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BOX MEANS

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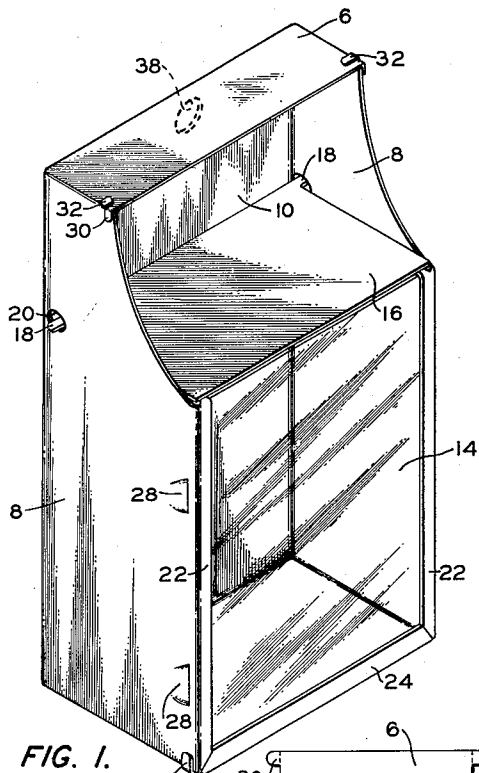


FIG. 1.

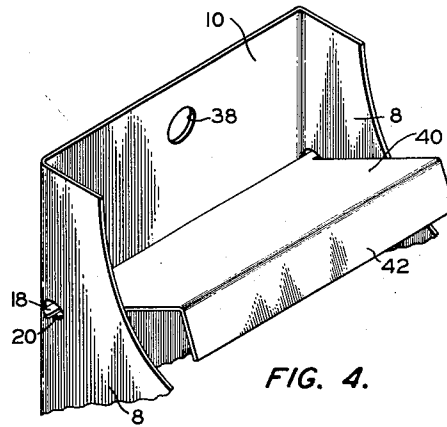


FIG. 4.

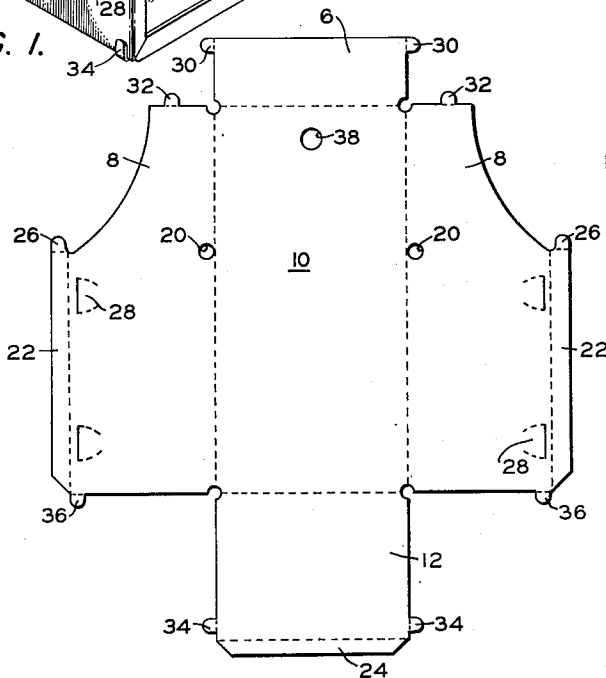


FIG. 2.

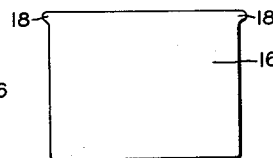


FIG. 3.

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1

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BOX MEANS

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This invention relates to box means. In a more specific aspect, this invention relates to box means which can be used to store articles and to produce them in position for easy access and use.

Boxes to package small articles are known in the prior art. Such boxes are inconvenient to use; they do not provide for easy identification of the articles contained therein; and it is difficult to obtain articles therefrom to use. Many small parts and articles, such as screws, washers, nails, bolts, nuts, and the like, are used in manufacturing industries by workers on the assembly line or work bench and by workmen in repair and other similar occupations. Bins for storing the parts can be used but they are expensive and are not easily moved about, and they expose the parts to dirt and moisture, if a lid to cover the bin is not provided. Provision of a lid to protect the parts is usually expensive, and the usual boxes and bins with lids which must be raised are inconvenient to use. Identifying stored parts which are used periodically or infrequently is necessary for efficient operation. Stickers and labels are subject to becoming too soiled to read, and changing the stickers and labels for articles or parts is unhandy and troublesome. Box means which will conveniently store parts or articles and which in addition will deliver or produce them handily for the worker have long been needed in the manufacturing and repair industries, and I have invented just such a box means.

The box means of my invention comprises, a back, sides, bottom and front. A lid is hingedly mounted between the sides with the lid adapted to form a closed compartment with the front, bottom and the lower portions of the sides and back. The hinged lid is also adapted to lie against the back of the box with the box lying on its back, the box means becoming a container open at its top. The parts or articles in the box are then easily removed in desired quantity through the opening. It is preferable that the new box means of my invention have means in the upper portion of the back above the point of hinging the lid to hang the box means during storage. During such storage, the parts or articles are in the closed compartment and are protected from dirt, moisture, and the like, which might damage them. In use, the box means of my invention having the stored parts in its closed compartment is removed from its hanger and laid on its back, at which the lid swings down against the inside of the back and the parts leave the compartment to become exposed and easily accessible to the user. The box means of my invention has many advantages. I have discovered a way to provide a box with a transparent front so that the parts in the box can be easily seen while still providing a box which is very easy and convenient to use and store, and which can be made economically. All of the preferred box means of my invention except the front member and lid is preferably made in one piece, and I have found this to result in a very inexpensive box. Because of the structure of the preferred box means of my invention, it is very strong and remains rigid in use. The new box of my invention is particularly advantageously used to store and produce for use each articles

2

and parts as screws, bolts, nails, washers, nuts, and the like.

It is an object of my invention to provide new box means.

5 It is another object of my invention to provide new box means which are advantageously used to not only store and protect parts but which easily identifies the stored parts and conveniently produces them for use when desired.

10 Other objects and advantages of the box means of my invention will become apparent to one skilled in the art upon reading this disclosure.

Drawings accompany and are a part of this disclosure. Such drawings depict preferred specific embodiments of the new box means of my invention, and it is to be understood that such drawings are not to unduly limit the scope of my invention.

In the drawings,

Fig. 1 is a perspective view of the new box means of 20 my invention.

Fig. 2 is a plan view of a preferred one-piece construction for the top, sides, back, and bottom of the box means shown in Fig. 1.

Fig. 3 is a plan view of the hinged lid of the box shown 25 in Fig. 1.

Fig. 4 is a perspective view showing a desirable modification of the structure of the upper portion and hinged lid of the new box means of my invention.

Following is a discussion and description of the box means of my invention. In such discussion and description, reference is made to the drawings on which the same reference numerals are used to indicate the same part or structure. It is to be understood that the following discussion and description is not to unduly limit 35 the scope of my invention.

The box means shown in Figs. 1, 2 and 3 has top 6, sides 8, back 10, bottom 12, front 14 and lid or cover 16.

Front member 14 can be made of any suitable material, but is preferably transparent and made of glass, plastic, or the like. The parts stored in the box can be easily 40 seen with a transparent front member 14. No identification marking is necessary.

Lid 16 can be made of any suitable material, such as metal, plastic, fiberboard, or the like, as can be the rest of the box means. I have found it practical and preferable to make the lid member, and the top, back, sides and bottom out of sheet metal, the lid being made in one piece and the rest of the box is one piece. Lid 16 45 has hinge pins 18 which are preferably integral therewith.

Fig. 2 depicts a preferred one-piece structure for the back, sides, top and bottom of the box. The dotted lines on Fig. 2 indicate the places where the flat stamping is bent to form the box of Fig. 1. Hinge pins 18 of lid 16 are mounted in holes 20 through sides 8, and front member 14 is retained by integral extensions 22 of sides 8, 50 integral extension 24 of bottom 12, integral fingers 26 and indentions 28 in sides 8. Front member 14 lies between indentions 28 and integral extensions 22. Fingers 30 of top 6 overlap sides 8 and fingers 32 of sides 8 overlap top 6. Fingers 34 of bottom 12 overlap sides 8 and fingers 36 of these sides overlap bottom 12. I have found it desirable that fingers 30, 32, 34, 36 and 26 be integral with their respective portions of the box, and I have found that such construction makes my box very strong and rigid. A hole 38 is provided in the upper 55 portion of back 10 above the holes 20 in sides 8, such hole 38 being used to hang the box means of my invention on a hanging member, such as a nail, screw, hook, peg, or the like.

In constructing the box means of my invention, blanks 70 of the shape shown in Figs. 2 and 3 are preferably stamped out of sheet metal. The blank of the shape shown in Fig. 2 and the cutting for indentions 28 and

holes 20 and 38 can be accomplished in the same stamping operation, if desired. Any suitable method of bending the blank of Fig. 2 to form the box can be used. The sides 8 are bent along the dotted lines at right angles to back 10, as is the top 6 and bottom 12. One should keep in mind that hinge pins 18 of lid 16 should be placed in holes 20 of sides 8 during the bending to form the sides. The fingers which hold the box together can be bent over to overlap, as shown, in any suitable manner. Front member 14 can conveniently be slid in between indentions 28 and portions 22 and 24 after the indentions have been formed and portions 22 and 24 have been bent to shape, member 14 being finally secured by bending over fingers 26.

In Fig. 4, lid 40 has a depending front portion 42 which in use functions the same as top 6 in the specific embodiment shown in Fig. 1. A chief advantage of the modifications shown in Fig. 4 is that portion 42 can be made to overlap front member 14, and thus further protect the stored parts. If desired, the same thing can be accomplished in the box of Fig. 1 by having a depending front portion on lid 16. However, this requires additional material.

In use parts or articles to be stored are placed in my box means in the closed compartment formed by lid 16, front 14, bottom 12, and the lower portions of back 10 and sides 8. The box is hung on a member which passes through hole 38. When it is desired to use some of the stored parts, the box is removed from the hanging position and laid down on a bench or table on its back with front member 14 up. The parts or articles stored contact lid 16 which pivots and lies back flat against the upper portion of back 10. It is then very convenient to reach in and obtain the quantity of parts desired. Upon being through with the box, the user picks it up and the parts fall back into the lower compartment which becomes a closed compartment when lid 16 swings back into the position shown in Fig. 1. As one skilled in the art can see, the box of my invention is very convenient and economical to make and use and well protects the stored parts.

As will be evident to those skilled in the art, various modifications of this invention can be made, or followed, in the light of this disclosure and discussion, without departing from the spirit or scope of the disclosure or from the scope of the claims.

I claim:

1. Combination storage box and bin means for a plurality of articles, comprising, in combination, a one-piece member forming a back, bottom, top and opposite side portions of said means and overlapping portions integral with said named portions holding said named portions in position, a separate transparent front member of less length than said back and side portions, and a separate flat lid member having hinge pin portions projecting therefrom, said bottom portion having a portion integral therewith mounting said front member in the lower portion thereof, each of said side portions having portions integral therewith mounting said front member in the upper and side portions thereof, each of said side portions having a hole in the rear portion thereof and spaced substantially down from said top with said holes oppositely disposed, said hinge pin portions of said lid member hingedly mounted in said holes, and said storage box and bin means adapted to form when said storage means is upright a closed compartment for said articles closed on top with said lid member and otherwise with the lower portions of said back and sides, said bottom and said front member, and said means adapted when disposed on its back to form an open bin for said articles open to said compartment with said top, bottom and sides forming the sides of said bin, said back forming the bottom, and with said lid member flat against the upper portion of said bin bottom.

2. Combination storage box and bin means for a plu-

ality of articles, comprising, in combination, a one-piece member forming a back, bottom and opposite side portions of said means and overlapping portions integral with said named portions holding said named portions in position, a separate front member of less length than said back and side portions, and a separate closure member having a lid portion and having hinge pin portions projecting therefrom, said bottom portion having a portion integral therewith mounting said front member in the lower portion thereof, each of said side portions having portions integral therewith mounting said front member in the upper and side portions thereof, each of said side portions having a hole in the rear portion thereof and spaced substantially down from the top of said side portions with said holes oppositely disposed, said hinge pin portions of said lid member hingedly mounted in said holes, and said storage box and pin means adapted to form when said storage means is upright a closed compartment for said articles closed on top with said lid portion of said closure member and otherwise with the lower portions of said back and sides, said bottom and said front member, and said storage box and bin means having a closure member attached thereto and extending between the upper ends of said side members when said box and bin means is disposed on its back, and said storage box and bin means adapted when disposed on its back to form an open bin for said articles open to said compartment with said closure member, said bottom and said sides forming the sides of said bin, said back forming the bottom, and said lid portion of said closure member flat against the upper portion of said bin bottom.

3. Combination storage box and bin means for a plurality of articles, comprising, in combination, a one-piece member forming a back, bottom and opposite side portions of said means and overlapping portions integral with said named portions holding said named portions in position, a separate transparent front member of less length than said back and side portions, and a separate one-piece closure member having a lid portion and a top portion bent at an angle thereto and having hinge pin portions projecting therefrom, said bottom portion having a portion integral therewith mounting said front member in the lower portion thereof, each of said side portions having portions integral therewith mounting said front member in the upper and side portions thereof; each of said side portions having a hole in the rear portion thereof and spaced substantially down from the top of said side portions with said holes oppositely disposed, said hinge pin portions of said lid member hingedly mounted in said holes, and said storage box and bin means adapted to form when said storage means is upright a closed compartment for said articles closed on top with said lid portion of said closure member and otherwise with the lower portions of said back and sides, said bottom and said front member, and said means adapted when disposed on its back to form an open bin for said articles open to said compartment with said top portion of said closure member, said bottom and said sides forming the sides of said bin, said back forming the bottom, and said lid portion of said closure member flat against the upper portion of said bin bottom.

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