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S. KRAMER ET AL

3,416,701

COMBINED LATCH AND HANDLE

Filed Nov. 22, 1967

2 Sheets-Sheet 1

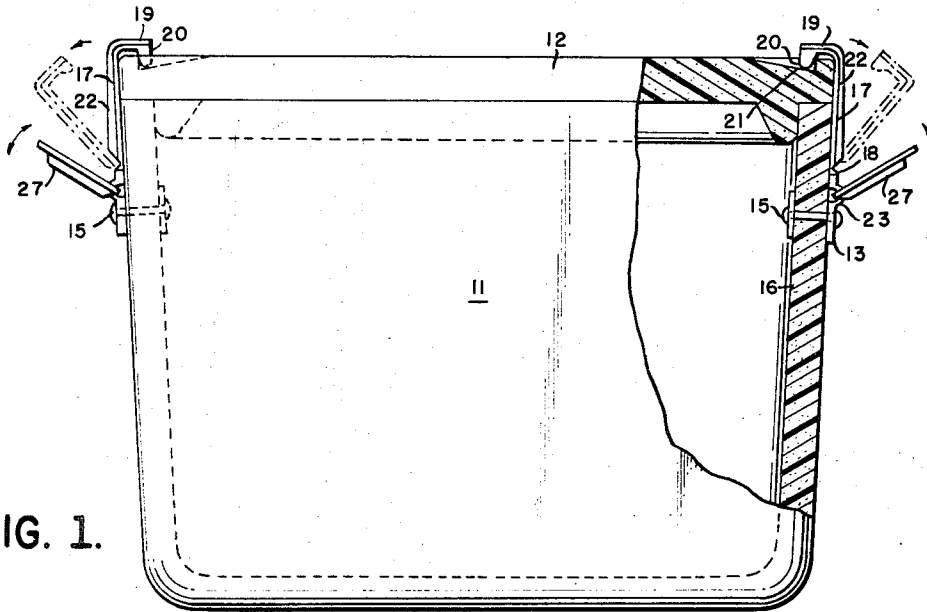


FIG. 2.

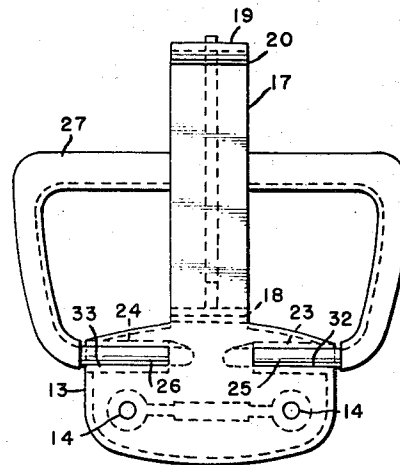
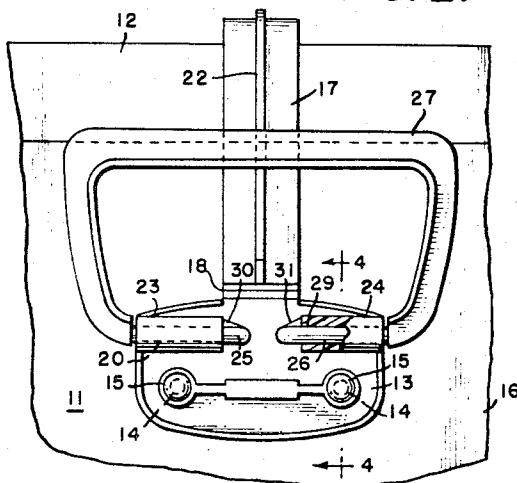
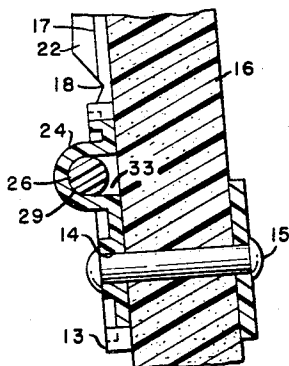


FIG. 4.



INVENTORS
SOL KRAMER
CHARLES GRETZ

BY *Albert G. Kramer*

ATTORNEY

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2 Sheets-Sheet 2

FIG. 5.

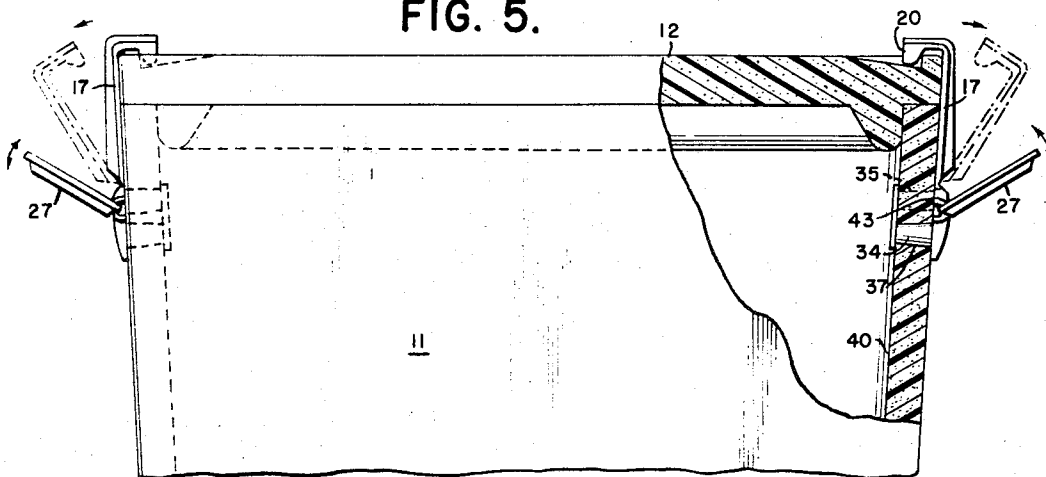


FIG. 6.

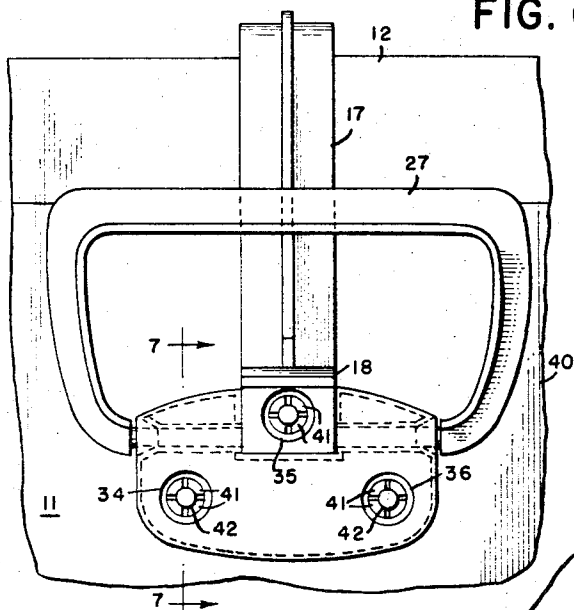


FIG. 7.

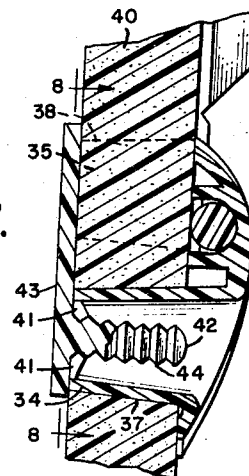


FIG. 8.

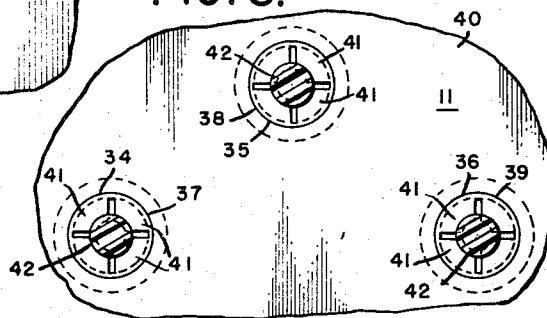
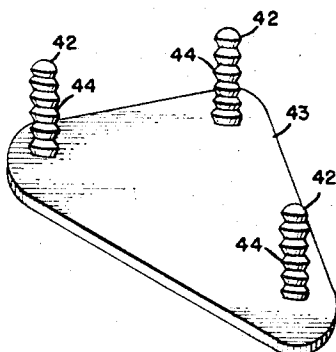


FIG. 9.



INVENTORS

SOL KRAMER
CHARLES GRETZ

BY *Albert G. Kramer*

ATTORNEY

1

3,416,701

COMBINED LATCH AND HANDLE

Sol Kramer, Baltimore, Md., and Charles Gretz, Los Angeles, Calif., assignors to Life-Like Products, Inc., Baltimore, Md., a corporation of Maryland
Continuation-in-part of application Ser. No. 524,674, Feb. 3, 1966. This application Nov. 22, 1967, Ser. No. 690,693

14 Claims. (Cl. 220—55)

ABSTRACT OF THE DISCLOSURE

A combined lid latch and handle is provided for a portable chest, such as a picnic or camping chest, that has a wall structure surmounted by a lid. The device comprises a plate with means for attaching it to the wall structure below the lid. Extending upwardly from the plate and integral with it is a relatively narrow strip, the upper end of which is bent inward to form a hook for engaging the lid. The strip is stiffened by a longitudinal ridge and the tip has an enlarged area to engage a corresponding depression of the lid. At the juncture between the strip and the plate a groove is provided defining a hinge line thereby permitting the strip to be hinged into and out of engagement with the lid. Two forms of the invention are described. In one form the plate is simply provided with holes for attaching it to the wall structure by conventional means, such as rivets. In another form, the plate is provided with tubular projections that fit in holes of the wall structure. Grooved studs on another plate are inserted in these tubular projections and means are provided for snap engaging the studs with the tubular projections.

This is a continuation-in-part of my copending application for patent, Ser. No. 524,674, filed Feb. 3, 1966.

This invention relates to hardware and it is more particularly concerned with a device for use on a portable chest which combines a lid latch with a handle for carrying the chest.

The general object of the invention is the provision of a combined latch and handle for a portable chest which can be quickly and easily attached to a wall of the chest.

Another object is the provision of a combined latch and handle of the type mentioned which is easily manufactured and assembled and yet is sturdy, strong and not likely to get out of working order.

A still further object is the provision of a combined latch and handle of the type mentioned which can be made completely of a molded plastic material.

These and still further objects, advantages and features of the invention will appear more fully from the following description considered together with the accompanying drawing.

In the drawing:

FIG. 1 is a side elevational view of a chest showing one embodiment of the invention, partly in section.

FIG. 2 is a side elevational view of a fragmentary portion of the chest with the embodiment attached.

FIG. 3 is a rear view of the same embodiment, apart from the chest.

FIG. 4 is a sectional view along the line 4—4 of FIG. 2.

FIG. 5 is a view similar to FIG. 1 showing a second embodiment of the invention.

FIG. 6 is a side elevational view of a fragmentary portion of the chest with the second embodiment attached.

FIG. 7 is a sectional view along the line 7—7 of FIG. 6.

FIG. 8 is a fragmentary view along the line 8—8 of FIG. 7.

2

FIG. 9 is a perspective view of the stud plate member apart from the embodiment as a whole.

Referring with more particularly to the drawing in which like numerals designate like parts, the invention is illustrated in connection with an ordinary portable picnic chest 11 of, for example, polystyrene foam. The chest is provided with a lid 12 which may be either completely removable or hinged to a wall of the chest.

The embodiment of the invention illustrated in FIGS. 1 to 4 comprises a plate 13 of a plastic material such as polypropylene resin. The plate is provided with apertures 14 for the reception of rivets 15, for example, to secure it to a wall 16 of the chest below the lid 12. Integral with and projecting upwardly from the plate 13 is a relatively narrow latch strip 17. At the juncture between the plate 13 and the strip 17 there is delineated a groove 18 of sufficient depth to act as a hinge.

A portion of the upper end 19 of the strip 17 is bent inwardly and it is provided with an enlarged tip 20 which functions as a catch in a corresponding depression 21 of the lid 12. A ridge 22 extends along the outer surface of the strip 17 above the groove 18 to add rigidity to the strip. The inner side of the strip and plate are both smooth and flat.

The plate 13 is also provided with a pair of laterally spaced hollow semi-cylindrical open ended bosses 23 and 24 on either side for rotary engaging inwardly projecting cylindrical shanks 25 and 26 of a U-shaped handle 27. The tip of the shanks 25 and 26 extend through inner openings 28 and 29 of the bosses 23 and 24, respectively and detents 30 and 31 are provided for holding the shanks in place. The handle 27 is preferably made also of polypropylene resin although other materials may, if desired, be used as well, including aluminum, brass, and others. A degree of resiliency is required, however, to permit insertion of the shanks in the bosses. Insertion is conveniently done by inverting the shanks in the bosses through lateral slits 32 and 33 of the bosses.

The second embodiment illustrated in FIGS. 5 to 9 is similar to the first embodiment except for the holding means. Instead of rivets, or the like, the second embodiment is provided with a group of hollow tubular projections 34, 35 and 36 which are adapted to fit a corresponding group of apertures 37, 38 and 39, respectively, of a wall 40 of the chest. The inner ends of the tubular projections are each provided with a circumferentially disposed group of radial segments 41 which are adapted to snap engage grooved studs 42. These studs are integral with and project from one side of a plate 43. They are spaced from each other in precisely the same manner as the apertures 37, 38 and 39. By these means the device can be quickly attached to the wall of the chest by simply disposing the tubular projections 34, 35 and 36 in the corresponding apertures 37, 38 and 39 on one side of the chest wall and then placing the plate 43 on the other side with the studs 42 extending into the tubular projections. The segments 41 will engage at least one of the grooves 44 of each stud 42 and thereby hold the entire assembly in place.

From the above, it will be understood that there is provided a relatively simple device for both latching a lid to the chest and for carrying the chest about. The device, moreover, is simple to assemble and to mount on the chest by the use of conventional rivets, bolts or other similar holding means, or by the use of a group of grooved studs mounted on a single plate which permits simultaneously inserting them in the corresponding tubular members that contain snap engaging means.

We claim:

1. A combined lid latch and handle for a portable chest having a top lid surmounting a wall structure, comprising a flat plate, means for securing the plate to the

3

wall structure of the chest below the lid, a strip integral with the plate projecting upward from the top of the plate, said strip having a groove defining a hinge line, the upper end of the strip above the groove being bent inwardly to overlie the lid, a pair of hollow bosses in said plate and a U-shaped handle having inwardly projecting shanks, said shanks being rotatably disposed in said bosses respectively.

2. A combined lid latch and handle as defined by claim 1 in which the sides of the bosses are open to permit the disposition of the shanks therein laterally.

3. A combined lid latch and handle as defined by claim 1 in which the upper end of the strip has its tip enlarged to engage a corresponding depression of the lid.

4. A combined lid latch and handle as defined by claim 1 and a longitudinal stiffening ridge on the exterior of the strip.

5. A combined lid latch and handle as defined by claim 1 in which the tips of the shanks extend out through the inner ends of the bosses and are provided with detents against the said inner ends of the bosses for holding them in place relative thereto.

6. A combined lid latch and handle as defined by claim 1 made of a plastic material.

7. A combined lid latch and handle as defined by claim 6 in which the plastic material is polypropylene resin.

8. A combined lid latch and handle as defined by claim 1 in which the means for securing the plate to the wall structure comprises tubular projections integral with the plate and extending therefrom, said tubular projections being adapted for disposition in apertures of the wall structure and studs adapted to be disposed in said tubular projections, said studs having grooves therein and said tubular projections having interior means for snap engaging said grooves and holding the shanks in place.

4

9. A combined lid latch and handle as defined by claim 1 in combination with a chest having a wall structure and an overlying lid, said means for securing the plate to the wall structure comprising tubular projections integral with the plate and extending therefrom, said wall structure having apertures in which said projections are disposed and studs disposed in said tubular projections, said studs having grooves, said projections having means on the interior thereof snap engaging said grooves and holding the studs in place.

10. A combined lid latch and handle as defined by claim 8 in which the studs are connected and held together on a plate in a spaced relation corresponding to that of the apertures of the wall structure.

11. A combined lid latch and handle as defined by claim 9 in which the studs are connected and held together on a plate in a spaced relation corresponding to that of the apertures of the wall structure.

12. A combined lid latch and handle as defined by claim 9 in which a group of projections are provided in relation to a corresponding group of studs.

13. A combined lid latch and handle as defined by claim 8 in which each stud is provided with a series of annular grooves to accommodate different thicknesses of wall structure.

14. A combined lid latch and handle as defined by claim 8 in which the means for engaging the grooves comprises a group of inwardly projecting resilient segments on the interior of each tubular projection.

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JAMES B. MARBERT, *Primary Examiner*.