June 5, 1934. W. H. ROBERTSON 1,961,169

CASH REGISTER

Original Filed March 4, 1927

FIG. 1

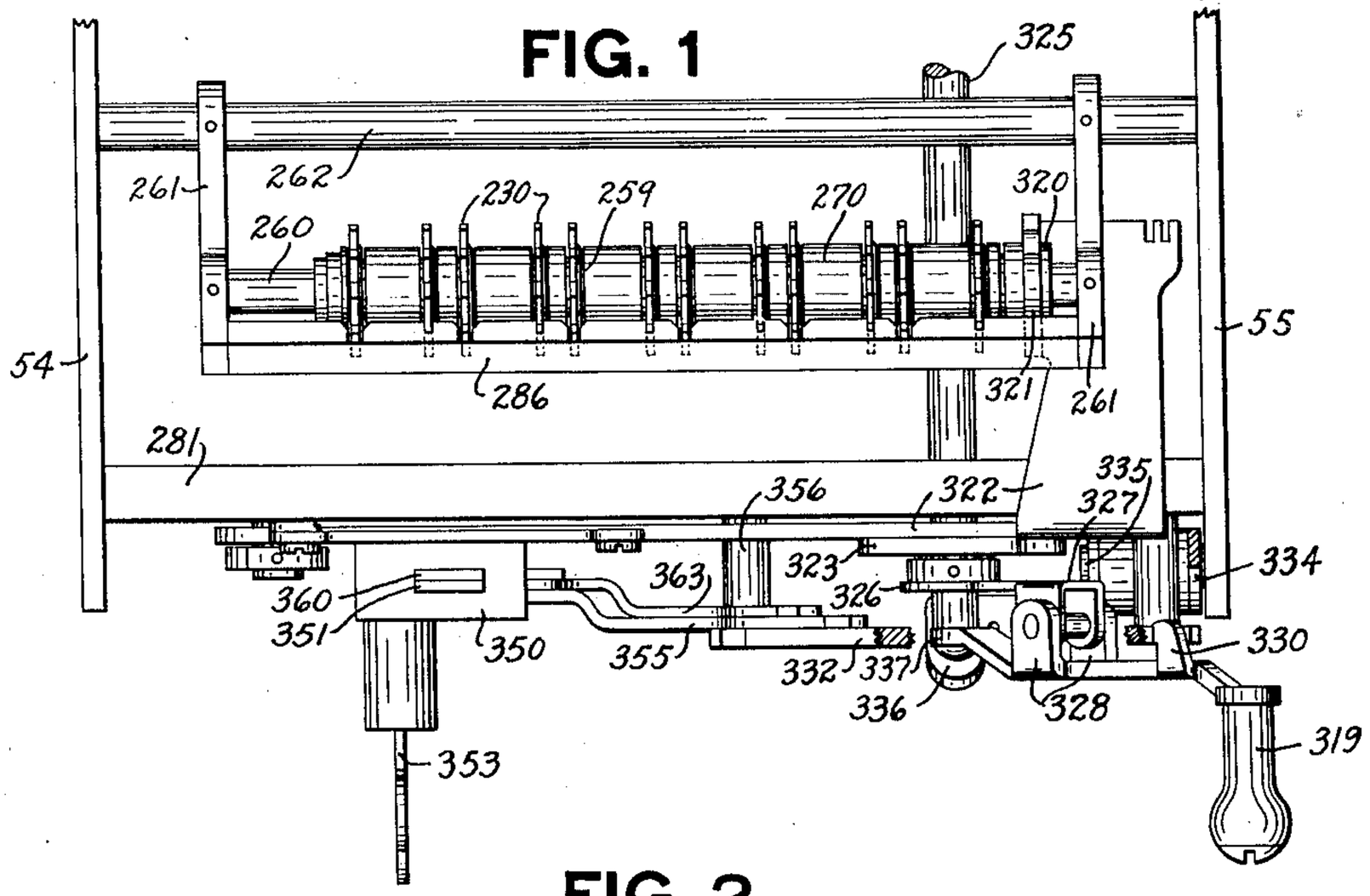


FIG. 2

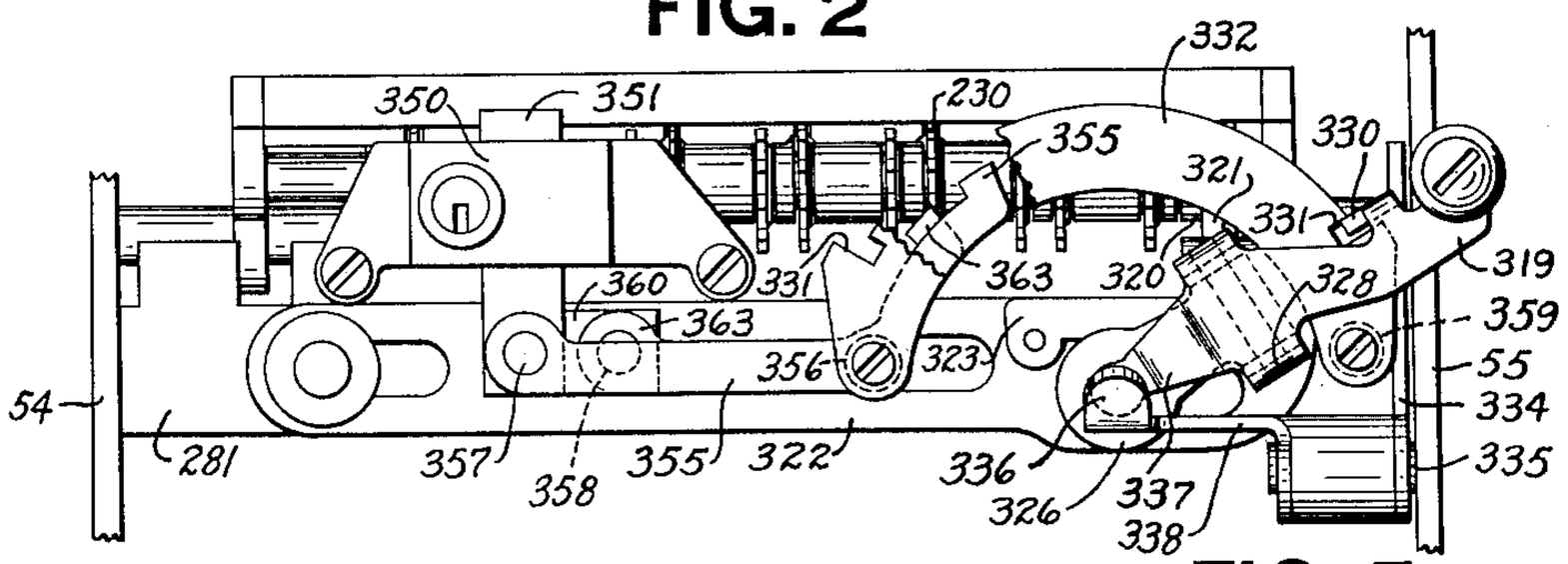


FIG. 3

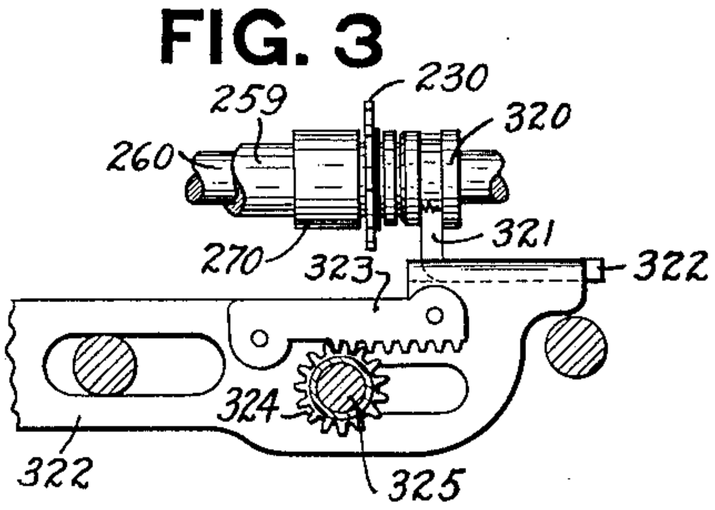


FIG. 4

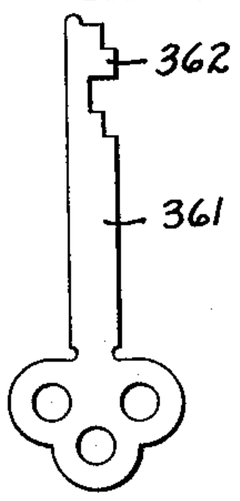


FIG. 5

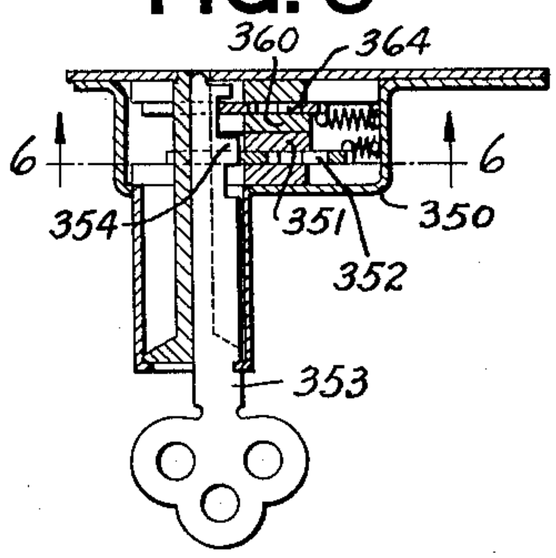


FIG. 6

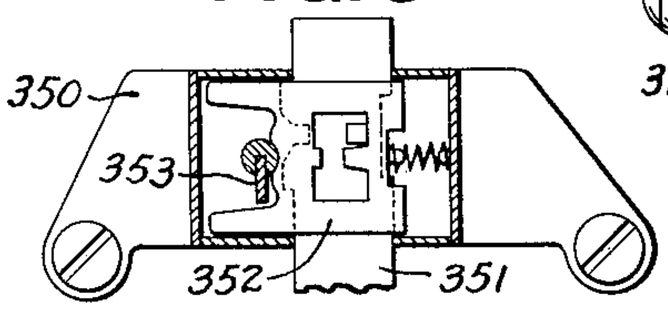
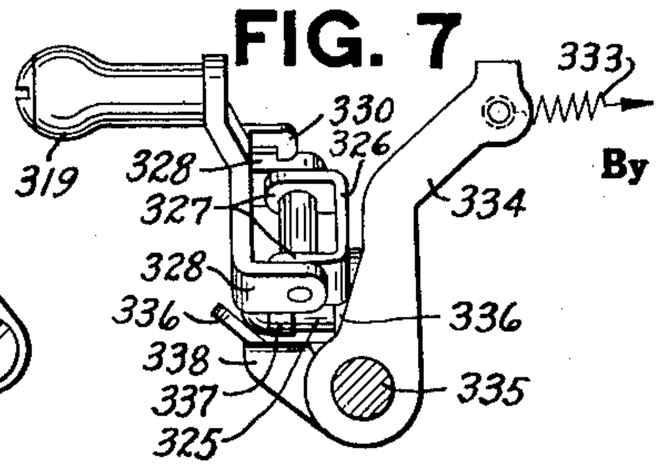


FIG. 7



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UNITED STATES PATENT OFFICE

1,961,169

CASH REGISTER

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Original application March 4, 1927, Serial No. 172,660. Divided and this application July 7, 1930, Serial No. 465,879

11 Claims. (Cl. 235—130)

This invention relates to locking mechanism for registers and calculating machines, and more particularly to the type shown and described in my co-pending application for United States Letters Patent, Serial No. 172,660, filed March 4, 1927, of which this is a division.

An object of this invention is to provide a totalizer selecting lever which may be locked out of its effective positions by a single lock controlled by a different key for each position.

Another object is to provide a lock having more than one bolt, each bolt operated independently of the other by a separate key.

With these and incidental objects in view, the invention includes certain novel features of construction and combinations of parts, the essential elements of which are set forth in appended claims and a preferred form or embodiment of which is hereinafter described with reference to the drawing which accompanies and forms a part of this specification.

Of said drawing:

Fig. 1 is a top plan view of the totalizer, together with the selecting lever and the lock for controlling the lever.

Fig. 2 is a front elevation of the selecting lever and the lock for locking the lever in various positions, and a part of the totalizer.

Fig. 3 is a detail view of a part of the totalizer selecting mechanism.

Fig. 4 is a view of one of the keys for operating the lock.

Fig. 5 is a cross-sectional view through the totalizer selecting lever lock, with one of the keys inserted.

Fig. 6 is a detail view taken on line 6—6 of Fig. 5.

Fig. 7 is a detail view of the totalizer selecting lever and the tension arm.

General description

The invention is shown applied to a machine having a plurality of totalizers and a single lever for selecting any one of the totalizers. Amounts may be added into the selected totalizer under control of banks of amount keys, not shown herein, but which are fully shown and described in the parent application referred to.

Each of the plurality of totalizers is assigned to a clerk, and any clerk can select his totalizer by shifting the lever to the proper position. At times, a clerk may desire to leave the store, and to prevent anyone from tampering with his totalizer during his absence, a lock is provided to prevent any unauthorized person from shifting the totalizer selecting lever into position to select the absent clerk's totalizer.

In the embodiment disclosed herein, a single lock has been provided, having a plurality of bolts, one for each clerk, each bolt being operable by an individual key in the possession of a clerk. By this means any clerk can insert his individual key into the lock, and by throwing the bolt corresponding to his key into the path of the totalizer selecting lever, the clerk can prevent any unauthorized person from shifting the lever into position to select his totalizer.

Detailed description

The machine illustrated is provided with two interspersed totalizers, each including a set of pinions 230 (Figs. 1 and 2). The totalizer pinions 230 are rotatably supported on a sleeve 259, slidably mounted on a shaft 260, supported by arms 261, and held in proper alignment on the sleeve 259, by spacing collars 270. The arms 261 are secured to a shaft 262, extending between and journaled in the main side frames 54 and 55 of the machine.

Mechanism (not shown but fully illustrated and described in the previously mentioned parent application) is provided to rock the shaft 262, and arms 261 secured thereto, to engage the totalizer pinions 230 with the actuators (not shown) to add an amount into the selected totalizer.

As the engaging mechanism forms no part of the present invention, no further description thereof is thought necessary.

In order to prevent accidental rotation of the totalizer pinions 230 not in engagement with the actuators, an aligner bar 286 (Fig. 1) carried between the arms 261, and extending across the totalizer pinions 230 is provided. This bar 286 is notched to permit free rotation of the pinions which are engaged with the actuator.

The sleeve 259, upon which the totalizer elements are mounted, is shifted by a manually operable lever 319 (Figs. 1 and 2). The right-hand end of the sleeve 259 has secured thereto a grooved collar 320, engaged by an upwardly extending arm 321 of a totalizer selecting slide 322. The totalizer selecting slide 322 is slidably mounted on a cross bar 281, and is provided with a rack 323 (Figs. 1, 2 and 3) meshing with a pinion 324, secured to a shaft 325. An arm 326 having two forwardly extending flanges 327 is provided with a hub, telescoping over the hub of the pinion 324, which hubs are pinned to the shaft 325. The lever 319 has rearwardly extending flanges 328 by which the lever 319 is pivoted to the flanges

327 of the arm 326, thereby forming a connection between the lever 319 and the shaft 325.

The lever 319 is provided with a finger 330 (Figs. 1 and 2) which enters one of a plurality of notches 331 in the upper edge of a semi-circular plate 332, secured to the cross bar 281, by studs 356 and 359. A notch 331 is provided for each selective position of the lever 319, and the finger 330 enters a notch 331 only when the lever 319 is in one of its effective positions. The finger 330 is held in the selected notch 331 by a spring 333 (Fig. 7), connected to an arm 334, loose on a stud 335 carried by the right hand side frame 55. The arm 334 is secured to an arm 338 (Figs. 2 and 7), provided with a flange 336, held in contact with a stud projecting from the lower end 337 of the lever 319. The lower end 337 of the lever 319 normally contacts the end of the shaft 325. Thus, the end of the shaft 325 limits the movement of the lever 319 and arms 334 and 338, under influence of the spring 333.

When the lower end 337 of the lever 319 is held in contact with the end of the shaft 325, by the spring 333, the finger 330 is held in one of the notches 331.

When it is desired to shift the lever 319 to select a totalizer, the operator presses the upper end of the lever 319 rearwardly against the tension of the spring 333, to withdraw the finger 330 from the notch 331. This frees the lever 319 to permit it to be rocked either to the right or left, as the case may be. This rocking of the lever 319 rocks the shaft 325 and the pinion 324, and the rack 323, in mesh with the pinion 324, shifts the totalizer selecting slide 322 to shift the desired totalizer into position to be subsequently engaged with the actuators, by mechanism not shown herein.

Instead of providing an individual lock for each clerk to prevent adjustment of the totalizer selecting lever 319 to the position in which such clerk's totalizer is selected, applicant provides a single lock having a purality of bolts. One bolt for each effective position of the lever 319 is provided in this single lock, and each bolt can be operated only by the clerk having the proper key.

As illustrated, a lock 350, secured to the cross bar 281 by screws, is provided with two bolts, one for each position of the lever 319. Each bolt is operated by a different key, and each is adapted to lock the lever 319 out of one of its effective positions.

The forward bolt 351 (Figs. 1, 2, 5 and 6), is operated by a tumbler 352 which is thrown by a key 353, having a web 354 for engaging the tumbler 352. The bolt 351 has connected thereto at 357, a lever 355, pivoted on the stud 356 in the frame 281. The lever 355 is moved into the path of the finger 330 when the lock bolt 351 is thrown.

Thus, for illustration, if the right-hand position of the lever 319 is assigned to clerk "A", this clerk, after moving the lever 319 to the left (Fig. 2) until the finger 330 is to the left of the free end of the lever 355, can throw the bolt 351 of the lock 350, by means of the key 353 and tumbler 352, to position the lever 355 in the path of the finger 330, thereby preventing clerk "B" from moving the lever to the right to select clerk "A's" totalizer.

The lock is provided with a bolt 360 adapted to be operated by a key 361 (Fig. 4) in possession of clerk "B". Clerk "B" can insert the key 361 into the same barrel that clerk "A" inserts the key 353, but clerk "B's" key 361 cannot operate the bolt 351, inasmuch as it has a recess opposite the tumbler 352. However, the key 361 is provided with a web 362 which contacts a tumbler 364 to throw the bolt 360. This bolt 360 has connected thereto, at 358, a lever 363 pivoted on the stud 356. The lever 363 (Fig. 2) is moved into the path of the finger 330 of the lever 319, when the bolt 360 is thrown. Thus clerk "B" can prevent clerk "A" from moving the totalizer selecting lever 319 into position to select clerk "B's" totalizer.

If both clerks desire to leave the machine at the same time, the lever 319 can be locked between the levers 355 and 363, and in this manner, prevent shifting of the lever 319 to either of its effective positions, and then neither of the clerk's totalizers can be selected.

Thus, the various positions of the lever 319 are controlled by different keys inserted in the same lock barrel, and each key operates its bolt independently of the other bolt in the lock.

While the form of mechanism herein shown and described is admirably adapted to fulfill the objects primarily stated, it is to be understood that it is not intended to confine the invention to the one form or embodiment herein disclosed, for it is susceptible of embodiment in various forms all coming within the scope of the claims which follow.

What is claimed is:

1. In a machine of the class described, the combination with a manipulative member shiftable to a plurality of effective positions; of a locking means having a single barrel and a plurality of bolts corresponding to the number of positions to which the manipulative member may be shifted, each bolt adapted to lock the manipulative member out of a different effective position.

2. In a machine of the class described, the combination with a manipulative member having more than one effective position; of a locking means having a single barrel and a different bolt for each effective position of the manipulative member; and individual means controlled by each bolt to prevent adjustment of the manipulative member to one of its effective positions.

3. In a machine of the class described, the combination with a manipulative member having more than one effective position; of a locking means having a single barrel and a number of bolts equal in number to the effective positions of the manipulative member; means operable with each bolt to prevent adjustment of the manipulative member to one of its effective positions, each bolt controlling a different position of the manipulative member.

4. In a machine of the class described, the combination with a manipulative member having more than one effective position; of a blocking means for each effective position of the manipulative member, all of said blocking means pivoted on a common center; and a locking means having a number of bolts, one bolt for each blocking means, the blocking means connected to the bolts in non-axial alignment, said bolts operable individually and to the same extent to render their blocking means effective.

5. In a machine of the class described, the combination with a manipulative device having a plurality of effective positions; of a lock barrel having in connection therewith a plurality of bolts, one bolt for each effective position of the manipulative device; movement of each bolt being effective to lock the manipulative device out of a different effective position; and separate keys insertable in the barrel to operate the bolts individually.

6. In a machine of the class described, the combination with a manipulative device having more than one effective position; of a notched plate adjacent the manipulative device, a finger on the device adapted to enter a notch in the plate when the lever is in an effective position; a locking means having a different bolt for each effective position of the manipulative device; means, associated with each bolt, adapted to be moved into the path of said finger to prevent adjustment of the manipulative device to certain of its effective positions; and a separate key insertable in the locking means for operating each bolt.

7. In a machine of the class described, the combination with a manipulative device having a plurality of effective positions; of a locking means having a single barrel and a plurality of bolts equal in number to the selective positions of the manipulative device; means operable by each bolt to block adjustment of the manipulative device to one of its selective positions, each bolt controlling a different position; and individual keys insertable in the barrel to operate the bolts separately.

8. In a machine of the class described, the combination with a manipulative device having a plurality of effective positions; of a blocking means for each effective position of the manipulative device; a locking means having a single barrel and a separate bolt controlling each blocking means, said bolts operable individually to render the blocking means effective, thereby preventing adjustment of the manipulative device to that position; and separate keys insertable in the barrel to operate the bolts individually.

9. In a machine of the class described, the combination with a plurality of totalizers; a totalizer selecting member having a plurality of selecting positions equal in number to the number of totalizers; a locking means having a single barrel and a plurality of bolts equal to the number of totalizers in the machine; and a separate key insertable in the barrel for operating each bolt to prevent selection of a particular totalizer.

10. In a machine of the class described, the combination with a plurality of totalizers; and a lever for selecting the totalizers; of a locking means having a single barrel and a plurality of bolts equal in number to the number of totalizers, and separate keys insertable in the barrel and individual to their respective bolts, to operate each bolt individually for preventing selection of its corresponding totalizer.

11. In a machine of the class described, the combination of two totalizers, a lever for selecting either totalizer, and a locking means having a single barrel and two bolts each independently operable for preventing selection of one of the totalizers.

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