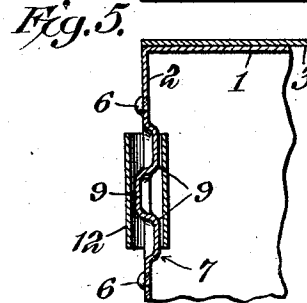
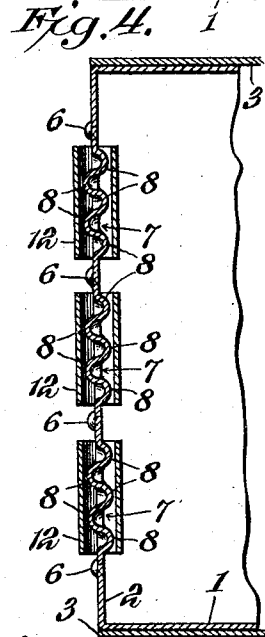
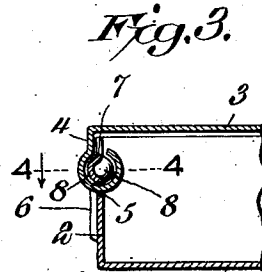
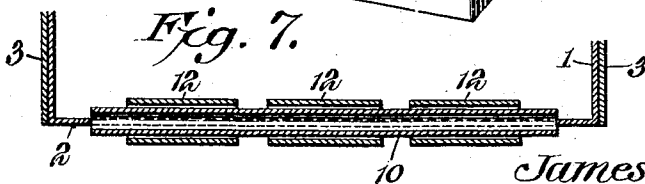
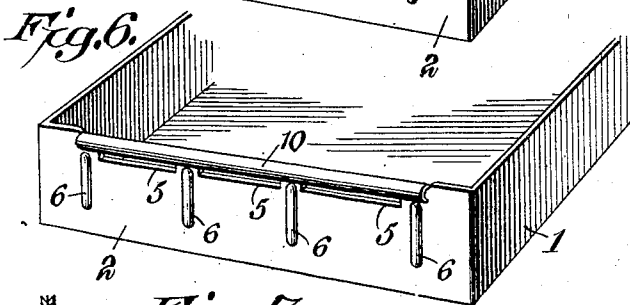
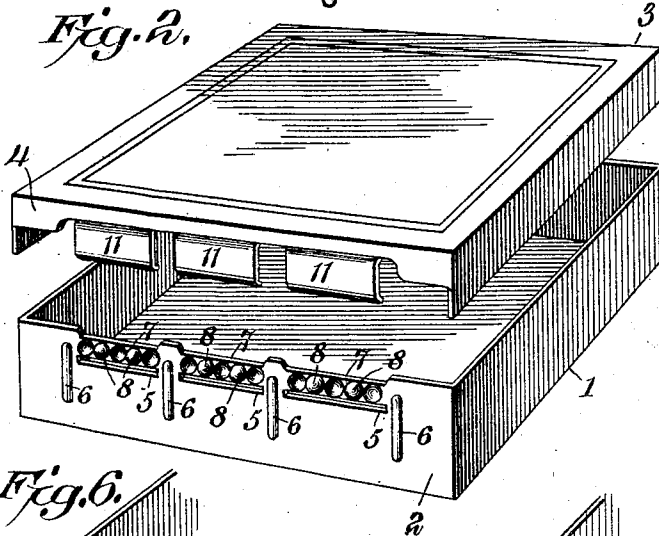
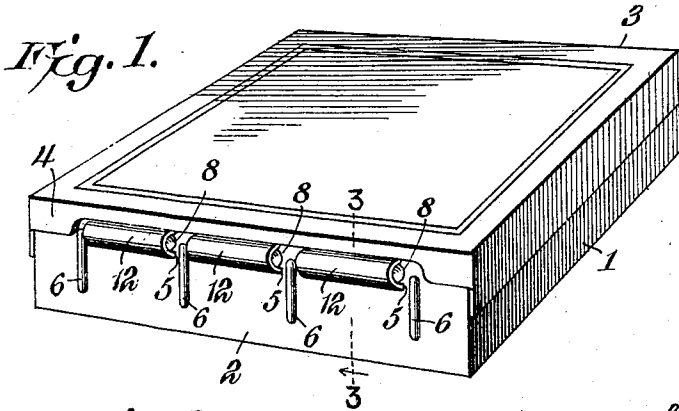


J. J. COOK.
HINGE FOR METAL BOXES OR CANS.
APPLICATION FILED JULY 8, 1918.

1,308,935.

Patented July 8, 1919.



WITNESSES

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JAMES J. COOK, OF BALTIMORE, MARYLAND.

HINGE FOR METAL BOXES OR CANS.

1,308,935.

Specification of Letters Patent.

Patented July 8, 1919.

Application filed July 8, 1918. Serial No. 243,851.

To all whom it may concern:

Be it known that I, JAMES J. COOK, a citizen of the United States, residing at Baltimore, State of Maryland, have invented a new and useful Hinge for Metal Boxes or Cans, of which the following is a specification.

This invention relates to hinges, and more particularly to that class employed for hinging the lids of metal boxes or cans.

The principal object of the invention is to provide a hinge for this purpose which may be readily formed during the process of stamping and shaping the body of the box and the lid therefor, and in which the use of the separate pivotal pin, ordinarily employed, is eliminated.

Another object is to form the coacting pintle and eye of the hinge integrally with the box and the lid respectively, and to so stiffen and strengthen the parts of the hinge as to give the maximum amount of durability thereto in order to prevent breakage in opening and closing the lid.

A full and complete understanding of the invention may be obtained from a consideration of the following detailed description, taken in connection with the accompanying drawing, forming a part of this specification; it being understood that while the drawing shows a practical form of the invention, the latter is not confined to strict conformity therewith, but may be changed or modified, so long as such changes or modifications mark no material departure from the salient features of the invention, as specifically pointed out in the appended claims.

In the drawing, in which like reference characters designate corresponding parts throughout the several figures:

Figure 1 is a perspective view of a metallic box provided with the hinge of the present invention, the lid being shown closed;

Fig. 2 is a similar view showing the parts of the box prior to being assembled;

Fig. 3 is a detail sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a horizontal sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a detail view, similar to Fig. 4, but showing a slightly modified form of hinge pintle;

Fig. 6 is a detail perspective view of another form of hinge pintle;

Fig. 7 is a horizontal sectional view through the same after having the box lid applied thereto.

In the drawing, there is illustrated a box constructed in accordance with the usual practice in making metal boxes in common use for holding cigarettes, or other articles, and consists in stamping from sheet metal a suitable blank, and forming the same into a body member having a bottom, and up-standing side walls and a front and back wall. The body member 1 has its back wall 2 provided with integral pintle members forming one member of the improved hinge, while the lid 3 has its back wall 4 cut away and provided with the other coacting part of the hinge, the eye, formed integrally therewith, and adapted to be permanently engaged with the pintle members of the body in such manner as to permit of the opening and closing of the lid in the ordinary manner.

The back wall 2 of the body member is provided with a plurality of alined, horizontally disposed slits 5, arranged adjacent to the top edge of said back wall 2, and in spaced relation to each other, the intervening portions of the metallic back wall being strengthened by vertically-disposed ribs 6, preferably formed by pressing the metal outwardly, from the inside of the box in a well-known manner to form convex stiffening means upon the outside of the said back wall. The intermediate ribs 6 extend from a point above the bottom of the back wall, up and between the slits 5, to a point below the top edge of said wall, and the outermost ribs are similarly disposed adjacent to the outer terminals of the outer slits 5.

The top edge of the back wall 2 is cut away over each slit 5, a distance equal to the length of said slit, to provide a bar 7 to act as a pintle for the hinge-eyes carried by the box lid 3, as will be explained. The pintles 7, thus formed, are slightly spaced away from the top edge of the back wall, and, for the purpose of strengthening the same to withstand the strain to which they may be subjected, and also to give a better shape thereto, they are provided with a longitudinal series of alternate inwardly and outwardly directed projections 8, formed by pressing out the metal an equal extent from the opposite sides of the pintle bar, to cause

the said projections to assume a semispherical shape. Other forms of projections may be provided, as indicated in Fig. 5 of the drawing, wherein the projections 9 are somewhat elongated longitudinally of the bar, though substantially semicircular in vertical cross-section, as in the case of the first-named projections 8. Either form of projection serves to greatly stiffen the pintle bar, and gives, in effect, a circular form thereto, in cross-section, as will be readily understood.

Another method of forming the pintle bar is illustrated in Fig. 6 of the drawing, wherein the said bar 10 is shown of one continuous structure, formed by providing the back wall of the body member 1 with a projecting portion in the blank, and bending the same into tubular form, as shown, to provide the pintle bar 10, which extends somewhat beyond the outer terminals of the outer slits 5, and in close relation to the same. The outermost strengthening ribs 6, in this form of the invention, are located adjacent to the ends of the pintle bar and beneath the same. It will be noted that in all forms of the invention, the projection from the bar 7 is to one side, or both sides, and is rounded so as to present a circular form in cross-section and to increase the cross-sectional area or transverse spread of the said bar.

The box lid 3, as has been stated, has its rear wall 4 cut away in order to allow the said lid to swing on the axis of the pintle 7 or 10, and is provided with a plurality of depending tongues 11, one for each slit 5 in the body member 1, through which the said tongues are adapted to be passed from the outside inwardly, and bent into tubular form, as shown, to form an eye 12, in surrounding relation to the pintle bar and permit the swinging movement of said lid. The tongues 11, may also, if desired, be passed through the slits from the opposite direction, that is, from the inside and the eye completed upon the outside of the back wall of the lid.

The lid 3, as illustrated and described, is applicable to the body member provided with any one of the forms of pintle, which forms a substantially cylindrical bearing for the eyes 12 and permits of the free operation of the box lid 3.

In the manufacture of metal boxes of the character described, it has been found an expensive item to apply the separate wire pintle as is commonly found in such boxes, and a great saving in the cost of manufacture may be effected by forming the hinge members as above described, and it will be seen that the same may be readily formed during the process of making the body member and the lid. In the process of manufacturing the body and the lid, provision may be made in the dies or other forming

means, for striking up the metal in the ribs 6, and the projections 8, 9, or 10, at one and the same time.

It will be observed that parts of the hinge are formed integral with either the body member or the lid, wherefore the addition of any different or separate material is rendered unnecessary.

The improved hinge will greatly simplify and render more economical the manufacture of metal boxes and cans employing a hinge lid.

From the foregoing, it will be seen that a cheap and strong metallic box hinge has been provided, and it is thought the advantages of the invention will be readily appreciated.

I do not wish to be limited to the number of slits 5, the number of tongues 11, the number or shape of the projections on the pintle bars, or the use of the ribs 6, as none of these features are absolutely essential to the carrying out of my invention.

What is claimed is—

1. A hinge for metal boxes and cans having its coacting pintle and eye formed integrally with the body and lid respectively, the pintle being formed by a slit defining a bar above said slit and said bar having a series of lateral projections extending alternately to each side an equal extent formed on the lid by a tongue which is passed through the said slit, said tongue being bent into tubular form to embrace the said bar and turn thereon.

2. A metallic box hinge having its coacting pintle and eye formed integrally with the body and lid of the box respectively, the pintle being formed by a slit in the wall of the body adjacent to the top edge thereof, the strip of metal above said slit and constituting the said pintle, being provided with a series of rounded projections, extending alternately from each side of the pintle to strengthen the same, and the eye being formed by a tongue bent into tubular form traversing the said slit and of an internal diameter greater than the diameters of the projections upon the pintle, in order to freely rotate thereon.

3. A metallic box hinge having its coacting pintle and eye formed integrally with the body and lid of the box, respectively, the pintle being formed by a slit in the wall of the body adjacent to the top edge thereof, the strip of metal above said slit and constituting the said pintle, being provided with a series of rounded projections, extending alternately from each side of the pintle to strengthen the same, vertical strengthening ribs formed in said wall, and extending across the ends of the slit to a point near the top edge of the back wall, and the eye being formed by a tongue bent into tubular form traversing the said slit and of an internal

diameter greater than the diameters of the projections upon the pintle in order to freely rotate thereon.

4. A hinge comprising the body member
5 having a wall provided with a horizontal slit spaced from the upper edge of said wall to define a bar which constitutes the pintle, said bar being given an increased transverse spread and a rounded form by means substantially as described, and the lid having
10 a tongue extending therefrom and adapted to be passed through said slit and bent into tubular form to encircle said bar and turn thereon, and vertical strengthening ribs
15 formed in said wall and extending across the ends of the slit but spaced therefrom.

5. A hinge comprising the body member having a wall provided with a substantially horizontal slit spaced from the upper edge
20 of said wall to define a bar which constitutes the pintle, said bar being provided with a series of semispherical projections disposed alternately on opposite sides, and the lid having a tongue extending therefrom
25 and adapted to be passed through said slit and bent into tubular form to provide the eye of the hinge, said eye encircling said bar and projections and turning thereon.

6. A hinge comprising the body member
30 having a wall provided with a plurality of slits, which are spaced from each other and also spaced from the upper edge of the said wall, said slits defining a corresponding plurality of bars forming spaced pintles, said
35 bars being given an increased transverse spread and a rounded form by providing a lateral projection on said bars, and the lid having a plurality of tongues spaced apart and adapted to be passed through said slits,
40 said tongues being bent into tubular form to provide eyes for the pintles, said eyes encircling the pintles and turning thereon.

7. A metallic box hinge comprising a plu-

45 rality of alined hinge pintles carried by the body of the box and formed integrally therewith, means for stiffening the said pintles by lateral projections thereof which increase the transverse spread of said pintles, a plurality of eyes formed integrally with
50 the lid of the box and disposed in surrounding relation to said pintles, and vertically disposed strengthening ribs formed in the wall of the box adjacent to the ends of the pintles and spaced from the latter.

8. A metallic box hinge comprising a plu-
55 rality of alined hinge pintles arranged along the top edge of one wall of the body of the box and formed of a series of alined, spaced slits therein longitudinally of said wall, vertically disposed strengthening ribs formed
60 in the back wall adjacent to the ends of the slits, projections formed alternately upon the inner and outer faces of the said pintles, and eyes formed integrally with a wall of
65 the box lid and traversing said slits and surrounding the pintles for securing the lid upon the body.

9. A metallic box hinge comprising a plurality of alined hinge pintles arranged
70 along the top edge of one wall of the body of the box and formed of a series of alined, spaced slits therein longitudinally of said wall, projections formed alternately upon the inner and outer faces of the said pintles, and eyes formed integrally with a wall of
75 the box lid and traversing said slits and surrounding the pintles for securing the lid upon the body.

In testimony, that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JAMES J. COOK.

Witnesses:

FRANK A. DALTON,
A. L. MOWINCKEL.