Jan. 5, 1937. J. T. CURTIS 2,066,963

BOX AND BOX BLANK

Filed Aug. 29, 1934

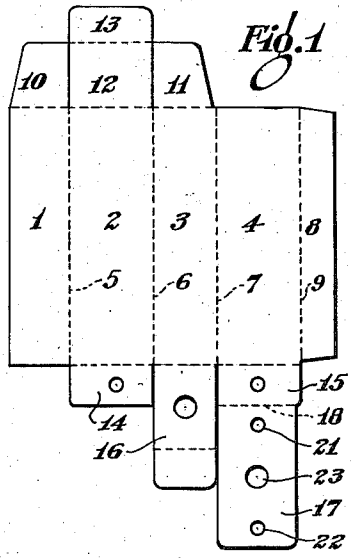


Fig. 1

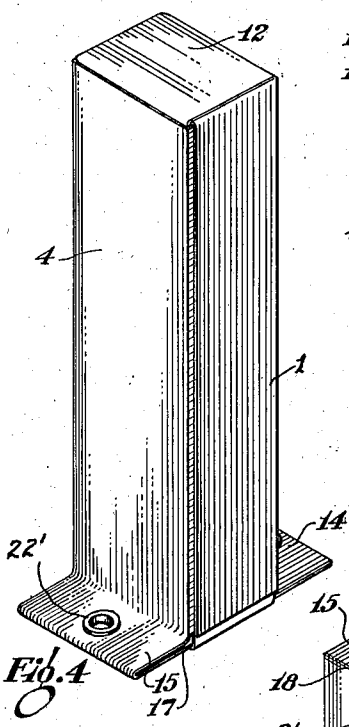


Fig. 4

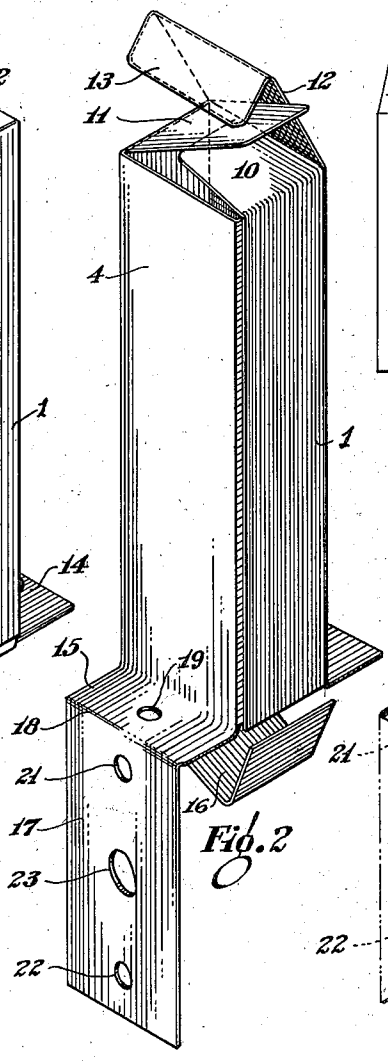


Fig. 2

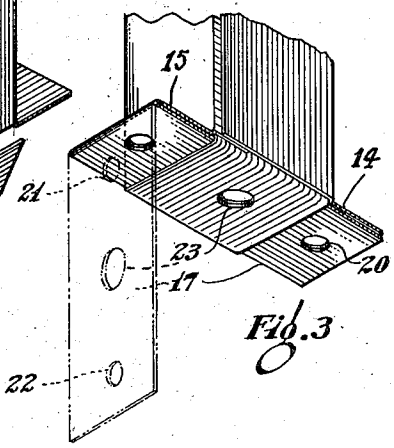


Fig. 3

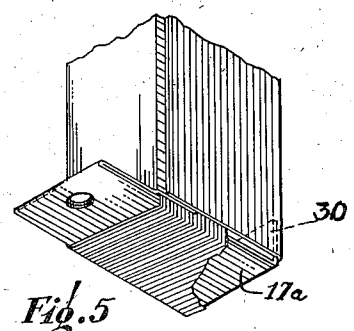


Fig. 5

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Patented Jan. 5, 1937

2,066,963

UNITED STATES PATENT OFFICE

2,066,963

BOX AND BOX BLANK

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Application August 29, 1934, Serial No. 741,941

7 Claims. (Cl. 229—37)

My invention is an improvement in boxes and box blanks, and relates more particularly to boxes suitable for receiving electrical condenser units which are preferably sealed therein.

One of the objects of the invention is to produce a box form or blank cut in one piece from a sheet of suitable material and to provide an integral support for the box upon a plane surface.

Another object of the invention is to provide a box blank of the above mentioned type which is extremely simple of construction and easy to assemble.

A further object is a box having an integrally formed base member to support the box vertically upon a substantially flat surface.

Other objects and advantages of the invention will readily appear as the following description of an embodiment thereof progresses, reference being made to the accompanying drawing in which like reference characters are employed to designate like parts throughout the same.

In the drawing:

Figure 1 is a plan view of a box blank embodying my invention;

Figure 2 is a perspective view of the blank folded into box form and particularly illustrates the end support for the box and the manner of folding it;

Figure 3 is a perspective of a bottom fragment of the box, showing the supporting member partially removed in dotted lines and in full assembled position in full lines;

Figure 4 is a perspective of the box completely formed and ready for mounting upon a flat surface; and,

Figure 5 is a fragmentary view of a modification of the box closure.

My invention is adapted for use in the manufacture of electric condensers of the dry or electrolytic type, although I am aware that other uses may be found for the article and I therefore do not limit the same to such specific use.

The box blank is shown in flat form in Figure 1 and is preferably die cut in a single piece from a sheet of suitable material such as paper or even thin sheet metal. The blank includes a plurality of side members such as are shown at 1, 2, 3 and 4 and the blank is folded along the dotted lines 5, 6 and 7 to form these parts. A flap 8 folded along the dotted line 9 provides means for securing the sides 1 and 4 together as shown in Figures 2 and 4. One end of the box is formed in the conventional manner, that is, by means of the end flaps 10 and 11 and the cover flap 12 on which is formed a guide flap 13.

It is to be noted that the flaps 10, 12 and 11 are formed at one end of the side members 1, 2 and 3 respectively. The opposite end of the box is formed by providing the end flaps 14 and 15 and the cover 16 integral with the opposite ends of the side members 2, 4 and 3 respectively. I have provided a very simple means for forming a support for the box on a flat surface when it is assembled, and this means consists primarily of an elongated member 17 formed integral with an end of the flap 15 and adapted to be folded at 18 to overlie the flaps 15 and 14 as illustrated in Figures 2 and 4, when the box is assembled. It is immaterial whether the flap 17 overlies the cover flap 16 when the former is folded into supporting position as shown, since the latter may overlie the former if desired. The latter method is preferred, however, because it retains the elongated flap 17 in proper place when the flap 16 is folded in to close the box.

The flaps 14 and 15 are apertured as at 19 and 20 and these apertures register with similar openings 21 and 22 respectively in the member 17 when the box is fully assembled. Eyelets 22′ may be clinched in the openings for reinforcement purposes. When the box is used to enclose a condenser or other article having leads extending therefrom, aligned axial openings 23 may be provided in the cover and member 17 to permit these leads (not shown) to extend therethrough, although it is to be understood the leads may extend through similar openings located at any other desirable place. When the box is fully assembled as in Figure 4 it may be supported on its end upon a flat surface without danger of tilting. Suitable fasteners such as screws, bolts, pins or the like (not shown) may be inserted into the openings 19, 21, 20 and 22 and driven home in the supporting surface or base.

In use the box blank is first folded as indicated by the dotted lines and the several figures illustrating the several steps in its assembly. That is, the portions 1, 2, 3, 4 and 8 are first formed by creasing or bending the blank along the lines 5, 6, 7 and 9 to form a rectangular body, the flap 8 being glued or otherwise fastened against the inner wall of the portion 1. The upper end flaps 10 and 11 and the cover are then bent inwardly to close the upper end of the box, the guide flap 13 being inserted against the inner wall of the portion 4.

A condenser unit or other article is then placed in the box through the opposite end, and in the case of condenser units it is desirable to seal the same in the box with paraffin, wax, or other suit-

able insulating sealing material in fluid form which will harden or set when cooled. A sealing compound which does not require the use of heat in applying it, but which will "set" or harden after it is placed in the container, may be used if desired.

Before this material has taken a permanent set, however, the end flaps **14** and **15** are bent outwardly of the box body as shown in Figures 2 and 3, and the elongated member is bent to overlie the same as in Figure 4. Any leads or terminals depending from the condenser unit may be passed through the openings **23** and the cover **16** folded into position.

Upon a cooling or settling of the sealing material the unit is ready to be mounted. This is easily accomplished by standing it on end on a supporting surface with the outwardly bent flaps **14** and **15** and the member **17** forming adequate means for supporting the boxed unit against tilting. The unit is secured in this position by means of suitable fasteners passing through the flaps **14** and **15** and the member **17** as hereinbefore described.

Thus it will be seen that by means of the flaps **14** and **15** and the member **17** substantial reinforcement is afforded the box against tipping forces in any direction, and that the unit is protected against serious vibration.

In Figure 5 I have illustrated a modification of the end closure, which is quite similar to the form already described, but which differs principally in that the elongated member **17***a* overlies but one of the flaps **14** and **15**. In this manner the box and unit may be more readily mounted in cramped quarters and is especially desirable in maintaining the device horizontally and in spaced relation to an object beneath it. The free end of the member **17***a* may be bent upwardly as at **30** to provide an internal reinforcement for the box as shown. When the box is assembled with its enclosed unit and the sealing compound is applied, the end closure is durably and effectively locked and sealed to protect the unit housed therein.

Various changes in the details of construction and arrangement of parts may be made without departing from the spirit of my invention or the scope of the appended claims.

I claim:

1. A box comprising a body formed of a plurality of longitudinal sections, end flaps extending from one end of alternate sections of said body and bent to extend outwardly of the body to provide a support for the same on a base, and a cover flap for closing an end of the body extending from an adjacent end of another one of said body sections.

2. A one piece box comprising a body formed of a plurality of longitudinal sections, end flaps extending from one end of alternate sections of said body and bent to extend outwardly of the body to provide a support for the same on a base, and a cover flap for closing an end of the body extending from an adjacent end of another one of said body sections.

3. A box blank comprising a plurality of longitudinal sections which, when folded, constitute a hollow body, end flaps extending from one end of alternate sections of said blank and adapted to be bent outwardly of the body to provide a support for the same on a base, one of said end flaps being of greater length than that of another end flap and adapted to be bent inwardly intermediate its ends to provide a portion which overlies said end flaps and the adjacent end of the body when the blank is folded and assembled, and a cover flap for closing an end of the body extending from an adjacent end of another one of said blank sections.

4. A box blank comprising a plurality of longitudinal sections which, when folded, constitute a hollow body, end flaps extending from one end of alternate sections of said blank and adapted to be bent outwardly of the body to provide a support for the same on a base, one of said end flaps being of greater length than that of another end flap and adapted to be bent inwardly intermediate its ends to provide a portion which overlies said end flaps and the adjacent end of the body when the blank is folded and assembled, and a cover flap for closing an end of the body extending from an adjacent end of another one of said blank sections, said end flaps and said extending portion having aligned fastener-receiving openings therein.

5. A box comprising a hollow body and an end closure and support for one end of the body including a pair of end flaps extending outwardly on opposite sides of the box, a transverse flap overlying said end flaps and the end of the box, and a closure flap adapted to overlie said transverse flap.

6. A box comprising a hollow body and an end closure and support for one end of the body including a pair of end flaps extending outwardly on opposite sides of the box, a transverse flap overlying said end flaps and the end of the box, and a closure flap adapted to overlie said transverse flap, said end flaps and transverse flap being perforated to receive fasteners whereby said box may be secured endwise upon a base.

7. A box comprising a hollow body and an end closure and support for one end of the body including a pair of end flaps extending outwardly on opposite sides of the box, a transverse flap overlying said end flaps and the end of the box, a closure flap adapted to overlie said transverse flap, said end flaps and transverse flap being perforated to receive fasteners whereby said box may be secured endwise upon a base, and means for clamping said end flaps and transverse flaps together comprising stiffening members in said perforations.

JESSE T. CURTIS.