HEAT INSULATING CABINET OR FILE

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This invention relates to heat insulating or fire resisting cabinets suitable for use for the filing and preservation of letters, documents, or other articles, and more particularly to improvements of drawer files of this nature having drawers arranged one above another, with each drawer when shut, enclosed in a separate compartment surrounded by heat insulating or fire resisting walls to protect the contents of the drawers from injury by fire.

One object of the invention is to provide a cabinet or file of this sort, of desirable and economical construction, which will effectively protect its contents from injury by heat or fire.

Other objects of the invention are to provide separate preconstructed compartment units having walls of heat insulating or fire resisting construction which are adapted for use singly or to be stacked one another upon to produce a cabinet having one, two, or more compartments, as desired; to provide compartment units each consisting of a hollow body of heat insulating or fire resisting material open at one end, which units can be individually molded, and are adapted for use singly or in stacks of two or more units; to provide a cabinet or drawer file comprising in its construction a hollow compartment body of heat insulating or fire resisting material open at one end and having an inner metal casing or lining which provides a support for a drawer and has a rim that covers and protects the edges of the insulation body at the open or front end thereby.

With these and other objects and advantages hereinafter explained, in view, preferred embodiments of the invention, illustrated in the accompanying drawings, are hereinafter described and the novel features of the invention are set forth in the appended claims.

In said drawings:

Fig. 1 is a front elevation, on a reduced scale, of a heat insulating multiple drawer file embodying the invention.

Fig. 2 is a side elevation, partly in section thereof, showing a drawer in the bottom compartment only of the cabinet.

Fig. 3 is a fragmentary, front elevation, partly in section, of the cabinet.

Figs. 4 and 5 are horizontal, sectional views thereof on lines 4—4 and 5—5 respectively, Fig. 3.

Fig. 6 is a vertical, longitudinal, sectional elevation of the cabinet on a larger scale than Fig. 2, but for the sake of simplicity, showing only two stacked compartment units.
dinal and transverse vertical cross section, and may be made by placing each inner casing in a mold and pouring the insulating material while in a fluid condition in the mold around the inner casing, so that the insulating body of the unit is formed in a single integral casting.

As shown, the units are formed so that when placed one upon another, parts of the contacting walls of the units will nest or interfit for registering the units one directly above the other. For instance, each unit may be provided externally on its top with a shallow, raised portion 19 adapted to enter a shallow depression 20 in the bottom of the next unit above. The insulation walls of each unit may be reinforced, as shown, by wire mesh material or other suitable reinforcements 21 embedded in the material when molding the unit.

At its open front end, the metal unit lining shown is provided with outboard flanges 22 which extend and blend the front end of the lining and, together with supplemental top, bottom and side metal rim members 24, 25 and 26, joined to the flanges 23, form an outwardly projecting rim that covers and protects the front edges of the insulating body of the unit. The bottom rim member 25 is preferably a strip forming a shelf or upturned flange at its rear edge which may be spot welded to the adjacent flange 23 of the lining, and a forwardly projecting top flange. When one unit is placed on top of another, the bottom of the channel member 25 at the bottom of the upper unit will rest and bear upon the forwardly projecting flange of the top rim member 24 at the front of the lower unit. The channel member 25, which projects forwardly at the bottom of the front end of the unit, forms a horizontal divider or separating bar at the front of the cabinet between adjacent compartments and the units will be maintained in place by a preferably projecting substantially to the front edges of the side walls of the cabinet, between the fronts or heads of the superposed drawers in adjacent compartments. The side rim members 25 are preferably of channel shape, best shown in Fig. 8, and may be spot welded to the lining side flanges 23. The metal front rim of the compartment unit, formed as described, is preferably bent or shaped to provide a peripheral tongue and grooved rim formation to interfit with a complementary peripheral formation on the drawer front or head to insure a fireproof closure of the compartment when the drawer is closed. Each of the channel divider members 25 preferably has an insulation filling 28, which may be formed either by an integral, forwardly projecting portion of the bottom wall of the unit body, or by a separate body of insulating material.

A multiple compartment cabinet is formed by securing two or more of the compartment units thus constructed, one upon another, as shown, with the lowest unit secured upon a heat insulating base 30, and a heat insulating top position 31 secured on top of the uppermost unit, and providing upright metal side and rear plates which cooperate with metal covering plates on the base and top section to form an outer metal shell for the cabinet and protects the insulation bodies of the units and gives the desired finished appearance to the cabinet. As shown, the base 30 comprises a body 32 of insulating ma-

terial, cast or formed in a metal shell or cover, which comprises a bottom wall 33 and upwardly projecting front and rear flanges 34 and 35, and side flanges 36. The front flange 34 extends to and blends its upper edge bent or extending inwardly over the top edge of the insulation 32, as shown at 37. Similarly, the top section comprises a body 38 of insulating material cast or formed in a metal shell or covering comprising a top plate 39 having a downwardly extending front and rear flanges 40 and 41, and side flanges 42. The front flange 40 extends to and is bent or extends inwardly upon under the bottom front edge of the insulation 38, and the lower edges of the side flanges 42 are also bent to extend under the bottom side edges of the insulation 38, as shown at 43, Fig. 7. The side plates 44 are shown covering the compartment units at opposite sides of the cabinet, and a metal back plate 45 covering the insulation units at the rear of the cabinet, these side and rear plates joining the metal plates of the base and top section to form the outer metal shell or casing of the cabinet. The side plates 44 shown have bottom end flanges 46 which extend inwardly under the side edges of the metal base plate 33, and upper end flanges 47 which extend upwardly under the edges of the uppermost compartment unit. The upper and lower edges of flanges 47 are adapted to enter grooves 48 in the bottom of the top section 31 at the sides when the top section is put in place, to assist in holding it in position on the uppermost compartment units. At their forward vertical edges, the side casing plates are preferably bent inwardly and rearwardly, forming channel flanges 49 which embrace the metal covered front edges of the side walls of the compartment units. The side plates 44 can be slid rearwards into place at the sides of the stacked units and retained in place by connecting their upright rear edges with the side edges of the rear casing plate 45, as by interlocking slide joints 49a as seen in Fig. 8, which adapt the rear plate to be slid downwardly into place in connection with the side plates. The lower end of the rear casing plate is adapted to enter a groove formed between the upturned rear flange of the base plate 33 and an angle strip 50 welded to the base plate, and when the top section 31 is placed in position on the uppermost compartment unit the rear casing plate is adapted to be received in a similarly formed groove 51 at the rear end of the top plate, as shown in Fig. 6. Thus, when the top section is secured in place on the uppermost unit, the several parts of the outer casing will interfit or interlock with each other and they may be welded as required, to securely join the parts together in place about the stacked units and thus cooperate in holding the units firmly in their intended relation.

The stacked compartment units may be secured one upon another, the lowermost unit secured on the cabinet base 30 and the top section 31 secured on top of the uppermost compartment unit by suitable means. These means, as shown in Figs. 6 and 7, consist of bolts 52 passing through the top wall of each unit and the bottom wall of the next unit above and fastened by nuts 53; bolts 54 passing through the bottom wall of the lowermost unit and screwed into threaded holes in anchoring pieces 55 embedded in the insulation of the base, and bolts 56 passing through the top of the uppermost unit and screwed into anchoring pieces 57 embedded in the insulation of the top section. Instead of such separate bolts securing each
ably holding the drawer closed, and Figs. 9 and 11 show such a latch, consisting of a latch arm 69 secured to the inner end of a rock shaft or spindle 70 which passes through the drawer head 65 and is provided with an operating handle 71 at its outer end, the beveled free end of the latch or arm being arranged to project below the bottom edge of the drawer head and cooperate with a keeper 72 in the bottom of the drawer compartment. Since the drawer latch does not form part of the invention herein claimed, further description thereof is unnecessary.

The described unit construction of the cabinet enables the compartment units to be separately constructed and carried in stock and assembled into the outer metal casings to supply cabinets of different capacities, having one or more compartments or drawers as required. Each unit has a single-piece cast or monolithic hollow body of fire resisting material, and can be readily and conveniently cast or molded with the minimum labor. The units, being small, are much lighter and easier to handle than a full-size cabinet body which would be much larger and heavier. Considerable time is required to cure and season molded insulating material of the sort employed, and to drive out its excess moisture, and small units offer advantage, in that they are cured in less time and they can be conveniently carried in stock, cured and ready for assembly into whichever height cabinets may be required. Inasmuch as the units, as made, are not encased or covered exteriorly, their drying or curing is expedited, since only the lesser interior surfaces of the insulation are covered and the greater outer surfaces are left exposed to the air, and the metal linings of the units can be made with holes or perforations to further speed up the drying out of the insulation. While each compartment is surrounded by thick insulating walls, giving great heat insulating efficiency and protection against fire, each partition between compartments is formed by the superposed top and bottom walls of adjacent units, each of which walls is approximately only one-half the thickness of the partition. This further facilitates the economy and convenience of construction and curing of the units, and the same applies to the cabinet base and top sections.

I claim as my invention:

1. A heat insulating cabinet comprising a monolithic hollow cast body of heat insulating material open at its front end, a metal rim covering the front rim of said hollow body but leaving bare the remaining exterior surfaces of the body, base and top sections, secured respectively on the bottom and top of said unit and each comprising a slab of heat insulating material and a metal sheath covering the outside face and edges of the slab, said top section and the top wall of said hollow body each being approximately half as thick as the back and side walls of said body so that the top insulating wall of the cabinet formed by said top section and the top wall of said hollow body will have approximately the same thickness as the back and side insulating walls of the cabinet, and a metal sheath covering the external side and back surfaces of said hollow body and joined to the metal sheaths of the base and top sections and also to said metal rim to complete an outer metal casing for the cabinet.

2. A multiple compartment heat insulating cabinet comprising separate compartment units stacked one upon another, each unit having a hollow cast body of heat insulating material open
at its front end, and a metal rim covering the front rim of said hollow body but leaving said insulating material exposed at and forming the exterior side and back surfaces of said unit, base and top sections of metal sheathed heat-insulating material secured respectively on the bottom and top of said stack of units, the top and bottom walls of said stack of units being of lesser thickness than their side and back walls such that the partition and top and bottom insulating walls of the cabinet formed by the stacked units and said top and bottom sections will have a thickness approximating that of the other walls of the cabinet, and a single metal sheath exteriorly covering the back and sides of all of the units of said stack and joined to said metal sheaths of the base and top sections and to said metal unit rims to complete a single outer metal casing covering and protecting said stacked insulating units.

3. A multiple compartment heat insulating cabinet comprising separate compartment units stacked one upon another, each unit consisting of a hollow molded body of heat insulating material open at its front end, and a metal rim covering the front rim of said hollow body but leaving the remaining exterior surfaces of the body bare, the portions of the metal covered front rim at the bottom and sides of each unit body projecting forwardly beyond the portion of the rim at the top of the body to form forwardly projecting compartment-division bars and side stiles, said externally bare units being secured directly one upon another, heat insulating base and top sections secured respectively on the bottom and top of said stack of units and each having a metal sheath covering the outer side and edges of the section, and a single metal sheath covering the side and back surfaces of all of the units of said stack, said metal sheaths being joined to each other and joining the metal front rims of the unit bodies to complete an outer metal casing for the cabinet.

4. A multiple compartment heat insulating cabinet comprising separate compartment units stacked one upon another, each unit consisting of a hollow molded body of heat insulating material open at its front end, and a metal rim covering the front rim of said hollow body but leaving the remaining exterior surfaces of the body bare, the portions of the metal covered front rim at the bottom and sides of each unit body projecting forwardly beyond the portion of the rim at the top of the body to form forwardly projecting compartment-division bars and side stiles, said externally bare units being secured directly one upon another, and a single outer metal casing covering the exterior surfaces of all of the compartment units and joining the metal front rims of the compartment unit bodies.

5. A heat insulating cabinet comprising a monolithic hollow cast body of heat insulating material open at its front end, a metal rim covering the front rim of said hollow body but leaving bare the remaining exterior surfaces of the body, the portions of the metal covered front rim at the bottom and sides of said unit body projecting forwardly beyond the portion of the rim at the top of the body to form a forwardly projecting sill and side stiles, base and top sections secured respectively at the bottom and top of said unit and each comprising a slab of heat insulating material projecting forwardly approximately as far as the projecting bottom and sides of said unit body, a metal sheath covering the outside face and edges of the slab, and a metal sheath covering the external side and back surfaces of said hollow body and joining the metal sheaths of the base and top sections and also said metal rim to complete an outer unitary metal casing for the cabinet.

6. A multiple compartment heat insulating cabinet comprising separate compartment units stacked one upon another, each unit having a hollow cast body of heat insulating material open at its front end, and a metal rim covering the front rim of said hollow body but leaving said insulating material exposed at and forming the exterior side and back surfaces of said unit, base and top sections of cast heat insulating material secured respectively on the bottom and top of said stack of units, the top and bottom walls of said hollow units and said top section being approximately half as thick as the side and back walls of the hollow units so that the partition and top, back and side insulating walls of the cabinet formed by the stacked units and said top and bottom sections will be of approximately the same thickness, and a single outer metal casing covering and protecting the exposed exterior surfaces of all of the compartment units and of the base and top sections and joining the metal front rims of said hollow unit bodies.

JAMES R. JONES.