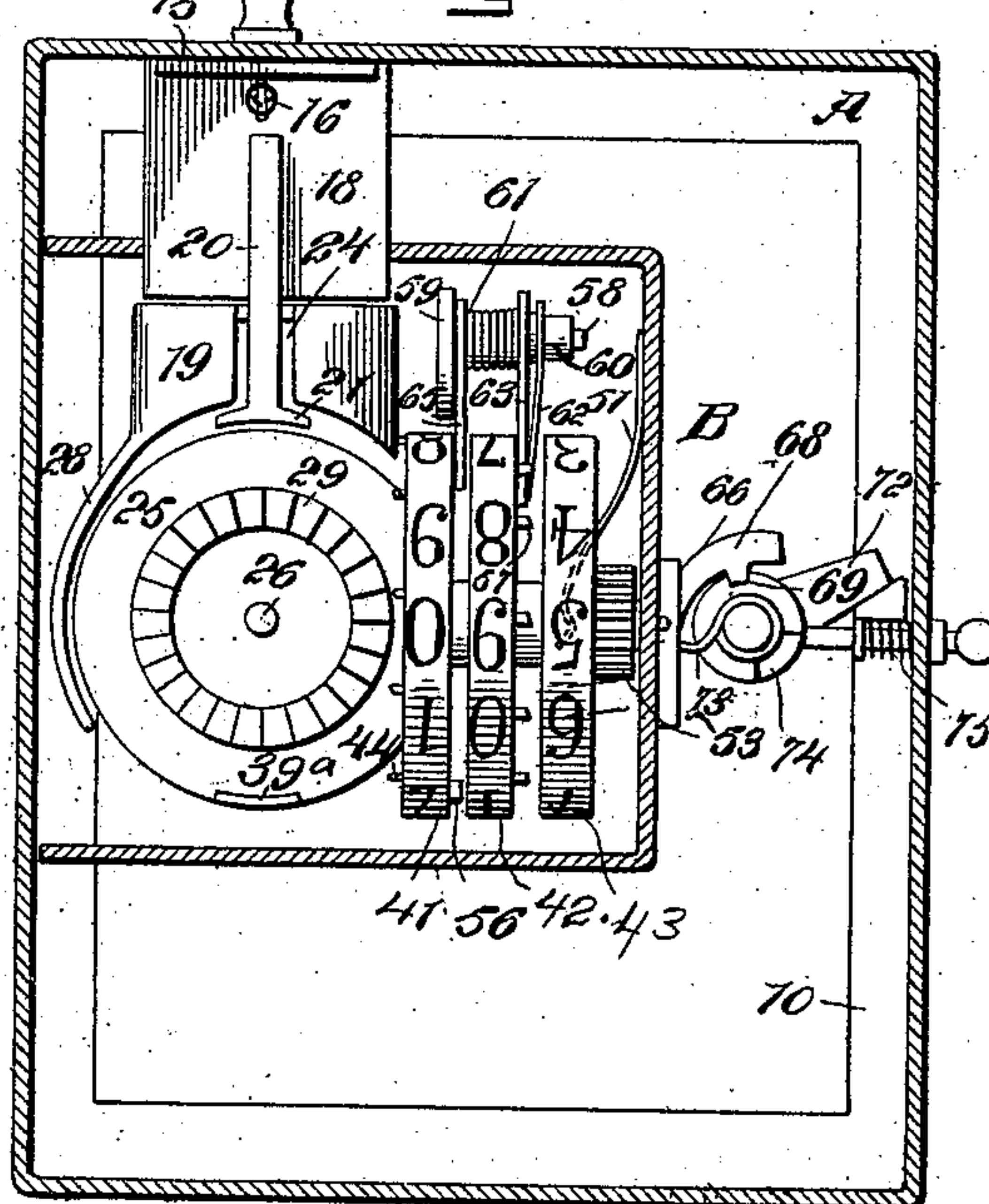


Fig. 6.



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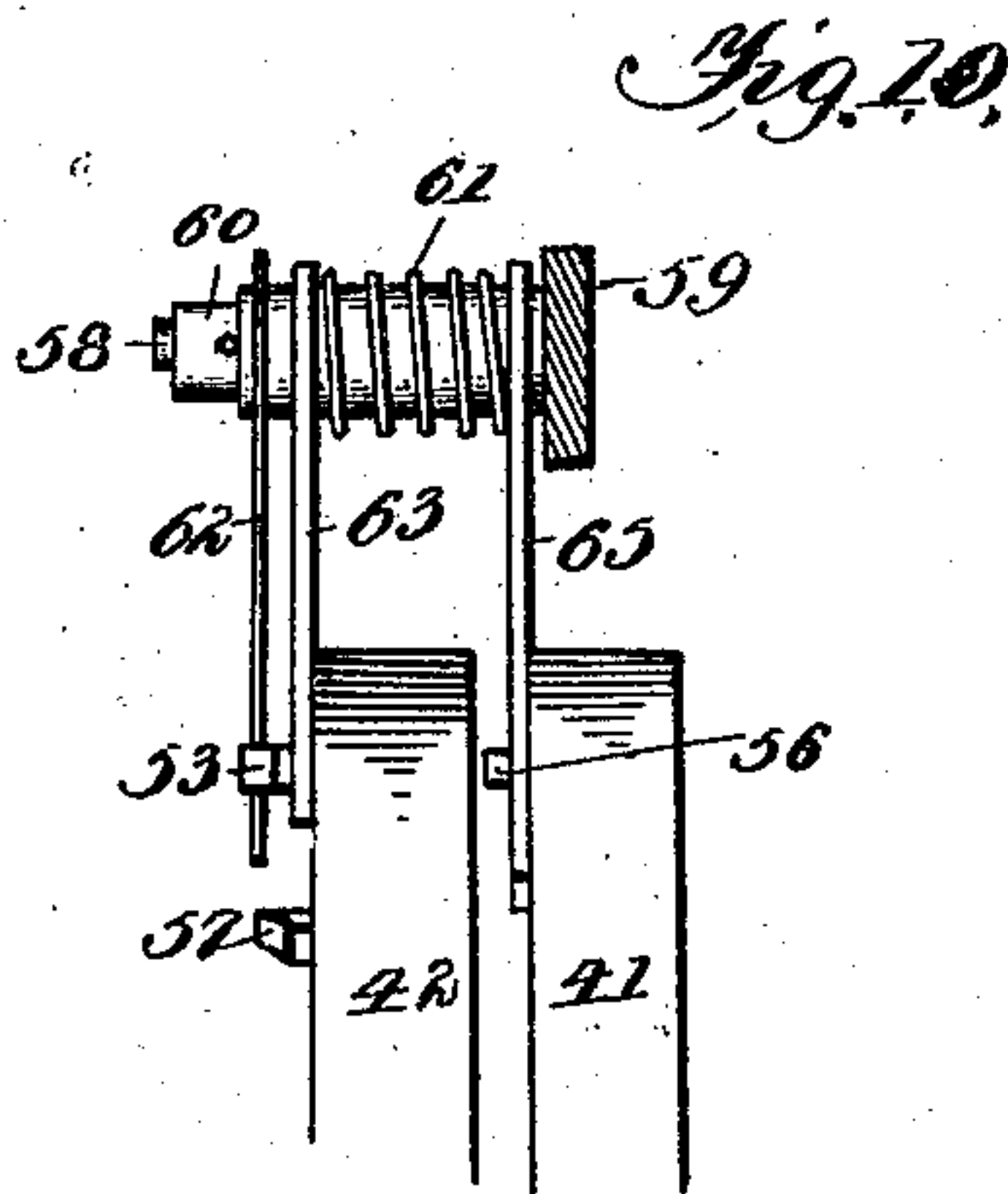
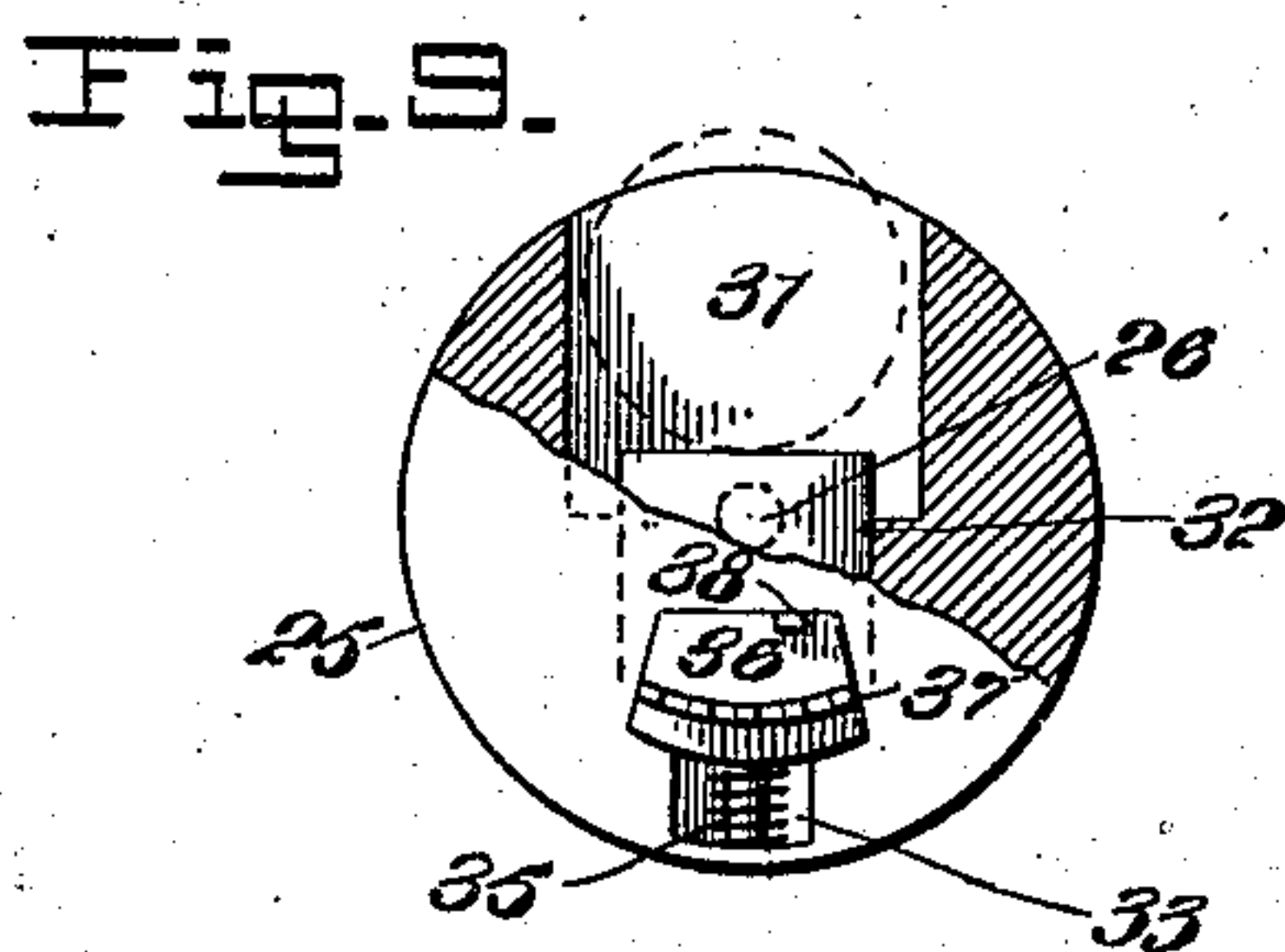
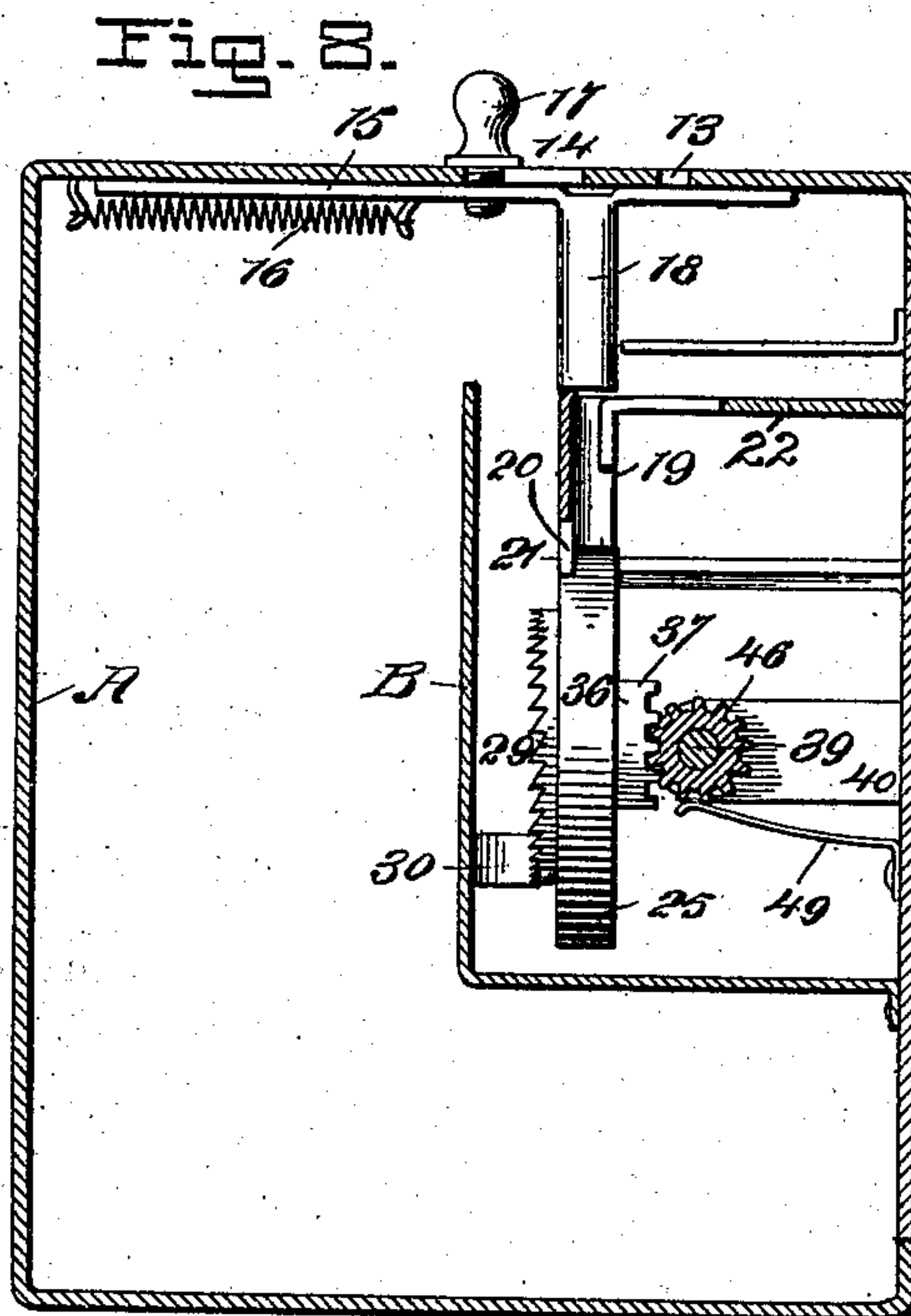
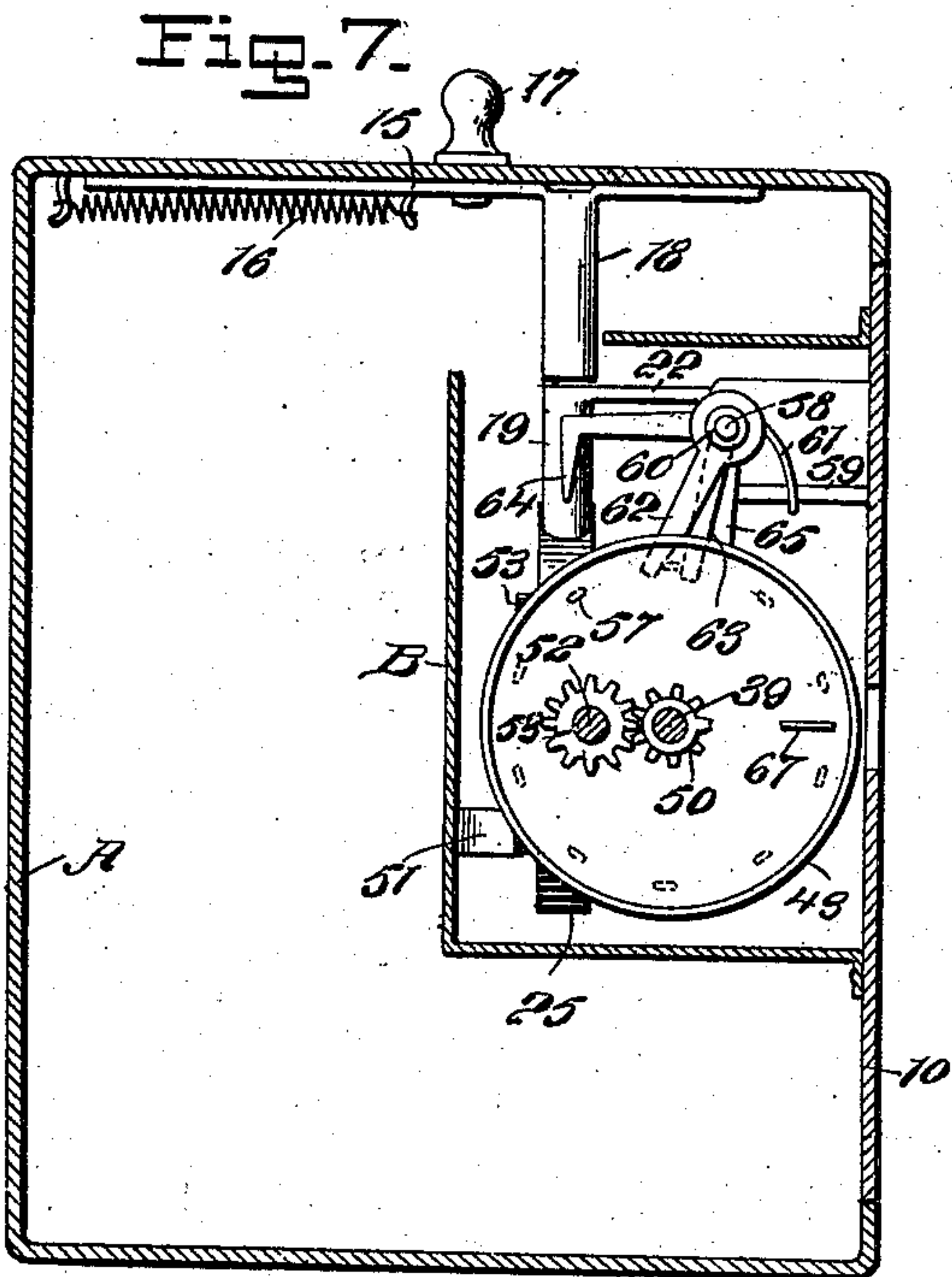
A. C. REICHEL.

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(No Model.)

3 Sheets—Sheet 3.



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# UNITED STATES PATENT OFFICE.

ARTHUR C. REICHEL, OF UNION HILL, NEW JERSEY.

## SAVINGS-BANK.

SPECIFICATION forming part of Letters Patent No. 693,741, dated February 18, 1902.

Application filed February 21, 1901. Serial No. 48,309. (No model.)

*To all whom it may concern:*

Be it known that I, ARTHUR C. REICHEL, a citizen of the United States, and a resident of Union Hill, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Savings-Banks, of which the following is a full, clear, and exact description.

The purpose of the invention is to construct a registering savings-bank provided with a single coin-receiving opening in which pennies, nickels, or dimes may be introduced, and a mechanism which will cause the sum total of the money deposited in the bank to be accurately presented at an opening in the casing of the bank.

A further purpose of the invention is to provide a means whereby two coins cannot be introduced into the bank in quick succession or whereby a second coin cannot be introduced before the first coin entered at the receiving-slot of the bank has passed through the said mechanism and has been registered, and also to provide means whereby after a certain sum has been deposited the door of the bank can be opened, but not until such time, and whereby when the door is opened the locking device for the door will be rendered inoperative until purposely again brought into action.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the bank. Fig. 2 is a vertical section through the casing, the operative mechanism within the casing being shown in side elevation. Fig. 3 is a horizontal section through the casing, the operative mechanism therein being shown in plan view. Fig. 4 is a horizontal section through the casing and through the central portion of the operative mechanism. Fig. 5 is a vertical section through the casing and the support for the operating mechanism, the said mechanism appearing in front elevation and the shaft for the coin-receiving wheel being shown in section. Fig. 6 is a vertical section through the casing and the support of

the operating mechanism contained within the casing, said mechanism appearing in rear elevation. Fig. 7 is a vertical section through the casing and support for the operating mechanism, the section being also taken through the shaft upon which the registering disks or wheels are mounted adjacent to the outer face of the registering-wheel representing dollars. Fig. 8 is a section through the casing and the support for the operating mechanism and also a section through the shaft upon which the registering disks or wheels are located, showing a pinion on the shaft in engagement with an actuating rack carried by the coin-receiving wheel. Fig. 9 is a partial front elevation and partial sectional view of the coin-receiving-wheel, and Fig. 10 is a detail side elevation, partly in section, of the mechanism for operating the tens disk or wheel from the units disk or wheel.

A represents the casing of the bank, which may be of any suitable form. This casing is provided at the front with a door 10, having a suitable knob 11, and in this door, preferably at the center, an opening 12 is made, at which the figures on the registering disks or wheels, to be hereinafter described, appear to indicate the amount of money in the bank, and this opening 12 may be covered with a transparent pane. A coin-receiving slot 13 is produced, preferably, in the top of the casing A, and adjacent to the coin-receiving slot 13 a second slot 14 is made in the casing, the slot 14 being at an angle to the slot 13, as shown in Fig. 1.

A plate 15 is mounted to slide upon the under face of the top of the casing, beneath the slots 13 and 14 therein, and the said sliding plate is normally drawn rearward by a spring 16, attached to the plate and to the casing. A knob 17 is secured to the plate, and the shank of the knob extends up through the slot 14, so that the said plate can be moved in direction of the front of the casing in a convenient manner. A throat 18 is formed upon the sliding plate 15, extending downwardly therefrom near its forward end, and when the sliding plate 15 is drawn so far forward as to carry the knob 17 to the forward end of the slot 14 the throat 18 is in registry with the coin-receiving slot 13, and the throat will receive the coin from the said slot, the



throat at that time being over a plate 22, which serves to support an auxiliary and lower throat 19 at a point where the auxiliary throat will register with the main throat 18 when said main throat is in its normal position. After the main throat 18 has received a coin the knob 17 is relieved from pressure, and the spring 16 will restore the plate 15 to its normal position and will carry the main throat from the auxiliary throat, which latter throat will then receive the coin.

The main throat 18 is provided at its rear with a downwardly-extending tongue 20, terminating in a concaved foot 21. The under edge of the auxiliary throat 19 is concaved, as shown in Fig. 5, and at the rear of the auxiliary throat a vertical slot 24 is produced to permit the forward passage of the tongue 20, and a slot is longitudinally made in the supporting-plate 22, which the tongue also enters when the main throat 18 is brought in position to receive a coin.

The tongue 20 serves to prevent the coin from working out from the auxiliary throat 19, and likewise serves to direct the coin into a pocket, to be hereinafter described, formed in the coin-receiving wheel 25. This coin-receiving wheel 25, which is shown in detail in Fig. 9, is secured upon a shaft 26, and this shaft extends out through the door and is journaled at its inner end in the back of a casing B, which casing is secured to the door 10 in any suitable or approved manner.

A knob 27 is located at the outer end of the shaft 26, so that the coin-receiving wheel may be readily turned, and an arched section 28 of the casing is adjacent to that portion of the periphery of the wheel which is descending and prevents the coin from falling from the pocket, and likewise exerts pressure on the coin in the pocket as the coin-receiving wheel is turned. The coin-receiving wheel is compelled to move in one direction only by forming ratchet-teeth 29 upon its rear face around the shaft 26 and securing a spring-pawl 30 to the casing or a near-by support, the pawl being arranged for engagement with the said ratchet-teeth.

The coin-receiving wheel 25 is provided with a pocket 31, which receives the coin from the auxiliary throat or chute 19, and between the two faces of the wheel a block 32 is mounted to slide in suitable ways, as shown in both Figs. 4 and 9, and when the pocket 31 is in position to receive a coin this block is at the bottom of the pocket and the coin rests thereon, the block extending up some distance beyond the proper bottom of the pocket, as shown in Fig. 9. This block 32 is provided with an annular extension at its outer end, which extension is carried through an opening 33 in the front face of the wheel, and the outer end of the block 32 loosely receives a guide-spring 35, bearing against the wheel and against the said block. The outwardly-extending portion of the block 32 carries a plate 36, and near the outer edge of this plate

a series of five teeth 37 is segmentally arranged, while at the inner edge of the plate a single tooth 38 is located. These teeth 37 and 38 are adapted to operate registering mechanism, to be hereinafter fully described.

A shaft 39 is journaled at one end in the left-hand end of the frame B, and at its opposite or inner end the shaft 39 is journaled in a suitable bracket 40, attached to the door 10, as shown in Figs. 3 and 4. Three registering wheels or disks are mounted on the shaft 39, the inner wheel 41 being adapted to register units, the intermediate wheel 42 tens, and the outer wheel 43 hundreds. Each of the registering-wheels has numerals produced upon its periphery reading from "1" to "0," inclusive, and these numerals appear at the opening 12 in the door of the casing. The inner or units wheel 41 is provided with a series of ten teeth 44 at that edge which faces the coin-receiving-wheel shaft, as is shown in Figs. 3 and 4, and the periphery of the coin-receiving wheel extends within the rim-section of the units-wheel 41. At the periphery of the coin-receiving wheel a longitudinal lug 39<sup>a</sup> is formed, and this lug is adapted to engage with the teeth or points 44, preventing the said units-wheel from turning more than the distance between two opposing numerals at one time. The units-wheel 41 is provided with a hub 45, and this hub is loosely mounted on the shaft 39. A gear 46 is formed on the hub 45 adjacent to the body portion of the wheel, while at the outer end of the hub 45 a second narrower gear 47 is located.

At the inner end of the shaft 39 and adjacent to the gear 47 of the units-wheel a similar gear 48 is secured to the shaft 39, and the intermediate registering-wheel 42 is secured in any suitable manner on the shaft 39, while the wheel 43, which registers dollars, is loosely mounted on the said shaft. The gears 47 and 48 are prevented from being accidentally turned by means of spring-pawls 49, attached to the door 10 at one end and engaging at their free ends with the said gears, as is illustrated in Fig. 3. A pinion 50 is formed on the outer portion of the hub of the registering disk or wheel 43. This pinion 50 meshes with a gear 53, mounted upon a stub-axle 52, carried by the frame B, and the shaft is prevented from accidentally turning by causing the bifurcated end of a spring 51 (shown in Fig. 6) to engage with the said shaft, the opposite end of which spring is secured to the frame B.

When a penny has been delivered to the pocket 31 of the coin-receiving wheel 25 and said wheel is turned, the outer periphery of the coin will bear against the guide 28 and will be pressed inward, thus moving the block 32 in the receiving-wheel and the attached plate outward, bringing the single tooth 38 on the plate between the teeth of the gear 47, connected with the units-wheel 41, and therefore as the coin-receiving wheel is turned for the purpose of dropping a coin the gear 47 will also be turned the distance of one tooth,



and if the cipher on the units-wheel is presented to the opening 12 in the door 10 said cipher will disappear and the numeral "1" will be presented instead. Should a nickel be placed in the pocket 31 of the coin-receiving wheel the block 32 will be pushed farther back than it was by the penny. Consequently the plate 36, carried by the block, will be moved to such a position that the series of five teeth 37 will be brought in meshing engagement with the gear 46 close to the units wheel or disk, and as the coin-receiving wheel 25 is turned the units wheel or disk 41 will be moved five figures. When a dime is in the pocket of the coin-receiving wheel and the coin is brought in engagement with the guide 28, the block in the coin-receiving wheel and its attached plate 36 will be moved only so far outward as to bring the single tooth 38 of the plate in engagement with the gear 48, secured on the shaft 39, to which shaft the wheel or disk registering tens is attached, and this wheel or disk will be turned one point, or a sufficient distance to change the position of the numeral at the door-opening 12. When the intermediate registering-wheel 42 has been moved ten times or any predetermined number of times, the shaft 39 will have been turned sufficiently to bring a single tooth 55 on the pinion 54 in engagement with the gear 53, and said gear, through the pinion 50, will turn the dollar disk or wheel 42 one point, changing the numeral at the opening 12 in the door of the casing.

Should a coin of less size than a dime or a penny be introduced into the bank, the plate 36 on the block 32, carried by the coin-receiving wheel, will be moved outward only sufficiently to bring the single tooth 38 of the plate in range with the space between the gears 47 and 48, and the coin-receiving wheel may be turned to drop such coin or blank without operating the registering disks or wheels.

A controlling and transmitting device or mechanism is employed in connection with the units and tens wheels or disks 41 and 42, constructed as follows: A single tooth 56 is located on the left-hand face of the units disk or wheel 41 near its periphery, as shown in Fig. 4, and a series of teeth 57—ten, for example, when the bank is to open, as herein-after described, when ten dollars have been placed therein—is located upon the corresponding face of the intermediate or tens disk or wheel 42. The teeth 57 of the tens disk or wheel 42 have their front faces inclined or beveled. (See Fig. 10.) It will be understood that the teeth 57 do not have any function in opening the bank, but regulate the registration of the coins deposited. A spindle 58 is horizontally placed above the registering wheels or disks secured to a bracket 59, attached to the door 10, and a sleeve 60 is loosely mounted on said spindle. A spring 61 is coiled around the sleeve, being attached to the sleeve at one end and to the

bracket 59 at the other end. At the left-hand end of the sleeve 60 a spring-dog 62 is secured, and this dog engages with the teeth 57 on the intermediate or tens disk or wheel 42, as shown in Figs. 3, 5, 6, 7, and 10. Adjacent to the spring-dog 62 an angular detent 63 is secured to the sleeve, and one member of this detent is held by the spring 61 in engagement with the forward edge of the uppermost tooth 57 on the registering-disk 42, the other member, which serves as an escapement, being normally in a horizontal position, as shown in Fig. 7, and terminates in a spur 64. The normal position of the spring-dog is at the rear of the uppermost tooth 57 on the registering wheel or disk, as is shown in Figs. 7 and 10, so that the dog is normally in position to turn the wheel or disk when the sleeve 60 is turned, while the vertical member of the detent 63 prevents the registering-wheel 42 from turning until the proper time. When the spring-dog 62 is carried forward by the sleeve 60, the spur 64 descends into the path of the second tooth 57, thus preventing further revolution of the disk 42 until the sleeve returns to its normal position and another action is possible. An arm 65 is secured to the right-hand end of the sleeve 60. This arm is normally held in vertical position by a suitable stop and is adapted to be engaged by the pin 56 on the units wheel or disk when the latter has made a complete revolution, and by such contact the sleeve 60 is turned against the tension of its spring, and the dog 62 and detent 63 are rocked forwardly. Thus the vertical member of the detent permits the registering-wheel 42 to turn, and the dog 62 will turn the wheel one point, while the spur 64 will enter the space between the uppermost and next rear pin or tooth 57 and will limit the forward movement of the said registering-wheel 42. After the arm 65 has been released by the pin on the units-wheel the spring-dog 62 will slip over the inclined or beveled face of the now uppermost tooth or pin 57, and the vertical member of the detent 63 will take a position at the forward edge of the tooth or pin, as is shown in dotted lines in Fig. 7 and in full lines in Fig. 10. This registering-wheel is now in position for further operation.

It will be understood that when the intermediate registering-wheel 42 is turned by the introduction of a dime into the bank the spring-dog 62 simply slips over the teeth or pins 57 and does not act to retard the proper movement of the said wheel.

When the registering-disks are numbered from "1" to "0," as shown in the drawings, the bank is intended to open automatically when ten dollars have been deposited therein. This action is accomplished by pivoting a lever 66 at the left-hand end of the frame B, which lever extends within the frame in the path of a projection 67 from the disk or wheel 43, which records the dollars, as shown in Fig. 4. This lever is arched outside of the frame, and the arched section is provided



with a stud 68, adapted to be normally received in a recess 69 in a disk 70, which disk is secured upon the spindle 71 of the door-knob 11, as shown in Figs. 3, 4, 5, and 6.

5 The knob-spindle is provided with a latch-arm 72, adapted for engagement with a keeper 73 on the casing. A spring 73<sup>a</sup> is connected with the spindle, and the tendency of the spring is to press the latch up from its keeper; 10 but when the latch is on the keeper and the stud on the lever 66 is seated in the recess 69 of the disk 70 the latch is held in locked position. The disk 70 is also provided with a second long recess 74, adapted to receive a 15 spring-bolt 75, carried by the casing. When the inner end of the lever 66 is forced downward by contact with the projection 67 from the recording-wheel 43 and the stud 68 is released from the recess 69 of the disk 70, the 20 spring 73<sup>a</sup> will throw the latch up from its keeper, and the spring-bolt 75 will enter the longer recess 74 in the disk 70, thus preventing a person from unintentionally locking the bank after it has been automatically opened. 25 The door of the bank may be opened whenever the spring-bolt is withdrawn.

I desire it to be understood that the bank may be made to open when five dollars have been deposited, in which event the numerals 30 upon the dollar registering-wheel 43 will read from "0" to "4," inclusive, and the controlling and transmitting mechanism will be correspondingly changed.

Having thus described my invention, I 35 claim as new and desire to secure by Letters Patent—

1. In a registering savings-bank, a coin-receiving wheel provided with a pocket adapted to hold a coin, a sliding bottom for the pocket, 40 and a series of teeth carried by the sliding bottom of the pocket at the outer face of the wheel, for the purpose specified.

2. In a registering savings-bank, a coin-receiving wheel provided with a peripheral 45 pocket, a spring-controlled sliding bottom for the pocket, and teeth carried by the sliding bottom, including a single tooth and a set of teeth separated from each other and adapted for the purposes described.

50 3. In a registering savings-bank, a frame or casing, a coin-receiving wheel mounted to revolve in the casing and provided with a peripheral pocket provided with a sliding bottom, a series of registering-wheels mounted 55 to revolve independently in the frame, a timed connection between the disks or wheels, and means whereby through the sliding bottom of the said pocket coins of different sizes cause the rotation of the different registering- 60 wheels when the coin-receiving wheel is revolved.

4. In a registering savings-bank, a coin-receiving wheel provided with a pocket having a sliding section, a series of independently- 65 mounted registering wheels or disks, driving devices for the registering wheels or disks, and rows of teeth, differing in number, which

teeth are connected with the sliding section of the coin-receiving wheel, the said teeth being brought into engagement with the respective driving devices of the registering wheels or disks by the action of different-sized coins upon the sliding section of the coin-receiving wheel. 70

5. In a registering savings-bank, a coin-receiving wheel provided with a pocket having a sliding section, a series of independently-mounted registering wheels or disks, driving devices for the registering wheels or disks, rows of teeth, differing in number, which 80 teeth are connected with the sliding section of the coin-receiving wheel, the said teeth being brought into engagement with the respective driving devices of the registering wheels or disks by the action of different-sized coins 85 upon the sliding section of the coin-receiving wheel, means for operating one disk from the other at certain times, and means for preventing the units-wheel from turning when the other registering-wheels are revolved, 90 which means are partially carried by the coin-receiving wheel and partially by the units registering-wheel, as described.

6. In registering savings-banks, a coin-receiving wheel having a peripheral pocket, and 95 a sliding section operated by a coin when in said pocket, teeth carried in spaced rows by the said sliding section of the coin-receiving wheel, and a series of registering-wheels independently mounted, indicating units, tens 100 and hundreds, each wheel being provided with one or more driving-gears, adapted to be engaged at different times by one or the other of the said rows of teeth, the engagement being effected with the driving-gears of the different registering-wheels by the action of coins of different sizes on the sliding section of the coin-receiving wheel. 105

7. In a registering savings-bank, a coin-receiving wheel having a peripheral pocket, and 110 a sliding section operated by a coin when in said pocket, teeth carried in spaced rows by the said sliding section of the coin-receiving wheel, a series of registering-wheels independently mounted, indicating units, tens and 115 hundreds, each wheel being provided with one or more driving-gears adapted to be engaged at different times by one or the other of the said rows of teeth, the engagement being effected with the driving-gears of the different registering-wheels by the action of coins of different sizes on the sliding section of the coin-receiving wheel, a timed connection between the various wheels, whereby one may be 120 turned by the other, and pawls and detents 125 regulating the movements of the registering-wheels.

8. In a registering savings-bank or similar device, a coin-receiving wheel, a series of independently-mounted registering-wheels representing units, tens and hundreds, means for 130 turning the said registering-wheels by the action of different-sized coins entering the coin-receiving wheel, a timed connection between



the registering-wheels, whereby one registering-wheel may impart movement to the other, a regulating device for the registering-wheels, and a latch operated by one of the registering-wheels at a certain point in the revolution of said wheel, for the purpose described.

In testimony whereof I have signed my

name to this specification in the presence of two subscribing witnesses.

ARTHUR C. REICHEL.

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