G. W. BERRY.

HINGING OF SHEET METAL RECEPTACLES.

APPLICATION FILED JUNE 11, 1917.

1,317,420. Patented Sept. 30, 1919.

Fig. 1

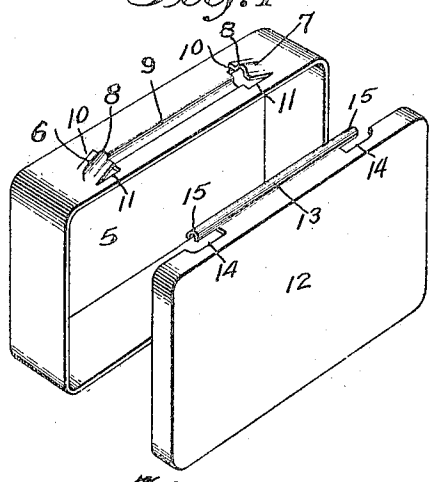


Fig. 2

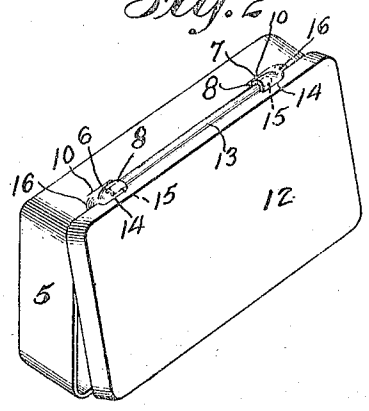


Fig. 4

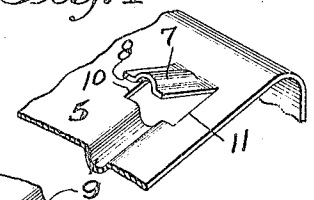
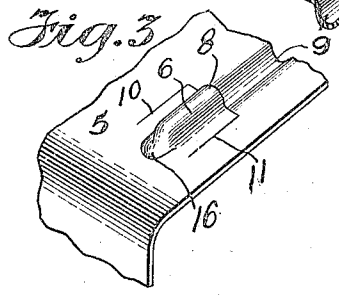


Fig. 3



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HINGING OF SHEET-METAL RECEPTACLES.

1,317,420. Specification of Letters Patent. **Patented Sept. 30, 1919.**

Original application filed May 11, 1917, Serial No. 167,941. Divided and this application filed June 11, 1917. Serial No. 174,054.

To all whom it may concern:

Be it known that I, GEORGE WILLIAM BERRY, a subject of the King of England, and a resident of Lorna Doone, Old South Head Road, Rose Bay, in the State of New South Wales, Commonwealth of Australia, have invented certain new and useful Improvements in the Hinging of Sheet-Metal Receptacles, of which the following is a specification.

This invention relates to improvements in the manufacture of covered receptacles in which the cover or lid is hingedly connected to the body of the receptacle, and particularly to receptacles in which the hinge members are formed from and integral with the material of the lid and body and pivotally connected without the aid of a wire pintle ordinarily employed for this purpose, the hinge members being formed by passing the lid and body successively within the sphere of the operation of dies.

It is the object of the invention to provide an improved formation of the hinge members and of hingedly connecting a lid to a body whereby the hinging operation will be simply and economically performed in a highly efficient manner and a strong and durable hinge will result.

The present application is a division of my co-pending application for patent filed May 11th, 1917, Serial No. 167,941.

In the drawing accompanying and forming a part of this specification, Figure 1 is a perspective view of a lid and body having hinge members formed thereon constructed in accordance with the present invention.

Fig. 2 is a perspective view of a lid and body hingedly connected by my improved form of hinge.

Fig. 3 is a perspective view on an enlarged scale of a portion of the body showing a hinge member when in hinge connecting position; and

Fig. 4 is a perspective view on an enlarged scale of a portion of the body showing the manner of pressing the bulbed tongues from the body.

In the embodiment of the invention shown in the drawing the body 5 of the receptacle is formed with bulbs 6, 7, these bulbs being formed on that part of the body which is to constitute the back. The bulbs are formed by passing the body over dies which press out the bulbs on the back thereof with the inner ends 8 of the bulbs open by slitting the material of the body at said ends of the bulbs and the outer ends of the bulbs are nicely rounded off as clearly shown in the drawing. The body between the bulbs is pressed slightly inward by forming a depression or groove substantially to semi-circular shape in cross section, as shown at 9, this depression being formed by the same dies that forms the bulbs.

After the bulbs 6, 7 and the depression 9 are formed in the back of the body, incisions 10, 11 are made above and below the bulbs thereby forming bulbed tongues, the inner ends of which are bent upward, as shown in Fig. 1 and Fig. 4.

The rim of the lid 12 is formed of greater depth at that part which is to constitute the back than at the front and ends of the rim, this depending portion being longitudinally creased or folded by dies along the lower edge to substantially U-shape in cross section, as shown at 13. After the crease 13 has been formed a portion of the rim at and above the ends of the crease are cut away as shown at 14, forming hinge pintles 15 at the opposite ends of the crease, to be embraced by the bulbs 6, 7.

The lid and body are now formed with the hinge members, as shown in Fig. 1. To hingedly connect the lid and body, the body is placed over one side of a die with the pintles directly beneath the bulb tongues 6, 7 when the top part of the die descends and presses the tongues back to their original position with the bulbed portions thereof, engaging over the pintles as shown in Fig. 2.

The advantage of slitting the material on the back of the body above and below the tongues and bending the tongues laterally instead of in the manner disclosed in my co-pending application above referred to, is that the tongues can be made very short and the pintles on the lid can be more readily placed in position beneath said tongues almost vertically, thereby greatly facilitating the hingedly connecting of the lid and body.

In order to make the bulbed tongues rigid and to prevent them being pressed outwardly when subjected to adverse strains a bulb or flute 16 is formed at the base of

each tongue after the tongues are moved to closed position over the pintles. These flutes form buttresses which can be of any suitable length and may extend from or from near the tongue bulbs to a point beyond the incisions above and below the tongues. The flutes are arranged to bridge the weakest part of the bulb tongues and firmly stiffen or lock the said tongues in their closed position. The flutes may be pressed either inwardly or outwardly to produce the result of stiffening the bulbed tongues.

Having thus described my invention, I claim:

1. The herein described improvement in hingedly connecting the lid and body of a receptacle in which bulbed tongues pressed from the body engage over pintles carried by the lid, of forming a flute at the base of the bulbed tongues transversely of the line of connection between the tongues and the body when the tongues are bent to position to engage over the pintles to stiffen the tongues to prevent the tongues from being pressed outwardly after being pressed to hinge forming position.

2. The herein described improvement in the formation of hinge members on the lid and body of a receptacle and hingedly connecting the lid and body, consisting in forming a rimmed lid with a crease along the lower edge of a portion of the rim, cutting portions of the lid rim above and at the ends of the crease to form hinge pintles, forming bulbs with the inner ends open on the back of the body, making incisions above and below the bulbs to form bulbed tongues and pressing said tongues outwardly, passing the lid pintles beneath the bulbed tongues and closing the tongues over said pintles, and simultaneously with the closing of the bulbed tongues over the pintles forming a stiffening flute at the base of each bulb to extend transversely to the line on which the tongues were bent for the purpose specified.

GEO. W. BERRY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."