

(No Model.)

3 Sheets—Sheet 1.

L. T. WEISS.
CASH INDICATOR AND REGISTER.

No. 449,393.

Patented Mar. 31, 1891.

Fig. 2.

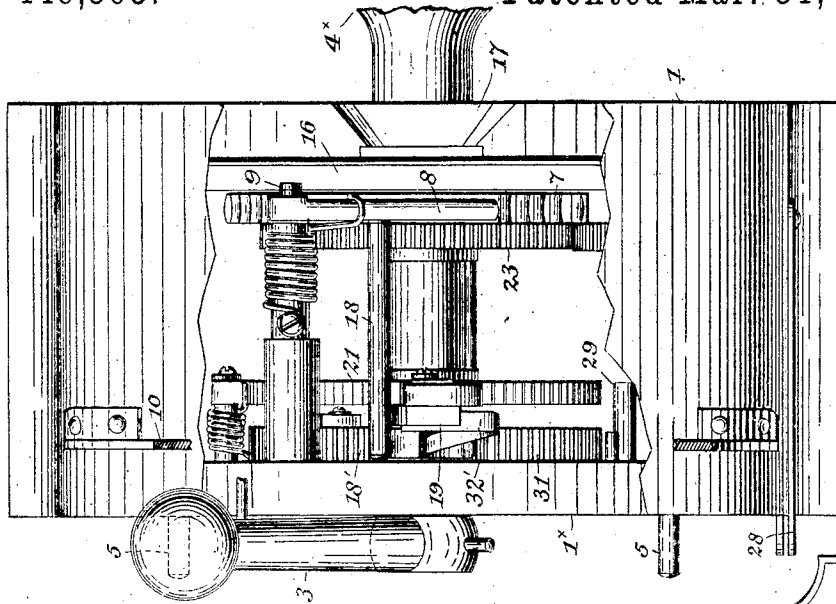
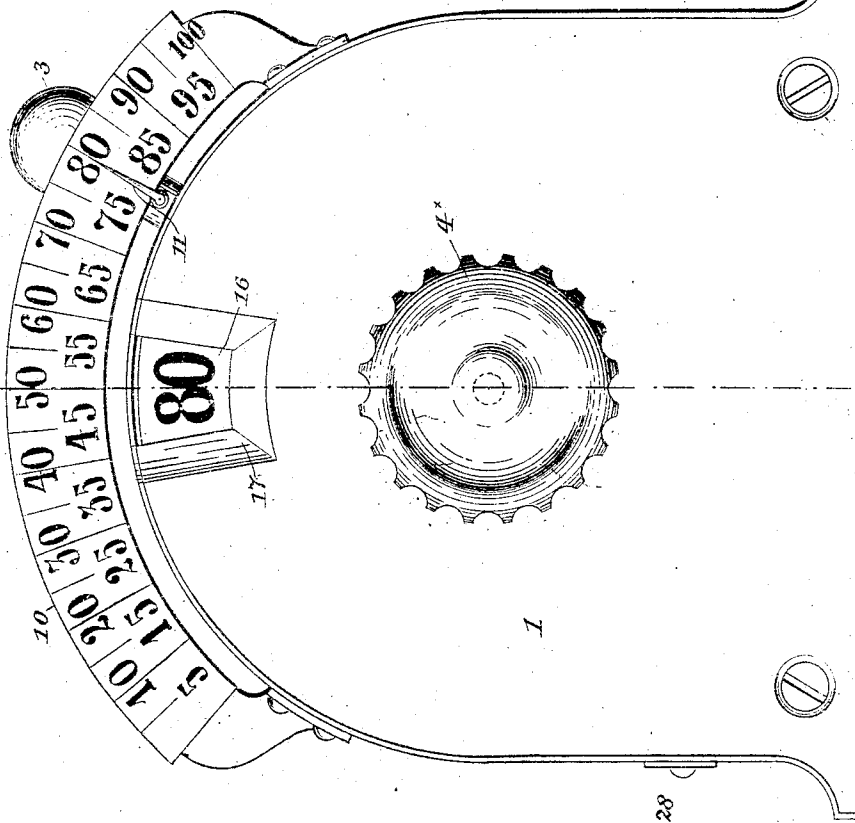


Fig. 1.



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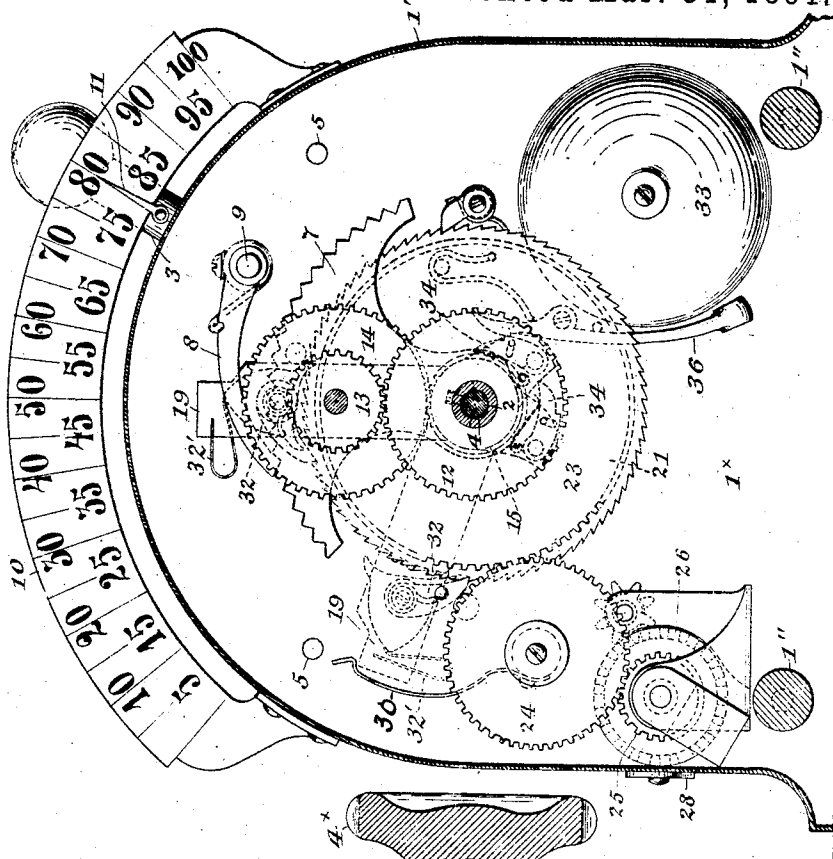
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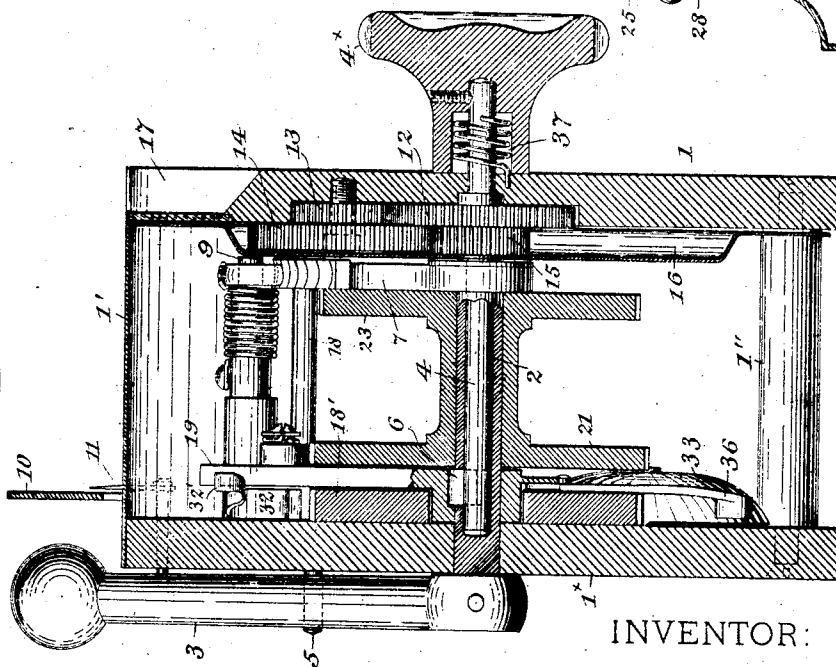
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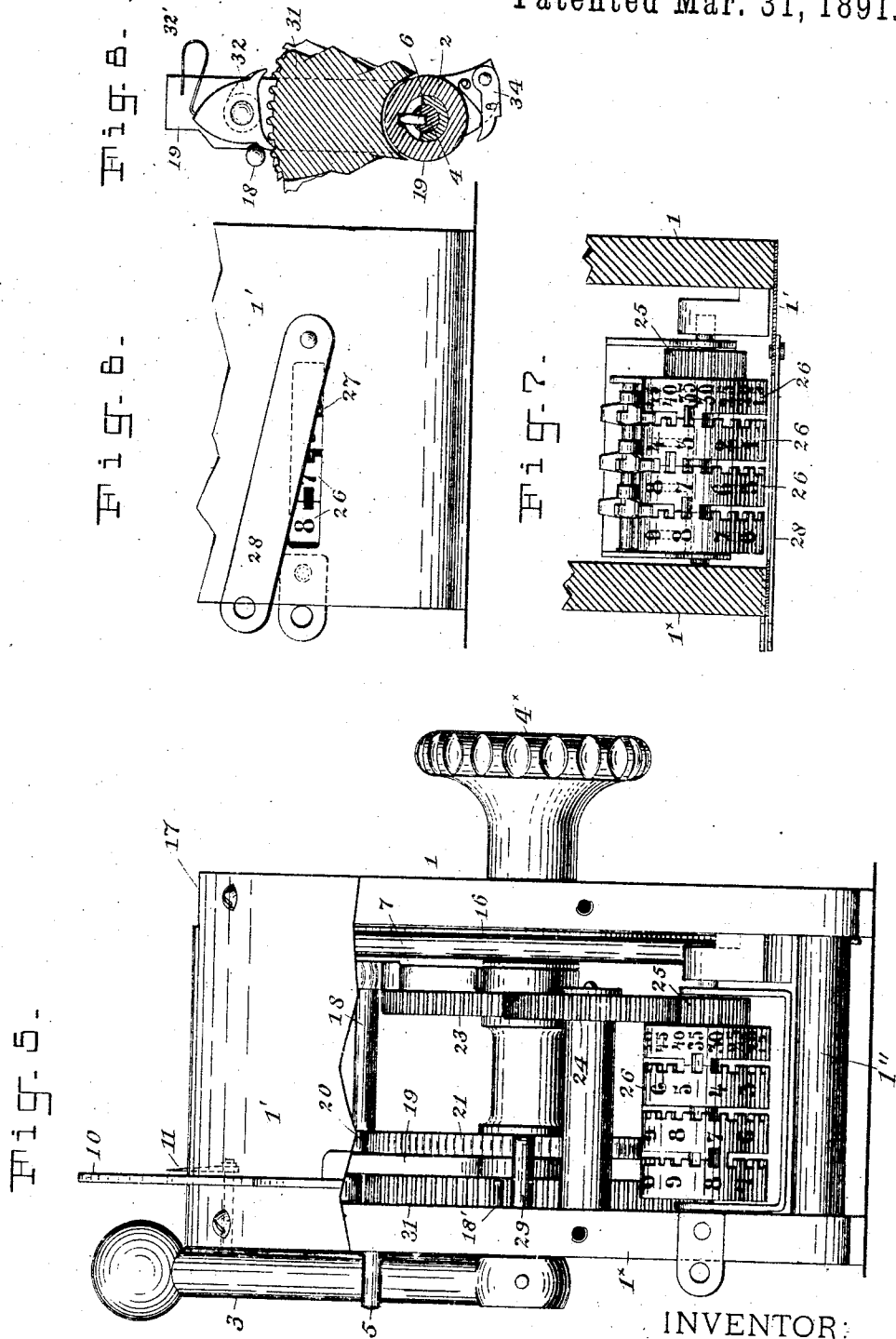
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3 Sheets—Sheet 3.

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No. 449,393.

Patented Mar. 31, 1891.



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UNITED STATES PATENT OFFICE.

LOUIS T. WEISS, OF BROOKLYN, ASSIGNOR TO MURTHA & BURNS, OF NEW YORK, N. Y.

CASH INDICATOR AND REGISTER.

SPECIFICATION forming part of Letters Patent No. 449,393, dated March 31, 1891.

Application filed April 29, 1890. Serial No. 349,987. (No model.)

To all whom it may concern:

Be it known that I, LOUIS T. WEISS, a citizen of the United States, residing in Brooklyn, Kings county, New York, have invented certain Improvements in Cash Counters and Registers, of which the following is a specification.

My invention relates to that class of cash-counters such as are commonly employed in restaurants, bar-rooms, and stores to serve as a check on the cashier or bar-tender.

The apparatus herein described, which embodies my invention, effects three results at each operation, namely: It sounds a gong or bell, exhibits a numeral on a dial, which numeral corresponds with the amount paid by the customer, and adds the amount paid in to the sum already received.

In the accompanying drawings, which serve to illustrate my invention, Figure 1 is a front elevation of the apparatus. Fig. 2 is a plan of the apparatus with the outer casing partially broken away. Fig. 3 is a vertical mid-section taken in the plane indicated by line *a a* in Fig. 1. Fig. 4 is a sectional front elevation with the dial omitted to avoid obscuring the mechanism behind it. Fig. 5 is a side elevation of the apparatus with a portion of the outer casing broken away. Figs. 6, 7, and 8 are detail views that will be hereinafter described.

The mechanism is inclosed in a suitable casing having a semicircular crown or top concentric with the main shaft, and said casing comprises a front plate 1, a similar back plate 1', and an inclosing or covering plate 1". The front and back plates are connected by stout tie-rods 1". In the front and back plates of the casing is mounted a tubular main shaft 2, to which is fixed an operating-arm 3 at the back of the casing. Within the tubular shaft 2 is mounted a shaft 4, to which is secured an operating-knob 4' at the front of the casing. The operating-arm 3 is limited in its movement to ninety degrees, or a quadrant of a circle, by pins 5 in the back of the casing or by other like stops. The inner shaft is retained in place in the shaft 2 by a key 6, which is dropped into a mortise in the shaft 4 through an opening cut in the side of the tubular shaft 2, as seen in Figs. 2 and 8.

This opening in shaft 2 allows the shaft 4 to be rotated to a sufficient extent, as will be explained.

On the exterior shaft 2 is fixed a part-circular rack 7, which has V-shaped notches—twenty or more—with which engages a spring-pawl 8, pivoted on a stud 9. On the crown of the casing is a quadrant-plate 10, (see Figs. 1 and 3,) which is divided into twenty equal divisions, numbered 5, 10, 15, 20, &c., up to 100, as clearly shown. A pointer 11, carried by the arm 3, traverses this quadrant-plate. The notches in the rack 7 are so arranged with reference to the pawl 8 that when the pointer 11 is moved to any numeral on the plate 10 said pawl will snap into and engage one of said notches, and thus serve to stop and retain the arm at the proper point. The clicking of the pawl assists the operator in stopping the pointer at the proper numeral, and the pawl holds the arm 3 with some degree of firmness in the position set.

On the shaft 2 is fixed a toothed wheel 12, which gears with a toothed wheel 13, having half as many teeth as wheel 12, mounted relatively on a stud in the front plate of the casing. To this wheel 13 is fixed a wheel 14, of the same size as wheel 12, which wheel 14 gears with a wheel 15, of the same size as wheel 12, which wheel 15 turns loosely on shaft 2. To the wheel 15 is secured a circular dial 16, the rim of which revolves just inside the front plate 1 of the casing. The train of wheels 12, 13, 14, and 15 causes the arm 3, in moving through a quarter of a circle between the stop-pins 5, to impart one complete rotation to the dial 16. This dial has marked on its face near the margin a series of twenty conspicuous numerals, 5 10 15, &c., to 100, these numerals corresponding to those on the plate 10. The numerals on the dial are so arranged that when the pointer 11 stands at a given numeral on plate 10—as “80,” for example, (see Fig. 1)—the numeral “80” on the dial will appear at a glazed aperture 17 in the front plate of the casing, as clearly shown. In the rack 7 is fixed a stop-pin 18, the function of which will be explained.

Having now described the indicator mechanism, I will proceed to describe the adding mechanism, which is controlled thereby.

On the shaft 2 is loosely mounted a pawl-arm 19, in the boss of which is a keyway, which is engaged by the key 6. Thus the pawl-arm follows the movements of the inner shaft 4, which actuates it. A spring-pawl 20 on this arm engages the teeth of a ratchet-wheel 21, which turns loosely on shaft 2. A stop-pawl 22 prevents backward rotation of the wheel 21. Fixed to the ratchet-wheel 21 is a gear-wheel 23, which gears with an intermediate wheel 24. This intermediate wheel gears with a pinion or wheel 25, secured to the primary wheel of the series of adding-wheels 26. These adding-wheels form part of a well-known adding mechanism, which will require no further description. It will only be necessary to say that the numerals on the faces of the several wheels 26, which numerals form parts of the sum, will appear at an aperture 27 in the casing, as seen in Figs. 6 and 7, the former of which is an elevation and the latter a sectional plan of this portion of the apparatus detached. This aperture 27 may be closed by a wicket or plate 28 in a well-known way.

The apparatus operates as follows: When the attendant receives a sum of money—as eighty cents, for example—he moves the arm 3 around until the pointer 11 stands at “80” on the quadrant-plate 10. This will have the effect to rotate the dial 16 until the numeral “80” thereon is visible at the glazed sight-aperture 17 and appears prominently before the person paying the money. This operation I call “indicating,” and it has the effect, in addition to shifting the dial, of setting the stop-pin 18 (which moves with the arm 3) at the proper point in the path of the pawl-arm 19 to limit the movement of the latter. It may be stated here that when the pawl-arm 19 is vibrated to its full extent, equal to ninety degrees, it will have the effect to add to the sum already indicated by the wheels 26 the amount of one dollar, or one hundred cents, and the shifting of the stop-pin 18 by the setting operation before described limits this vibration of said arm to such an extent that it will add only eighty to said sum. After setting the apparatus, as above set forth, the operator grasps the knob 4^x and turns it to the right as far as it will go. The effect of this is to swing the pawl-arm 19 over to the right until it strikes the stop-pin 18, the pawl 20 riding over the teeth of ratchet-wheel 21. He then turns the knob 4^x back toward the left as far as it will go, whereby the ratchet-wheel 21 is rotated by the pawl until the pawl-arm 19 is stopped by a fixed stop-pin 29, against which impinges the pawl 20. In order to prevent accidental disarrangement of the pawl-arm in setting the apparatus, I prefer to employ a detainer 30, (seen in Fig. 4,) which consists of a flat bent spring mounted on the casing. This spring takes over the end of said arm 19 when it is “home.” This device is not essential, and is only a precau-

tionary device. It does not offer any very material resistance to the movement of the arm.

In order to compel the operator to move the pawl-arm 19 throughout the whole extent of its vibration in both directions, I employ a rack 31, fixed to the back plate of the casing, and a shifting dog 32, mounted on the pawl-arm 19 and adapted to engage this fixed rack 31. In Fig. 6 I have shown the rear face of the arm 19 detached, showing the dog 32 with one of its two teeth engaging the rack 31. When shifted by contact with either of the shifting pins 18 or 18', the dog is held in position by its spring 32'. I do not herein claim this shifting dog and its rack. When the arm 19 is brought back home by turning the knob 4^x toward the left, it sounds a gong 33 through the medium of a spring-trip 34 on the lower end of the arm 19, which engages a similar trip 35 on the hammer-arm 36.

I have described the pawl-arm 19 as being brought home by turning the knob 4^x to the left with the hand; but I prefer to provide means for retracting the said pawl-arm automatically, as by a spring. In Fig. 3 I have shown such a retracting-spring arranged within the stem of the knob 4^x. The stem of said knob is recessed to form a spring-casing, in which is placed a coil-spring 37, which embraces the shaft 4, and is fixed at one end to said shaft and at the other end to the casing. I prefer to so gear the dial 16 to the rock-shaft 2 that it shall make a complete rotation on said shaft when the latter shall have made one-fourth of a complete rotation; but this proportion is not essential. The dial is made concave at its central portion, so as to house the gearing which drives it and enable the rim-portion of the dial on which the conspicuous numerals are marked to stand close to the glazed aperture 17.

The housing of the rock-shaft 4 within the rock-shaft 2 conduces materially to compactness of the apparatus. In assembling the parts the shafts are slipped together, the pawl-arm is slipped on, the key 6 dropped into its place in shaft 4, and the arm slipped over said key so as to engage it. The key secures the two shafts together, and the boss of the pawl-arm is confined between the key and the back plate of the casing.

As here shown the apparatus is designed to add up only sums of five and multiples thereof.

Having thus described my invention, I claim—

1. In a cash counter and register, the combination, with the casing and the plate 10, bearing a series of numerals, as described, of the rock-shaft 2, mounted in said casing, the arm 3 on said shaft, furnished with a pointer which traverses the plate 10, the dial 16, mounted loosely on the shaft 2 and marked with conspicuous numerals adapted to be brought before a sight-aperture in the casing

by the rotation of said dial, the gear-wheel 12 on shaft 2, the gear-wheel 15, fixed to the dial, and the intermediate gear-wheels 13 and 14, whereby a quarter-rotation of the shaft 2 effects a complete rotation of said dial, substantially as set forth.

2. In a cash counter and register, the combination, with the casing and the tubular rock-shaft 2, which actuates the setting mechanism, of the rock-shaft 4, which actuates the adding mechanism, mounted on the said shaft 2, the arm 19, mounted loosely on the shaft 2, and the key 6, which engages the shaft 4 and arm 19, said key playing in an opening in the side of the tubular shaft 2, substantially as set forth.

3. In a cash counter and register, the combination, with the casing, of the tubular shaft 2, the stop-pin 18, carried by and moving with said shaft, the rock-shaft 4, arranged within the tubular shaft 2, the pawl-arm 19, connected to and actuated by said shaft 4, the pawl 20, carried by said arm, and the ratchet-wheel 21, with which said pawl engages, said

ratchet-wheel being mounted loosely on the shaft 2, substantially as set forth.

4. In a cash counter and register, the combination, with a casing having a sight-aperture 17 and a quadrant-plate 10 mounted thereon and having numbered graduations on its face, of the rock-shaft 2, the operating-arm 3 thereon provided with a pointer 11, which traverses plate 10, the dial 16, mounted loosely on shaft 2 and having conspicuous numerals on its face adapted to be brought to the sight-aperture in the casing by rotation of said dial, and mechanism, substantially as described, whereby the rocking of the shaft 2 imparts a rotary movement to said dial, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

LOUIS T. WEISS.

Witnesses:

HENRY CONNETT,
J. D. CAPLINGER.