2 Sheets—Sheet 1.

D. M. SOMERS.

Sheet-Metal Box.

No. 213,074. Patented Mar. 11, 1879.

Fig 1.

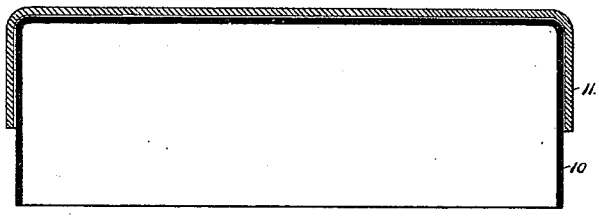


Fig. 2.

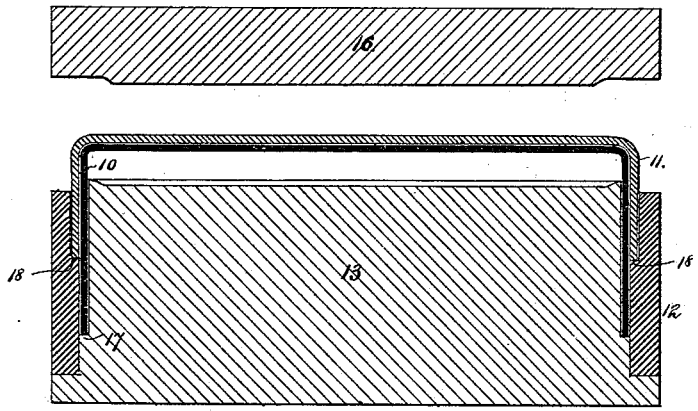
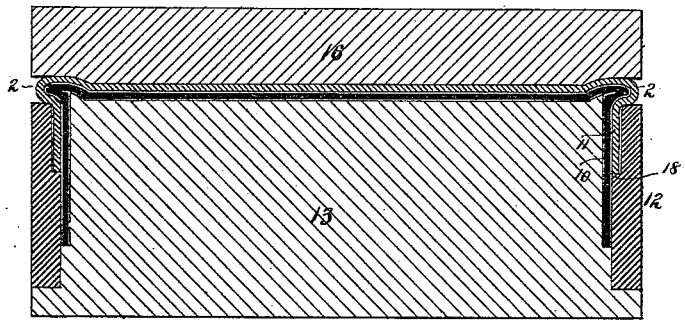


Fig. 3.



Attest.

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Inventor;

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by Munson & Philipp

Attys.

2 Sheets—Sheet 2.

D. M. SOMERS.

Sheet-Metal Box.

No. 213,074. Patented Mar. 11, 1879.

Fig. 4.

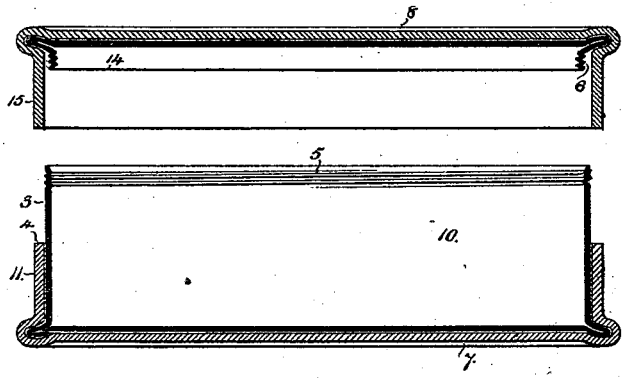


Fig. 5

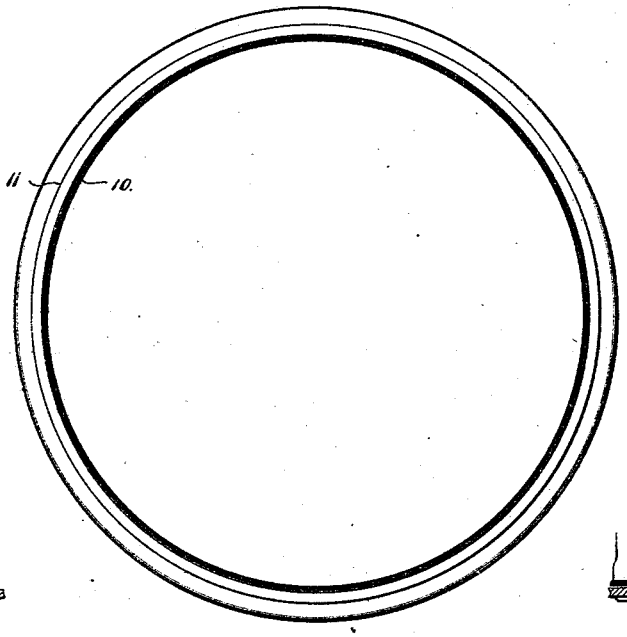


Fig. 6.

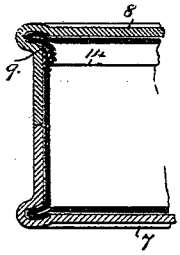
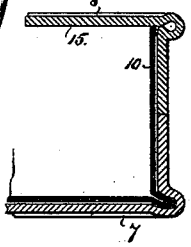


Fig. 7.



Attest,

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UNITED STATES PATENT OFFICE.

DANIEL M. SOMERS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN SHEET-METAL BOXES.

Specification forming part of Letters Patent No. **213,074**, dated March 11, 1879; application filed October 14, 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 Sheet-Metal Boxes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which drawings—

Figure 1 is a representation of the two shells ready to be united together to form either the cover or body of my improved box. Fig. 2 represents swaging-dies, partially closed, with the shells placed therein ready to be united together. Fig. 3 represents said dies as closed, the formed cover or body of the box remaining therein. Fig. 4 represents a completed box, the cover of which is removed. Fig. 5 is a plan view of the body of the box. Fig. 6 is a part-sectional view of said box with its cover closed, and Fig. 7 is a like view of a modified form of the box.

The object of this invention is the production of a damp or air proof box adapted to contain and transport fluid or semi-fluid contents; and the said invention consists in an improved construction of sheet-metal boxes, all of which will be fully hereinafter explained.

As the cover and body of the box are constructed precisely in the same manner the operation of forming the body is alone illustrated, and a description thereof is to be understood as applying to the cover as well.

The interior shell, 10, and the exterior shell, 11, are first made in cup-like form, as shown in Fig. 1, by the use and operation of the well-known drawing-dies, said shells being of dimensions suited to nicely fit one within the other. A set of such shells fitted together, as shown in Fig. 1, are placed in swaging-dies, such as are shown in Figs. 2 and 3, the edge of the interior shell, 10, resting upon the ledge 17 of the base die 13, and between its sides and those of the ring 12, while the exterior shell, 11, rests snugly upon the interior shell, 10, with its edge resting upon the ledge 18 of the ring 12, which latter is supported by the base die 13. When the upper or heading die, 16, descends, the bottoms of the said shells 10 11, which are firmly held in their associated relation, are swaged down upon the base die 13, and spread out into the upper edge of the ring 12, thus being forced to take the position and shape shown in Fig. 3, whereby is provided a bottom-edge flange, 2, which is made up of a double bend of each of the shells 10 11, the bend of the shell 10 being firmly embraced within that of the shell 11, and the two thus united fixedly in place. This mode of uniting two shells, one of which forms a guard or rim, 3, and the other a ledge, 4, upon which a similarly-shaped cover rests and is supported, is an important feature of the invention, as it enables one to connect the said shells solidly together without the aid of soldering or similar connecting means, which so frequently has small openings in it, through which the contents of the box may exude, or is liable to rupture in the use of the article. This mode of union also enables one to produce the box at slight expense and with great facility.

A preferable form of the cover is shown in Figs. 4 and 6, where its interior shell, 14, is made of a less height than its exterior shell, 15, and with an interiorly-projecting neck, which is of a diameter to fit within the mouth of the shell 10 of the body of the box. This is accomplished by a properly shaping of the base die 13, as will be readily apparent. Thus constructed the shell 15 is adapted to pass over the outside of the shell 10, and rest upon the flange 4, while the shell 14 passes inside of the shell 10, which construction affords a box having two closing-joints, whereby it contents are doubly protected from contact with the air and from exuding. In order, however, to render the closing-joints more secure and tight, I form on the inside of the neck of the interior shell, 10, a screw-thread, 5, and on the outside of the neck of the interior shell, 14, a similar thread, 6, which threads are adapted to engage with each other when the cover is placed onto the box and rotated a sufficient number of times. Of course the shell 10 might have an external thread and the shell 15 an internal thread, and two or more bayonet-joints may be substituted for the screw-threads.

A box thus made has the advantage of the closing-joints formed by the shells 15 11 14 10, to which is added the many contact portions

of the screw-threads, thereby forming an almost perfectly-tight box, which may be rendered completely so by a rubber gasket, 9, placed in the recess formed between the shells 15 and 14. (See Fig. 6.) This gasket 9 may be omitted, however, and the upper edge of the interior shell, 10, be shaped so as to perfectly seat itself on the inner surface of the shell 14 when the parts are screwed together. The screw-threads 5 6 will preferably be rolled, though a cut thread may be used.

In the modification, Fig. 7, the shell 14 is omitted, and the shell 10 is made long enough to abut against the inner surface of the shell 15, which construction, for many purposes, is a very desirable one.

The shells may be recessed, as at 7 8, if desired, by properly shaping the base die 13 and heading-die 16, which form provides edge flanges surrounding a recess in which a label may be placed and protected from contact with any support upon which the box may be laid.

It is obvious that in some cases a central portion of the exterior shells or the interior shells may be removed without departing from my invention.

Having thus described my invention, what I claim is—

1. A sheet-metal box the cover or body whereof consists of two shells, one projecting beyond the other, which are united together by flanges at their corners, one of which flanges embraces the other, all substantially as described.

2. An improved box consisting of a body and cover, each formed of two shells united together so that one shell projects beyond the other, the lapping necks of two of such shells being provided with interlocking devices, 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,

GEO. H. GRAHAM.