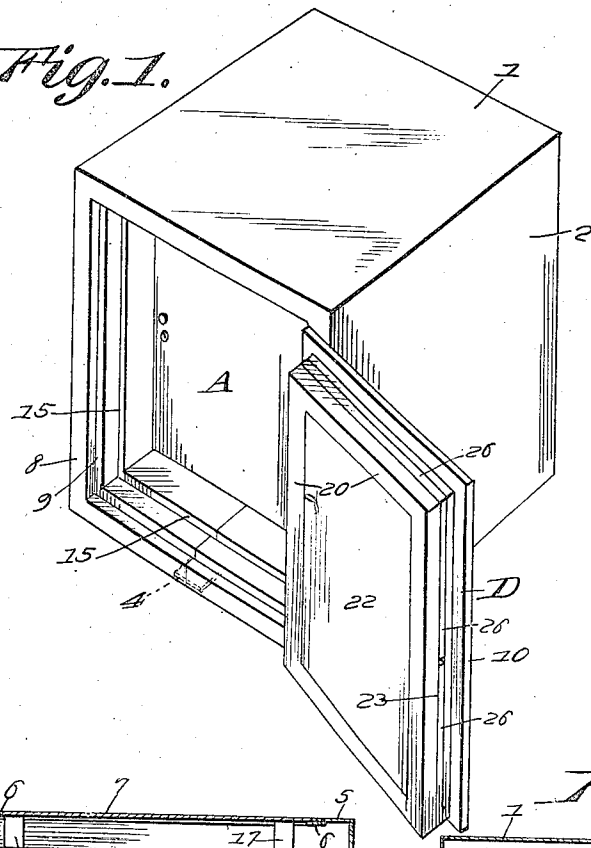
Mar. 6, 1923. 1,447,462

J. BUTSCHER ET AL

SAFE

Filed Dec. 10, 1921 2 sheets-sheet 1

Fig. 1.



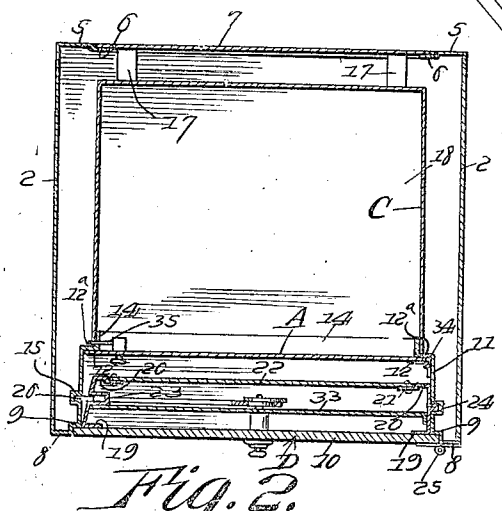
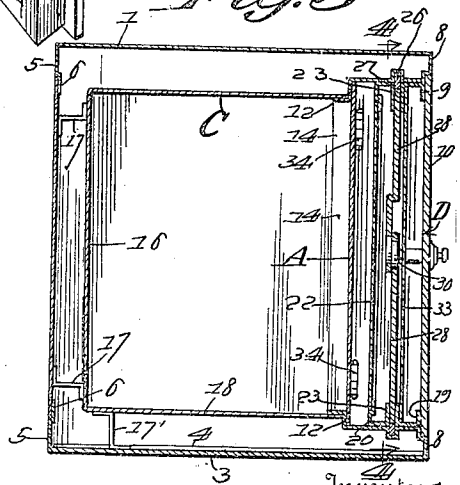


Fig. 2.

Fig. 3



Inventors

Joseph Butscher

and Joseph Schroeder,

By Watson E. Coleman

Attorney

Mar. 6, 1923.

1,447,462

J. BUTSCHER ET AL

SAFE

Filed Dec. 10, 1921

2 sheets-sheet 2

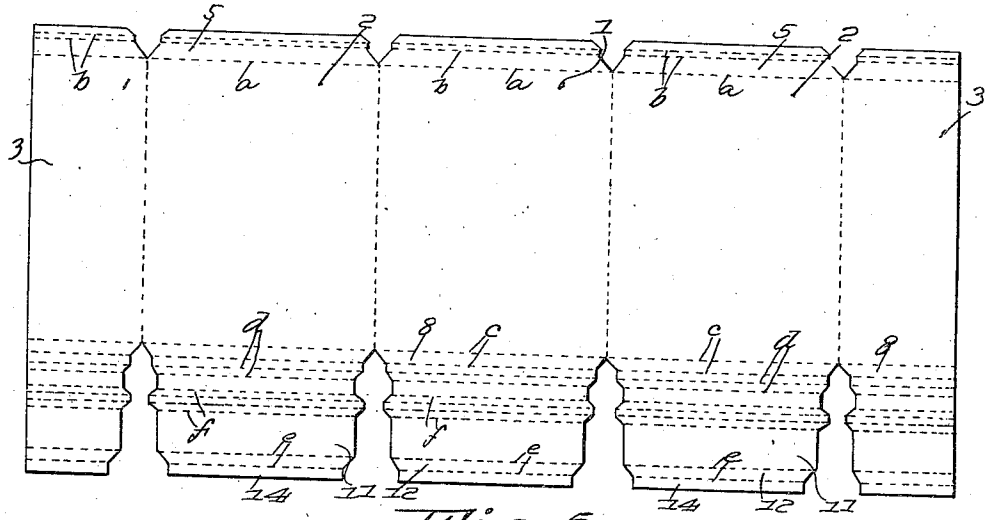


Fig. 5.

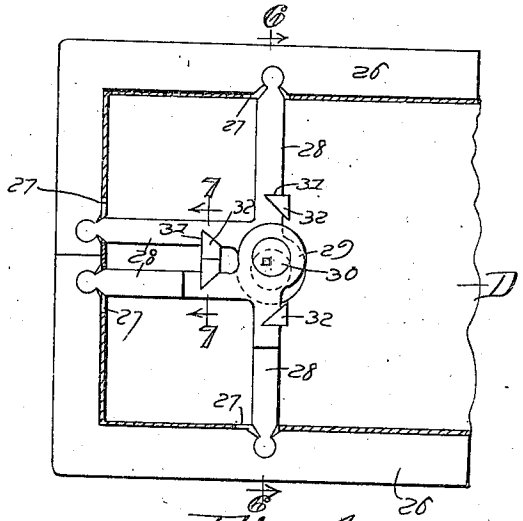


Fig. 4.

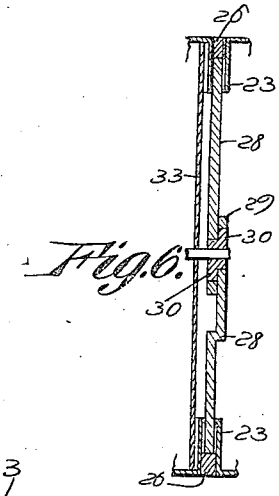


Fig. 6.

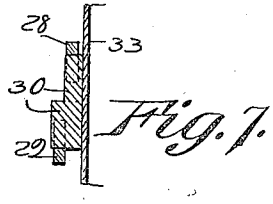


Fig. 7.

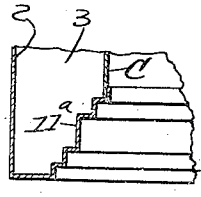


Fig. 8.

Inventors
Joseph Butscher
and Joseph Schroder,
By Watson E. Coleman
Attorney

Patented Mar. 6, 1923. 1,447,462

UNITED STATES PATENT OFFICE.

JOSEPH BUTSCHER AND JOSEPH SCHRODER, OF CINCINNATI, OHIO.

SAFE.

Application filed December 10, 1921. Serial No. 521,388.

To all whom it may concern:

Be it known that we, JOSEPH BUTSCHER and JOSEPH SCHRODER, citizens of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Safes, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to certain improvements in safes, and it is an object of the invention to provide a novel and improved device of this general character wherein the body structure is formed from sheet metal and assembled in a manner whereby rivets are not required.

Another object of the invention is to provide a novel and improved device of this general character wherein the body of the safe has its sides, top and bottom formed from a single sheet of material and in a manner whereby the back of the body and the swinging door associated therewith may be readily and effectively applied in working position.

The invention consists in the details of construction and in the combination and arrangement of the several parts of our improved safe whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of our invention will hereinafter be definitely claimed.

In order that our invention may be the better understood, we will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in perspective of a safe constructed in accordance with an embodiment of our invention, the door being in open position;

Figure 2 is a horizontal sectional view taken through the device as herein disclosed, with the door in closed position;

Figure 3 is a vertical sectional view of the device as herein embodied, the door also being in closed position;

Figure 4 is a view partly in elevation and partly in section of the swinging door and illustrating the locking means associated therewith;

Figure 5 is a view in plan of the blank from which the top, sides and bottom of the body of the safe are formed;

Figure 6 is a sectional view taken substantially on the line 6—6 of Figure 4;

Figure 7 is a sectional view taken substantially on the line 7—7 of Figure 4; and

Figure 8 is a fragmentary sectional view illustrating a further embodiment of the invention.

As disclosed in the accompanying drawings, the body of our improved safe has its top wall, 1, its side walls 2 and its bottom wall 3 formed from a single blank or sheet of material, the ends of said blank or sheet being comprised in the bottom wall 3 and secured one to the other by the splice plate 4 which may be spot welded, riveted or otherwise secured in working position.

The rear marginal portions of the walls, 1, 2 and 3 are bent on the lines *a* to provide the inwardly directed flanges 5 and which flanges have their free longitudinal marginal portions bent on the lines *b* whereby said flanges 5 are provided with the inwardly offset portions 6. Overlying the inwardly offset portions 6 are the marginal portions of the rear plate or wall 7 brazed, spot welded or otherwise held in desired position. By providing the inwardly offset portions 6, the outer face of the rear plate or wall 1 and the outer faces of the flanges 5 are substantially flush.

The front marginal portions of the walls 1 are bent on the lines *c* to provide the inwardly directed front marginal flanges 8 and on the lines *d* to provide the rabbets 9 to receive the marginal portions of the outer or face plate 10 of the main door D. The forward marginal portions of the walls 1, 2 and 3 are continued from the rabbets 9 by the inwardly disposed flanges 11 spaced from and substantially in parallelism with the top, side and bottom walls 1, 2 and 3. The inner or free marginal portions of the flanges 11 are bent on the lines *e* to provide a flange 12 extending inwardly at right angles to the flanges 11 and terminating in an inwardly directed flange 14.

Each of the flanges 11 is outwardly offset on the lines *f* to provide an inwardly facing groove or channel 15, the grooves or channels of all of the flanges being substantially coplanar. After the sheet or blank has been properly bent to provide the top, side and bottom walls 1, 2 and 3, the corners at the front and rear of the body are welded.

C denotes a cabinet of desired dimensions and preferably formed of metal. The for-

ward face of the cabinet is open and receives the flanges 12 hereinbefore referred to, said flanges being soldered or otherwise suitably secured to the coacting walls of the cabinet. Interposed between the rear wall 16 of the cabinet C and the rear plate or wall 7 are the supporting cleats 17 soldered or otherwise held in applied position and we also employ an additional bracing cleat 17′ interposed between the bottom wall 18 of the cabinet C and the bottom wall 3 of the body.

The door D comprises a frame, the side members of which have their opposite longitudinal marginal portions defined by the inwardly directed flanges 19 and 20, the forward flanges 19 being suitably affixed to the outer or face plate 10. The inner flanges 20 have their free marginal portions inwardly offset, as at 21, to receive the marginal portions of the inner plate 22 of the door.

The top, bottom and one of the vertical or end members of the frame of the door are inwardly offset, as as 23, to provide grooves or channels, while the second vertical or end member of the door frame is folded or bent to provide an outstanding flange 24, said flange 24, seating within the groove or channel 15 of a vertical or side flange 11 when the door D is in closed position and whereby means is provided to prevent ingress of fire within the cabinet C when the door is closed. The marginal portion of the plate 10 immediately adjacent the vertical or side member provided with the outstanding flange 24 is hingedly connected, as at 25, to a vertically disposed flange 8, as is particularly illustrated in Figure 2 of the accompanying drawings.

The grooves or channels 23 snugly receive the locking members or bolts 26 each of which is substantially L-shaped in form and having its stem of a length substantially coextensive in length with either the upper or lower member of the door frame and with its foot extending inwardly of the outer or free vertical or end member of said door frame. The base walls of the grooves or channels 23 are provided with the openings 27 through which are directed the outer end portions of the arms or links 28. A pair of arms or links 28 coacts with each of the members or bolts 26, one of said arms or links being operatively engaged with the stem of the bolt and the second of said arms or links with the foot of said member or bolt. The arms or links 28 of each pair have their inner end portions integrally connected with a collar or sleeve 29 surrounding an eccentric 30, the eccentric 30 associated with one pair of arms or links 28 being reversely related with respect to the second eccentric. The eccentrics 30 are connected for unitary rotary movement so that upon such rotation, all of the arms or links 28 will be caused to travel in a direction to move the bolts 26 either outwardly or inwardly.

When the door is closed and the eccentrics 30 rotated in a direction to move the members 26 outwardly, said members engage within the adjacent grooves or channels 15 of the flanges 11 whereby the door D is effectively locked in closed position and the possibility of fire or the like entering within the safe, or more particularly the cabinet C, is prevented. Upon reverse rotation of the eccentrics 30, the bolts 26 are retracted to an extent sufficient to permit the opening movement of the door D. The eccentrics 30 may be under control of the permutation means, may be key controlled, or otherwise as may be preferred.

It is of importance that the movement of the arms or links 28 be controlled or guided to effect the desired movement of the bolts 26 and in the present embodiment of our invention each of the arms or links 28 is provided in a marginal portion with a notch or recess 31 which is adapted to receive a lug 32 extending outwardly from a lock plate 33 arranged within the door structure and suitably secured to the inwardly offset portions 23 and to the vertical or end member immdiately adjacent the hinged portion of the door. Each of the lugs 32, as herein disclosed, has an edge perpendicularly related to the longitudinal axis of the co-acting portion of an arm or rod 28 and with a second edge arranged on an angle of substantially 45° with respect to said longitudinal axis of the arm or rod 28. The co-acting recess 31 is correspondingly formed to snugly receive the lug and the inclined or angular faces of the lug and recess co-operate to assure the requisite movement of the bolt 26 and especially the movement of said bolt into locking position. It is also to be particularly noted that the inclined face of the lug 32 is disposed in the same general direction as the direction of travel of the associated bolt.

Hingedly engaged, as at 34, with a vertically disposed connecting flange 12^a is the inner door A which coacts with all four of the connecting flanges 12^a to close the cabinet C. When the inner door A is in closed position, the same is locked by the bolt 35, key operated or otherwise, said bolt being slidably disposed through a vertical flange 12 and locking behind the adjacent connecting flange 12^a.

In the form of our invention as illustrated in Figure 8, the structure is substantially the same as has hereinbefore been set forth except that the flange 11^a is stepped and it is to be understood that the coacting frame of the door is to be correspondingly formed.

From the foregoing description it is thought to be obvious that a safe constructed in accordance with our invention is par-

ticularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that our invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason we do not wish to be understood as limiting ourselves to the precise arrangement and formation of the several parts herein shown in carrying out our invention in practice except as hereinafter claimed.

We claim:

1. A safe of the class described comprising a body having its top, side and bottom walls comprised of a single sheet of material, the front and rear marginal portions of said walls being provided with inwardly directed flanges, a rear plate secured to the rear flanges, the front flanges being continued by inwardly directed flanges, a door associated with the front flanges, a cabinet arranged within the body and having one face open, the open faced portion of the cabinet and the last named front flanges being in telescopic relation, and means coacting with the cabinet and the body for bracing the portion of the cabinet from the open end of the cabinet.

2. A safe of the class described comprising a body having its top, side and bottom walls comprised of a single sheet of material, the front and rear marginal portions of said walls being provided with inwardly directed flanges, a rear plate secured to the rear flanges, the front flanges being continued by inwardly directed flanges, a door associated with the front flanges, a cabinet arranged within the body and having one face open, the open faced portion of the cabinet and the last named front flanges being in telescopic relation, and brace members interposed between the cabinet and the rear wall of the body.

3. A safe of the class described comprising a body having its top, side and bottom walls comprised of a single sheet of material, the front and rear marginal portions of said walls being provided with inwardly directed flanges, a rear plate secured to the rear flanges, the front flanges being continued by inwardly directed flanges, a door associated with the front flanges, a cabinet arranged within the body and having one face open, the open faced portion of the cabinet and the last named front flanges being in telescopic relation, and brace members interposed between the cabinet and the rear wall of the body and between the bottom of the cabinet and the bottom wall of the body.

4. A safe of the class described comprising a body having its top, side and bottom walls comprised of a single sheet of material, the front and rear marginal portions of said walls being provided with inwardly directed flanges, a rear plate secured to the rear flanges, the front flanges being continued by inwardly directed flanges, a door associated with the front flanges, said last named front flanges having inwardly opening grooves extending therealong, the door having an outstanding flange seating within one of said grooves when the door is closed, and means carried by the door and movable within the remaining grooves of the flanges when the door is closed to hold the door against opening movement.

5. A safe of the class described comprising a body having one face open, said open face having walls defining said open face, said walls having inwardly opening grooves extending therealong, a swinging door carried by the body and extending, when closed, into the open face of the body between the walls of said opening, the door having grooves substantially registering with the grooves of the walls of the openings when the door is closed, fastening members seating within the grooves of the door and movable, when the door is closed, within the grooves of the walls of the opening, means for moving said members into or out of the grooves of the walls of the opening and an outstanding flange carried by the door and seating within a groove in one of the walls of the opening when the door is closed.

In testimony whereof we hereunto affix our signatures.

JOSEPH BUTSCHER.
JOSEPH SCHRODER.