June 24, 1969 R. E. HUSBY 3,451,580

FIRE EXTINGUISHER BOX

Filed Dec. 28, 1967 Sheet 1 of 2

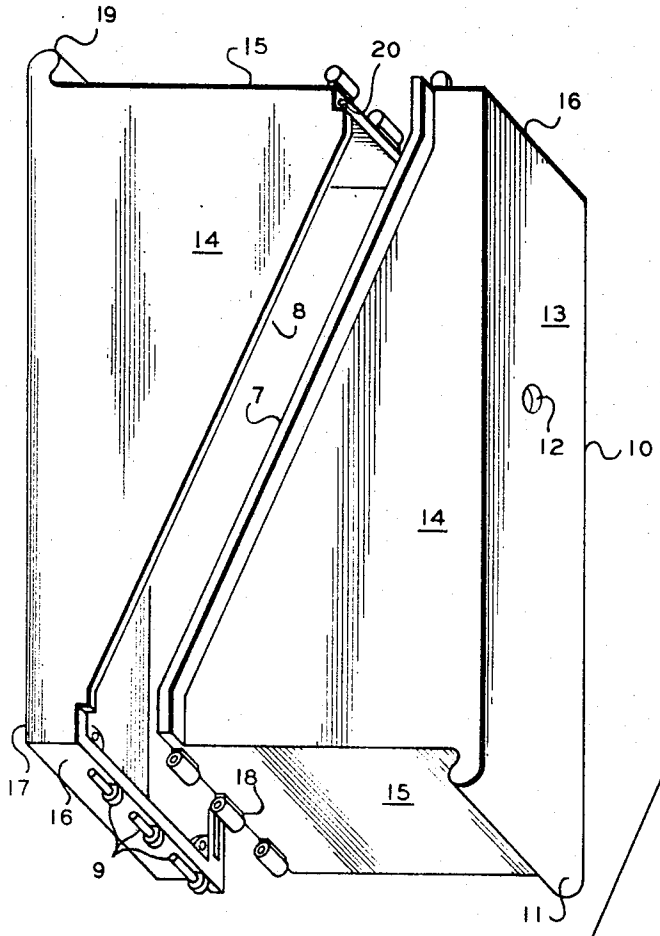


FIG. 1

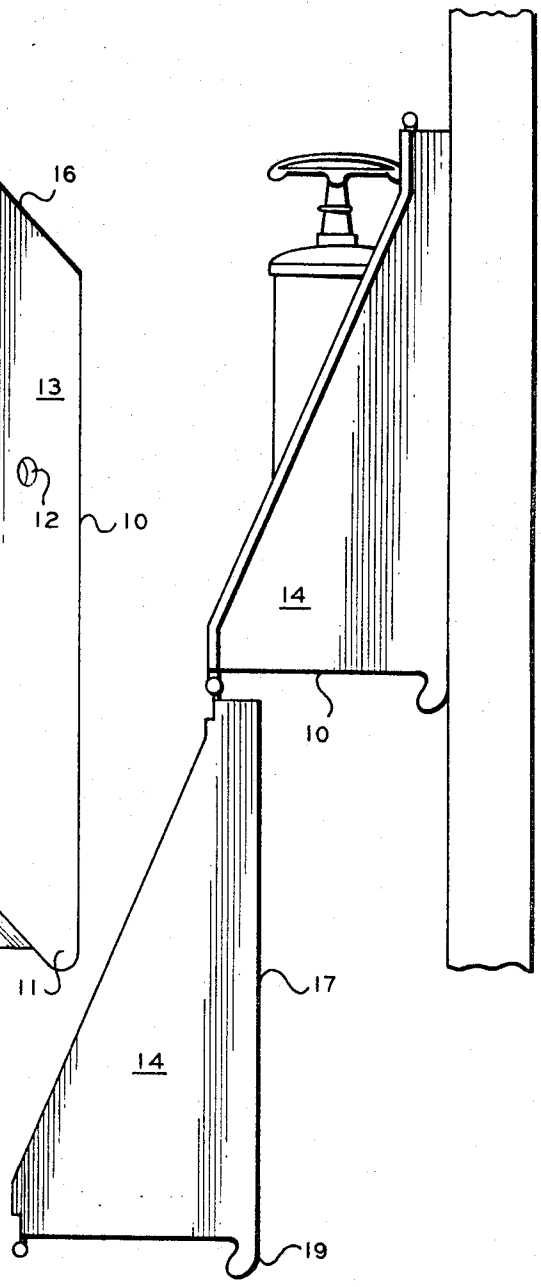


FIG. 2

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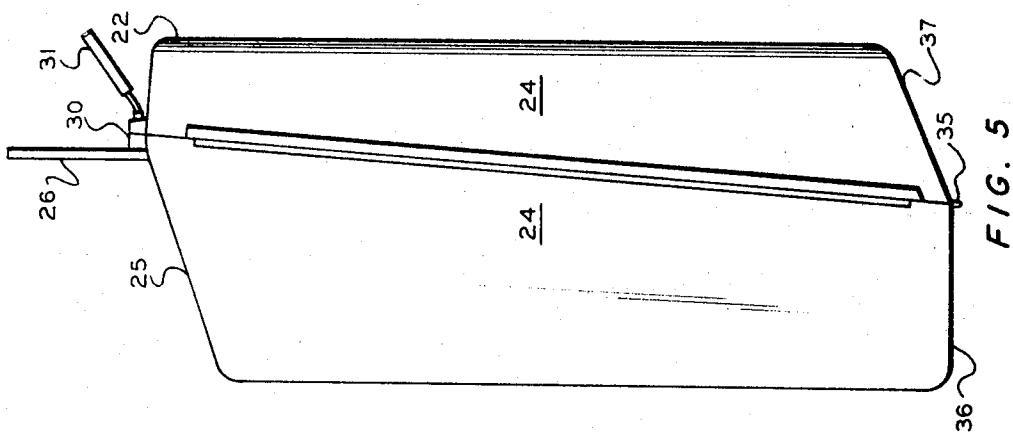


FIG. 5

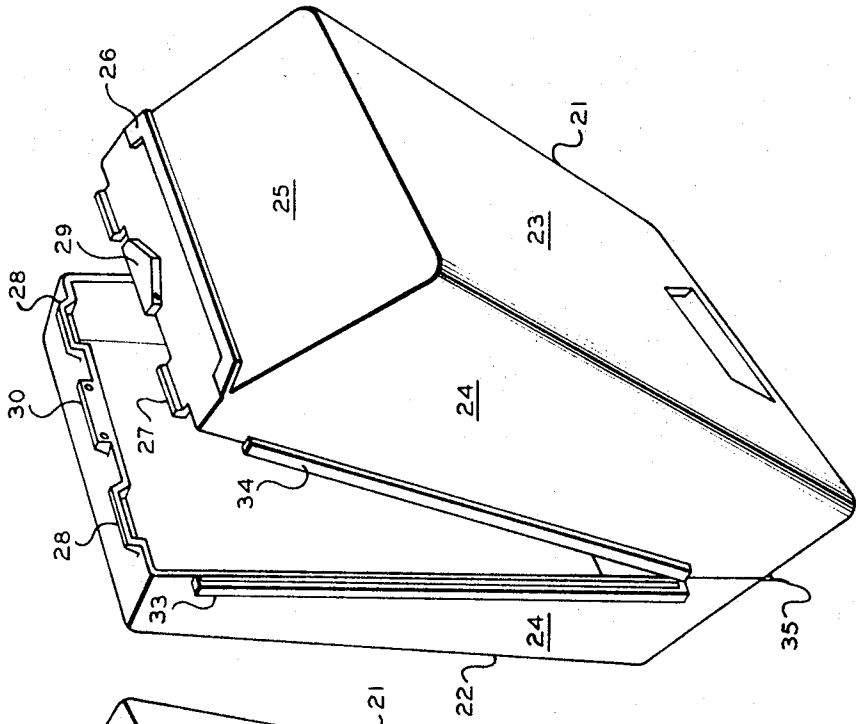


FIG. 4

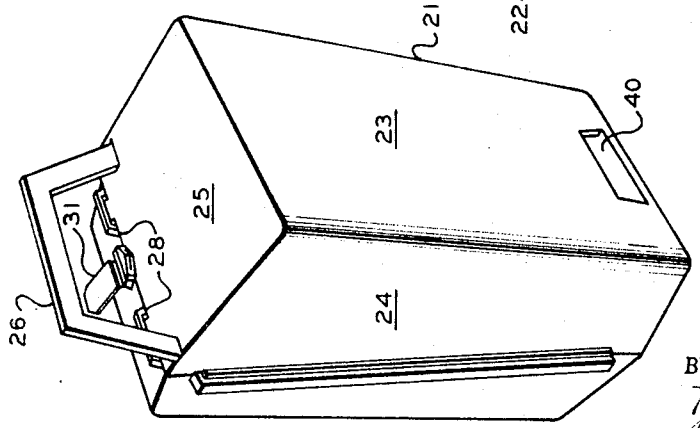


FIG. 3

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3,451,580

FIRE EXTINGUISHER BOX

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Int. Cl. B65d 11/10, 11/18, 51/04
U.S. Cl. 220—4 6 Claims

ABSTRACT OF THE DISCLOSURE

A two-part wall-mounted fire extinguisher box molded from thermoplastic resinous materials comprising in one embodiment two identical parts which form a box by reversing one part 180° and wherein each part varies in depth from one end wall to the other end wall and wherein each part has integral hinge elements and handle means and in a second embodiment, the box is molded in one piece so that the two halves are connected by an integral hinge.

Background of the invention

This invention relates in general to a fire extinguisher box of the type to be mounted in hallways of public buildings for storage of fire extinguishers or the like useful for emergency situations. In another aspect, this invention relates to a two-part fire extinguisher box molded from thermoplastic resinous materials wherein each part contains integral hinge elements and upon reversal of one part 180° with respect to the other can be joined to form a box-like structure which will hold a fire extinguisher. In accordance with another aspect, the fire extinguisher box is molded in one piece so that the two halves are connected by an integral hinge. In accordance with a further aspect, when the parts are folded to form a box, bayonet type catches are provided at the top along with a flexible loop handle on the front half for easy access to the contents of the fire extinguisher box.

Heretofore, many different types of fire extinguisher boxes have been developed for mounting and wall openings or recesses or on walls per se, but all have been relatively complex in structure, limited as to flexibility for handling different installations, expensive to construct and have required constant and costly maintenance attention.

In accordance with the invention, novel fire extinguisher boxes are provided which are formed from thermoplastic materials molded wherein the units formed from the molded parts can be utilized in industrial and in business establishments to house and protect hand portable chemical extinguishers.

Accordingly, an object of this invention is to provide a rather inexpensive, relatively simple and easy to construct and manufacture fire extinguisher box.

Another object of this invention is to provide a fire extinguisher box that can be quickly and easily opened to provide access thereinto so that it may be easily and efficiently manipulated by any person.

Other objects, aspects as well as several advantages of the invention will be apparent to those skilled in the art following specification and the appended claims.

Summary of the invention

In accordance with one embodiment of the invention, a two-part wall-mounted fire extinguisher is molded from thermoplastic material in a single mold wherein the two parts are substantially identical and each have hinge elements and form a box by reversing one part 180° with respect to the other part and removing unneeded hinge pins on the top end of one of the parts. The remaining hinge stubs are cored for insertion of tamperproof lead wire seals. Also in accordance with this embodiment, a male-female friction catch can be provided with aid in closing the box. An extension of the front side of the box provides a quick opening handle for a gloved hand. The fire extinguisher is mounted on a metal bracket, for example, which with fasteners extending through the box into a wall so that no vertical load is provided on the box itself.

In accordance with another embodiment of the invention, the fire extinguisher box is molded from thermoplastic materials in one piece so that the two halves are connected by an integral hinge. In this embodiment, when the two halves are folded to form a box, bayonet-type catches can be provided at the top along with a flexible loop handle on the front half for easy access to the contents of the fire extinguisher box. Also in accordance with this embodiment, heavy tabs are provided on the top and which have holes for insertion of the lead wire seal.

Description of preferred embodiments

A better understanding of the invention will be obtained upon reference to the accompanying drawings wherein like reference numerals refer to like parts, in which:

FIGURE 1 is illustrative of one embodiment of the invention wherein two like parts molded from thermoplastic materials are reversed 180° for assembling. In FIGURE 1 the illustration shows only partial assembly;

FIGURE 2 is a side elevation of FIGURE 1 wherein the box is mounted on a wall and also showing the fire extinguisher contents and with the fire extinguisher box open;

FIGURE 3 is a second embodiment of the invention in assembly view wherein the box parts are molded in a single operation and have integral hinges;

FIGURE 4 is a partially opened view of the fire extinguisher of FIGURE 3;

FIGURE 5 is a side elevational view of the fire extinguisher box in FIGURE 3 showing the tapered ends and the box in the closed position.

Referring to FIGURE 1, it will be seen that two like molded parts which are 180° with respect to each other are partially assembled. The wall mountable part **10** has a lower extension **11** integral with the body of the mounting part. An opening **12** is provided for securing to a wall and holding the fire extinguisher within part **10**. Mounting part **10** is comprised of a bottom wall section **13**, a side wall **14**, and an end wall **15**. An end wall **16** is also provided. In this particular embodiment it will be noted that side wall **14** tapers from end wall **15** toward end wall **16**. An opposite side wall from **14** is also provided and is similar in apperance and construction.

Wall mounting part **10** also has along the edge of side wall **14** a female groove **7**, which matches and engages the side wall edge **8** of the movable part **17**. Integral hinge elements **18** are positioned along the edge of end wall **15**.

Movable part **17**, substantially identical to part **10**, comprises side walls **14**, end walls **15** and **16**, as well as a bottom **13**, now shown in FIGURE 1. At end **15**, there is a handle element **19** for opening the fire extinguisher box when assembled. At the base of part **17** are provided hinge pins **9** which cooperate with hinge **18** for insertion of the pin elements to secure the two parts together.

In the above embodiment described in FIGURE 1, the box depicted is assembled from separate parts which are initially fabricated from one mold. It will be noted from the figure that each part has a male hinge formed on one end member and a female hinge formed on the opposite end member. The female hinge member requires a secondary routing operation to remove the core area before assembly of the fire extinguisher box.

The assembly operation is accomplished by rotating one part 180° from its counterpart. The male hinge on one part is then opposite the female hinge of the counterpart and can thus be engaged. The two parts are then integrally hinged and become a complete box. As the unit is closed, a male-female friction catch **20** engages, providing just enough interference to hold the box closed for the attachment of a tamper-proof wire and seal. The lead wire of the tamper-proof system is threaded through the male-female hinge arrangement on the top side of the box. A metal bracket that holds the fire extinguisher will be mounted directly to the back side of the element **10** and the wall (not shown) with a fastener through a hole **12**. There will be no vertical load on the box, itself. A quick pull on handle **19** will rupture the tamper-proof seal and open the box as illustrated in FIGURE 2.

FIGURES 3, 4 and 5 illustrate another embodiment of the invention wherein the entire box is injection molded in one piece. The box elements are connected by an integral hinge. Referring specifically to FIGURE 4, the box, partially opened, as illustrated, comprises a movable half **21** and a stationary or wall mounted half **22**. Movable half **21** has a bottom wall **23**, side walls **24**, and an upper end wall **25**, which as illustrated in FIGURE 5 is tapered downwardly in the closed and wall mounted position. At the lower portion of wall **23** there is provided a viewing port **40** for inspection of the interior of the box when closed.

Part **21** is provided with a flexible handle element **26**, connected to the top of end wall **25**. A bayonet type element **27** is provided on the edge of end **25**. Bayonet element **27** is the male portion. On the counterpart portion of the box there is provided snap-fit latches **28** for engagement with bayonet fittings **27** to close the box and hold it in the closed position. Also provided on the top of part **21** an end wall **25** is a tab element **29** and another tab element **30** on part **22**. In the closed positions, these two tabs can be wired together with a tamper-proof wire seal of the lead wire **31** as illustrated in FIGURE 3.

Along side wall **24** of part **22** there is provided a female groove **33** for engagement with male ridge **34** on side wall **24** of part **21**. In the closed position, ridge **34** fits into part **33** and provides a substantially weatherproof box. An integral hinge **35** runs along the length of end walls **36** and **37** as illustrated in FIGURE 5. Also as illustrated in FIGURE 5, the end wall **25** is tapered. The downward taper of wall **25** of part **21** would eliminate the possibility of using this area for a shelf.

In the above embodiments of the fire extinguisher box of the invention, the box parts can be fabricated by injection molding of thermoplastic resinous material. Representative examples of suitable thermoplastic materials that can be employed include the polyolefins such as homopolymers and copolymers of ethylene, propylene, butene-1, and the like. Particularly preferred polyolefin polymers are polyethylene, ethylene-butene-1 copolymer, polypropylene, and the like. Other thermoplastic materials that can be employed include polyvinylchloride and polytetrafluorethylene.

I claim:

1. A two-part wall mountable fire extinguisher box molded of thermoplastic resinous material comprising:

(a) a rectangular box-shaped base part that is wall mountable having a bottom wall, side walls and end walls, one end wall having integral hinge elements and the opposite end wall having snap-fit integral latches, each of said side walls tapering from the hinge end to the latch end in such a manner that the height of the side walls decreases from the hinge end toward the latch end, the hinged end wall of said base part being sufficiently deep to allow a fire extinguisher to rest thereupon when the extinguisher box is mounted vertically on a wall and the latched end wall is sufficiently shallow so that when the extinguished box is opened the uppermost handle portion of the fire extinguisher mounted therein can be readily grasped,

(b) a matching rectangular box-shaped movable part having its ends reversed 180° to that of the base part, whereby the integral elements are positioned on the shallow end wall of the movable part and integral latching elements are on the deeper end wall, said movable part and said base part being hingedly connected together at their hinge ends, said movable part being further provided with an upright integral handle element at its deeper end wall so that when the extinguisher box is closed and mounted vertically, the handle can be readily grasped to open the box and gain entrance to the contents, and

(c) said movable part having an integral ridge along the end of each of its side walls and said base part being provided with a female groove adapted to receive said ridge so that said box in closed position forms a frictional-type fit along the side walls.

2. A box according to claim **1** wherein the latching element at the closing end of the box is a male-female friction catch.

3. A box according to claim **1** wherein the latching elements at the closing end of the box are bayonet-type catches.

4. A box according to claim **1** wherein the box is molded in one piece so that two halves are connected with an integral hinge and when the two halves are folded to form a box, bayonet-type catches are provided at the top along with a flexible loop handle at the front half and heavy tabs on the top end have holes for insertion of a lead wire seal.

5. A box according to claim **1** wherein said handle is an elongated solid rib-like element extending across said deeper end wall from side wall to side wall to facilitate grasping when it is desired to open the box and gain entrance to the contents.

6. A box according to claim **5** provided further with a viewing part near the base of said movable part in the closed position and said base part is provided with means on its bottom for retaining a fire extinguisher within said box.

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U.S. Cl. X.R.

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