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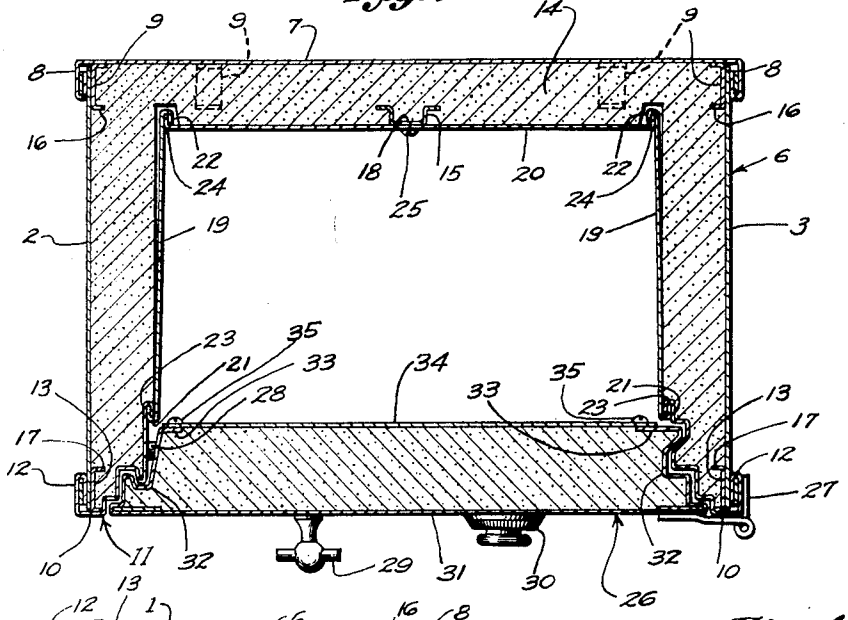
Dec. 5, 1933. C. F. WOLTERS 1,937,931

FIRE RESISTANT CABINET OR SAFE

Filed Feb. 24, 1930

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Fig. 1



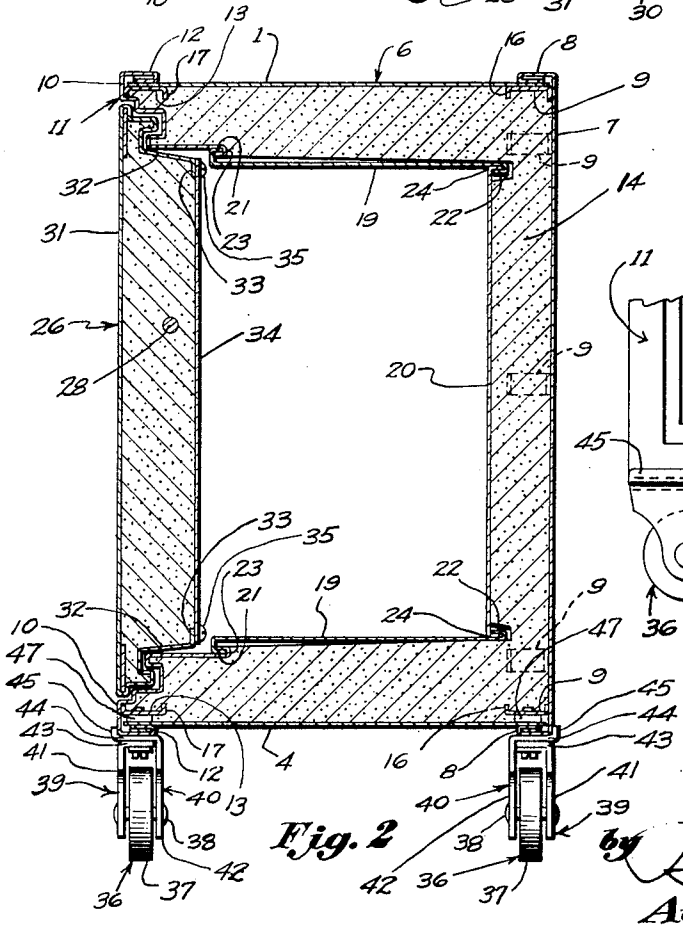
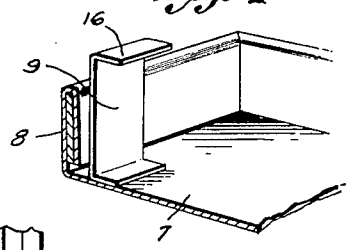


Fig. 2

Fig. 4



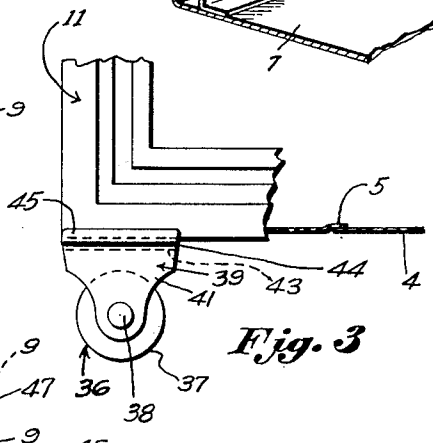


Fig. 3

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AND RELATED

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FIRE RESISTANT CABINET OR SAFE

Carl F. Wolters, Marietta, Ohio, assignor to Remington Rand Inc., Buffalo, N. Y.

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6 Claims. (Cl. 109—2)

This invention relates to fire-resistant cabinets or safes and particularly to the type formed of sheet metal walls and provided with a heat insulating lining.

In previous devices of this character, some difficulty has been experienced in conveniently associating a monolithic cast, which has proved an advantageous insulating body, with the sheet metal casing. To mold the monolith and fasten the sheet metal casing about it after it has set has proved somewhat uneconomical and otherwise unsatisfactory. Molding the monolith in the casing has been recognized as undesirable, due to the probable corrosion of the lining.

According to the present invention, there is provided an improved method of producing devices of this character, to simplify the association of the several units which comprise the outer metallic casing, and to provide means whereby the inner lining may be conveniently engaged with or removed from the interior of the cabinet. This latter feature makes possible the use of a lining having secured thereto means for mounting or carrying shelves, slides, drawers or any other interior appurtenances which the particular use of the device may make desirable.

Numerous objects and advantages will become apparent from a perusal of the following specification and claims.

In the accompanying drawing:

Fig. 1 is a transverse cross-sectional view of a cabinet constructed in accordance with the principles of the present invention.

Fig. 2 is a vertical cross-sectional view of such cabinet.

Fig. 3 is a fragmentary view, partly in section, showing the joinder of the outer casing and a caster therefor.

Fig. 4 is a fragmentary perspective view of the back of the safe showing the channel members in detail.

The safe comprises an outer and an inner sheet metal casing with a monolithic cast of heat insulating material disposed between the casings.

The major portion of the outer casing is formed from a single sheet of metal which is bent to form a top 1, sides 2 and 3 and a bottom 4. The seam 5 along the bottom where the ends of the sheet are joined, Fig. 3, is electrically welded, thus providing to all intents and purposes, a continuous rectangular frame 6. One of the ends of the frame thus formed is closed by a cap 7 which forms the back of the safe. The cap 7 comprises a rectangular sheet of metal having a flange 8 at each of its edges. A plurality of short channel shaped members 9 are electrically welded to the cap 7 parallel to each of the flanges 8 and spaced therefrom to form a perimetric groove adapted to receive the edge portions at one end of the frame 6. Jamb members 10 extend marginally along the upper, lower, and two side edges of the frame 6 at its other ends to form a door frame 11. Each of the jamb members 10 is formed with a flange 12 similar to the flanges 8 on the cap 6 and they are also provided with channel members 13 which, with the flanges 8, form a second perimetric groove adapted to receive the edge portions at the open or front end of the frame 6.

The box-like structure thus formed is used as a mold in which a monolith 14 of heat insulating material is cast, the inner casing being subsequently positioned therein. In casting the monolith, the frame 6, having the door frame 11 associated therewith, but with the cap 7 removed, is placed with its front or door frame side down and with an approximately rectangular core centrally positioned therein. An elongated channel member 15 is placed upon the core and the space between the core and the frame 6 and the space above the case to the top of the frame is filled with insulation in a liquid or plastic state. The insulation, while still in a fluid condition, is leveled off flush with the top edges of the frame 6 and the cap 7 is assembled therewith. After the monolith has set or hardened, the core, the sides of which are slightly tapered to facilitate removal, is withdrawn from the mold. The flanges 16 and 17 of the channels 9 and 13 respectively, are left embedded in the monolith and prevent the removal of the cap 7 or the door frame 11 from the frame 6. The channel 15 is also embedded in the insulation with its web portion 18 level with the interior surface of the monolith 14. This provides a base to which the inner lining may be secured.

The inner lining is made up of four side members 19 and a back 20. The side members 19 are formed at their front and rear edges with oppositely facing flanges 21 and 22 respectively. The flanges 21 cooperate with corresponding flanges 23 on the jamb members 10 and the flanges 22 are engaged by flanges 24 formed at all four edges of the back 20. The back 20 is itself secured to the back of the interior of the monolith by a screw 25 which engages the channel 15. The back 20, through

the engagement of the connecting members or flanges 22 and 24, cooperates with the door frame 11 to maintain the side members in assembled relation.

A door, indicated generally at 26, is fitted with hinges 27 secured to the safe proper. It is also equipped with the usual locking bolt 28, handle 29, and combination knob 30. The door 26 includes a substantially rectangular sheet 31 having each of its four edges bent to form a flange 32 of a shape that will correspond to the cross section of the jamb members 10. The flanges 32 and the door frame 11 are irregularly formed, as is usual in safe doors, in order that heat conducted by the metal in the jamb members 10 and the flanges 32 and by the air between them will be carried through relatively long distances. By means of this construction most of the heat that might otherwise be transmitted to the interior of the safe is repelled or dissipated.

The flanges 32 have terminal portions 33 parallel to the front of the door which serve as a base to which a door lining 34 may be secured. The box-like structure formed by the sheet 31 with the flanges 32 and 33 is completely filled with plastic insulation with the exception of the space occupied by the locking mechanism. The lining 34 is then secured to the flanges 33 by screws 35.

A caster 36 is secured to each of the bottom corners of the safe to facilitate moving. Each caster comprises a wheel 37 rotatably mounted on an axle 38 which is secured at its ends in frame pieces 39 and 40. The frame pieces 39 and 40 have vertical parallel side portions 41 and 42 and horizontal overlapping top portions 43 and 44. The frame piece 40 has an additional flange portion 45 which engages the edge of the safe to locate and support the caster. Screws 46 pass through apertures provided in the frame pieces 39 and 40 and engage tapped holes in the safe corner. Additional reinforcing plates 47 are positioned inside the outer casing in the region of the caster to give greater support to the caster.

From the foregoing it will be apparent that a safe having light weight metal walls and a monolithic heat insulating body has been provided wherein the outer casing may be preassembled and used as a mold in which to cast the monolith and wherein the inner metallic casing may be conveniently and removably associated therewith.

What is claimed is:—

1. A fire resistant cabinet comprising a rectangular tube forming top, bottom and side walls, a pair of cap members, each having a circumferential flange extending thereabout and a plurality of flange members spaced inwardly of each circumferential flange to form a groove for receiving one end of said tube, a monolith of insulating material formed in said tube, anchoring means associated with said inner flange members and adapted to be embedded in said monolith to maintain assembled relation between said cap members and said tube.

2. In a fire resisting cabinet having an opening therein forming side walls, a back wall and an open front, a cap member covering one side of the cabinet and having an opening substantially registering with the opening in said cast, flange members on the cap member adjacent the opening in the cabinet, liner members for said side walls each having front and back connecting members, said liner members being insertable in the opening in the cabinet with the connecting members at the front thereof slidably interengaging with the flanges on said cap member, said liners being removable through the opening in said cabinet, a rectangular member forming a back wall liner and provided with marginal flanges engaging the connecting members at the rear of the liner members, said rectangular member being removable through the opening in said cabinet, an anchor member on the back wall, and means securing said rectangular member thereto, to prevent its removal from the cabinet and to maintain the marginal flanges thereof in engagement with the connecting members at the rear of said liner members to prevent outward removal of said liner members.

3. In a fire resisting cabinet, a tube, a rear cap having a marginal flange slidably and removably mounted over an open end of said tube, anchor members on said rear cap, a front cap having a marginal flange slidably and removably mounted over the opposite open end of the tube, anchor members on the front cap, an opening in said front cap, inner side wall members inserted through the opening in said front cap and having outer marginal portions slidably and removably connected to said front cap, an inner back wall member having marginal portions slidably and removably engaging the ends of the inner side wall members, an anchor member on said back wall member, a monolithic cast of heat insulating material between the inner and outer walls, said anchor members being embedded in the cast to secure all of the removably connected members against removal relative each other.

4. In a fire resisting cabinet, a tube, flanged caps slidably mounted over each open end of said tube, said caps being outwardly slidably removable from said tube, a recess in one of said caps having flanged wall portions, rectangular lining portions each having a flange interengaging with a flanged wall portion, said lining portions being outwardly removable, a back lining member having a flange interengaging with a flange on the inner extremity of each lining portion, said back lining member being outwardly removable, anchor members on the caps and on said back lining member, a monolithic cast of insulating material between the lining portions and members and the outer walls, said cast embedding said anchor members and thereby securing said caps against outward removal from said tube and also retaining said back lining member against outward removal; the flanges of said back lining member, when such member is thus retained, engaging the flanges on the wall portions to prevent outward removal thereof and to retain the same in engagement with the flanges on said recessed cap.

5. In a fire resisting cabinet, a tube, a rear cap covering one end of the tube and having flange means slidably engaging the end of the tube, anchor members on the rear cap, a front cap on the opposite end of the tube and having flange means slidably engaging such end of the tube, anchor members on the front cap, said front cap having an opening providing a door jamb for the cabinet, and a single means engaging all of said anchor members to retain said caps in assembled relation with said tube, comprising a monolith of insulating material formed in said tube and having a recess register-

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ing with the opening in the front cap to provide a compartment within said cabinet.

6. In a fire resisting cabinet, a plurality of sheet metal wall sections having portions at the free edges overlapping and interfitting in slidable relation and forming an outer casing for the cabinet, and other portions projecting inwardly from all of said sections, and a cast monolithic lining in said casing engaging the inner faces of all of said wall sections, said lining having said other portions embedded therein and cooperating to retain all of said sections in casing forming relation, said lining forming the only means of retaining said wall sections in casing forming relation.

CARL F. WOLTERS.