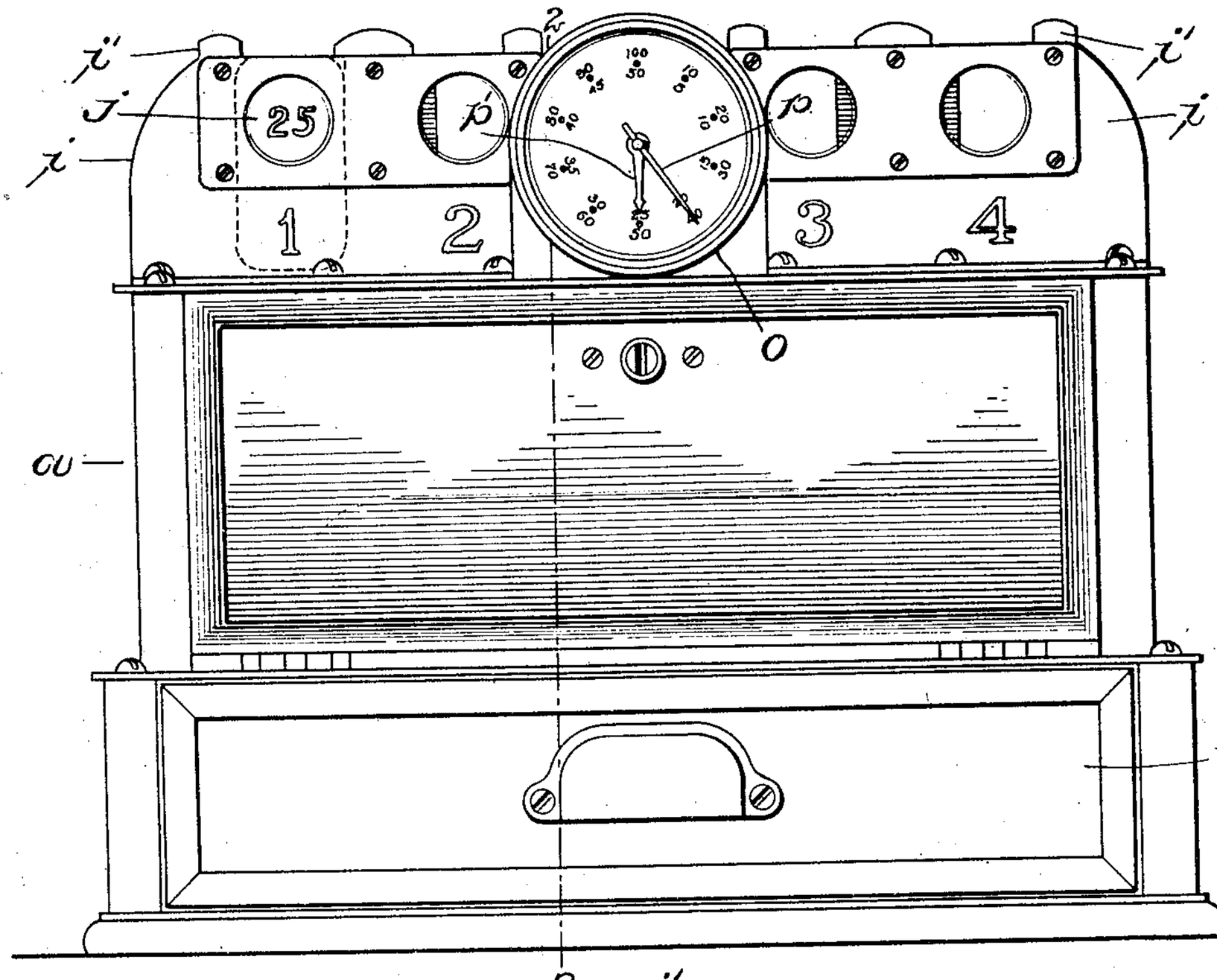
No. 746,300. PATENTED DEC. 8, 1903.

T. E. DAVIS.

CASH REGISTER.

APPLICATION FILED JAN. 14, 1903.

NO MODEL. 2 SHEETS—SHEET 1.



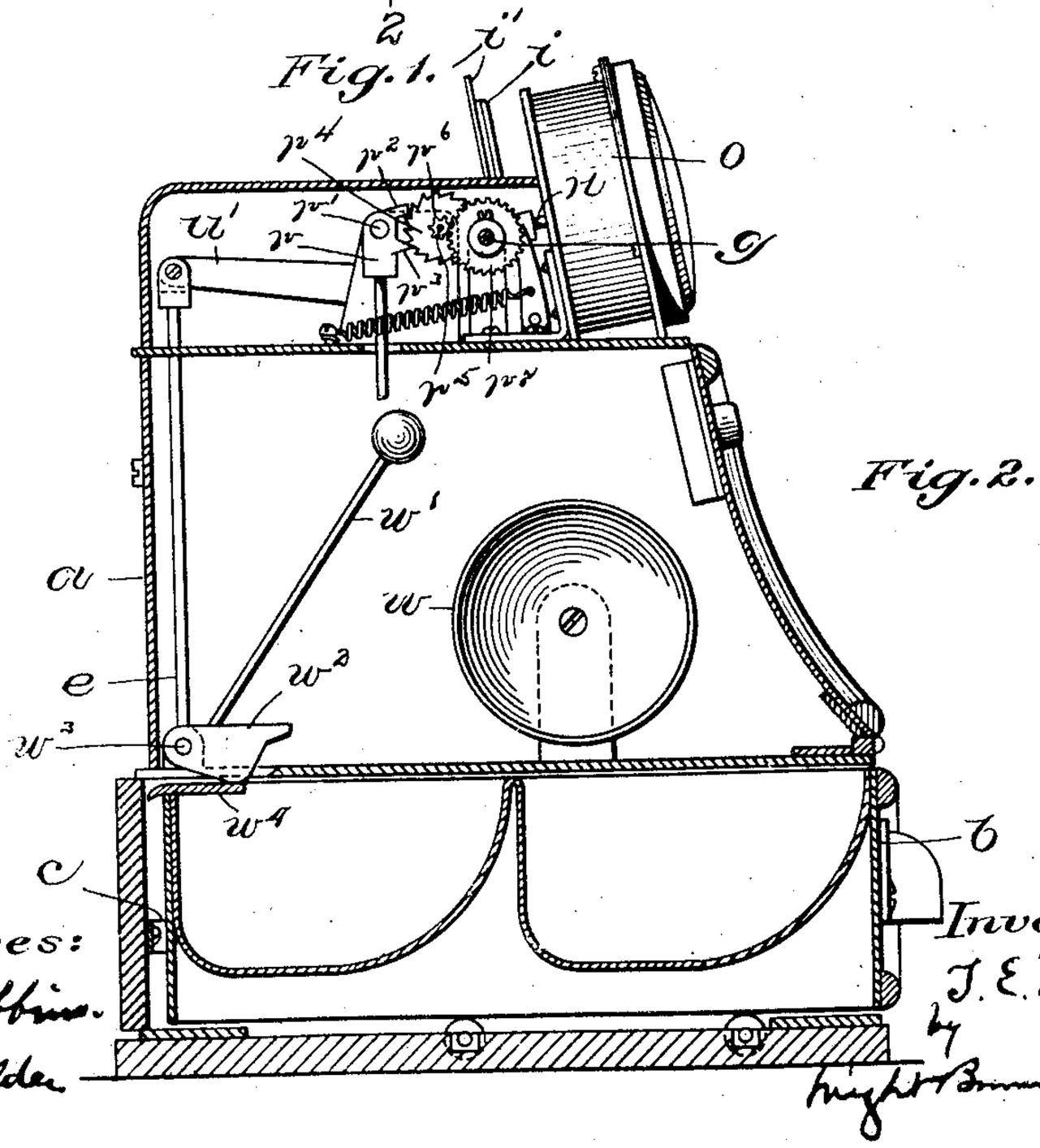


Fig. 2.

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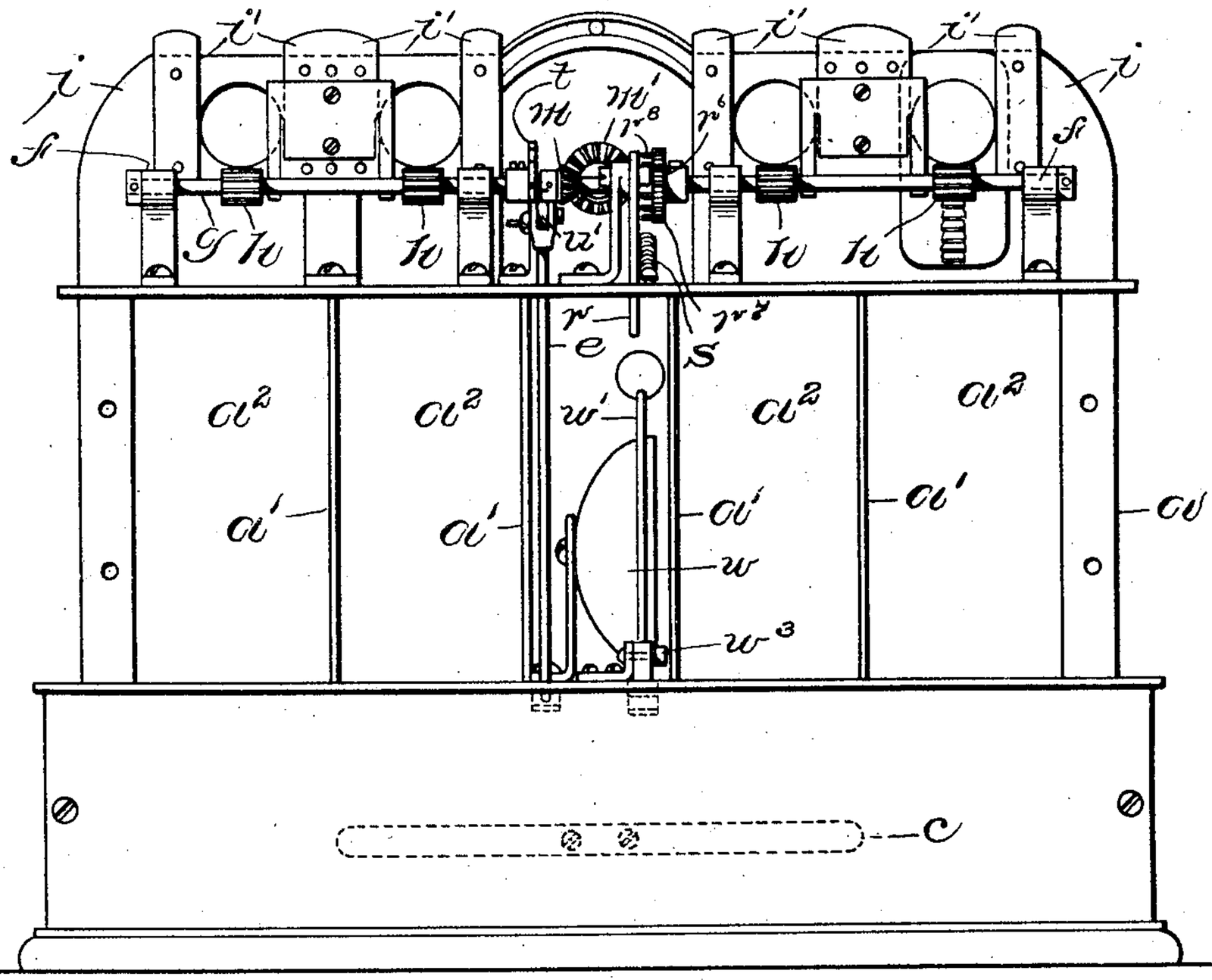

Fig. 3.

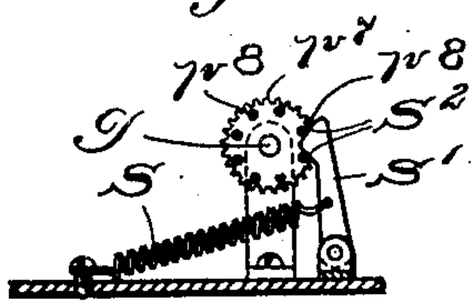

Fig. 5.

Fig. 8.

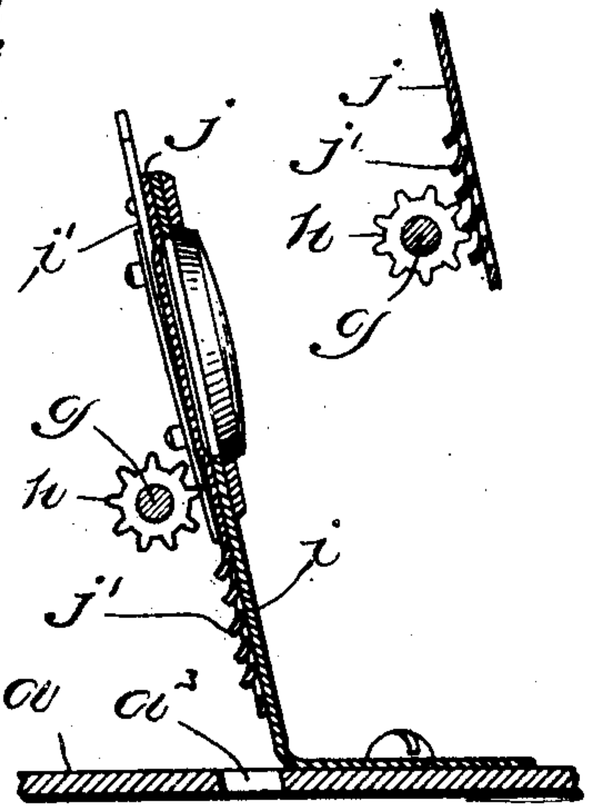

Fig. 6.

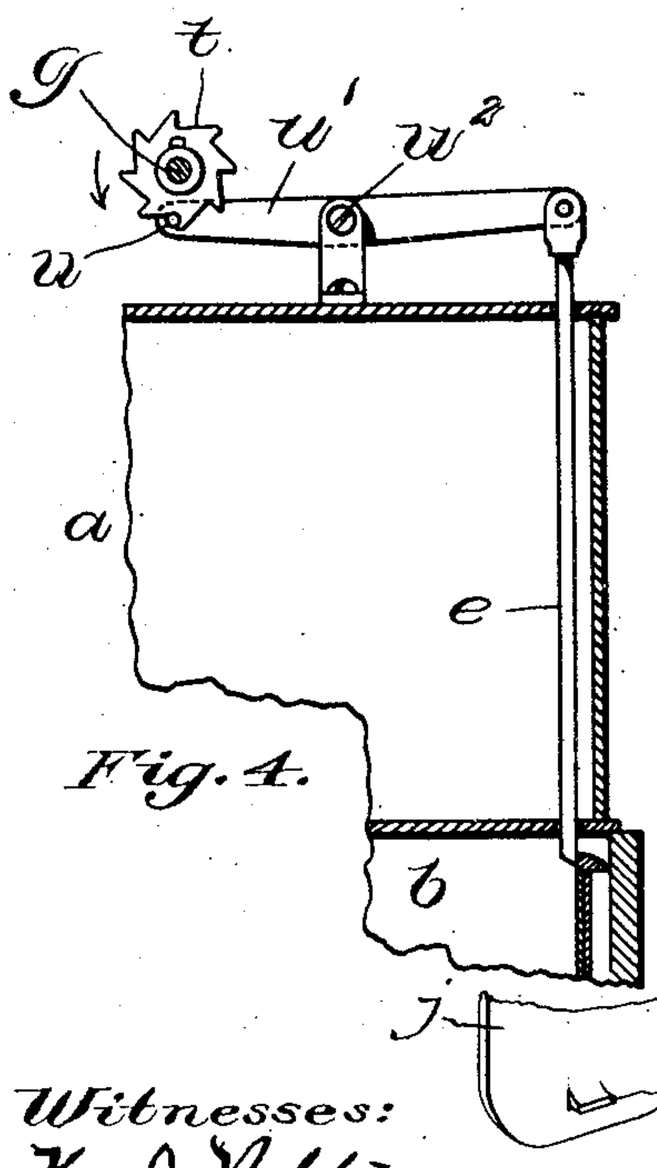

Fig. 4.

Fig. 7a.

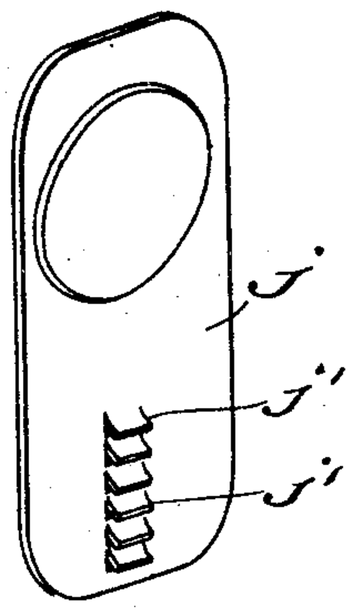

Fig. 7.

Witnesses:
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E. Baldwin

Inventor:
T. E. Davis
by Hughes Dunn & Dunlap
attys

No. 746,300. Patented December 8, 1903.

UNITED STATES PATENT OFFICE.

THOMAS E. DAVIS, OF CAMBRIDGE, MASSACHUSETTS.

CASH-REGISTER.

SPECIFICATION forming part of Letters Patent No. 746,300, dated December 8, 1903.

Application filed January 14, 1903. Serial No. 138,955. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. DAVIS, of Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Cash-Registers, of which the following is a specification.

This invention has for its object to provide a cash-register adapted particularly for use in barber-shops to furnish not only a record of the individual work done and cash received by each workman in the shop, but also the total amount of cash received by all the workmen.

The invention consists in a cash-register system comprising a register mechanism and a series of checks adapted to be inserted in receptacles contained in the casing of the mechanism by the workman, each check being constructed as an actuating device to actuate the registering mechanism while it is being inserted.

The invention also consists in various improvements incidental to the object of my invention, all of which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification, Figure 1 represents a front elevation of a register embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents a rear elevation, portions of the casing being removed to show the operating mechanism. Figs. 4, 5, and 6 represent sectional details, showing different parts of the mechanism. Fig. 7 represents a perspective view of one of the checks forming a part of the system. Figs. 7^a and 7^b represent perspective views of parts of two other checks having different numbers of teeth. Fig. 8 represents a sectional view showing one of the checks engaged with a pinion.

The same reference characters indicate the same parts in all the figures.

In the drawings, *a* represents a frame or casing, which may be of any suitable size and shape. The lower portion of the casing contains a cash-drawer *b*, behind which is a spring *c*, adapted to partially open the drawer when the drawer-locking bolt *e* is raised by the means hereinafter described. The portion of the casing immediately above the drawer *b* is subdivided by partitions *a'* into a series of compartments a^2, access to which may be had by opening the front wall or plate of the casing, which is made removable or hinged for this purpose.

Journaled in bearings *f f* on the upper portion of the casing is a horizontal shaft *g*, provided with a series of pinions *h*, fixed thereon, one for each compartment a^2, each pinion being located over one of said compartments, as shown in Fig. 3. At one side of the shaft *g* are located a series of guides arranged in pairs, each pair of guides being located above a slot a^3 in the upper portion of the casing *a*, each slot communicating with one of the compartments a^2. The parts composing the said guides are preferably inclined plates *i i*, fixed to the top of the casing, and guide-strips *i' i'*, fixed to said plates, the edges of said strips forming guides adapted to engage the edges of checks *j*. The guides are formed and arranged so that a check may be inserted between the upper ends of any pair of guides and moved downwardly through the slot a^3 below said guides, each pair of guides being arranged to guide a check into one of the slots a^3. Each check *j* is a strip of sheet metal or other rigid material formed to be inserted between the guide-strips *i' i'* and to pass downwardly between said strips and through a slot a^3 into the corresponding compartment a^2. Each check *j* is provided with one or more rack-teeth *j'*, adapted to engage the pinions *h*, so that the downward movement of the check between the guides will cause a partial rotation of the accompanying pinion *h* and of the shaft *g*, the extent of said rotation depending upon the number of teeth upon the check. The teeth *j'* are preferably formed by forcing portions of the material of the check out of the plane of the check, the teeth being therefore integral with the body of the check and each being inclined, as shown in Figs. 6, 7, and 8. The number of teeth on the checks depends upon the amount represented by the check. For instance, one check may have one tooth, so that its downward movement will give the minimum degree of rotation to the shaft *g*, another check may have two teeth, and so on up to the highest number.

Fig. 7 shows a check having six teeth. Fig.

7ª shows a check having one tooth. Fig. 7ᵇ shows a check having two teeth. Figs. 6 and 8 each show a check having five teeth.

The shaft *g* constitutes a part of a register-operating mechanism, which in this embodiment of my invention is organized as a whole as follows: *m* represents a bevel-pinion affixed to the shaft *g* and meshing with a bevel gear or pinion *m'* on a shaft *n*. Said shaft *n* is journaled in a casing *o*, within which casing it imparts motion to suitable mechanism for operating hands or pointers *p p'*, located outside a dial at the outer surface of the casing. It will be seen that rotary motion imparted to the shaft *g* by means of a check *j* and the pinion *h*, engaged thereby, will impart motion to the register-shaft *n* through the bevel gears or pinions *m m'*. The register will therefore show at the close of the day's operations the number of check-teeth *j'* that have engaged the pinions on the shaft *g*. Each workman may be supplied with a number of checks, the checks having different numbers of teeth. Each tooth may be supposed to represent work done to the value of five cents. If, therefore, the workman has completed a twenty-five-cent job, he inserts in his compartment of the apparatus a check having five teeth. This check in passing downwardly between the guides *i' i'* is caused to engage the corresponding pinion *h* and impart a corresponding rotation to the shaft *g*, the shaft in turn actuating the indicator. At the end of the day's work the casing may be opened and the checks removed and counted, the sum-total represented by the checks being then compared with the total amount indicated by the register.

To prevent the shaft *g* from being rotated after the last tooth of the check has passed the accompanying pinion, I provide an escapement comprising a pendulum *r*, pivoted at *r'* and having pallets r^2 r^3, engaging an escapement-wheel r^4, which is affixed to a shaft r^5, having a pinion r^6, meshing with a gear r^7, affixed to the shaft *g*. The gear r^7 is provided with a series of pins r^8, against which is held by a spring *s* an arm *s'*, having inclined faces s^2 s^2, which form an angular projection adapted to enter the space between two adjacent pins r^8, as shown in Fig. 5. The escapement prevents loose rotation of the shaft, and the spring-pressed arm *s'*, coöperating with the pins r^8, brings the shaft to a stop, with its pinions *h* in the exact position required to properly engage the teeth of the checks.

The shaft *g* is provided with a ratchet-wheel *t*, the teeth of which engage a pin *u* on a lever *u'*, which is pivoted at u^2 and is engaged with the upper end of the drawer-locking bolt *e*. The ratchet *t* is rotated by the shaft *g* in the direction indicated by the arrow in Fig. 4, its teeth being thus caused to alternately depress and release the end of the lever *u'*, carrying the pin *u*. The locking-bolt *e* is therefore alternately raised and depressed. The first raising of the bolt enables the spring *c* to project the drawer, which thereupon flies partly open, this taking place simultaneously with the rotation of the shaft *g* by the action of a check on one of the pinions *h*.

w represents a gong affixed to the casing, and *w'* a hammer secured to an arm w^2, which is pivoted at w^3 to the casing and bears on a plate w^4, affixed to the drawer *b'*. When the drawer has been sufficiently opened to carry the plate w^4 from under the arm w^2, the latter drops, permitting the hammer to strike the gong, and thus announce the opening of the drawer.

I claim—

1. An apparatus of the character stated, comprising a casing having a series of receiving-compartments, registering mechanism including a single elongated shaft located above said compartments and having a series of gears or pinions fixed thereon, one for each compartment, a register, connections between the register and shaft whereby the register is operated whenever the shaft is rotated, guides adjacent to said shaft and pinions, said guides corresponding in number and position to the gears and compartments, and loose checks movable in said guides, each check being formed to engage a pinion and impart rotary movement thereto and to the register.

2. An apparatus of the character stated, comprising a casing having check-receiving compartments, registering mechanism including a shaft located above said compartments and having gears or pinions, check-guides adjacent to said shaft and pinions, checks movable in said guides and formed to engage said pinions, a cash-drawer movable in the casing, a locking bolt or rod adapted to engage said drawer, and means operated by the rotation of the shaft for reciprocating the locking-bolt.

3. An apparatus of the character stated, comprising a casing having a series of check-receiving compartments, registering mechanism including a single elongated shaft located above said compartments and having a series of gears or pinions fixed thereon, one for each check-compartment, check-guides adjacent to said shaft and pinions, checks movable in said guides and formed to engage said pinions, and means for arresting the rotation of the shaft.

In testimony whereof I have affixed my signature in presence of two witnesses.

THOMAS E. DAVIS.

Witnesses:
EDWARD DAVIS,
C. F. BROWN.