Aug. 18, 1936. B. B. COUNTRYMAN 2,051,027

BOX

Filed March 10, 1933 2 Sheets-Sheet 1

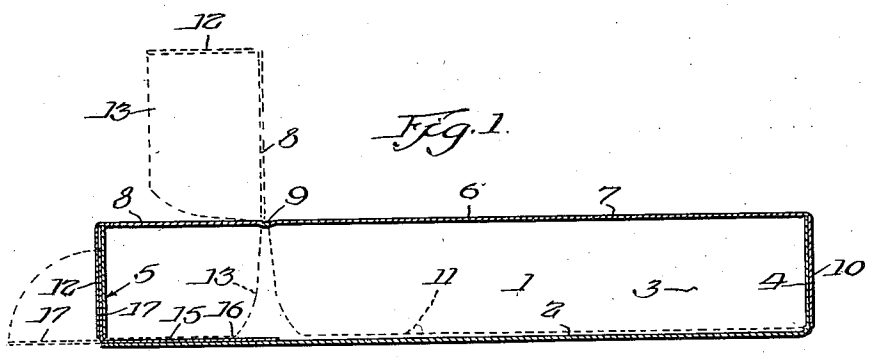


Fig. 1.

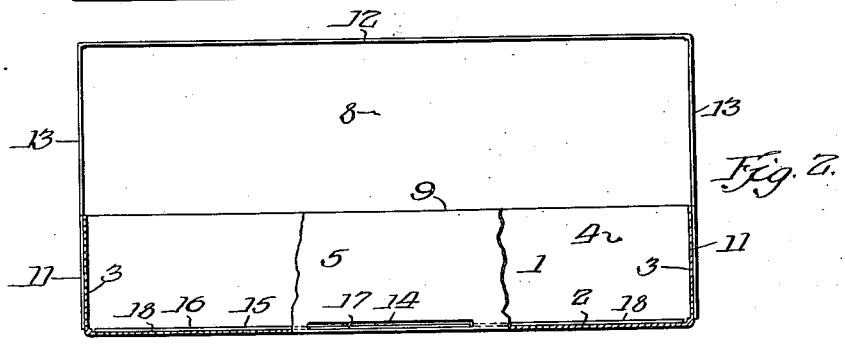


Fig. 2.

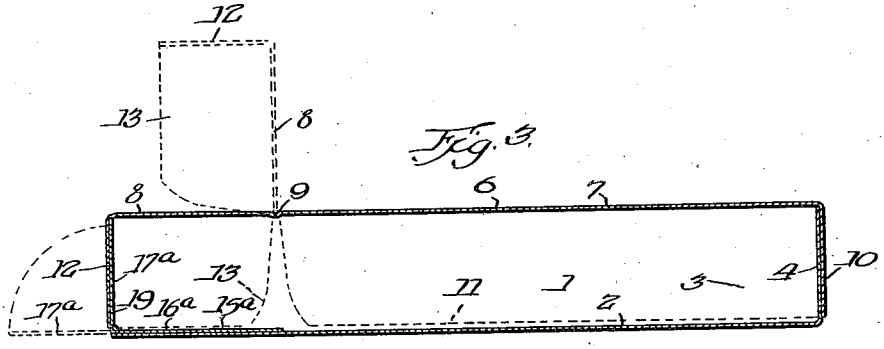


Fig. 3.

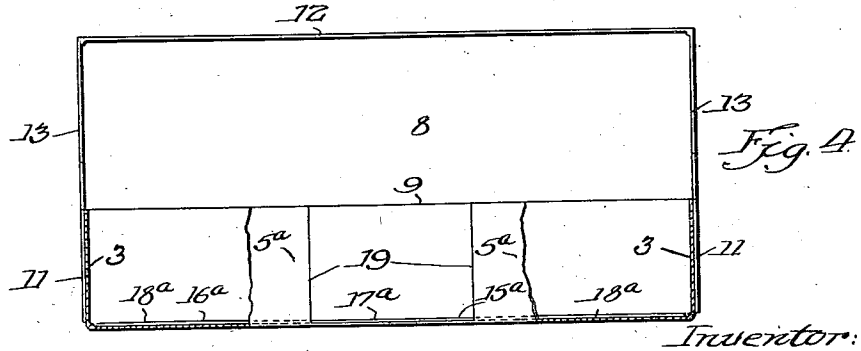


Fig. 4.

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BOX

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Fig. 5.

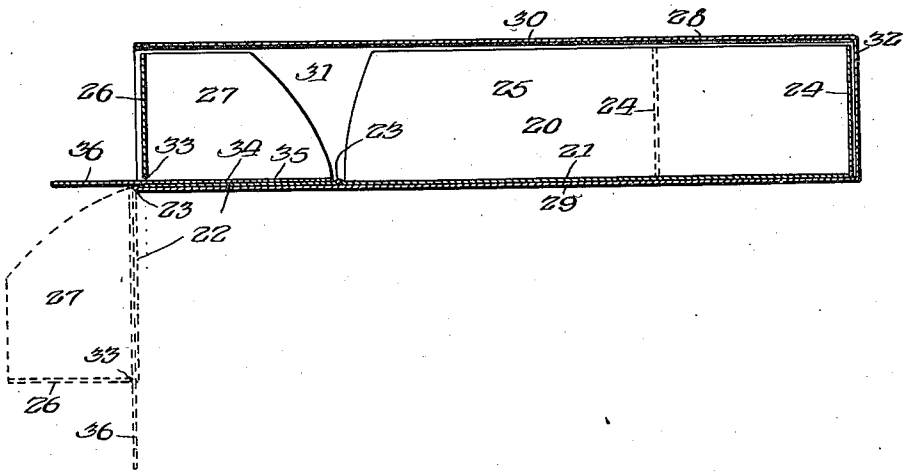
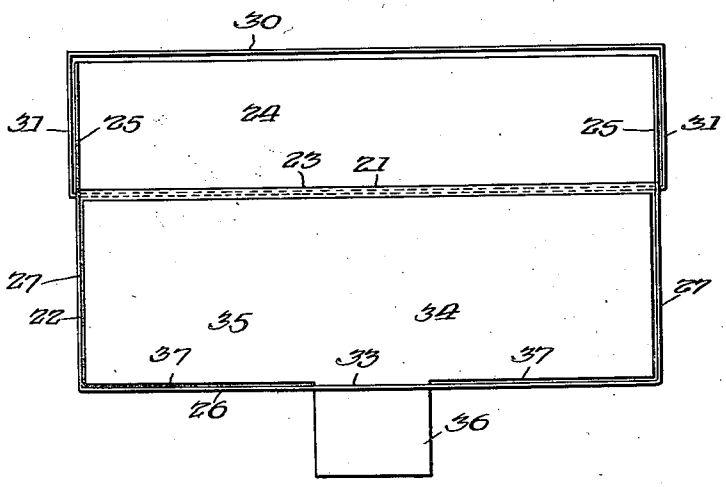


Fig. 6.



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UNITED STATES PATENT OFFICE

2,051,027

BOX

Beverly B. Countryman, St. Paul, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Application March 10, 1933, Serial No. 660,223

15 Claims. (Cl. 229—9)

The invention relates in general to boxes preferably made of cardboard or other similar sheet material and more particularly to boxes used for containing sheet material or small objects, which may be stacked on the shelves of a stock room, store or the like.

The principal objects and advantages of the present invention reside in the provision of an improved box so constructed as to provide ready access to one of a plurality of such boxes stacked together without disturbing the other boxes in the stack; the provision of an improved box provided with a means of withdrawing one of said boxes from a stack of a plurality of similar boxes; the provision of an improved box provided with a means for handling such box which handling means is slidably related to said box; the provision of an improved box provided with handling means consisting of a single flat member, slidably and removably associated with said box; the provision of an improved box provided with handling means which can optionally project from said box or be enclosed within the same; the provision of an improved box provided with handling means slidably associated with said box which handling means may optionally project in operative position or be retained against a portion of the box; and the provision of an improved box provided with a slidable, removable handling means which may be contained substantially within the limits of the box and which does not affect the effective capacity of the box.

The foregoing and such other objects and advantages as may appear or be pointed out as this description proceeds are attained in the structural embodiment of the invention illustrated in the accompanying drawings in which:

Figure 1 is a longitudinal sectional view of one form of this invention:

Figure 2 is an end view of the form of the invention shown in Figure 1 with the end of the box body partially cut away.

Figure 3 is a longitudinal sectional view of another form of the invention.

Figure 4 is an end view of the form of the invention shown in Figure 3 with the end of the box body partially cut away.

Figure 5 is a longitudinal sectional view of a third form of this invention.

Figure 6 is an end view of the form of the invention shown in Figure 5.

Referring now to the drawings and particularly to Figures 1 and 2, the box comprises a box body indicated generally as 1 comprising a bottom 2, sides 3—3 and ends 4 and 5; and a top generally indicated as 6 comprising a major top portion 7 and a minor top portion 8, hingedly connected at 9; an end 10 and sides 11 attached to top portion 7; and an end 12 and sides 13 attached to top portion 8.

The bottom, ends and sides of box body 1 and the top portions, ends and side of top 6 may conveniently be formed from a single piece of cardboard or like material and folded to make the box as shown or they may be separate elements glued or stapled together by the usual means well known to the art. Similarly the top portions 7 and 8 may be formed from a single piece and the hinged connection formed by a crease or scoring between them or they may be separate pieces hingedly connected by any of the well known means.

By reason of the hinged connection between the major and minor portions of the top access to the box may be had by raising the minor portion only while the major portion remains in place, as when the box is in a stack of similar boxes or if the sides of the major portion of the box were permanently glued or stapled to the sides of the box body which may be desirable for certain purposes. The minor portion of the lid is represented in open position by the dotted lines in Figure 1.

One of the principal objects of this invention is to provide a convenient and economical means, operating on the box body and so arranged as not to interfere with the complete closure of the top, by which one box can be partially or wholly withdrawn from a shelf or a stack of such boxes to allow access to the contents thereof. To accomplish this purpose an aperture 14 is provided in the center portion of end 5 of the box body 1 adjacent to the bottom 2 of the box body.

A handling member 15 is formed from a single piece of cardboard or the like and consists of a body portion 16 and a tongue or handle portion 17. The body portion 16 is of substantially the same width as the inside of the box body 1 and adapted to slidably overlie the bottom 2 of said box body.

The tongue or handle portion 17 is of substantially less width than the body portion and adapted to extend through the aperture 14 in the end of the box body, thereby affording shoulders 18—18, which engage the inside of end 5 of the box body when the tongue or handle portion 17 is fully inserted through slot 14. Thus a handle 17 is provided as indicated by the dotted lines in Figure 1 which extends forward and beneath the cover when the portion 8 of the cover is in place.

This handle portion 17 also may be folded upwardly against the outer face of end 5 of the box body and retained there by the end 12 of the cover as indicated in Figure 1 so that it will be out of the way and protected during packing and shipping, and yet be available by merely raising the cover portion 8, prior to setting the boxes in a stack on a shelf.

Referring now to Figures 3 and 4 which show an alternative form of the invention, the general construction of the box body and cover are similar to those shown in Figures 1 and 2 as described in detail above and the same numbers apply to the same parts except as hereinafter noted.

The end of the box body corresponding to end 5 of the form shown in Figures 1 and 2 is cut away to form the opening 19 for the entire depth of the box, leaving the end portions 5a, 5a. The body portion 16a of handling member 15a then overlies the bottom of the box and the tongue or handle 17a projects through tne opening 19 and the shoulders 18a of body portion 16a act against the end portions 5a, 5a. The tongue or handle 17a projects beyond and below the end 12 of the cover, when so desired as for packing and shipping. This form of the device is particularly useful when the box is used to contain sheeted material such as paper or the like in that it affords more ready access to the contents of the box. When thus used the handling member 15a is held in position by the weight of the contents of the box.

A further form of this invention is shown in Figures 5 and 6 in which the box body generally indicated as 20 consists of a bottom divided into major portion 21 and minor portion 22 hingedly connected at 23. The major portion 21 is provided with end 24 and sides 25, and minor portion 22 is provided with end 26 and sides 27. The box body 20 may be conveniently formed from a single piece of cardboard or like material folded to the form as shown with a scoring to form the hinged connection 23, or it may be formed of separate elements glued or stapled together.

The box body 20 is slidably enclosed in a cover or envelope generally indicated as 28 and comprising a bottom 29, a top 30, sides 31, 31 and one end 32, the end adjacent to the minor portion of the body 20 being left open.

One of the principal objects of this form of the invention resides in the provision of a convenient and economical means, operating on the box body for withdrawing the same from the envelope or cover to allow access to the box. To accomplish this purpose an aperture or slot 33 is provided in the center portion of the end 26 adjacent to the bottom 22 of the minor portion of the box body.

A handling member 34 is formed from a single piece of cardboard or the like comprising a body portion 35 and a tongue or handle portion 36, as best shown in Figure 6. The body portion 35 is of substantially the same width as the inside of the box body 20 and adapted to slidably overlie a portion of the bottom of said box body not greater than the minor portion 22.

The tongue or handle portion 36 is of substantially less width than the body portion and adapted to pass through the aperture 33 in the end of the box body. Thus the body portion 35 is provided with shoulders 37, 37 which engage the inside of the end 26 of the box body when the tongue or handle portion 26 is fully inserted through slot 33. Thus a handle 36 is provided by which the box body 20 may be withdrawn from the cover or envelope 28 and when the minor portion is so withdrawn it will swing down as indicated by the dotted lines in Figure 5 and in the end view Figure 6.

For convenience in packing and shipping the handle 36 may be folded up against the outer face of end 26 or the entire handling member may be slid back along the bottom of the box body.

When it is desired to remove one of the boxes of the several forms of this invention as above described from a pile of similar boxes a certain resistance may arise due to frictional adhesion between adjacent boxes. By slidably mounting the handling member on the box bottom as above described it is possible to push the handling member into the box and then, by drawing said handle sharply forward, produce an impact on the box body to facilitate starting the box from its position in the stack.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent is:

1. In combination a box body having a bottom, sides and ends, one of the ends of said box being provided with an aperture, and a member inserted through said aperture and acting against the end of said box to afford a handle for the same, said member being formed of a single piece of flat material and slidable with respect to and guided by the sides of said box.

2. In combination a box body having a bottom, sides and ends, one of said ends being provided with an aperture; and a handling member formed from a single piece of flat material comprising a body portion guided by the sides of the box and an extended portion on said body portion adapted to slidably extend through the aperture in said box to form a handle for the same.

3. In combination, a box body having a bottom, sides and ends, one of said ends being provided with an aperture; and a handling member formed from a single piece of flat material comprising a body portion and an extended portion so related to each other that when said extended portion is inserted into the aperture of said box said body portion of said handling member slidably engages and is guided by the sides of said box and affords shoulders which abut the end of said box adjacent to said aperture and said extended portion forms a handle for said box.

4. In combination, a box body having a bottom, sides and ends, one of said ends being provided with an aperture; and a handling member formed from a single piece of flat material comprising a body portion adapted to be guided by the sides of said box and to slidably overlie a portion of the bottom of said box and abut the end of said box, and an extended portion adapted to slidably extend through said aperture and form a handle for said box, said extended portion being foldable along said body portion to lie adjacent to the outer face of the end portion of said box.

5. A box comprising a body and a lid, the lid having its front portion hingedly connected to the remainder of the lid, and the body having a handling member removably connected with the box body and adapted to project forward under and beyond the hinged section of the lid when the latter is swung down over the front of the box body, said handling member being slidably mounted within said box and including an enlarged portion guided by the walls of said body

and engaging the front wall of said box body upon application of a pull on said member.

6. In combination, a box body having a bottom, sides and end sections spaced to afford an aperture, and a handle member for the box including an enlarged body portion adapted to slidably overlie the box bottom, abut said end sections and be guided by said side walls, and a tongue on said member projecting through said aperture.

7. A box comprising a body and a lid, the lid having its front portion hingedly connected to the remainder thereof, and the body having a handling member slidably mounted on the box body and guided by the walls thereof adapted to alternatively project forward under and beyond the hinged section of the lid when the latter is swung down over the front of the box body, or to be retained between the end of the box body and the hinged portion of the lid.

8. In combination, a box comprising a body and a cover, said cover completely enclosing said body except at one end, said body being slidably mounted in said cover, and having an aperture in the end adjacent to the open end of said cover; and a member inserted through said aperture and acting against the end of said box body to form a handle for the same, said member being slidable with respect to said box body and guided by the sides of said box body.

9. In combination, a box comprising a body and a cover, said cover completely enclosing said body except at one end, said body being slidably mounted in said cover, and comprising major and minor portions hingedly connected to each other transversely of said body whereby when said body is partially withdrawn from said cover the minor portion of said body will swing down to facilitate access to said box; and a removable handling member operating on the end of the minor portion of said body, slidably related thereto and guided by the sides of said body portion.

10. In combination, a box comprising a body an a cover, said cover completely enclosing said body except at one end, said body being slidably mounted in said cover, and having an aperture in the end adjacent to the open end of said cover; and a handling member which slidably engages and is guided by the sides of said box body, formed from a single piece of flat material and comprising a body portion and a tongue or handle portion adapted to be inserted through said aperture, said body portion and handle portion of said handling member being angularly related and forming shoulders on the body portion which abut the inner face of the end of said box body when said tongue portion is fully inserted.

11. In combination, a box comprising a body and a cover, said cover completely enclosing said body except at one end, said body being slidably mounted in said cover, and comprising major and minor portions hingedly connected to each other transversely of said body whereby when said body is partially withdrawn from said cover the minor portion of said body will swing down to facilitate access to said box, an aperture in the end of the minor portion of said box body adjacent to the bottom thereof; and a handling member formed from a single piece of flat material comprising a body portion adapted to slidably overlie the bottom and be guided by the sides of the minor portion of said box body, and a tongue or handle portion adapted to be slidably inserted into said aperture in the end of said body; the body portion and the tongue portion being angularly related to form shoulders which abut the end of said box body when said handle portion is fully inserted.

12. A box comprising a body and a lid, the lid having its front portion hingedly connected to the remainder thereof and the body comprising a bottom, sides and ends, with an aperture provided in one of said ends; and a removable handling member slidably mounted within said box body and guided by the sides thereof, and including an extended portion adapted to project through the aperture in the end of said box body.

13. In a container, a body having sides, a bottom and an end wall provided with an aperture, a slidably mounted handling member including a portion extending through said aperture and provided with an enlarged portion for abutment with said end wall for imparting an impact thereto, said handling member being guided by the sides of said container.

14. In combination, a box body having a bottom, sides and ends, one of said ends being provided with an aperture; and a handling member formed from a single piece of flat material comprising a body portion and an extended portion so related to each other that when said extended portion is inserted into the aperture of said box, said body portion of said handling member is slidably guided by the sides of said box body and affords shoulders which abut the end of said box adjacent to said aperture and said extending portion forms a handle for said box, said handling member being so slidably mounted with respect to said box that an impact can be imparted to said box to start it from its position.

15. In combination, a box comprising a body and a cover, said cover completely enclosing said body, except at one end, said body being slidably mounted in said cover, and a removable handling member including a portion extending through aperture in one end of said body and operating thereon, said handling member being slidably related to said body and guided by the sides thereof.

BEVERLY B. COUNTRYMAN.