H. L. BORDERS AND E. A. LEWIS.

HINGE FOR CORRUGATED BOXES.

APPLICATION FILED APR. 19, 1919.

1,348,844. Patented Aug. 10, 1920.

Fig. 1

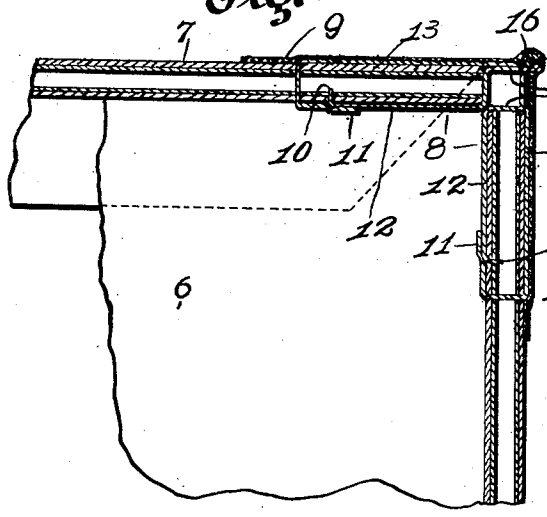


Fig. 2

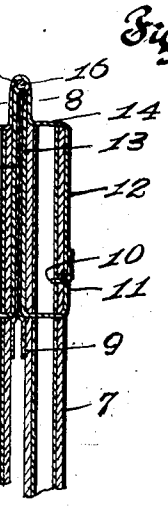


Fig. 3

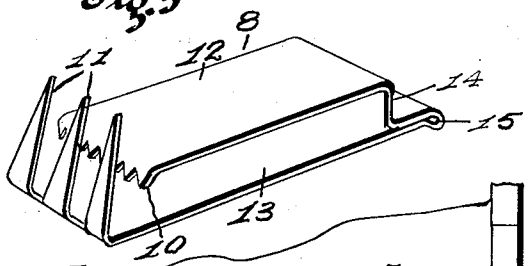


Fig. 4

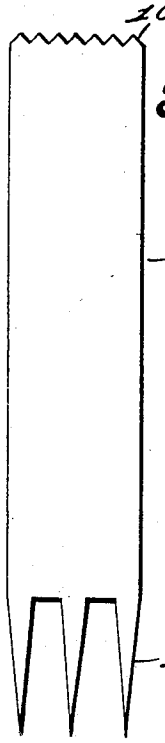
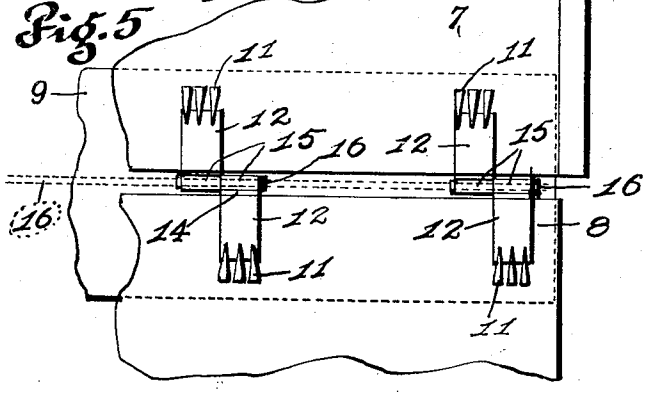


Fig. 5



Inventors

Harry L. Borders

Elwood A. Lewis

By Edward E. Longan Atty.

UNITED STATES PATENT OFFICE.

HARRY L. BORDERS AND ELWOOD A. LEWIS, OF ST. LOUIS, MISSOURI, ASSIGNORS TO STANDARD CORRUGATED BOX CO., OF ST. LOUIS, MISSOURI, A CORPORATION OF MISSOURI.

HINGE FOR CORRUGATED BOXES.

1,348,844. Specification of Letters Patent. **Patented Aug. 10, 1920.**

Application filed April 19, 1919. Serial No. 291,311.

To all whom it may concern:

Be it known that we, HARRY L. BORDERS and ELWOOD A. LEWIS, citizens of the United States, and residents of St. Louis, State of Missouri, have invented certain new and useful Improvements in Hinges for Corrugated Boxes, of which the following is a specification containing a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

This invention relates to certain new and useful improvements in hinges for corrugated boxes and has for its object a combined metal and cloth hinge which will stiffen and at the same time render the hinged portions of a corrugated box dust-proof.

In the drawings:

Figure 1 is an enlarged vertical cross-sectional view of a corrugated box through one of the hinge members.

Fig. 2 is a similar view with the lid thrown entirely back.

Fig. 3 is a perspective view of one of the metallic hinge members made use of.

Fig. 4 is a plan view of the blank of which the metallic hinge members are formed.

Fig. 5 is a view of the interior of the box and lid, showing the position of the metallic hinge members.

Referring to the drawings, 6 indicates the body of a corrugated box and 7 the lid, the body and lid being secured together by means of metallic hinge members 8 and a fabric hinge member 9. The metallic hinge members 8 are stamped out of a piece of sheet metal as shown in Fig. 4 and are provided on one end with a series of short teeth 10 and on the other with a series of long teeth 11.

The blank, forming the hinge member 8, is provided with a pair of parallel portions 12 and 13, a vertical portion 14, which corresponds to the thickness of the corrugated board made use of, and an eye 15. The member 13, as shown in Fig. 3, is longer than the member 12 so that, when the metallic hinge is clamped on to the box, the perforations made by the teeth 10 and 11 will not come opposite each other, the perforations made by the teeth 11 being farther down the face of the box or lid than those made by the teeth 10 as shown in Figs. 1 and 2. The teeth 10 merely perforate one face of the corrugated box, whereas the teeth 11 extend entirely through both faces of the board. After this the projecting ends of the teeth 11 are crimped over the portion 12 of the hinge member, securely holding the short teeth in place.

These hinge members are located, one on the body of the box, and the other on the lid and so arranged as to contact in pairs as illustrated in Fig. 5. A wire 16 is inserted through the eye 15 of each pair of members and its ends upset, so as to prevent the wire from coming out of the eyes.

After the lid 7 has been connected to the body 6 by these metallic hinges, we place a fabric hinge over these hinge members, this fabric hinge extending entirely across the width of the box and lid and extending beyond the perforations made by the teeth 11. This gives additional security and stiffening to the hinges and the body and lid of the box, as well as preventing the entrance of dust through the perforations formed by the teeth 11 or through the open spaces left between the hinge members.

If found desirable, we may connect all of the hinge members with one piece of wire as shown by dotted lines in Fig. 5, this serving as an additional stiffening means to the hinge.

Having fully described our invention, what we claim is:

1. A hinge for corrugated boxes comprising a pair of metallic strips, teeth formed on each end of said strips, one set of teeth being longer than the other set, an eye formed in each of said strips by folding, the ends of said strips being so arranged that one will project beyond the other, the faces of said strips when folded being spaced apart and parallel to each other, the teeth of the longer projecting end being adapted to extend entirely through the material of which the box is formed, and folded upon the shorter end for holding the same against withdrawal from the box, and a rivet passed through the eyes of said strips for securing them side by side.

2. A hinge for corrugated boxes comprising a pair of rectangular metallic strips 8, a series of short teeth 10 formed on one end of said strips and at right-angles thereto, a series of long pointed teeth 11 formed on the opposite end of said strips and at right-

angles thereto, said strips being bent upon themselves to form the eye 15, the vertical wall 14 and the parallel spaced apart walls 12 and 13, the wall 12 having the short teeth and being of less length than the wall 13 in combination with a corrugated paper box to which the hinge is attached, the teeth 10 being adapted to pass only through one surface of the corrugated paper, and the teeth 11 adapted to pass entirely therethrough and be folded upon the wall 12 to prevent its being detached, and a wire adapted to be inserted through the eye for connecting two metallic strips together side by side.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

HARRY L. BORDERS.
ELWOOD A. LEWIS.

Witnesses:
WALTER C. STEIN,
ELIZABETH CARTALL.