

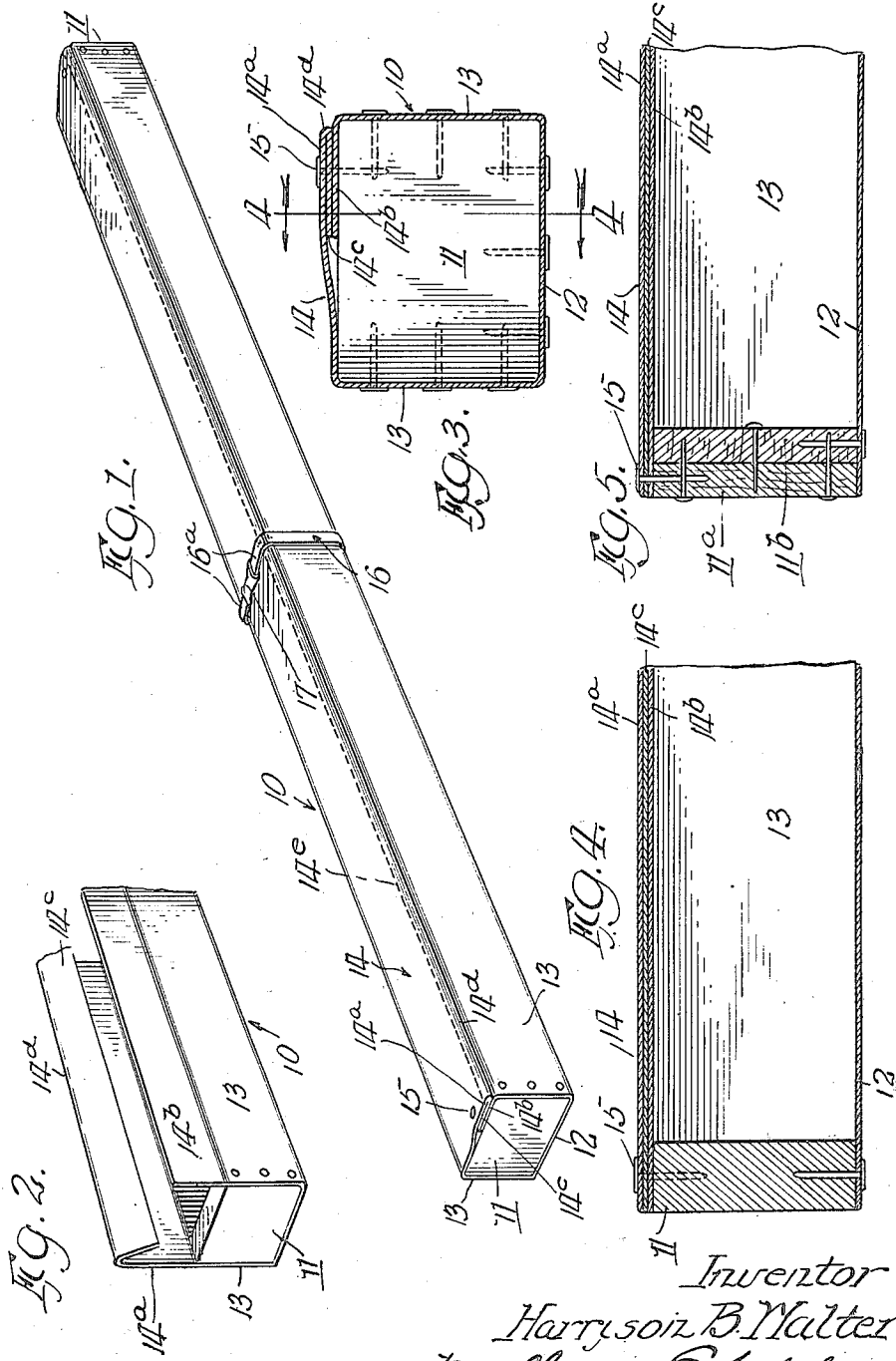
Mar. 27, 1923.

1,449,468

H. B. WALTER

BOX

Filed Oct. 6, 1922



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UNITED STATES PATENT OFFICE.

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BOX.

Application filed October 6, 1922. Serial No. 592,708.

To all whom it may concern:

Be it known that I, HARRISON B. WALTER, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Boxes; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This application is a continuation in part of application Serial No. 561,352 filed May 16, 1922.

This invention relates to improvements in boxes made of fiber or paper board and consists of the matters hereinafter described and more particularly pointed out in the appended claims.

The object of the invention is to produce a box which, though made to the greater extent of fiber or paper board, has sufficient rigidity and strength to be used for packing long, heavy bars or parts made of metal, such for example as the bumper bars for automobiles and the like.

The advantages of the invention will appear as I proceed with my specification.

In the drawings:—

Fig. 1 is a perspective view of the improved box.

Fig. 2 is a perspective view of an end part of the box, with the top closure members of the box shown in open position.

Fig. 3 is a transverse sectional view of the box, on an enlarged scale.

Fig. 4 is a part longitudinal section through the box in a plane indicated by the line 4—4 of Fig. 3.

Fig. 5 is a sectional view similar to Fig. 4, showing a modified form of the end of the box.

Referring now to that embodiment of the invention illustrated in the drawings:—10 indicates the body of the box and 11, 11 indicate its ends. The body, in comparison to its cross sectional area, is of great length and is a rectangular tube. The box as shown, is of the "top loading" type as distinguished from the "end loading" type, but, as will appear, the invention may be embodied in either type, although the "top loading" type is preferable for the purpose for which the improved box is primarily intended.

The tube comprising the body 10 of the box is formed from a blank or sheet of paper or fiber board of substantial thickness and of the length of the box,—said blank being creased to provide a bottom 12, sides 13, 13 and a top closure 14, comprising in the box shown, flaps 14^a, 14^b.

The flap 14^a is provided with a flap extension 14^c extending the length of the box,—a suitable crease at 14^d being formed in the blank to permit said flap extension 14^c to be folded down against the underside of the main body of the flap 14^a. The flap 14^a with its flap extension folded down against its underside as described, is of such width as to overlap the flap 14^b and substantially cover the top of the box.

The ends 11, 11 consist of rectangular blocks of hardwood such as maple, oak or the like, and are preferably comparatively thick. The wood from which said ends are made should be hard for the reason that wood ends of the kind may have heavy nails driven into their edges without splitting said ends, and in addition, such wood offers great frictional resistance to the withdrawal of the nails.

When the box is closed, the top closures 14^a, 14^b of the box, are secured to its ends 11, 11 by means of nails 15, having large heads so that the nails will not break through the paper or fiber board from which the tubular body is made. As shown, the top closure flaps 14^a, 14^b may be secured in place at each end of the box by a single nail passing through the flap 14^a, its flap extension 14^c, and the flap 14^b.

Intermediate its ends, the top closures 14^a, 14^b are locked in closed relation and the box itself is strengthened against breaking or distortion by means of one or more metal straps 16. Said strap is comparatively wide, to prevent its breaking through the paper or fiber stock of the body and may be of any convenient pattern adapted to be wrapped about the body and to have its ends secured together, as in the familiar example illustrated, where the ends 16^a of the strap are inserted in overlapped relation through a sleeve 17,—the said ends and sleeve being crimped upon themselves to lock them together. The said strap or straps reinforce the fiber body in the direction in which the stock composing it is weak and increases the resistance of the elongated body to strains

both from within and from without, which tend to bend, distort or break the box at points between its ends.

The flap extension 14^c folded under the flap 14^a provides a stiffening rib or flange extending the length of the unattached edge of the flap 14^a which acts to maintain said edge, though unattached, in closed relation upon the flap 14^b at all points intermediate the nailed ends of the box and the strap or straps 16. Thus, any gap or opening along the unattached edge of the closure 14^a is obviated and there is no danger of the said edge of the flap being caught or engaged in the handling of the box to pull back or tear the top closure 14^a from its seat on the flap 14^b.

The improved box is collapsible and may be shipped to the packer with its body flat or collapsed and packed in bundles, and with its ends either furnished by the manufacturer with the body or supplied by the packer. It is also manifest that the box may be manufactured and furnished to be used either as a "top loader" or as an "end loader", although for convenience in packing it is preferably intended as a "top loader". In such case, it is set up by the packer in the form shown in Fig. 2, ready to receive the bar, automobile bumper or the like through its open top, after which it is nailed shut and the strap or straps 16 are applied.

The flap extension 14^c renders unnecessary the use of staples or other attaching means to secure the flaps 14^a and 14^b together; but, if desired, and when intended to be used as an "end loader" the flaps 14^a, 14^b may be attached together by the manufacturer by a line of staples as indicated by the dotted lines at 14^e.

Instead of making the ends of single blocks, they may be made of several pieces, as shown in Fig. 5. In said view 11^a, 11^b indicate two comparatively thin blocks or pieces of wood board, each of the cross sectional area of the box. Said pieces are placed, the one against the other, with the grain of one extending at an angle (a right angle as shown) to the grain of the other. The two pieces are nailed or otherwise attached together to form the end of the box. Such construction makes it possible to use board or block pieces which would otherwise go to waste.

While in the preferred form and as hereinbefore described and illustrated in the drawings, the closure flap 14^a is provided with the flap extension 14^c,—a desirable box of the kind may be made, with this flap or other reinforcing or stiffening equivalent omitted,—particularly when the board from which the box is made is quite heavy or when the box is not too long for the non-

reinforced edge of the closure flap 14^a to maintain its closed relation against the flap 14^b.

While in describing the invention I have referred to many details of construction, it is to be understood that the invention is in no way limited thereto, except as may be pointed out in the appended claims.

I claim as my invention:

1. A box, comprising a tubular body made from a blank of fiber or paper board cut and creased lengthwise to define bottom, sides and a top closure; the top closure having a flap extension at its unattached edge adapted to be folded under the main body of the closure; and ends of wood; the sides, bottom and closure being nailed to said ends.

2. A box, comprising a tubular body of great length as compared with its cross sectional area; said body being made from a blank of fiber or paper board cut and creased lengthwise to define bottom, sides and a top closure with a flap extension adapted to underlie said top closure; and ends of wood; the sides, bottom and closure being nailed to said ends.

3. A box, comprising a tubular body made of great length as compared to its cross sectional area; said body being made from a blank of fiber or paper board cut and creased lengthwise to define bottom, sides and top closure flaps; one of said flaps being adapted to overlap the other flap and having a flap extension adapted to be folded under; ends of wood; the sides, bottom and closure flaps being nailed to said ends; and one or more bands secured about said tubular body, intermediate its ends.

4. A box, comprising ends made of wood and a tubular body made from a blank of fiber or paper board cut and creased lengthwise to define bottom, sides and a top closure, and means providing a strengthening rib at the free lateral edge of said top closure.

5. A box, comprising ends made of wood and a tubular body of great length as compared with its cross sectional area, said body being made from a blank of fiber or paper board cut and creased lengthwise to define bottom, sides and top closure flaps, one of said flaps being adapted to overlie the other flap and being provided with means at its lateral, unattached edge to strengthen said edge.

6. A box comprising a tubular body made from a blank of fibre or paper board cut and creased lengthwise to define a bottom, two sides and two top closure flaps; one of said flaps being adapted to substantially cover the top of the box and to overlap the other flap and having a flap extension adapted to be folded under; and ends of wood.

7. A blank adapted to fold into the form

of a tubular box body, consisting of a sheet of fibre or paper board cut and creased lengthwise to define a bottom, two sides and a top closure; the top closure having a flap extension at its free, lateral edge adapted to be folded under the main body of the said top closure.

8. A blank adapted to fold into the form of a tubular box body, consisting of an elongated sheet of fibre or paper board cut and creased lengthwise to define a bottom, two sides, and two top closure flaps; one of said flaps being adapted to overlap the other flap when the blank is folded into tubular form and having a flap extension at its free lateral edge adapted to be folded under.

9. A blank adapted to fold into the form of a tubular box body, consisting of a sheet of fibre or paper board cut and creased lengthwise to define a bottom, two sides and a top closure flap, and of means fixed to the free, lateral edge of said top closure flap to provide a strengthening rib extending substantially the length of said edge.

10. A blank adapted to fold into the form of a tubular box body, consisting of a sheet of fibre or paper board cut and creased lengthwise to define a bottom, two sides and two top closure flaps, one of said flaps being adapted to overlap the other flap, when the

blank is folded into tubular form, and of means provided at the lateral, unattached edge of the overlapping flap for strengthening said edge.

11. A box, comprising a tubular body made from a blank of fibre or paper board cut and creased lengthwise to define a bottom, sides, and two top closure flaps, the one top closure flap overlapping the other flap and substantially covering the top of the box; and ends of wood; the sides, bottom and closure flaps being nailed to said ends.

12. A box, comprising a tubular body of great length as compared to its cross sectional area, made from a blank of fibre or paper board cut and creased lengthwise to define a bottom, sides, and two top closure flaps, the one top closure flap overlapping the other flap and substantially covering the top of the box; ends of wood; and one or more bands secured about said tubular body intermediate its ends.

In testimony that I claim the foregoing as my invention, I affix my signature in the presence of two witnesses, this 3rd day of October, A. D. 1922.

HARRISON B. WALTER.

Witnesses:

N. B. SULLIVAN,
T. H. ALFREDS.