

Oct. 9, 1928.

1,686,736

F. G. DAVISON

CAN COVER HINGE

Filed Dec. 18, 1924

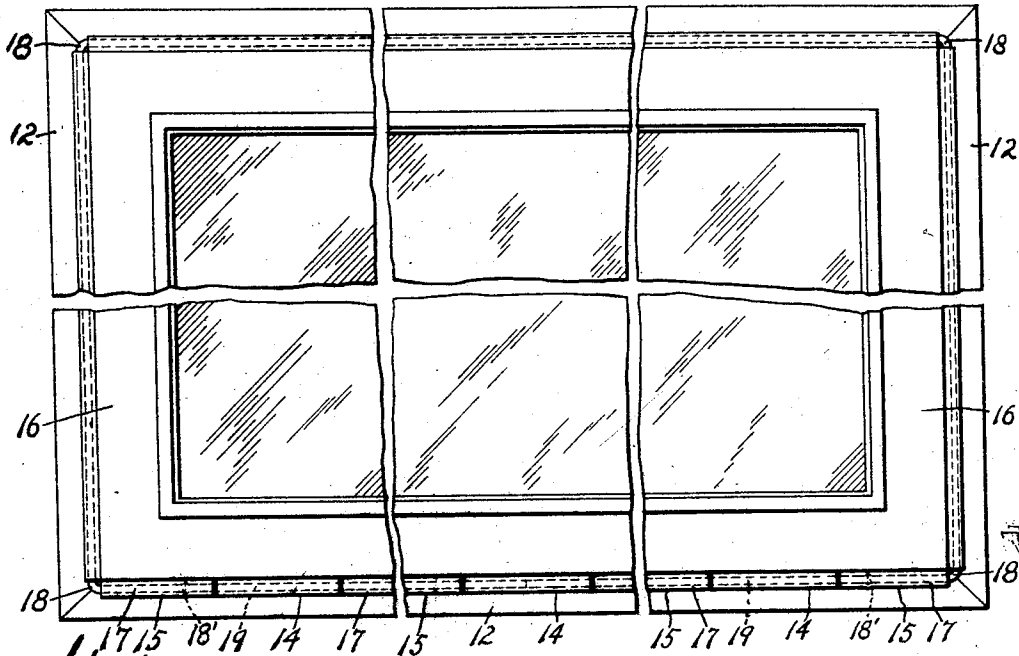


Fig. 1.

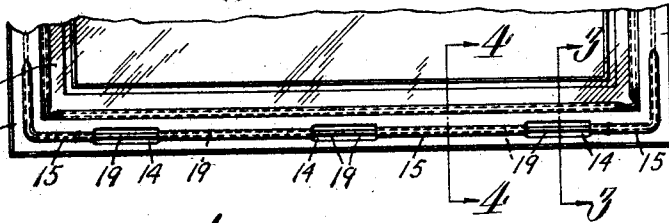


Fig. 2.

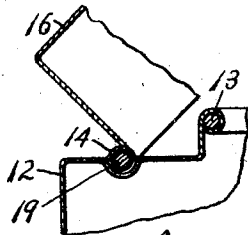


Fig. 3.

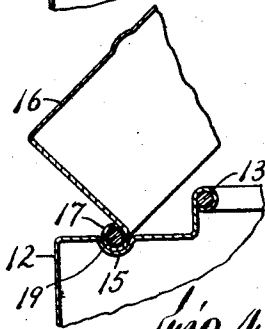


Fig. 4.

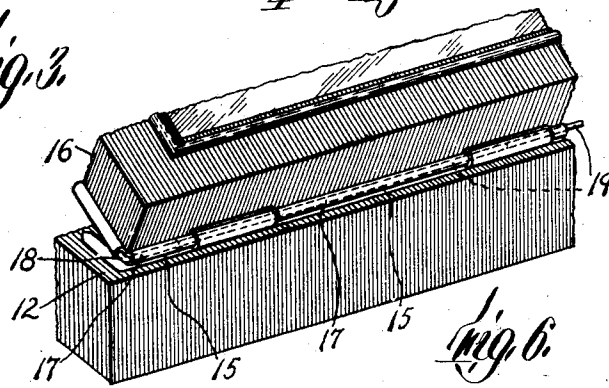


Fig. 5.

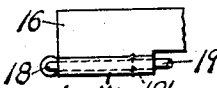


Fig. 6.

Inventor:
Frank G. Davison
by
O. W. Harrison
Att'y

UNITED STATES PATENT OFFICE.

FRANK G. DAVISON, OF CAMBRIDGE, MASSACHUSETTS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO ARTHUR H. PARKER, OF LEXINGTON, MASSACHUSETTS.

CAN-COVER HINGE.

Application filed December 18, 1924. Serial No. 756,689.

This invention relates to the structure of hinge joints and has particular reference to the hinged covers of cracker boxes although I do not limit myself to employment of the hinge in boxes of that specific type. The invention is especially adapted for structures in which the two members to be hinged together are made of sheet metal.

The object of the invention is to provide a strong and durable hinge the parts of which can be readily assembled and which require no soldering or equivalent treatment or operation to render separation practically impossible.

With the above object in view, the invention consists in the construction and combination of parts substantially as hereinafter described and claimed.

Of the accompanying drawings, Figure 1 is a top plan view, partly broken out to indicate that the can cover may be of any size.

Figure 2 is an under plan view, on a small scale, of the hingedly connected members.

Figures 3 and 4 represent sectional views on lines 3—3 and 4—4 respectively of Figure 2 on a larger scale.

Figure 5 is a detail view hereinafter referred to.

Figure 6 is a broken away perspective view of the lower and upper members, the latter being partly raised.

Similar reference characters indicate similar parts in all of the views.

In the drawings one of the two members hinged together is indicated at 12, it being illustrated as the upper portion of a well-known form of cracker box. It provides the frame for the top of the box. Its customary rectangular opening is, as usual, reinforced as indicated at 13 in Figures 3 and 4. The ledge along one side of said rectangular opening has alternating depressions in opposite directions to form under and upper grooves in a straight row. Three of the grooves 14 are in the under surface of the ledge as indicated by comparing Figures 1, 2 and 3, and alternating therewith endwise are four grooves 15 in the upper surface of the ledge (Figs. 1, 2, 4 and 6).

The other member, comprising the cover 16 of the box, said cover usually having a rectangular opening with a sheet of glass

connected thereto, has one of its extreme edges formed into four tubular pintle bearings 17 (Figs. 1, 4, 5 and 6) of such length and formation as to practically fit the grooves 15 of the lower member, alternating with, and in alinement with, the grooves 14.

A single marginal reinforcing wire 18 extends around the cover and is enclosed in three rolled portions of the edge of one of the depending flanges of the cover, the ends of said wire extending into but not entirely through the two end bearings 17 (Figs. 1, 5 and 6). The ends of said wire are preferably locked in said bearings, as by slightly enlarging the tips as indicated at 18', and indenting the bearings to cooperate therewith. Said ends or tips 18' of the wire serve as abutments for the outer ends of two pintle wires or rods 19 which meet at their inner ends as shown at the mid-width of Figure 2.

In the making of this structure, the two members 12 and 16 are formed each complete, and two pintle rods 19 of proper length are provided. The member 12, being of sheet metal, is readily provided or formed with the grooves 14, 15, by making small cuts and pressing the metal in opposite directions, and the member 16, being also of sheet metal, is readily provided with the bearings 17 by rolling edge portions thereof into tubular form. The two members formed as described are brought together with the tubular bearings 17 seated in the grooves 15. At this time all of the grooves 14 (Fig. 2) are vacant. Then one of the pintle wires 19 is inserted at one end of the middle groove 14 (Fig. 2) and pushed through the alined bearings until its far end abuts the tip 18' of the wire 18, and then the other pintle wire 19 is similarly inserted and pushed in the opposite direction until its end abuts the other wire tip 18'. In practice the two pintle wires are sufficiently resilient to permit this to be done although they are of a diameter to quite closely fit the bearings. When the second pintle has been pushed as far as it will go, as above described, its end which remains at the mid-length of the hinge snaps into alignment with the end of the first-inserted pintle. Consequently neither pintle can then shift endwise nor be removed without employing some force-applying tool. Said pintles will reliably remain in operative positions in the bearings 17

of the cover or upper member 16, which bearings occupy the upper grooves of the lower member, the pintles also lying in the under grooves 14 of said lower member, and being
5 thereby prevented from shifting upwardly.

Having now described my invention, I claim:—

1. In a hinge structure for two sheet metal members, the combination with said sheet
10 metal members, one of which has aligned portions alternately displaced in opposite directions to present grooves in both the inner and outer surfaces thereof, the other member having edge portions bent to provide three open-
15 ended tubular bearings substantially fitting the grooves in the outer surfaces of the first-named member, a binding wire extending around and reinforcing the edge of said other member, the ends of the binding wire extend-
20 ing into the outer ends of the two end tubular bearings but not through said bearings, and two pintles engaged with said bearings and with the grooves in the inner surface of the first-named member, said pintles abutting
25 each other at their adjacent ends and abutting the ends of the binding wire at their outer ends and being insertable into operative position through the central groove in said outer surface.

30 2. A sheet metal box frame having portions in alinement alternately displaced in opposite directions to present grooves in its upper and

under surfaces, a cover having tubular bearings extending into the upper grooves of said frame, said cover having an edge-reinforcing
35 wire the ends of which extend into the extreme two of said bearings, and a pair of pintles extending through intermediate bearings and engaged with the under grooves of the frame, the outer ends of said pintles extending into
40 said extreme bearings and the inner ends abutting and being exposed at the central under groove.

3. A hinge structure of the character specified in claim 2, the ends of the reinforcing
45 wire being interlocked with the bearings which receive them.

4. The combination with a can-top frame having portions in alinement alternately displaced in opposite directions to present
50 grooves in the upper and under surfaces thereof, of a cover having edge portions bent to provide a plurality of tubular bearings substantially fitting the upper grooves in said
55 frame, and a pair of pintles end to end and engaged with said bearings and with the under grooves of said frame, the two end tubular bearings enclosing the outer ends of the pintles and having means to prevent
60 longitudinal movements of the pintles.

In testimony whereof I have affixed my signature.

FRANK G. DAVISON.