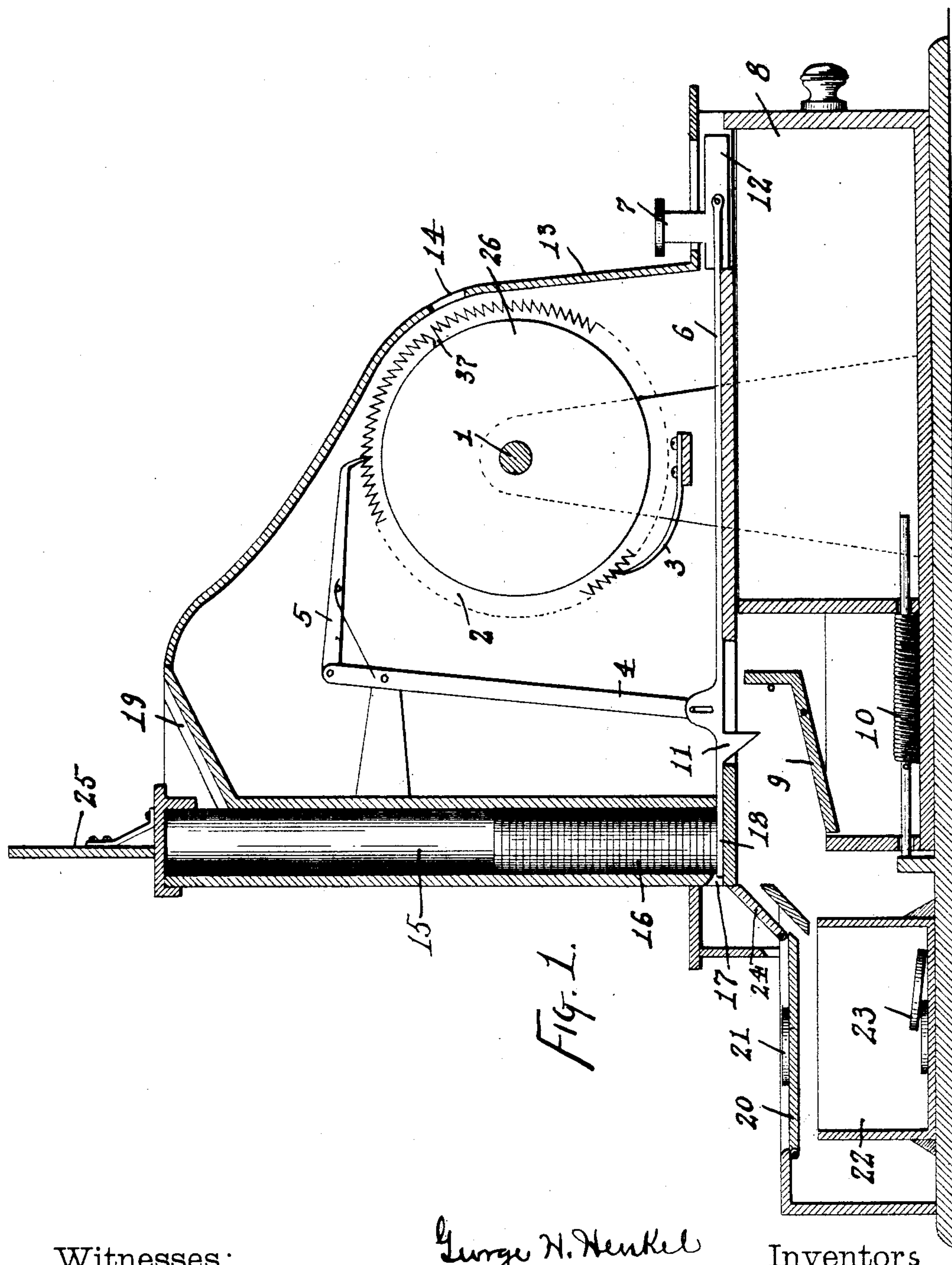


3 Sheets—Sheet 1.

No. 540,386.

Patented June 4, 1895.



Witnesses:
E. R. Shipley.
C. M. Sheehan.

George H. Henkel
John Kunz Jr
by James W. See

Inventors

Attorney

G. H. HENKEL & J. KUNZ, Jr.
CASH REGISTER.

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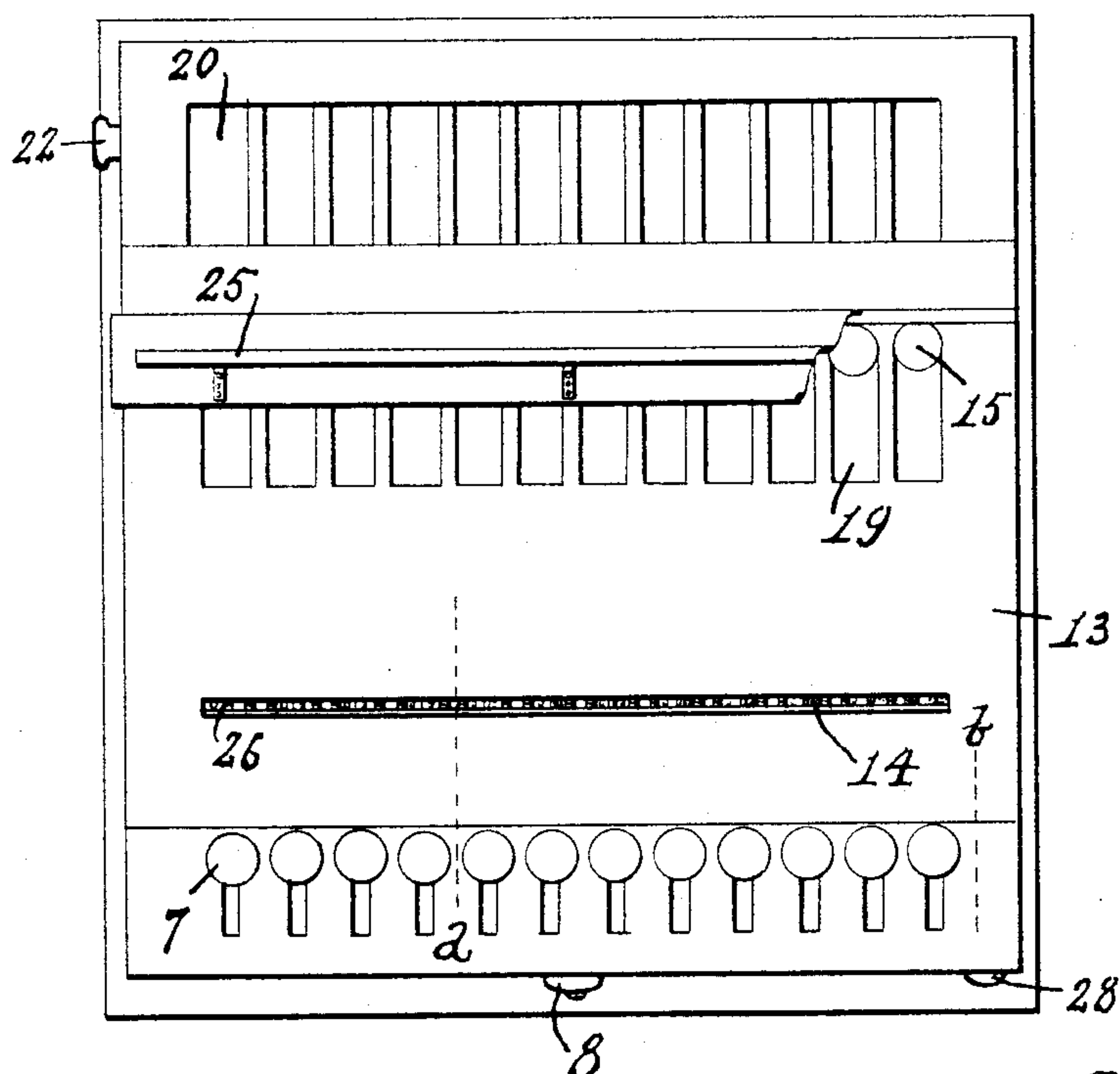


Fig. 2.

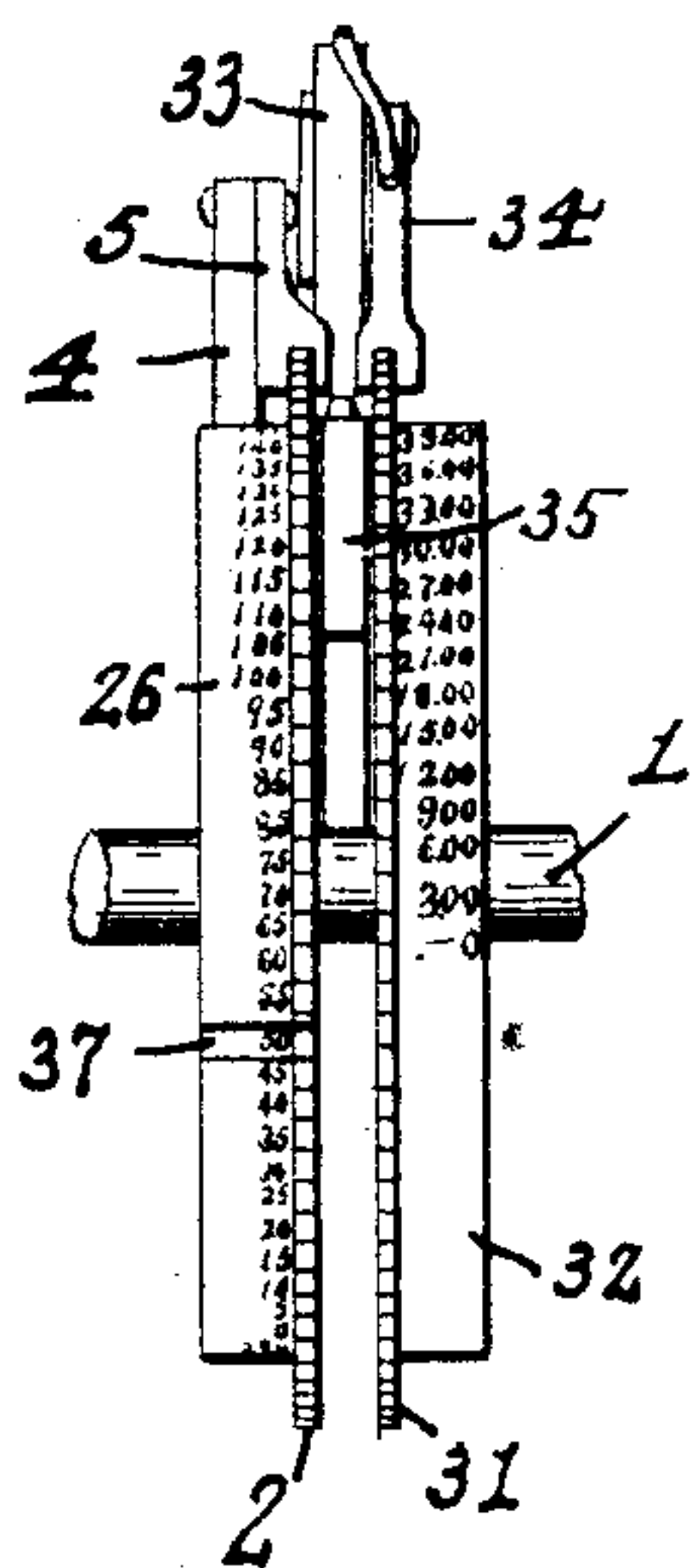


Fig. 3.

Witnesses:

E. R. Shipley
C. M. Sheehan

George H. Henkel
John Kunz Jr
by *James W. See*

Inventors

Attorney

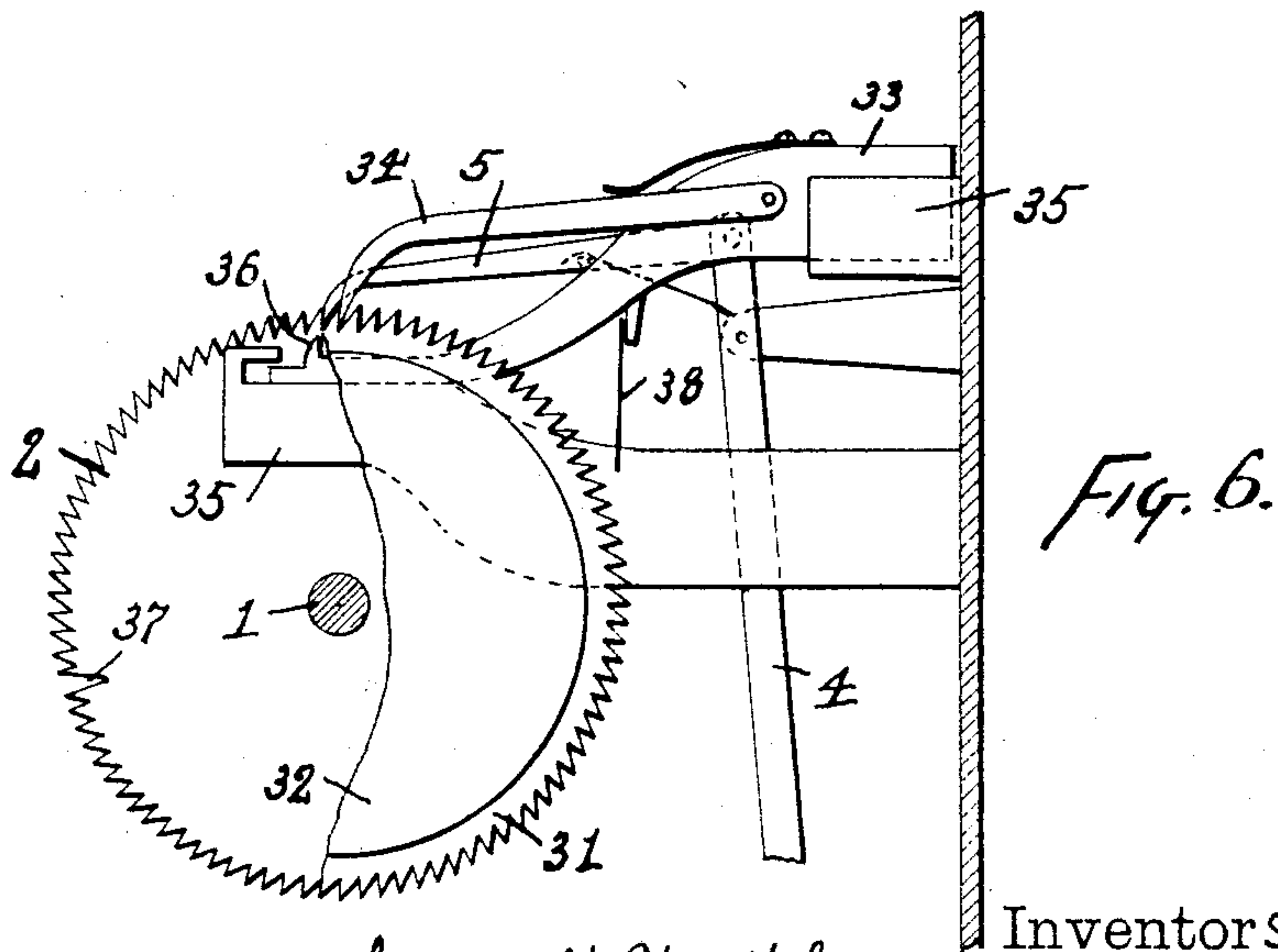
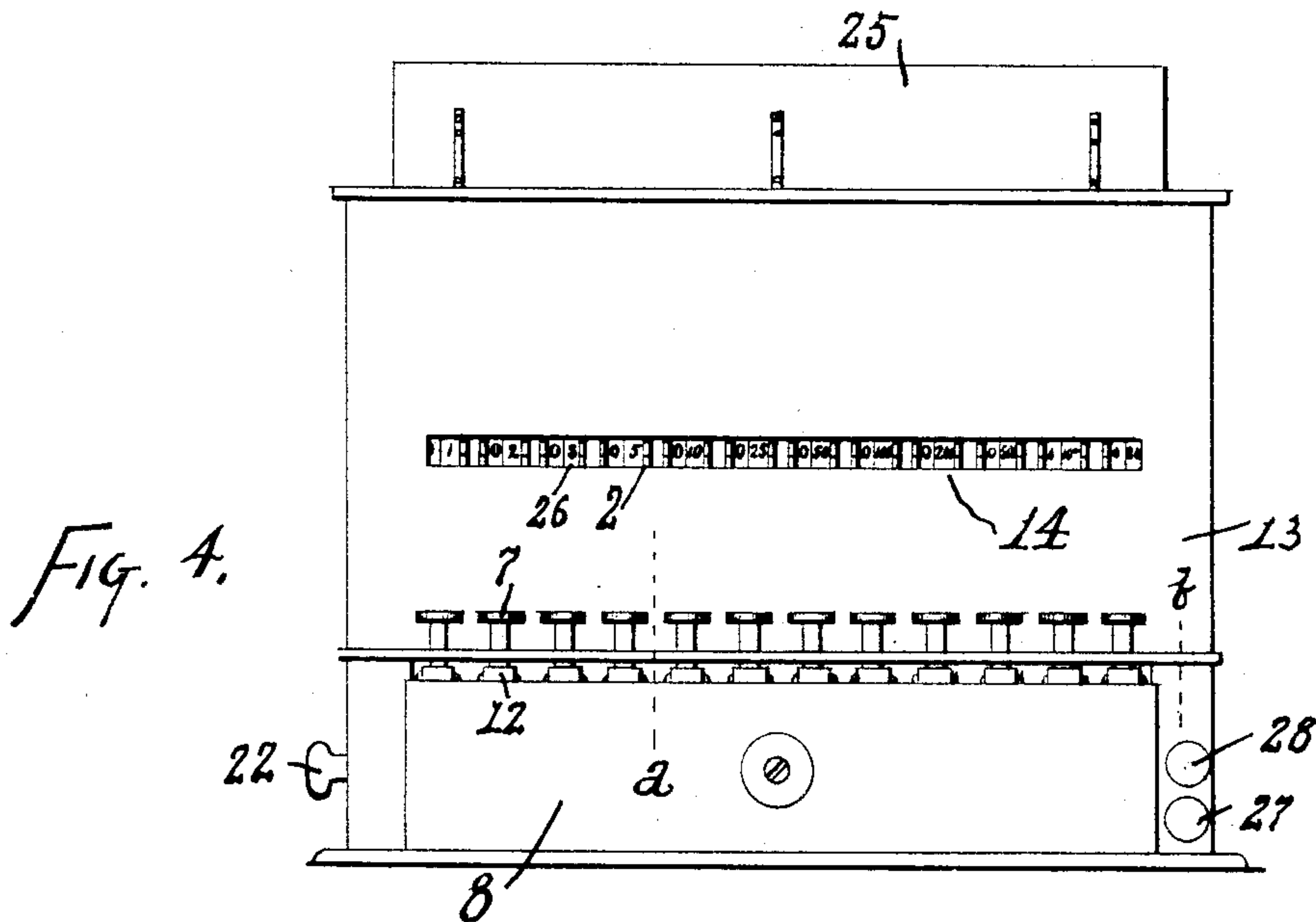
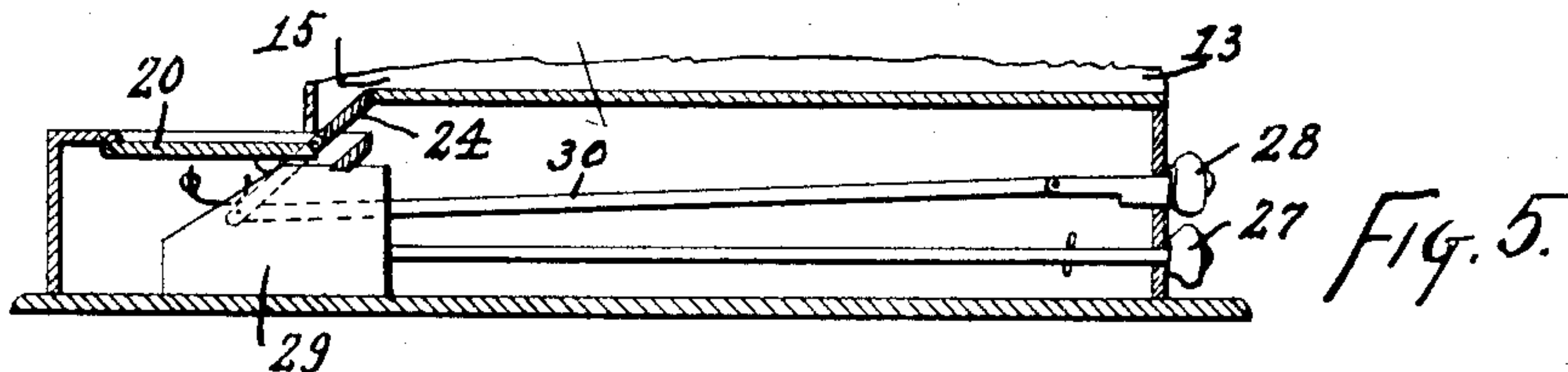
(No Model.)

3 Sheets—Sheet 3.

G. H. HENKEL & J. KUNZ, Jr.
CASH REGISTER.

No. 540,386.

Patented June 4, 1895.



Witnesses:
E. R. Shipley
C. M. Sheehan

George H. Henkel
John Kunz Jr
by *James W. See*

Inventors

Attorney

UNITED STATES PATENT OFFICE.

GEORGE H. HENKEL AND JOHN KUNZ, JR., OF MIDDLETOWN, ASSIGNORS
OF ONE-THIRD TO MARIE S. STROBLE, OF HAMILTON, OHIO.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 540,386, dated June 4, 1895.

Application filed October 29, 1894. Serial No. 527,157. (No model.)

To all whom it may concern:

Be it known that we, GEORGE H. HENKEL and JOHN KUNZ, Jr., of Middletown, Butler county, Ohio, have invented certain new and
5 useful Improvements in Cash-Registers, of which the following is a specification.

This invention pertains to improvements in that class of finger-key devices employed in checking payments in commercial trans-
10 actions, and our improvements will be readily understood from the following description taken in connection with the accompanying drawings, in which—

Figure 1 is a vertical section and internal
15 side view of a machine embodying our improvements, the section being in the plane of line *a* of Figs. 2 and 4, and the count-transfer mechanism being omitted to avoid confusion of parts; Fig. 2, a plan of the machine with
20 a portion of the top of the casing broken away to expose two of the check-cells; Fig. 3, a front elevation of a count-wheel and transfer-wheel; Fig. 4, a front elevation of the machine; Fig. 5, a vertical section and interior
25 elevation of the base portion of the machine in the plane of line *b* of Figs. 2 and 4; and Fig. 6, a side elevation of the general counting mechanism, the direction of view being opposite that of Fig. 1—that is to say, Fig. 3
30 shows the wheels of the counting mechanism in front elevation, while Fig. 1 shows the same as viewed from the left of Fig. 3, and Fig. 6 shows the same as viewed from the right of Fig. 3.

35 In the drawings, confining attention for the present entirely to Fig. 1, except as otherwise indicated:—1, indicates the spindle of the registering wheels, properly supported in an inclosing casing, there being a series of the
40 wheels, arranged in pairs, the series constituting a mere multiplicity of pairs so that description may be confined to a single pair of wheels and their operating mechanism; 2, a ratchet-wheel loose thereon and having, say,
45 one hundred teeth, this wheel being the count-wheel for a certain value, say five cents, each tooth of the wheel representing five cents in registering; 3, a stop-pawl to prevent backward motion of the count-wheel; 4, a lever
50 pivoted to the rear of the count-wheel; 5, a spring pawl operated by this lever and en-

gaging the count-wheel; 6, a bar or rod below the wheel and connected near its rear with lever 4 so that as the bar moves backward the count-wheel will be advanced one
55 tooth and, as the bar moves forward, the pawl will go back for a new tooth; 7, a finger-key connected with the forward end of this bar to serve in pulling the bar forward, it being assumed that this finger-key will have its value
60 of five cents designated upon it; 8, a money drawer in the base of the machine; 9, a latch extending across the machine and normally engaging the rear of the drawer and locking it closed; 10, a spring tending to force the
65 drawer open when latch 9 is disengaged; 11, a projection from bar 6 adapted, when the bar is pulled forward by its finger-key to tip latch 9 to unlocking position and release the
70 drawer and allow the spring to force the drawer open; 12, a bit formed upon finger-key 7 and pivoted to the forward end of bar 6, the forward end of this bit standing behind the front wall of drawer 8 so that that wall prevents the forward motion of the finger-
75 key, the pivoting of the bit to bar 6 however permitting the bit to be rocked so that it may pass forwardly over the front wall of the drawer, the design being that the finger-key will be first depressed and then pulled
80 forward; 13, a proper inclosing casing for the general mechanism; 14, a wicket in the casing through which the reading of the count-wheels may be taken; 15, a vertical chamber to the rear of the count-wheel, forming a check cell to hold checks pertaining to
85 the count-wheel, five cent checks in the assumed case; 16, the series of checks in this cell, these checks being merely disks which may have the value, &c., indicated upon them; 90
17, an exit slot at the rear of the base of the check cell, of sufficient height to permit of a single check being pushed from the bottom of the pile; 18, a plunger upon the rear end of bar 6, normally supporting the pile of checks
95 in the cell and adapted, as the bar moves forward, to permit the pile to descend the thickness of the plunger and, as the bar moves rearward, to push the lowermost check out through the exit slot 17; 19, entry-throat at
100 the top of the check-cell to permit of the checks being gotten into the slot; 20, a piv-

oted tablet to the rear of and below the exit slot 17, this tablet being designed to receive the checks discharged from the check-cell; 21, one of the checks thus discharged and resting upon the tablet ready for removal by a customer; 22, a drawer disposed below the tablet 20, tablet 20 being so pivoted that it may be tipped downward so that checks upon it will slide into drawer 22; 23, checks which have been thus delivered into the check-drawer 22; 24, a sloping chute extending from exit slot 17 to the front edge of tablet 20 and designed to guide a discharging chip from the exit slot onto the tablet, this chute being pivoted at its base so that it may be tipped forward and prevent the discharging check from going to the tablet, the check in that case going down past the edge of the tablet into check-drawer 22; 25, a sign surmounting the apparatus; 26, a boss projecting from one face of ratchet-wheel 2 and having its periphery figured into a progressive series of values as five cents, ten cents, fifteen cents, &c., one reading for each tooth of the count-wheel, the ratchet-wheel and its boss thus forming the count-wheel pertaining to the finger-key; 27, (Figs. 4 and 5,) a switch knob by means of which tablet 20 can be tipped down so as to discharge checks to the check-drawer; 28, (Figs. 4 and 5,) a switch knob by means of which chute 24 can be tipped up so as to divert the checks from the check cell to the check-drawer; 29, (Fig. 5,) an inclined block connected by rod with switch knob 27 and engaging under tablet 20 and causing the tablet to rise and fall as knob 27 is in or out; and 30, (Fig. 5,) a rod connecting switch knob 28 with chute 24 by means of a lever projecting downward from the chute so that as the knob is pulled out the chute will be turned up, a spring serving to hold the chute in the normal position shown, and the knob having a lock lug so that it may be locked when the chute is up.

Ignore parts not thus far referred to and assume that the machine provides for but a single value, namely, five cents. The cash drawer 8 is locked by latch 9 and the check cell contains a pile of five cent checks and we will assume that the count-wheel stands at zero reading. A five cent sale being made, the finger-key is depressed and then drawn forward. This moves the pawl 5 idly back for a new tooth in the wheel and unlocks the drawer which at once flies open, plunger 18 at the same time taking a position in front of the lowermost check in the pile of checks. When the drawer is pushed shut its front wall engages bit 12 and pushes the finger-key back to normal position, causing the count-wheel to be advanced a tooth and to show a reading of five cents. At the same time the lowermost check will have been pushed from under the pile and will pass down upon the tablet from which it is to be removed by the customer who keeps it, checks being later returned to the dealer for redemption at some agreed upon discount rate. The machine has thus regis-

tered the amount of the sale and a check of corresponding value has gotten into the hands of the customer, its redemption value making it to the customer's interest to secure it. Should the customer forget the check and leave it upon the tablet it may be discharged into the check-drawer by pulling switch knob 27. In case of transactions not entitling the customer to a check, such for instance as the settlement of a bill, switch knob 28 will be pulled out, thus causing the check to be delivered to the check-drawer instead of to the tablet. Each successive five cent sale would be registered upon the count-wheel and, with one hundred teeth in the ratchet-wheel, the count-wheel may register five dollars. For a ten cent sale the finger-key may be operated twice, thus delivering two five cent checks, but it is designed that keys and checks of higher value will be employed for higher amounts, the machine being provided with a series of keys and check cells for that purpose. Provision is made for adding to the counting effect of the count-wheel by means of a transfer wheel which advances a tooth at each complete turn of the count-wheel. This matter will now be explained and we will still assume that the count-wheel is the five cent wheel of the apparatus.

Referring now to Figs. 3 and 6:—31, is a second ratchet-wheel loose on the wheel shaft near ratchet-wheel 2 and having, say, one hundred teeth like the count-wheel; 32, a boss upon ratchet-wheel 31 having value readings, the first of the series corresponding with the total capacity of the count-wheel, viz: five dollars, the second of the series being ten dollars and so on, 31 and 32 therefore forming a transfer wheel which takes up and registers the exhaust totals of the count-wheels; 33, a pawl-carrier for the transfer wheel; 34, a spring pawl carried by this pawl-carrier and engaging the teeth of the transfer-wheel; 35, guides for the pawl-carrier; 36, a tooth projecting upwardly from pawl-carrier 33 and adapted to be engaged by the toe of the count-pawl 5 if that toe can drop low enough to engage it, the depth of the teeth in the count-wheel being such however as to normally prevent the count-pawl from engaging the tooth 36, it being understood that count-pawl 5 projects sidewise from the face of its wheel sufficiently to engage tooth 36 when the pawl drops low enough; 37, a deep tooth-notch in the count-wheel which, when it reaches the count-pawl, will permit the count-pawl to drop low enough to engage tooth 36; and 38, a spring holding pawl-carrier 33 to its rearmost idle position.

Normally count-pawl 5 does its work upon its count wheel free of tooth 36; but when notch 37 gets around to the count-pawl, to happen at the terminal reading on the count-wheel, the count-pawl will drop and engage tooth 36 and the next stroke of the count-pawl will cause transfer-pawl 34 to advance the transfer-wheel one degree of count, the

count-wheel then reading zero and the transfer-wheel reading five dollars. At the next stroke of the count-pawl it affects only the count-wheel, the transfer-pawl going back to normal idle position and staying there till the transfer notch comes around again. The transfer wheel will thus, by its reading, show the total amount transferred, and the count-wheel will show the amount not yet transferred. Adding the two readings together will give the total of work for the five cent key. Other values than five cents may be represented by other keys and check cells, the drawings showing provision for twelve different values, the object being to provide that sales may be checked by a single high value check rather than a number of small value checks. Each finger-key and check cell has its count-wheel and its transfer wheel, and the adding of all the readings at the wicket gives the total of checkings.

We claim as our invention—

1. In a register, the combination, substantially as set forth, of a vertical check cell adapted to contain a pile of checks and having an exit slot at its base, a movable discharge tablet to receive the checks located outside the machine, means for moving the tablet a plunger arranged to push said checks one by one out of said cell, a finger key connected with said plunger, and a counting mechanism connected with said finger key.

2. In a register, the combination, substantially as set forth, of a check cell adapted to receive a pile of checks and having an exit slot, a plunger arranged to push the checks one by one from said cell, a key for operating said plunger, a movable tablet located outside the machine accessible to the purchaser adapted to receive the checks as discharged from the check cell, a check receptacle below said tablet, and a handle arranged to tip said tablet and discharge checks therefrom to said receptacle.

3. In a register, the combination, substantially as set forth, of a check cell adapted to receive a pile of checks and having an exit slot, a plunger arranged to push said checks one by one from the cell, a tablet to receive the checks discharged from the cell, a check

receptacle below said tablet, a movable chute to direct the discharging checks from the cell to the tablet, and a handle arranged to move said chute to position to divert the discharging checks from the tablet to said receptacle.

4. In a register, the combination, substantially as set forth, of a cell adapted to receive a pile of checks, a plunger to push said checks one by one from the cell, a movable discharge tablet to receive the checks located outside the machine, means for moving the tablet a key for operating said plunger, a cash drawer, a latch holding said drawer closed and a part moved by said key and adapted to release the latch.

5. In a register, the combination, substantially as set forth, of a count-wheel having a ratchet with a deep tooth-notch, a transfer-wheel alongside the count-wheel and having a ratchet, a pawl for the transfer-wheel, a pawl-carrier for said pawl, a spring holding said pawl-carrier in position of retreat, a tooth upon said pawl-carrier, a pawl engaging the ratchet of the count-wheel and adapted when engaging said deep tooth-notch to also engage the tooth of said pawl-carrier, and a finger-key connected with said last mentioned pawl.

6. In a register, the combination, substantially as set forth, of a series of cells adapted to receive piles of checks and having each an exit slot, a movable discharge tablet to receive the checks located outside the machine, means for moving the tablet a count-wheel for each of said cells, a finger-key check plunger and pawl mechanism for each of said check cells, a drawer and a normally engaged latch for said drawer arranged to be released by any one of said finger keys.

7. In a cash register, the combination of a check cell, means for separately removing the checks from the cell, a tablet accessibly located outside the machine, a check receptacle, and means for transferring the checks from said tablet to said receptacle.

GEORGE H. HENKEL.

JOHN KUNZ, JR.

Witnesses:

M. S. STROBLE,

J. W. SEE.