June 14, 1932. B. F. CISOR 1,863,040

THERMOSTATICALLY CONTROLLED RECEDING FIREPROOF SAFE

Filed Feb. 13, 1931

Fig. 1

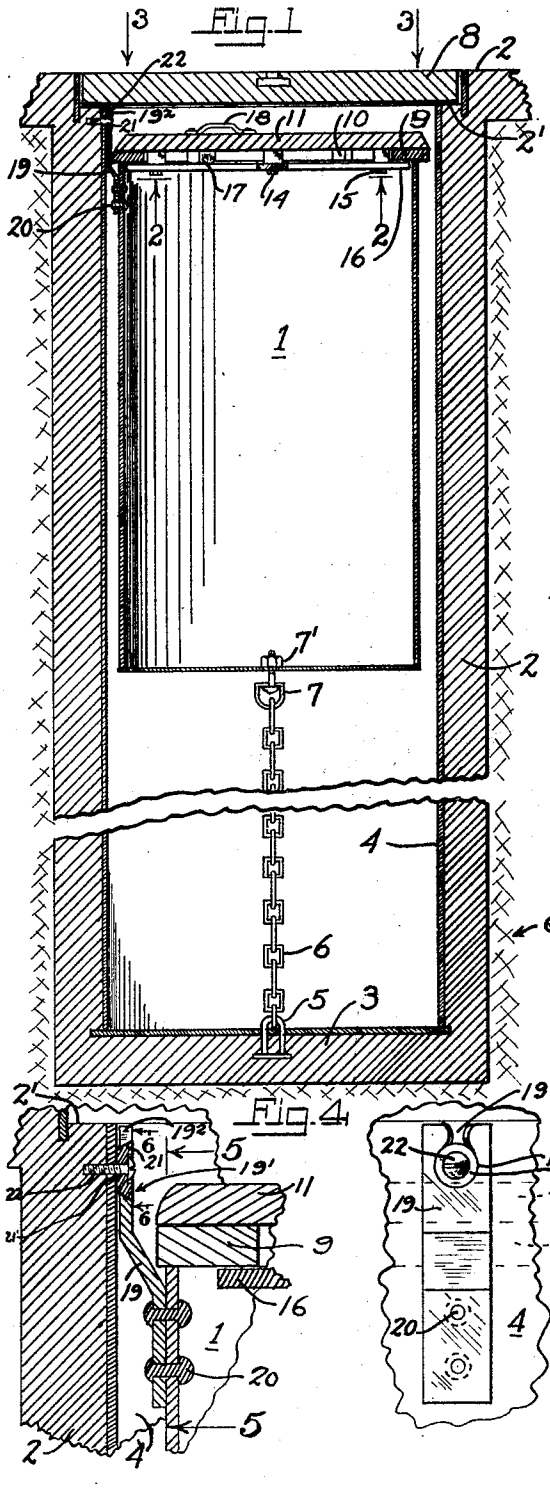


Fig. 2

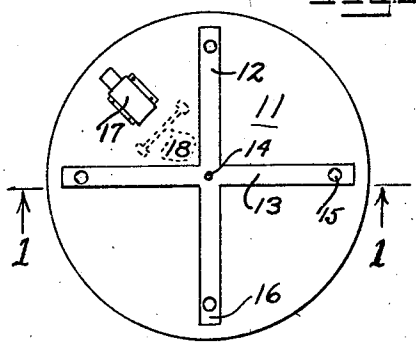


Fig. 3

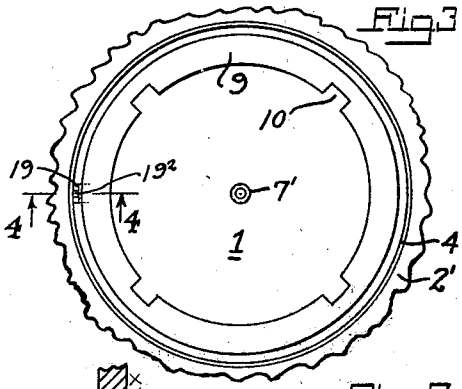


Fig. 7

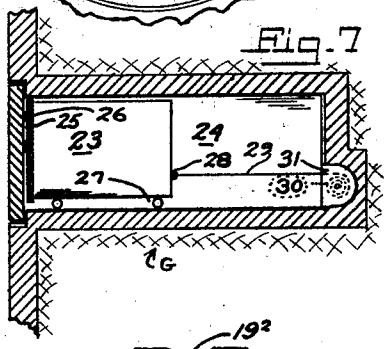
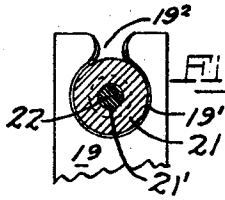


Fig. 4

Fig. 5

Fig. 6



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UNITED STATES PATENT OFFICE

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THERMOSTATICALLY CONTROLLED RECEDING FIREPROOF SAFE

Application filed February 13, 1931. Serial No. 515,466.

My invention relates to fireproof safes, especially intended for safes of the smaller type, such as used in residences, service stations, and the like, for the safe keeping of currency and other valubles.

It is an object of this invention to construct a safe of the smaller type so as to render it fireproof, not by the provision of fireproof walls in the safe itself which, on account of the small size, would be impractical, but by causing the safe to be withdrawn or retracted into a recess, which recess is provided with fireproof walls so that protection against the destruction of the contents of the safe will be afforded. A thermostatically controlled means, such as a fusible element, is provided, which causes the safe to drop by gravity into a fireproof well or permits the action of a spring or the like to move the safe into a fireproof recess.

With the above and other objects in view, which will appear as the description proceeds, my invention consists in the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawing, which forms a part of this specification, I have illustrated a preferred embodiment of my invention, and in which:

Fig. 1 is a vertical central cross section of a floor safe provided with my improvements;

Fig. 2 is a bottom plan view of the lid for closing the top of the safe;

Fig. 3 is a top plan view of the safe with the lid removed;

Fig. 4 is an enlarged detail view in vertical cross section showing the arrangement of the fusible plug holding the safe normally in position;

Fig. 5 is a detail sectional view taken on the line 5—5 of Fig. 4;

Fig. 6 is an enlarged detail view in cross section showing the fusible plug in position in the link;

Fig. 7 is a vertical central cross section of a wall safe which is retracted horizontally by means of a coiled spring on the failure of the fusible plug.

The floor safe 1 may be of any preferred construction. In the present instance it is shown circular in cross section. The same is disposed in a concrete cylinder 2 provided with a concrete bottom 3. The lower end of the concrete cylinder is disposed in the ground G as shown. A metal lining 4, preferably of sheet steel, is provided for the inside wall and bottom of the concrete cylinder. A U-shaped metal member 5 anchored in the concrete bottom 3 has fastened thereto a metal chain 6, the upper end of which is connected to a swivel member 7, passing through the bottom of the safe 1 and detachably secured thereto by means of a nut 7'. The upper end of the concrete cylinder 2 is provided with a lid 8 removably seated on a shoulder 2' of the concrete cylinder 2. The upper end of the floor safe 1 is provided with an inwardly extending flange 9 provided with four slots 10 spaced equidistantly apart.

The safe cover or door 11 is provided on its under side with a pair of cross arms 12 and 13 spaced and securely fastened to the lid 11 by means of a center pin 14 and pins 15, which latter pins 15, being spaced from the ends of the cross arms 12 and 13, provide lugs 16 at the ends of the cross arms. 17 is a latch lock disposed on the under side of the lid 11 and between the two adjacent lugs 16.

In locking the door 11 on to the safe 1 the door 11 is placed so that the lugs 16 will register with the slots 10 of the flange 9 and the door 11 is given a rotary motion so as to cause the lugs 16 to pass underneath the flange 9 and until the latch lock 17 snaps into place into one of the recesses 10 of the flange 9. A handle 18 on the top of the door 11 is provided for the manipulation of the lid 11, which handle 18 is preferably off center so that in moving the door may be tilted to facilitate its removal.

The particular construction of the lid and the locking mechanism just described is, however, not essential to the present invention which relates primarily to the means of causing the floor safe to be retracted to the bottom of the concrete cylinder 2. For this purpose a link 19 is secured by rivets 20 or the like to the side wall of the floor safe 1. Said link is bent outwardly and is provided at its upper end with a slot 19', which is circular

in shape except for its restricted upper throat 19^2. A circular plug 21 snugly fits the circular recess 19′ and is provided with a bore 21′ for the reception of a fastening member, such as a screw 22, passing through the steel lining 4 and anchored in the concrete cylinder 2.

In case of fire the heat will melt the fusible plug 21 so that the bolt 22, whose diameter is less than the width of the throat 19^2, can pass through said throat freely. There being nothing to support the floor safe, the latter will fall by the action of gravity to the bottom of the well within the ground G and thus being sufficiently distant from the intense heat of the fire the contents of the safe will be protected from destruction.

It should be noted that provision of the chain 6 prevents any unauthorized removal of the floor safe. If it is desired to remove the floor safe from its position it will be necessary to remove the nut 7′ from the swivel element 7.

In Fig. 7 I have illustrated a modified embodiment of my invention applied to a wall safe in which the safe 23 is disposed horizontally in a concrete lined chamber 24. The construction of the lid 25 and the fusible link 26 may be the same as illustrated and described in connection with the modification shown in Fig. 1. The lower side of the safe 23 is preferably provided with anti-friction rollers 27. The swivel joint 28 is connected to a flexible member 29 attached to a coiled steel spring 30 which is secured in a recess 31 in the concrete chamber 24. On the failure of the fusible link 26 the coiled spring 30 will pull the wall safe 23 toward the inner end of the concrete chamber 24 and thus protect it against fire.

It will be noted that in both modifications of the invention there is an elongated chamber, (2 in Fig. 1, 24 in Fig. 7,) at the open end of which the safe is held in position and associated with a fusible member. On the failure of the fusible member the safe is caused to be retracted into the inner closed end, by gravity in the embodiment shown in Fig. 1, and by means of the coil spring 30 in the embodiment shown in Fig. 7.

The safe whether falling by gravity to the closed end of the chamber, as shown in Figure 1, or drawn to the inner end by means of a cable and under the action of a spring 30, as shown in Figure 7, is in both forms of the invention under stress to move to the closed end of the chamber on the failure of the fusible link and the expression the safe is under stress to move to the closed end of the chamber in the claims is intended to cover both forms.

Various changes may be made in the construction and arrangement of parts by those skilled in the art without departing from the spirit of my invention as claimed.

I claim:

1. The combination of a safe having a lock controlled door, fireproof walls forming a vertical elongated chamber in the upper part of which said safe is disposed and providing a recess below said safe, means including a fusible member for holding said safe in position and attached to the fireproof walls whereby on the failure of the fusible member the safe will fall by the action of gravity to the bottom of said recess.

2. The combination of a safe having a lock controlled door, fireproof walls forming a vertical elongated chamber in the upper part of which said safe is disposed and providing a recess below said safe, means attached to said walls for preventing the removal of the safe, and means including a fusible member for holding said safe in position and attached to the fireproof walls whereby on the failure of the fusible member the safe will fall by the action of gravity to the bottom of said recess.

3. The combination of a safe having a lock controlled door, fireproof walls forming a chamber provided with an elongated recess in the rear of said safe, a flexible member attached to the safe and to the fireproof walls to prevent the removal of the safe, means for holding the safe in position and attached to the walls, said means including a metal link fastened to the safe and provided with a circular slot, a fusible plug in said slot, a fastening member passing through said slot and secured to said walls, said link being provided with a relatively smaller slot communicating with the circular slot and of a size permitting the fastening member to pass therethrough whereby on the failure of the fusible plug the safe will fall by the action of gravity to the bottom of the recess.

In testimony whereof I have signed my name to this specification.

B. F. CISOR.