D. M. SOMERS.

Hinge for Metallic-Box.

No. 208,343. Patented Sept. 24, 1878.

Fig. 5.

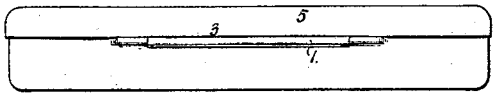


Fig. 1.

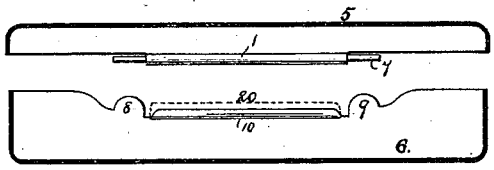


Fig. 3.

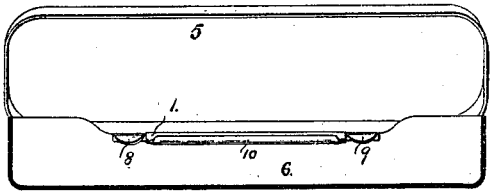


Fig. 2.

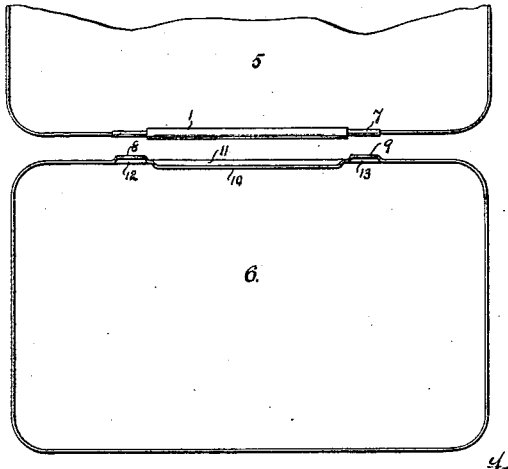


Fig. 4.

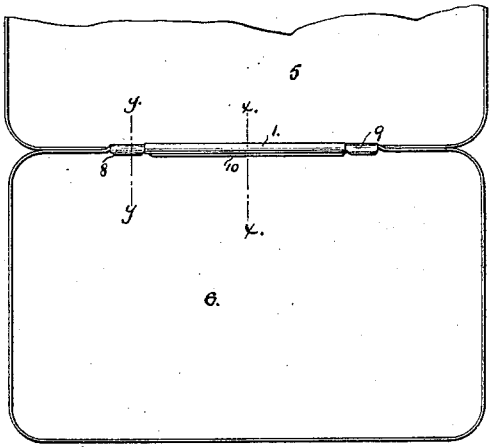


Fig. 8.

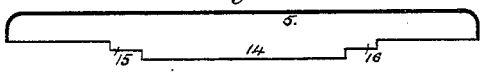


Fig. 6.

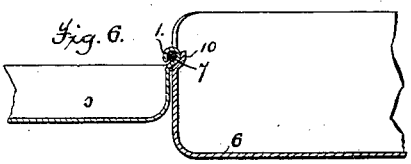


Fig. 7.

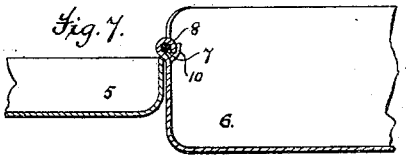
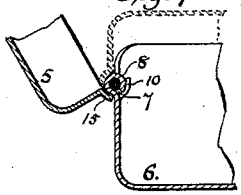


Fig. 9.



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UNITED STATES PATENT OFFICE.

DANIEL M. SOMERS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN HINGES FOR METALLIC BOXES.

Specification forming part of Letters Patent No. **208,343**, dated September 24, 1878; application filed September 6, 1878.

To all whom it may concern:

Be it known that I, DANIEL M. SOMERS, of the city of Brooklyn, county of Kings, and State of New York, have invented certain new and useful Improvements in Hinges for Metallic Boxes; and I do hereby declare the following specification to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of the same.

In the drawings, Figure 1 is a sectional elevation of a box provided with my invention, as seen from the front, the box-body and cover being separated a distance apart. Fig. 2 is a plan view of the box-body and cover, the same being detached at their hinge-joint. Fig. 3 is a sectional elevation of the box-body, also showing the cover slightly open, in perspective. Fig. 4 is a plan view, showing the cover open. Fig. 5 is a rear view of the box as closed. Fig. 6 is a cross-section on line *x x*, Fig. 4, the cover being opened to its fullest extent. Fig. 7 is a similar view of the same on line *y y*, Fig. 4. Fig. 8 is a view showing a modified construction of the cover-blank, and Fig. 9 a modified form of the knuckle formed therefrom.

The object of my invention is to provide a metallic box with a hinge in such a manner that no soldering or other means of fastening the knuckles thereof to the body and cover of the box is required; and it consists in a metallic box the cover of which has one of its lower edges so extended and swaged or bent as to form the knuckle for one part of the hinge, and the body of which is cut and swaged so as to form the knuckle for the other part of the hinge, the said knuckles being adapted to fit together and be supplied with a pintle, all of which will be more particularly hereinafter described.

In forming my improved hinge, a portion of the edge of the back plate of the cover 5 is provided with a straight projecting lip, 14, which is, by suitable dies and the well-known swaging operation, turned outwardly on the line 3, Fig. 5, and curved inwardly until its extreme edge abuts, or nearly abuts, against the inner face of said back plate, as in Fig. 6, when it forms a hollow knuckle, 1, adapted to receive a round pintle, 7, which, when adjusted therein, projects for a short distance beyond the extreme ends of the said knuckle 1, for a purpose to be hereinafter described.

The central portion of the back plate of the body 6 of the box is cut away and given the shape shown in Fig. 1 partly by dotted lines, thus providing a centrally-projecting lip, 20, and on each side thereof ears 8 9. This centrally-projecting lip 20 is bent or curved inwardly, as shown in Figs. 2 and 6, so as to form a longitudinal guard, 10, with a curved seat, 11, in which the knuckle 1 on the cover may evenly rest and smoothly turn. This guard 10 also so covers the knuckle 1 that, whether the cover be opened or closed, there is no direct opening along said knuckle through which the air may enter to affect the contents of the box. The ears 8 9, which are on either side of the longitudinal seat 11, are bent or swaged outwardly to such a degree as to form seats 12 13, in which the ends of the pintle 7 snugly fit.

The parts are adjusted and the hinge completed as follows: The knuckle 1 of the cover of the box, with the pintle 7 projecting outwardly at either end thereof, is laid in the longitudinal seat 11, so that the projecting ends of the pintle 7 rest in the seats 12 13. The ears 8 9 are then bent or curved inwardly and around the pintle 7 until their extreme edges abut, or nearly abut, against the inner face of the back plate of the body 6 of the box, as shown in Figs. 3, 4, and 7. The ears thus curved securely hold the ends of the pintle 7 and form one of the knuckles of the hinge.

Though this structure provides a hinge which, when the box-body is closed, leaves no joints of any considerable extent opening directly into the same, whereby air may enter to destroy the contents of the box, yet the box may be more effectually closed to the ingress of air by covering the slight openings liable to exist by misfit or use between those portions of the edges of the cover which bear upon and play over the ears 8 9 of one of the knuckles of the hinge. This may be effected by providing the lip 14 on the cover with short additions 15 16, which, given the proper

curvature, will form guards that will overlie the said ears 8 9, as in Fig. 9, and thus prevent any passage of the air over said ears.

All the parts of the hinge, save its pintle, are formed in one piece with body and cover of the box, avoiding the expense of attaching separate pieces by means of solder or riveting, and enabling one to produce a cheap and durable box adapted to preserve its contents from deteriorating by the free admission of the air thereto.

What is claimed is—

1. A box having a hinge one knuckle of which is provided by swaging a projecting lip of the cover to form the same, and the other knuckle of which is provided by cutting the back plate of the box-body into such shape as to form ears 8 9, which are bent to embrace the pintle 7, substantially as described.

2. The combination, with the cover and body of a metal box, of the knuckle 1, pintle 7, ears 8 9, and guard 10, substantially as described.

3. The combination, with the cover and body of a metal box, of the knuckle 1, pintle 7, ears 8 9, and guards 10 15 16, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

DANIEL M. SOMERS.

Witnesses:

H. T. MUNSON,

WM. C. HESPE.