

No. 622,617.

Patented Apr. 4, 1899.

O. A. GATRELL.  
CASH REGISTER.

(Application filed Feb. 10, 1898.)

(No Model.)

4 Sheets—Sheet 1.

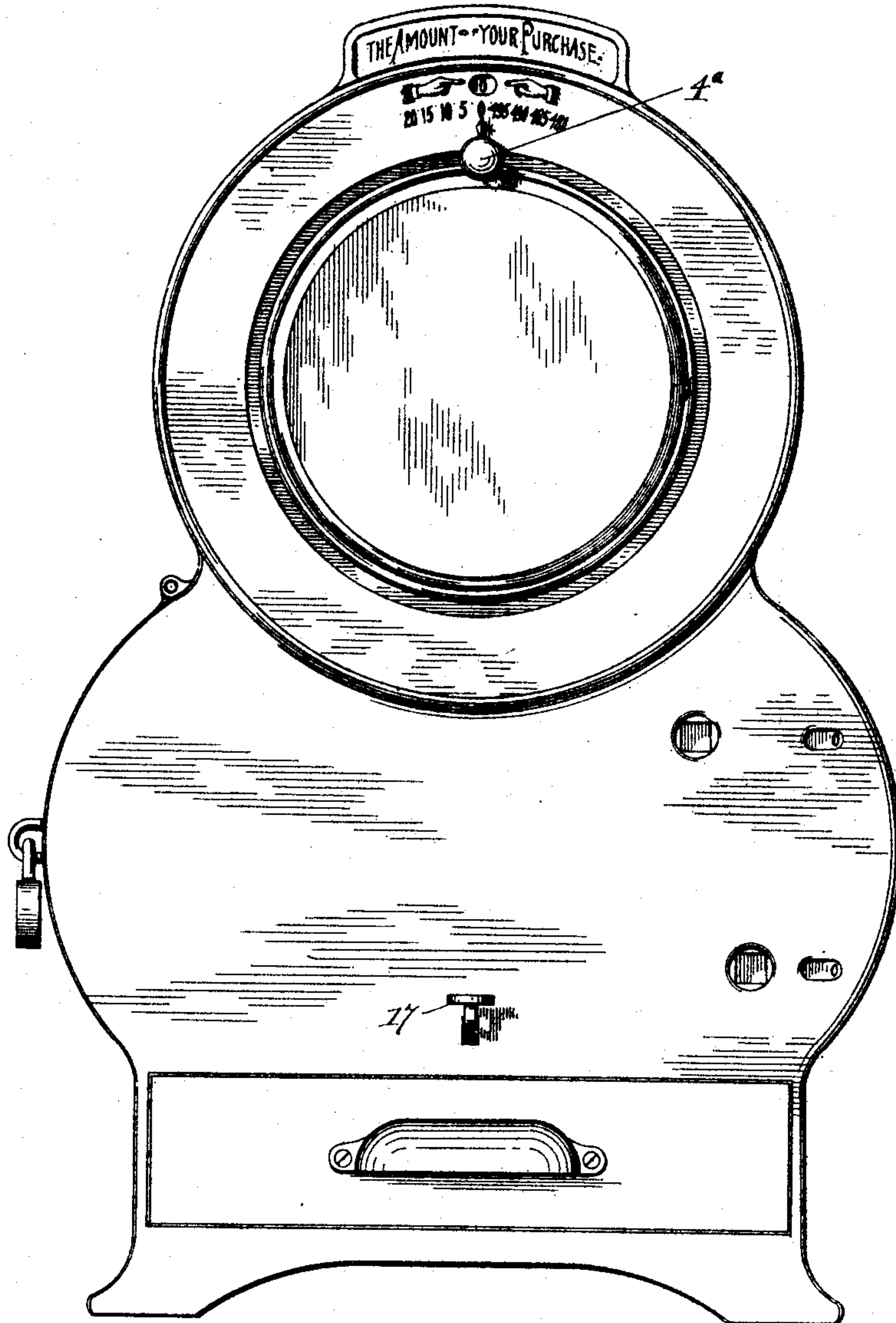


Fig. 1

WITNESSES:

Edwin L. Bradford  
Grant Burroughs

INVENTOR

Ottmar A. Gatrell,  
BY  
Finckel & Finckel,  
ATTORNEYS.

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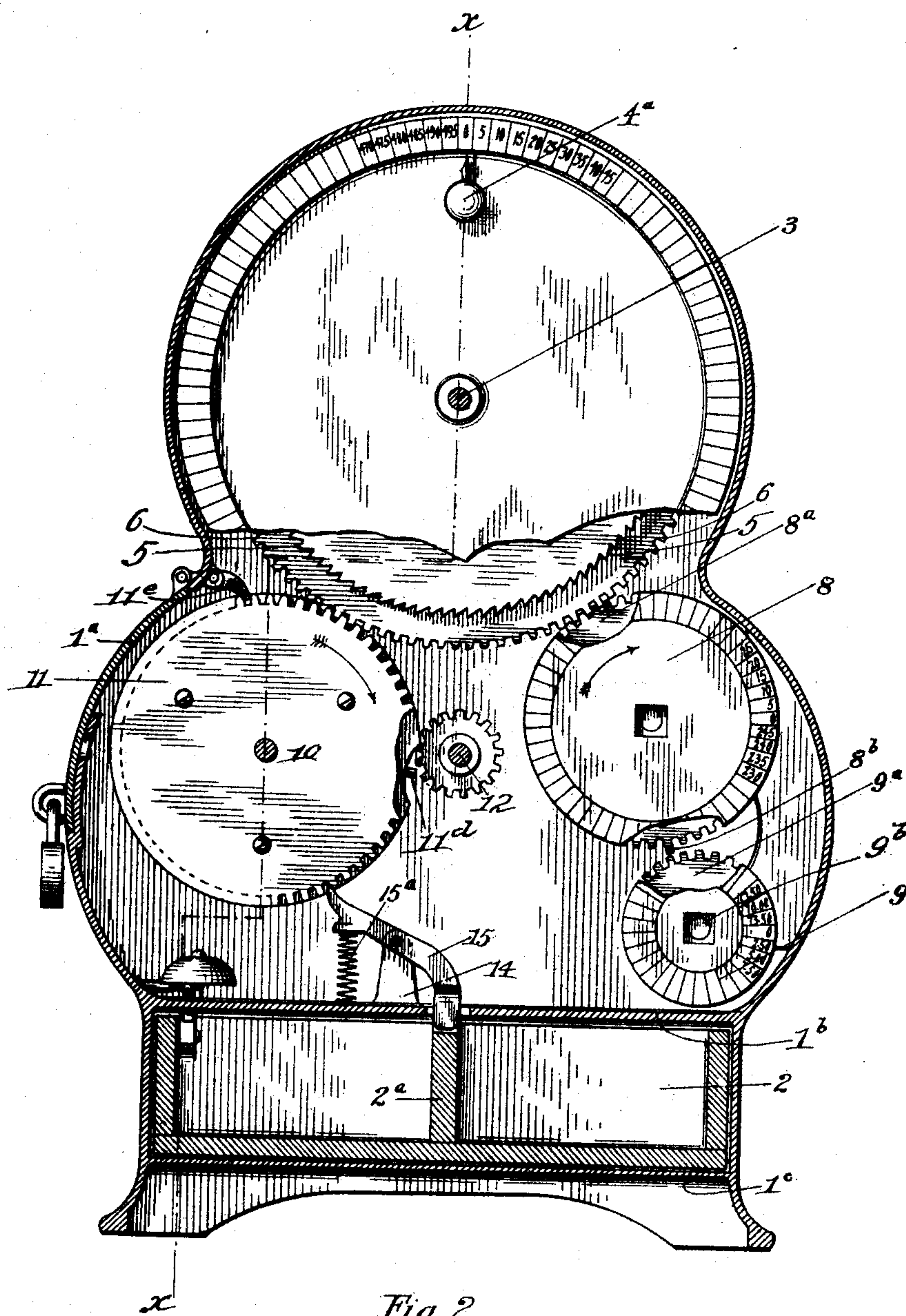
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BY  
Finckel & Finckel,  
ATTORNEY &



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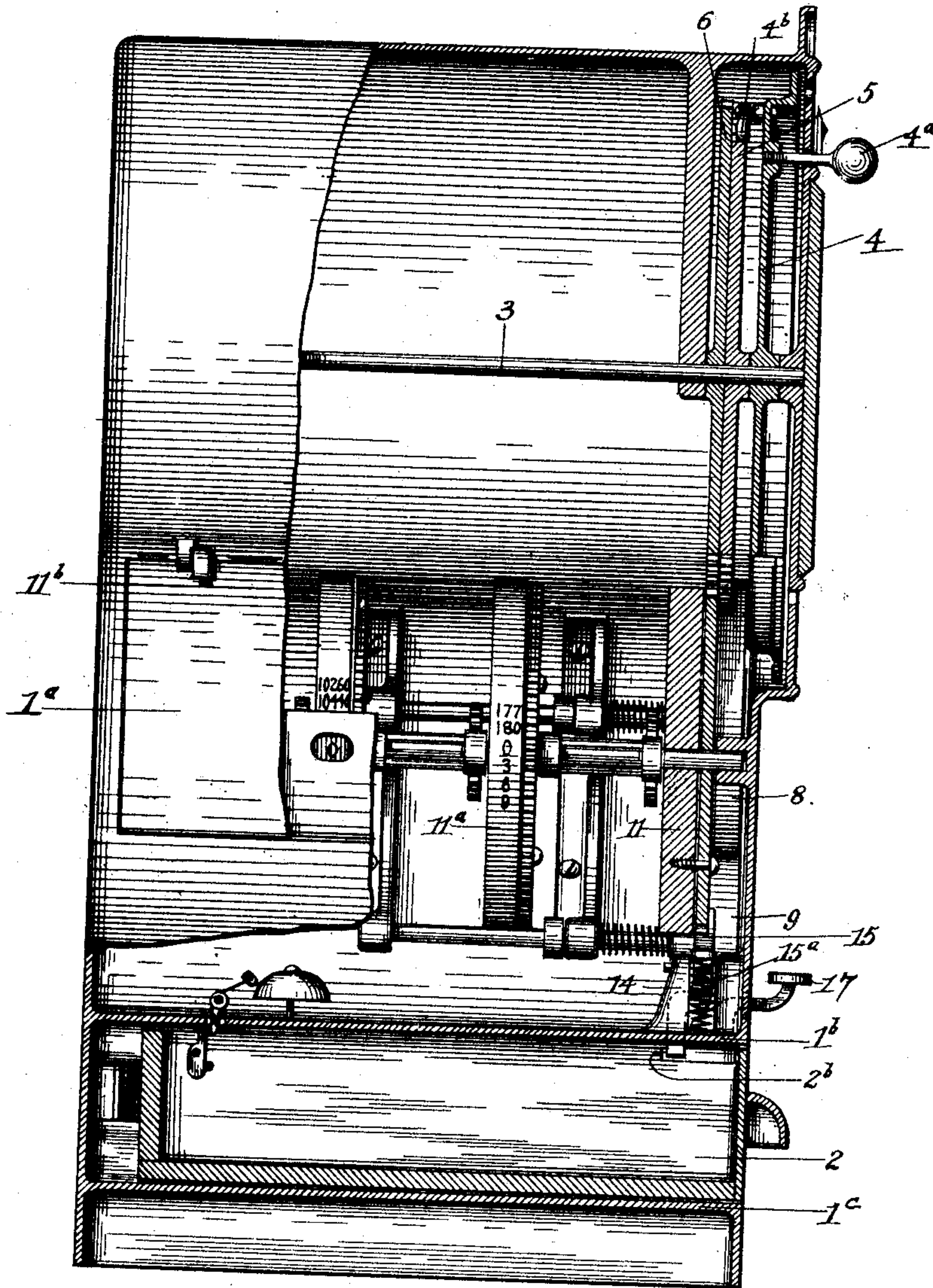


Fig. 3

WITNESSES:

Edwin L. Bradford  
Grant Burroughs

INVENTOR

Ottmar A. Gatrell,  
BY  
Finckel & Finckel,  
ATTORNEYS.

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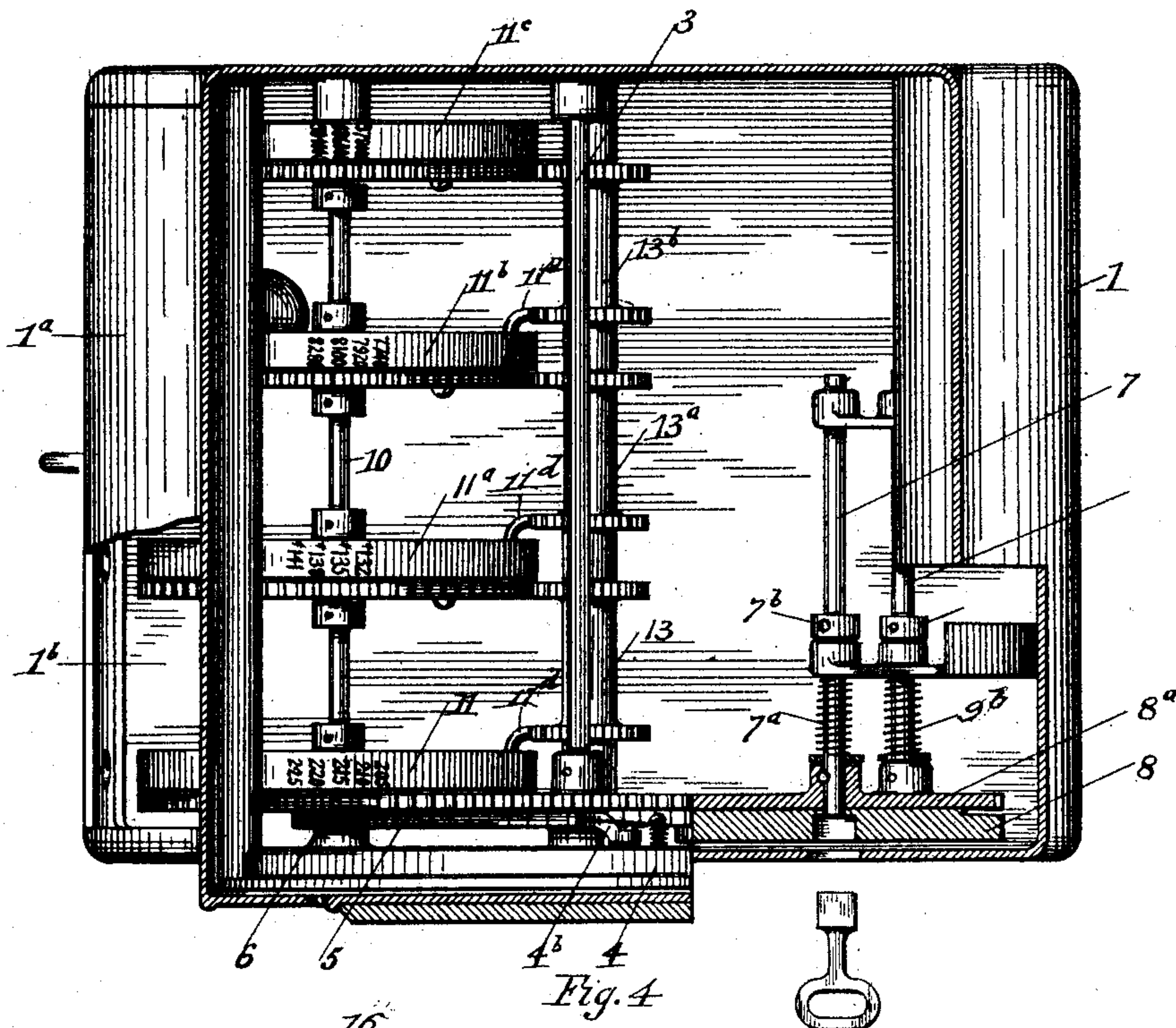


Fig. 4

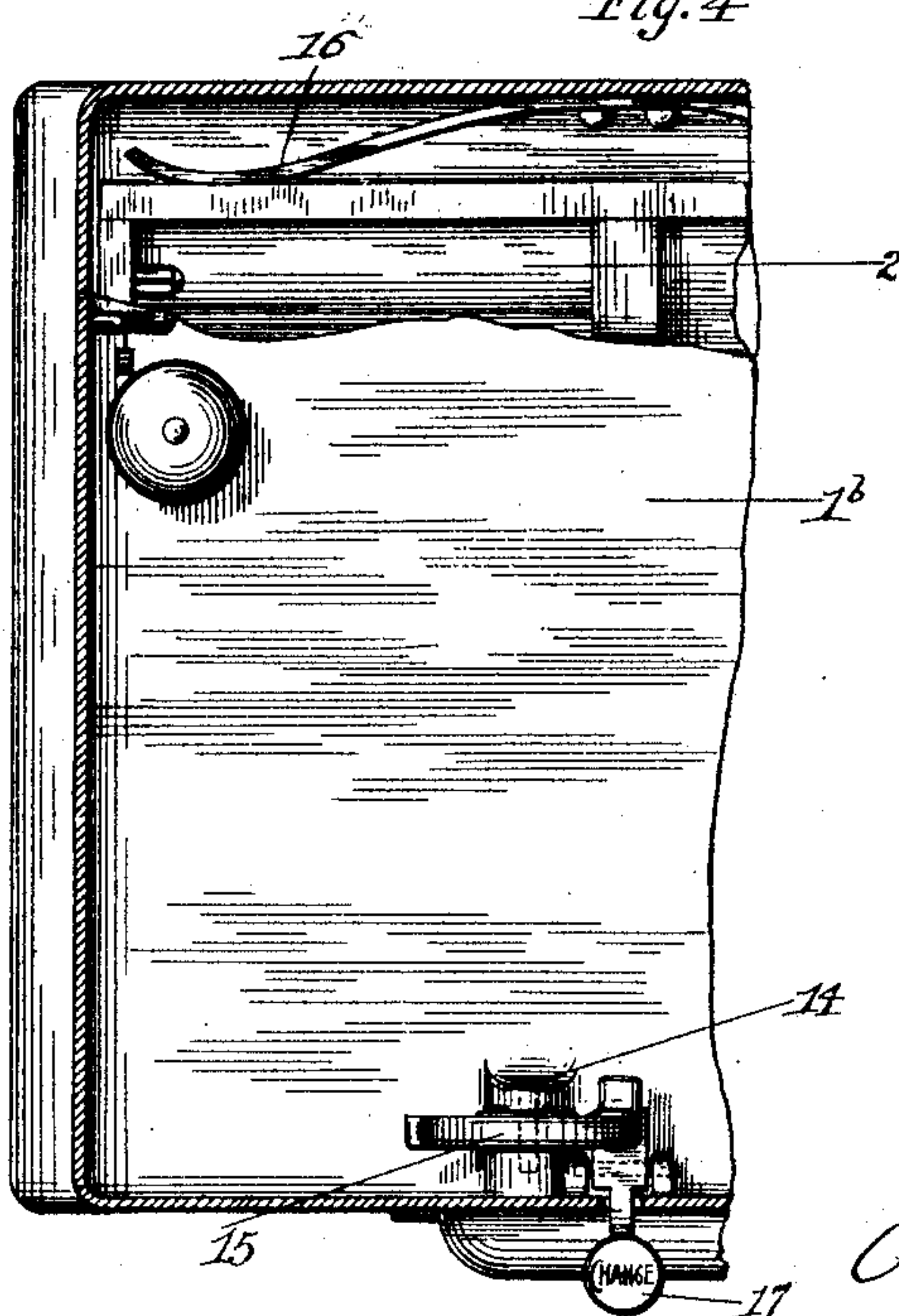


Fig. 5

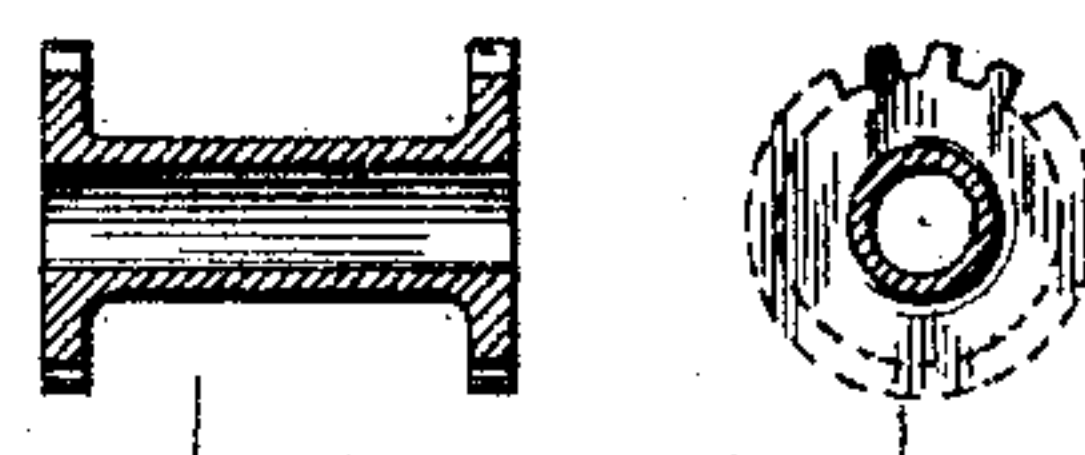


Fig. 6

Witnesses:

Edwin L. Bradford  
Grant Burroughs

INVENTOR

Ottmar A. Gatrell,

BY

Finckel & Finckel

ATTORNEYS



# UNITED STATES PATENT OFFICE.

OTTMAR A. GATRELL, OF COLUMBUS, OHIO, ASSIGNOR TO EMILY M. INGOLD.

## CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 622,617, dated April 4, 1899.

Application filed February 10, 1898. Serial No. 669,735. (No model.)

*To all whom it may concern:*

Be it known that I, OTTMAR A. GATRELL, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Cash-Registers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The object of my invention is to provide a register having means for keeping and exhibiting a record of the receipts during a day and also mechanism for keeping and showing the receipts for many days, as a week, month, or year.

My invention consists in the improvements in construction hereinafter described and claimed.

In the annexed drawings, illustrating one embodiment of my improvements, Figure 1 is a front view of the register in elevation, the numbering of the entire face being partial only. Fig. 2 is a vertical section with the front side of the case removed, parts being broken out to illustrate details. Fig. 3 is a transverse vertical sectional view taken on the several planes indicated by the line  $x x$ , Fig. 2, a part of the side of the casing remaining. Fig. 4 is a top plan view of the interior mechanism with the casing in sectional view, a key being shown opposite the hole for its use. Fig. 5 is a horizontal sectional view of one side of the register, parts being broken out to illustrate the signal. Fig. 6 shows details illustrating toothed thimbles or sleeves employed in the mechanism.

1 designates the case or shell, which may be of any design suitable to contain the mechanism; but that shown bears some general resemblance to that frequently employed in clocks.

At the left-hand side of the case I have shown an opening that may be closed by a cover or lid  $1^a$ , that may be lifted to permit examination or resetting of a part of the mechanism. The lower portion of the case or shell has horizontal walls  $1^b$  and  $1^c$  to form a chamber for the cash-drawer 2, the upper wall  $1^b$  serving also to support certain parts of the mechanism.

In the upper part of the case there is placed

in suitable bearings a shaft 3, upon the front end of which freely turns a dial 4, bearing around the outer edge of its face a series of numbers indicating various sums of money, adapted when brought to a particular point—say an opening in the case 1, near its top—to show the amount of a customer's purchase. The outer side of this dial is furnished with a knob  $4^a$ , by means of which the dial may be rotated on the shaft, and the inner side of the dial bears a spring-actuated (or it may be a gravity) pawl  $4^b$ . Fixedly on the shaft 3 is a ratchet-wheel 5, arranged to have its teeth engaged by the pawl  $4^b$ , and also fixed to said shaft is a gear-wheel 6. The position of the teeth of the ratchet-wheel 5 and the position of the pawl  $4^b$  are shown to be such that a rotation of the dial leftward shall cause corresponding rotation of the gear-wheel 6. The ratchet-wheel 5 and the gear-wheel 6 may be made as one.

In the right-hand side of the casing, arranged in suitable bracket-bearings, is a rotatable shaft 7, upon the forward end of which is fixed a dial 8, bearing a series of numbers of the kind in the dial 4, and just behind this dial is fixed a gear-wheel  $8^a$ , meshing with the gear-wheel 6, so that when the gear-wheel 6 is rotated its motion is imparted to the dial and the number thereon seen through an opening in the face of the casing. The shaft 7 is arranged to be longitudinally movable in its bearings and is held outward by means of a spring  $7^a$ , placed between the gear-wheel  $8^a$  and the outer bracket, in which the shaft is sustained. The resilience of the spring will be sufficient to hold the gear-wheel  $8^a$  normally in mesh with the gear-wheel 6, a stop-collar  $7^b$  on the shaft 7 being provided to limit the outward projection of the outer end of the shaft. In order that the gear-wheel  $8^a$  may be disengaged from the gear 6 to reset the dial 8, I provide a key, as indicated in Fig. 4, that may be inserted through an opening in the face of the casing and manipulated to push the gear inward and turn the dial to its initial position.

Arranged in casing on a suitable shaft below the dial 8 is another dial 9 and gear-wheel  $9^a$ , said dial having a series of numbers (designating various sums of money) that are multiples of the total amount registrable by



a complete rotation of the dial 8, and to effect the rotation of this dial 9 step by step upon the rotation of the dial 8 the gear-wheel 8<sup>a</sup> is furnished with a projecting tooth or finger 5 8<sup>b</sup>, that in each rotation of the dial 9 engages and rotates the gear 9<sup>a</sup> of the dial 9. The dial 9 may have devices for permitting its re-setting like those shown in connection with dial 8.

10 In the left-hand side of the casing, nearly opposite the shaft 7 and parallel thereto, is shown a stationary shaft 10, upon which are four number or indicator wheels 11, 11<sup>a</sup>, 11<sup>b</sup>, and 11<sup>c</sup>, each of which is furnished at one 15 side with a gear, all being freely rotatable in said shaft. These number or indicator wheels are held at fixed distances apart on said shaft by means of collars or stops placed on the shaft on either side of the number-wheel. 20 The periphery of the outermost or front wheel is provided with numbers corresponding, as far as the number of teeth on its gear will permit, to the numbers on the dial, and the gear-wheel of this number or indicator wheel is engaged and rotated by the gear-wheel 6. Each 25 of the number or indicator wheels is furnished with an auxiliary tooth or projection 11<sup>d</sup>.

Extending about centrally through the casing and parallel to the stationary shaft 10 is 30 another shaft 12, having thereon freely-rotatable sleeves 13, 13<sup>a</sup>, and 13<sup>b</sup>, that have toothed ends or heads. These sleeves are of such length and are so placed on the shaft that when one of the toothed heads of a sleeve is 35 engaged with the toothed portion of a number or indicator wheel the other toothed head will be in position to be struck and turned a tooth by the projection 11<sup>d</sup> on the adjacent number or indicator wheel. One complete 40 rotation of the wheel 11 therefore causes the wheel 11<sup>a</sup> to move one tooth, and the same is true with respect to wheels 11<sup>a</sup> and 11<sup>b</sup> and 11<sup>b</sup> and 11<sup>c</sup>, so that the amount registered by wheel 11 is multiplied by wheel 11<sup>a</sup>, and the 45 amounts registered by wheel 11<sup>a</sup> are multiplied by wheel 11<sup>b</sup>, and so on to wheel 11<sup>c</sup>. To prevent accidental movement of the wheels 11, 11<sup>a</sup>, 11<sup>b</sup>, and 11<sup>c</sup>, stop-pawls like that shown at 11<sup>e</sup>, Fig. 2, may be provided.

50 Pivoted on a standard 14 on the upper side of the wall 1<sup>b</sup> is a latch-lever 15, one end of which is pointed and extends upward to the teeth of the wheel 11, while the other end extends downward through a hole in the wall 55 1<sup>b</sup>. The upper end of the latch-lever may be held normally in engagement with the teeth of the wheel 11 by means of a spring 15<sup>a</sup>.

The cash-drawer is made with a central partition 2<sup>a</sup>, recessed at the front end of its 60 upper edge to form a shoulder 2<sup>b</sup>, and when the drawer is pushed entirely in the lower

end of the latch-lever drops into the recess and locks the drawer.

The rear wall of the cash-drawer recess is provided with a spring 16, that presses against 65 the drawer when the latter is pushed in and tends to eject the drawer when the latch end of the lever 15 is lifted. The latch end of the lever is lifted by the action of a tooth on the gear 11 when the latter is turned in the proper 70 operation of the register and the cash-drawer is automatically opened. The drawer may also be released by means of a lever 17, pivoted in the front wall of the case, having its inner end arranged under a shoulder 15<sup>a</sup> on 75 the latch-lever 15 and its outer protruding end furnished with a key to be pressed by a finger of the hand. This key may be called the "change-key."

Any approved alarm or signal device may 80 be employed to indicate that the drawer is being opened.

What I claim, and desire to secure by Letters Patent, is—

1. In a cash-register, the combination of a 85 single rotatable dial 4 bearing numbers or figures and having pawl 4<sup>b</sup>, a toothed wheel 6 operated by said pawl, dials 8 and 9 operated by said wheel 6 to indicate receipts during a 90 day, means independent of dials 8 and 9 to indicate accumulated receipts comprising shaft 10, toothed indicator-wheels 11 11<sup>a</sup> on said shaft, shaft 12, toothed sleeve 13 on shaft 12 meshing with wheel 11<sup>a</sup> at one end, and projection 11<sup>d</sup> on wheel 11 adapted to engage the 95 toothed sleeve at its other end, the teeth of wheel 11 meshing with and operated by wheel 6, substantially as shown and described.

2. In a cash-register, the combination of a 100 single rotatable dial 4 bearing numbers or figures and having pawl 4<sup>b</sup>, a toothed wheel 6 operated by said pawl, dials 8 and 9 operated by said wheel 6 to indicate receipts during a 105 day, means independent of dials 8 and 9 to indicate accumulated receipts comprising shaft 10, toothed indicator-wheels 11 11<sup>a</sup> on said shaft, shaft 12, toothed sleeve 13 on shaft 12 meshing with wheel 11<sup>a</sup> at one end, projection 11<sup>d</sup>, on wheel 11 adapted to engage the toothed 110 sleeve at its other end, the teeth of wheel 11 meshing with and operated by wheel 6, and the drawer-latch 15 having one end arranged to be engaged and operated also by the teeth of wheel 11, substantially as shown and described. 115

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

OTTMAR A. GATRELL.

Witnesses:

G. W. ALFRED,

GEORGE M. FINCKEL.