Jan. 14, 1941. R. B. SHOWERS 2,229,007

LOCKING DEVICE FOR CASH DRAWER AND ADDING MACHINE COMBINATION

Filed Dec. 14, 1938

FIG. 1

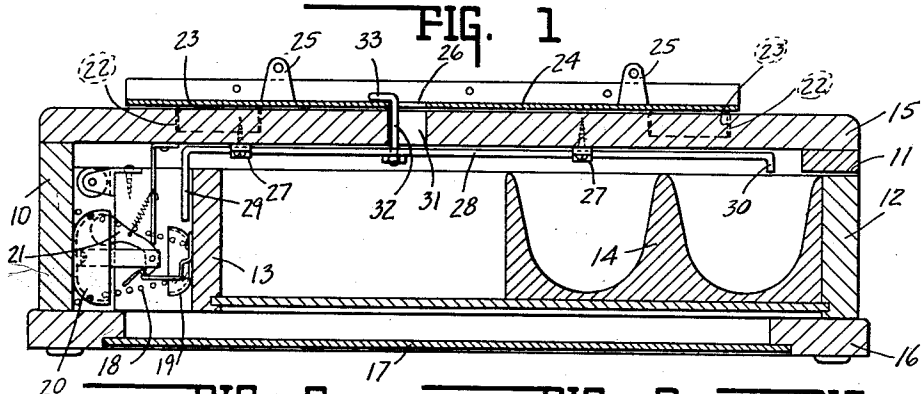


FIG. 2

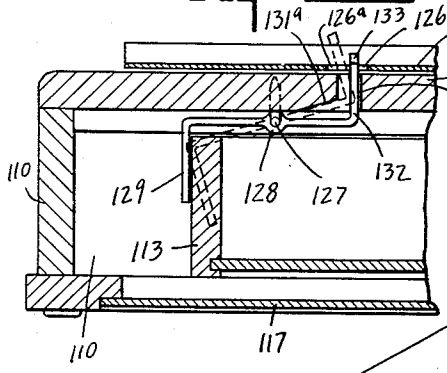


FIG. 3

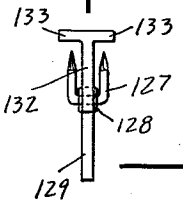


FIG. 4

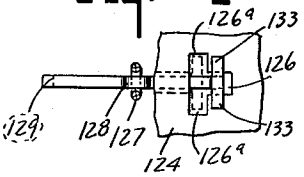
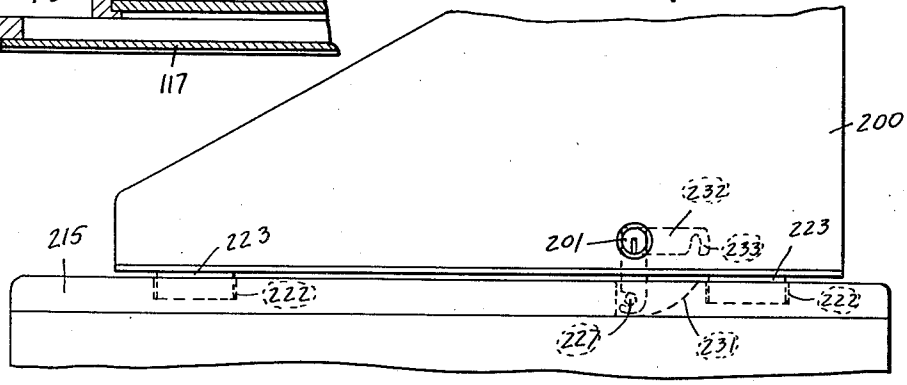


FIG. 5



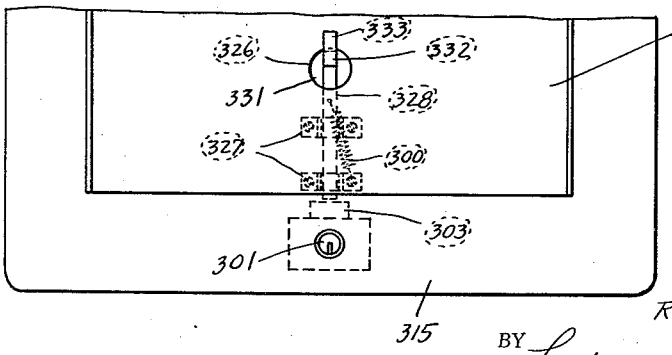


FIG. 6

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LOCKING DEVICE FOR CASH DRAWER AND ADDING MACHINE COMBINATION

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Application December 14, 1938, Serial No. 245,589

5 Claims. (Cl. 45—6)

This invention relates to a combination device embodying a registering machine such as an adding machine, or the like, and a cash drawer operatively associated therewith, whereby operation of the adding machine automatically controls the cash drawer mechanism, as set forth in the prior patents to Clifford Naden, No. 1,507,295, dated September 2, 1924, and Joseph R. Showers, No. 1,569,043, dated January 12, 1926.

The chief object of the present invention is to lockingly associate the two separable cooperating devices together and prevent their unauthorized or unnoticed disassociation at all times so that the two cannot be disconnected thereby insuring accuracy in the cash accounting as reflected by the register total. Expressed in another way, the invention is directed to the locking of the register device to the cash drawer mechanism so that the cash drawer mechanism cannot be operated without authority or registering or indicating on the tape of the register device, for example, the fact that access has been had to the cash drawer and then only in some of the forms of the invention herein illustrated can the two mechanisms be disassociated.

The broad combination disclosed in the aforesaid patents as illustrated thereby, includes, as stated, a register device and a cash drawer and means cooperatively associating the two together whereby actuation of the register secures cash drawer release or opening. This cooperating mechanism may be of many types but a detached illustration or description of the same is not deemed essential for an understanding of the present invention.

The chief feature of the invention consists in the locking association of the register and the cash drawer, the latter structure supporting and being locked to the register by the present invention.

Other objects and features of the invention will be pointed out more fully hereinafter.

The full nature of the invention will be understood from the accompanying drawing and the following description and claims.

In the drawing,

Fig. 1 is a longitudinal sectional view through one embodiment of the invention, the major portion of the register being omitted and the actuating connection between the register and the cash drawer being omitted for clearness.

Fig. 2 is a view similar to Fig. 1 and of a modified form of the invention.

Fig. 3 is an end view of the latch structure shown in Fig. 2.

Fig. 4 is a plan view of the latch and T-slot structure shown in Fig. 2.

Fig. 5 is a side elevational view of a still further modified form of the invention.

Fig. 6 is a top plan view of still a further modified form of the invention.

In the drawing 10 indicates the back wall structure of a cash drawer arrangement having an opening 11 adapted to receive a cash drawer having the front wall 12, the side walls and the end wall 13. Suitable coin partition forming arrangements may be provided as indicated at 14. This cash drawer is slidably mounted between the top 15 and the base 16 of the cash drawer structure. The latter may be of openwork character and suitably closed as at 17. The cash drawer is suitably and slidably supported by the cabinet portion of the structure.

It is normally constrained to open drawer position by means of the spring 18 bearing on the cup member 19. The cabinet carries a bell 20 and a striker 21 is adapted to actuate the same upon the release of the mechanism to effect cash drawer release or opening. This release is effected by means not shown in the present drawing, but the same means or equivalent means illustrated in two beforementioned patents.

Herein the top 15 of the cash drawer cabinet is provided with four recesses 22, two being herein indicated. These nestingly receive the feet 23 carried by the base plate structure or base 24 of the register device, the register mechanism proper being suitably secured to projecting portions 25 of the base and the cover mechanism being suitably associated therewith and the base as may be desired. Herein the base is shown provided with an elongated slot 26.

Slidably supported in the guides 27 on the lower face of the top 15 of the cabinet is a rod or slide bar 28. Said slide bar has one end extending downwardly and the same is considerably elongated as indicated at 29. It normally lies behind the rear wall or rear end 13 of the cash drawer proper. The rod 28 extends forwardly and terminates near the opening 11 in a downwardly extending, relatively short end portion 30.

The top 15 is provided with an elongated slot 31 which registers with the slot 26 when the register is properly positioned upon the top 15 of the cash drawer structure.

An upward extension 32 of the rod 28 includes an angular end 33. The end rides above the base plate 24. The vertical portion 32 rides in the registering slots 26 and 31. The operation is as follows:

The rod 28 is normally positioned with the portion 32 adjacent the right hand portion or side wall of the slots 31 and 26. For the same, the drawer structure proper must be in open relation. The register is then properly positioned on the cash drawer cabinet. Then when the drawer is closed, the rear wall of the rear end 13 of the drawer engages the depending portion 29 of the rod 28 and moves the rod rearwardly which in turn moves the upright portion 32 from the right hand portion of the registering slots 26 and 31 to the left hand portion thereof and in so doing the angular portion 33 moves rearwardly or to the left and thus overlies the base plate 24, thereby lockingly associating the register to the cash drawer structure. The parts are then positioned as illustrated in Fig. 1.

Repeated actuation of the register will release the cash drawer proper and will on the register tape indicate the various amounts which the operator designates on the register. In this manner the register total and the additional cash in the cash drawer should coincide. In this manner also the register cannot be moved relative to the drawer so that an operator can actuate the cash drawer releasing mechanism, not shown, without recording some indication on the register tape.

When it is desired to separate the register from the cash drawer for repair purposes or for use of the register for "statement" work, or the like, separate and apart from cash drawer operation, then the register is actuated to release the cash drawer. With the cash drawer moved to the right a sufficient distance to position the portion 14 forwardly of the front face of the cash drawer so that the hand of the operator may be inserted in the drawer behind the change compartment forming arrangement 14, the portion 30 may be engaged by the fingers and moved to the right. This then moves the member 32 with its angular extension 33 to the right. Thereupon the register may be elevated from its predetermined cabinet position because then the angular portion 33 can pass downwardly through the opening 26 as the register, including its base 24, is elevated vertically. This drawer release is indicated on the tape.

When the register is repositioned for cash drawer operation, if the cash drawer has not been utilized in the interim, the cash drawer is closed and in the closing movement, the rear wall 13 engages the arm 29 which moves the angular portion 33 so it overlies the register base plate 24. This automatically locks the register to the cash drawer structure. In the event the cash drawer has been closed following separation of the register therefrom, the cash drawer must be opened by releasing the cash drawer manually prior to the positioning of the register thereon. Then the member 33 must be moved forwardly or to the right as shown in Fig. 1 to permit the register to be properly located. The register is then located. The cash drawer is then closed. This positions portion 33 over the base 24 and locks the register to the cash drawer structure. This condition will be maintained throughout cash drawer and registery operation until it is desired to disconnect the same in the manner previously described.

Reference will be had now to Figs. 2 to 4, inclusive, wherein a modified form of the invention is illustrated. In this form of the invention the latch structure is illustrated as being arranged to normally lock the register to the cash drawer structure at all times that the cash drawer is closed and opening movement of the cash drawer obtained as a result of register operation which, as stated, is indicated suitably on the register tape, will automatically condition the latch so that the register may be removed or disconnected from the cash drawer structure. It will be remembered that the slot 31 and slot 26 illustrated in Fig. 1 are of elongated character.

In the present form of the invention, there is provided a slot 131 in the cover or top 115 of the cash drawer structure. This slot is suitably relieved as at 131*a*. The register base 124 is also slotted as at 126. As shown clearly in Fig. 4, the slot 126 includes two lateral extensions 126*a* and if desired, the slot 131 may be similarly formed but the same is not necessary, as will hereinafter be pointed out.

A Z-shaped locking member includes a central pivotal portion 128 that is pivotally supported by the midportion of the staple 127 suitably secured to the underface of the top 115 of the drawer structure. The latch member includes the angularly depending end portion 129. It also includes the upwardly projecting portion 132 and the upper free end thereof is laterally enlarged in opposite directions indicated at 133. The operation is as follows:

In the initial mounting of the structure the latch is inserted in the opening 131 in the event it does not have wing enlargements as previously mentioned. Then the staple 127 is secured to the underface of the top 115 of the cash drawer structure while the drawer is removed and before the base closure 117 is applied to the cash drawer structure. Following the application of the base closure 117, the register with its base plate 124 is mounted upon the cash drawer structure in predetermined position so as to secure cash drawer release and perimt cash drawer opening by means of the spring structure, not shown, upon register actuation, which actuation is indicated on the register tape. The latch structure then is in the position shown by the dotted line—see Fig. 2.

This placing of the register may be readily effected because the two wings 133 of the T-shaped latch readily pass through the slot lateral enlargements 126*a* in the base structure 124. When the cash drawer is closed, the rear face of the rear end 113 of the cash drawer proper engages the depending member 129 and moves it from the dotted line position, shown in Fig. 2, into the full line position. This tilts the latch clockwise—see Fig. 2—and throws the two lateral portions 133 forwardly so that they overlie the top of the base 124 at the narrow portion of the slot 126, as shown in Fig. 4. This locks the register to the cash drawer structure at all times that the drawer is not open. It will be noted this locking arrangement locks and unlocks at each operation of the drawer, but that each operation of the drawer is indicated on the register tape. Gravity normally constrains the latch shown in Figs. 2 to 4, inclusive, into releasing position. The drawer maintains the latch in register locking position. The drawer closing insures the locking action and to this extent is identical to the operation of the form of the invention shown in Fig. 1.

In Fig. 1, however, it will be remembered the release movement must be manually effected and furthermore the latch is not automatically released at each operation of the register and accompanyng drawer opening movement and, therefore, is not cyclically operable with drawer operation for each operation of the drawer.

In Fig. 5 there is illustrated a modified form of the invention. Herein 215 indicates the top of the cash drawer structure and the same includes

a notch or slot therein indicated by the numeral 231. The register is indicated by the numeral 200 and has the feet 223 seatable in recesses, not shown in the top of the cash drawer structure and said feet 223 may be of felt, or rubber pads, and the like.

The register mounts a key operable lock 201. It carries a casing concealed arm 232 with a latch portion 233. When the lock is properly actuated the arm 232 moves downwardly into slot 231 and the latch portion 233 is positioned beneath a catch or locking member 227 which is a pin extending across the slot 231. It will be apparent that when the feet structure 223 is seated in the recesses 222 and the lock 201 is properly actuated, the register is locked to the cash drawer structure and the register cannot be moved in any direction with reference to said cabinet. This is a lock structure which is manually operated to lock and requires manual operation to unlock. There is no automatic action involved and, therefore, there is no register action or recording required because only the authorized holder of the key for the lock can disconnect or disassociate the two structures.

Fig. 6 illustrates a further modified form of the invention which is of similar character. In this instance, however, a lock 301 of key operable type, is mounted with the key receiving portion exposed by the upper surface of the cash drawer top 315. The lock has a bolt portion 303 which is shown in projected position. It abuts the end of the latch member 328 slidably supported in the members 327 carried by the underface of the top 315. A vertically extending portion 332 at its upper end terminates in a rearwardly directed portion 333. Portion 332 extends upwardly through registering openings indicated by the numerals 326 and 331 in the top 315 and the register base 324.

A spring structure 300 normally constrains the sliding bolt or latch member toward the released or unlocked position. It is maintained in the locking position by the bolt 303 of the lock 301. In this form of the invention the lock is manually controlled for locking and unlocking, although the actual unlocking movement is spring controlled. In this respect the unlocking movement is similar to that illustrated in Fig. 2 wherein the tiltable latch therein disclosed is normally constrained by gravity into the non-locking position. It may, if desired, be positively constrained in that position by suitable spring means. In the present form of the invention, however, positive means must be provided as indicated at 300.

It will also be quite obvious that whenever desired, the swinging or tiltable lock type structure shown in Fig. 5 may be reversely arranged so that actuation of the lock will cause an arm carried thereby, which lock can be carried by the cash drawer structure, to move upwardly through a slot in the base of the register and engage an anchor or catch portion of appropriate character positioned in the path of said movable latch member and carried by the register in concealed relation.

It also will be obvious that the slidable latch illustrated in Fig. 6 may be reversely positioned with respect to the two interlocked parts. As stated, the forms of the invention illustrated in Figs. 5 and 6 do not require cash drawer operation to effect locking or unlocking action but do require key lock or equivalent lock actuation.

While the invention has been illustrated and described in great detail in the drawing and foregoing description, the same is to be considered as illustrative and not restrictive in character.

The several modifications described herein as well as others which will readily suggest themselves to persons skilled in this art, all are considered to be within the broad scope of the invention, reference being had to the appended claims.

The invention claimed is:

1. Mechanism for locking a calculating device over a cash till, said till comprising a cabinet and a drawer slidable therewithin, the top panel of said cabinet having an aperture in register with a similar aperture in the base of said device, said mechanism including a rod-like member slidably supported within said cabinet having a downwardly bent end portion adapted to be engaged by the rear wall of said drawer, and a locking element secured to said rod-like member and extending upwardly through the registering apertures aforementioned, said element being adapted to lock with the base of the calculating device when said drawer is closed to engage the downwardly bent end portion of said rod-like member.

2. Mechanism for locking a calculating device over a cash till, said till comprising a cabinet and a drawer slidable therewithin, the top panel of said cabinet having an aperture in register with a similar aperture in the base of said device, said mechanism including a latch pivoted to the bottom face of the top panel of said cabinet having a downwardly extending portion adapted to be engaged by the rear wall of said drawer and an upwardly extending portion passing through the registering apertures aforementioned, said latch being swung to lock with the base of the calculating device upon closure of said drawer and to inoperative position by the release thereof.

3. Mechanism for locking a calculating device over a cash till, said till comprising a cabinet and a drawer slidable therewithin, the top panel of said cabinet having an aperture in register with a similar aperture in the base of said device, said mechanism including a latch member movably supported within said cabinet, said member having a downwardly extending projection and an upwardly extending projection, said downwardly extending projection being adapted to be engaged by the rear wall of said drawer upon closure thereof, said upwardly extending projection passing through the registering apertures aforementioned to lock with the base of the calculating device when said downwardly extending projection is engaged by said drawer.

4. Means for locking a calculating device over a cash till, said till comprising a cabinet and a drawer slidable therewithin, including a latch member movably supported within said cabinet, said member having a projection adapted to be engaged by said drawer upon closure thereof and a second projection adapted to lock with the base of said calculating device when said first-mentioned projection is engaged by said drawer.

5. Mechanism for locking a calculating device over a cash till, said till comprising a cabinet and a drawer slidable therewithin, including a latch member movably supported by said cabinet, said element being provided with means engageable by said drawer upon closure thereof and with means locking with the base of said calculating device when said first-mentioned means is engaged by said drawer.

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