

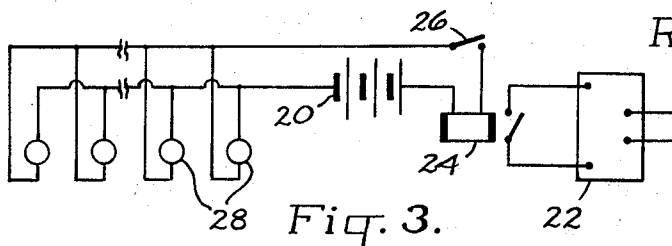
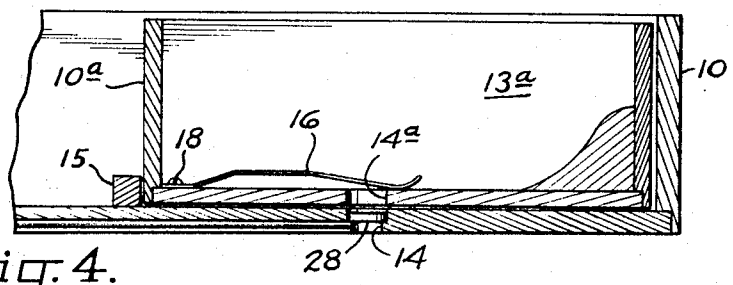
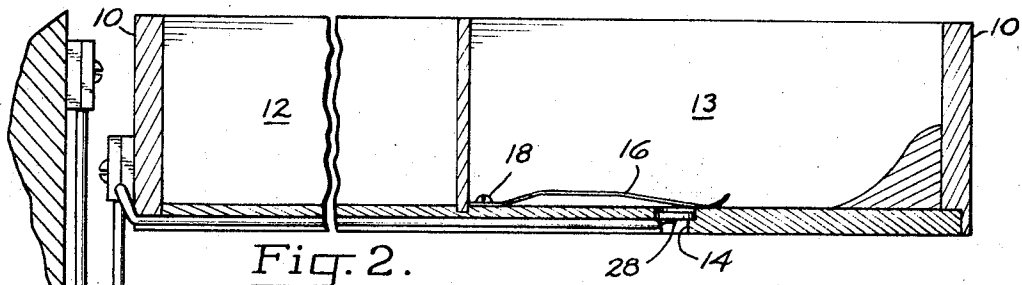
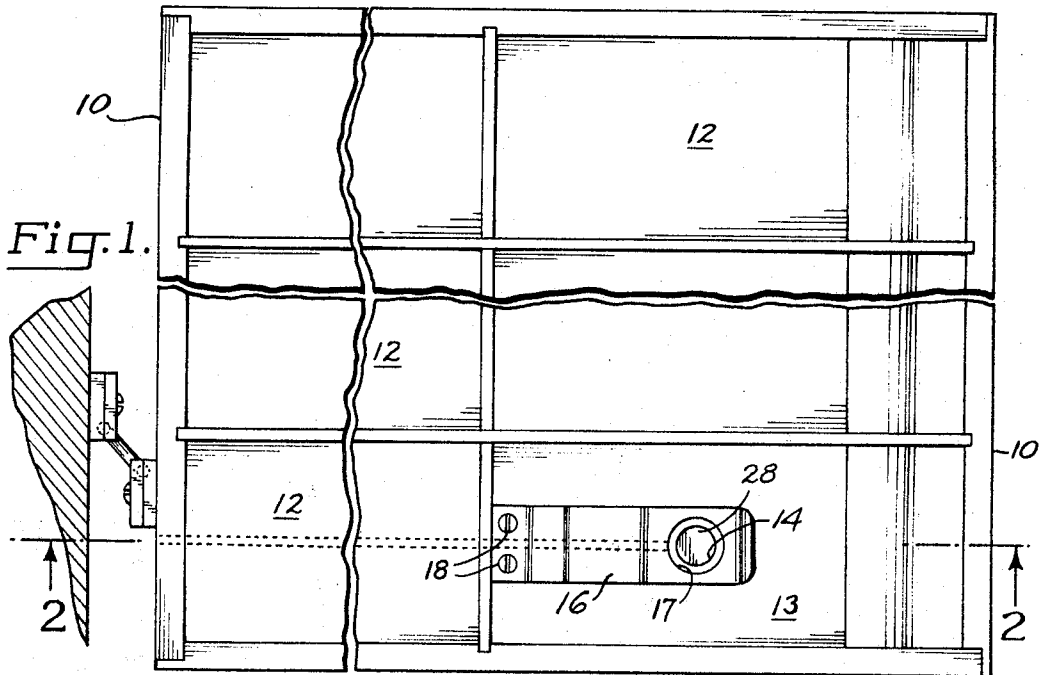
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MONEY CONTAINER WITH INTEGRAL HOLDUP ALARM

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MONEY CONTAINER WITH INTEGRAL HOLDUP ALARM

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2 Claims

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This invention relates in general to structural money containers having built-in holdup alarms. It pertains particularly to cash drawers employed in banks and commercial establishments, the drawers being provided with built-in alarm systems for use by the cashier in the event of a holdup.

It is known practice to provide bank cashiers with cash drawers containing compartments dimensioned to receive paper money of various denominations. At least one compartment of the drawer is provided with a pair of spring-pressed electric contacts in series in an electric circuit with an electric alarm system. The cashier inserts one of the bills between the contacts, breaking the circuit. In the event of a holdup, he removes the bill, whereupon in theory the circuit closes and the alarm is energised.

In practice, the alarm thus described is subject to the serious and often fatal disadvantage that over a period of time the contact elements become foiled by dirt and atmospheric corrosion with the result that at the critical moment the system fails.

It accordingly is the general object of the present invention to provide a cash drawer or other paper money container provided with a built-in alarm system which is simple in its construction, adaptable for use with containers of diverse types, easily installed, and reliable in operation over a long service life since it incorporates a hermetically sealed actuating unit subject to fouling neither by atmospheric corrosion nor by the accumulation of dirt.

The manner in which the foregoing and other objects of this invention are accomplished will be apparent from a consideration of the accompanying specification and claims, considered together with the drawings, wherein:

FIG. 1 is a foreshortened plan view of a compartmented paper money container provided with an integral holdup alarm system in accordance with the present invention;

FIG. 2 is a longitudinal sectional view taken along line 2—2 of FIG. 1;

FIG. 3 is a circuit diagram of an electric circuit employed in the container of FIGS. 1 and 2; and

FIG. 4 is a sectional view similar to FIG. 2 but illustrating an alternate form of the invention including a removable cash money receptacle.

Generally stated, the paper money container of my invention comprises in combination a money compartment defined by floor and side walls dimensioned to contain a stack of paper money. The drawer mounts components of an electric circuit including, in series circuit relationship, a source of electric current, an electrically operated alarm located at a station remote from the container, and hermetically sealed light-sensitive resistor means. The drawer also mounts means for locating the light-sensitive resistor means beneath the stack of paper money.

The action of the light sensitive resistor means is such that it normally breaks the flow of current through the circuit so that the alarm in series with it remains de-energized. However, if the money is removed the normal lighting sources present in the structure housing the device actuates the light-sensitive resistor means causing it to transmit sufficient current to energize the alarm.

The bank teller or other operator in the normal conduct of his daily duties does not remove the bottom bill of the stack. However, in the event of a holdup, he does remove this bill, with the result that the alarm is sounded.

Considering the foregoing in greater detail and with particular reference to the drawings:

In the drawings, the invention is illustrated as applied to and including a compartmented cashier's drawer 10, such as is to be found in a bank or other commercial establishment. The invention may be applied, however, to money boxes of any other type or indeed to containers for any sort of goods provided it is desired to sound a signal upon removal of the goods from the container.

When the invention is applied to the cash drawer located in a bank teller's cage, the drawer may be installed either permanently or removably to permit its transfer to the bank vault. It is a feature of the invention that it is applicable to the protection of a multiplicity of cash drawers located in different parts of the bank, in which case the drawers are arranged in parallel in the electric circuit so as to be independently operable.

Each of the drawers contains a plurality of compartments 12 defined by a floor and side walls dimensioned to contain a stack of paper money. The floor 13 of at least one of the compartments is provided with a central opening 14. It is further provided with means for releasably holding across opening 14 at least the lowermost bill of a stack of paper money to be contained in the drawer.

Although various forms or releasable holding devices may be employed for this purpose, it is preferred to use a resilient clip 16 having an opening 17. Clip 16 is fastened by means of screws 18 to the floor of the compartment and extends across opening 14, with opening 17 in the clip in registration with opening 14 in the compartment floor. When a stack of paper money is placed in the compartment, the lowermost bill may be slipped beneath the clip. Normally this bill is not used. However, in the event of an emergency it easily and unobtrusively may be withdrawn from beneath the clip.

The foregoing elements of the combination are employed together with an electric circuit designed to achieve the purposes of the invention.

As shown in the schematic circuit diagram of FIG. 3, the circuit includes in series circuit relationship a source of electric energy, which may comprise batteries 20, a burglar alarm or other signal 22 of conventional type operated by relay 24, a switch 26 which may be employed to render the system temporarily inoperative, as when all of the money is removed from the drawer for business purposes, and light-sensitive resistors 28, there being at least one of the latter in each drawer.

Opening 14 in the drawer bottom is sized to provide a seat into which one of the resistors may be pressed or otherwise fastened. As has been explained above, the action of the resistor is such that when it is exposed to a source of light it transmits electric current; when it is covered, as by one of the bills in the drawer, it does not transmit electric current. It accordingly serves as a hermetically sealed, non-corrodable, non-fouling switch which may be used to energize alarm 22 when all of the bills have been removed from the compartment.

In this application, it is to be distinguished from a photoelectric cell over which it has significant advantages.

A photoelectric cell generates current and accordingly its use in an application such as is described herein requires expensive amplifying components to make the circuit operative. This raises the cost of the device materially.

Being a power source, a photoelectric cell exhausts itself over a period of time, rendering the device subject to failure unless serviced at intervals. Light-sensitive resistors of the type used herein may be used indefinitely.

In the case of circuits including photoelectric cells, there is a constant circuit drain. In circuits including light-sensitive resistors, there is no such drain, with the result that the service life of the circuit is determined only by the shelf life of the batteries employed in it.

In the FIG. 4 form of the invention, drawer 10 is fitted with a removable compartmented insert 10a held in place by retainer 15. The bottom of one of the compartments 13a of the insert is provided with an opening 14a located for registration with opening 14 of the drawer. Resilient clip 16 is mounted in the bottom of compartment 13a and overlies the registering openings 14, 14a. It retains the lowermost bill of a stack of bills contained in the drawer in the manner described above.

The manner of use of the FIGS. 1-3 form of the present invention accordingly is as follows:

If the invention is to be included in a cash drawer, the cashier places a stack of bills in compartment 13 which is provided with the alarm circuit elements. He slips one of the bills beneath clip 16, putting the rest on top of the clip. He then closes switch 26. The circuit now is maintained open only by light-sensitive resistor element 28 which is inactive because it is covered and not exposed to light.

In the day to day operation of the cash drawer, the foregoing situation obtains, switch 28 being opened each time the bills are removed from the drawer and closed after they have been returned. Signal 22 remains inoperative.

In the event of an emergency, the cashier casually removes all of the bills from the drawer, including the one which has been slipped beneath clip 16. This exposes light sensitive resistor element 28 to the ceiling illumination, with the result that it becomes a conductor. Solenoid 24 is energized. This in turn energizes alarm 22 located at a station where it will be heard or seen by a security officer who thus is notified of the need for his assistance.

The manner of use of the FIG. 4 form of the invention is the same, except that compartmented insert 10a may be inserted in and removed from drawer 10 as a separate unit, thus increasing the convenience with which the device is used.

It accordingly will be seen that there is provided an apparatus in which the several objects of this invention

are achieved and which is well adapted for the conditions of practical use.

Having thus described my invention, I claim:

1. A structural money container comprising in combination:

- (a) a money compartment defined by a floor and side walls dimensioned to contain a stack of paper money,
- (b) spring clip means mounted substantially flatwise on the compartment floor for releasably securing at least the lowermost unit of a stack of paper money between the clip means and floor with the remaining units of the stack freely overlying the clip means,
- (c) the floor and clip means having registering openings therein normally intercepted by the money unit secured under the clip means,
- (d) light sensitive electrical resistor means mounted in registry with the registering openings below the clip means for activation by light upon removal of the money unit from under the clip means, and
- (e) an electric circuit including in series circuit relationship a source of electric current, an electrically operated alarm, and the light sensitive resistor means.

2. The money container of claim 1 wherein the money compartment comprises a cash receptacle and wherein the container includes:

- (a) a drawer having a floor removably supporting the cash receptacle,
- (b) the drawer floor having an opening therein registering with the openings in the clip means and cash receptacle floor, and
- (c) the light sensitive resistor means is mounted in the drawer opening.

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