

JOHN F. MERRILL.

Improvement in Apparatus for Soldering Tin Cans.

No. 122,477.

Patented Jan. 2, 1872.

Fig. 1.

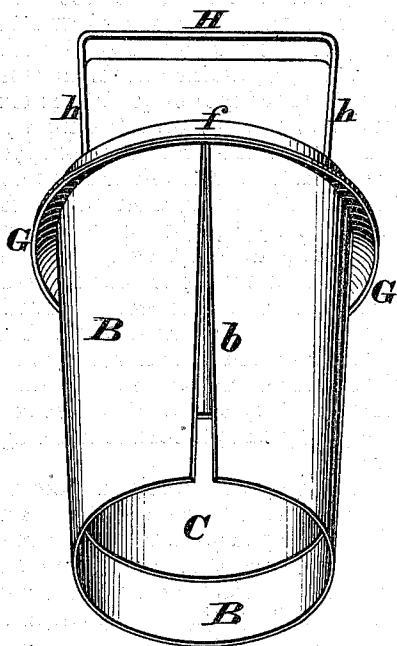


Fig. 2.

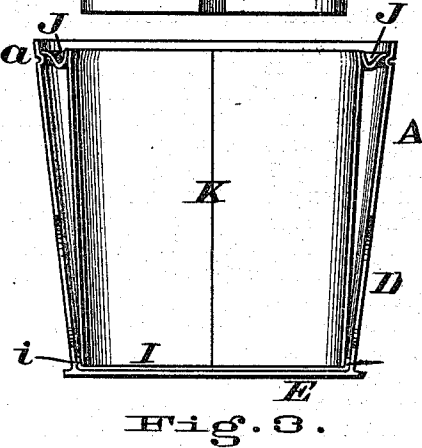
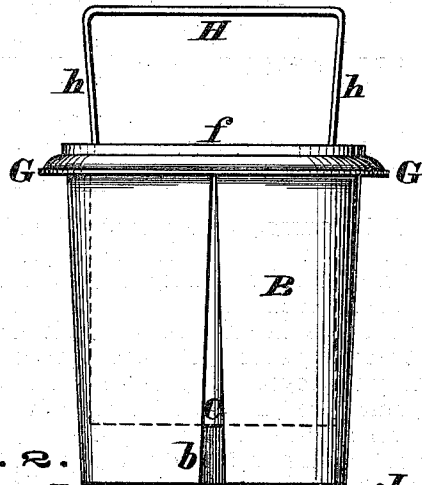
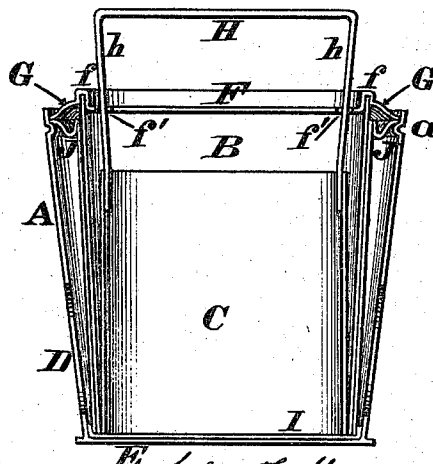
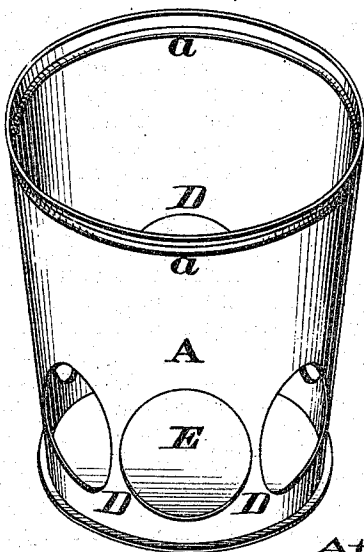


Fig. 3.



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# UNITED STATES PATENT OFFICE.

JOHN F. MERRILL, OF CINCINNATI, OHIO.

## IMPROVEMENT IN APPARATUS FOR SOLDERING TIN CANS.

Specification forming part of Letters Patent No. 122,477, dated January 2, 1872.

I, JOHN F. MERRILL, of Cincinnati, Hamilton county, Ohio, have invented a certain "Device for Making Tin Fruit-Cans," of which the following is a specification:

This invention relates to a certain device or instrument whereby sheet-metal cans, such as are ordinarily employed for preserving fruits, can be manufactured in the most rapid, uniform, and economical manner; the peculiar appliances used by me and the way in which they are manipulated being hereinafter fully described.

Figure 1 is a perspective view, showing the different devices employed by me in a detached condition. Fig. 2 is a view, partially elevated and partially in section, showing one stage of the operation. Fig. 3 is a vertical section, showing the last step in the operation.

The appliances employed by me consist essentially of a holder or receiver, A, a longitudinally-divided conical expander, B, and a cylindrical plunger, C, the details of which are arranged as follows: The receiver A flares toward its upper end, and has turned in it, near its top, a bead, *a*, whose internal swell or convexity serves as a ledge or shoulder to support the sealing-trough, as hereafter described. The lower and narrower portion of said receiver is provided with a series of apertures, D, which are designed to admit the operator's fingers so as to facilitate the manipulation of the can when placed within the receiver. The entire holder, together with its bottom E, may be made of stout tin or sheet-iron, although any other material may be employed which is strong enough and sufficiently light to be handled with facility. The conical expander B is narrower at bottom than at top, and is split longitudinally on one or more sides, as at *b*, and the upper end of said expander is secured in an annular socket, *f*, of the cap or cover F. This cap has a marginal rim, G, which is adapted to fit snugly within the mouth of the receiver A. Adapted to traverse expander B is the cylindrical plunger C, which may be either hollow, as shown, or solid, and said plunger is provided with a handle, H, whose downward projections *h* play within the slots *f'* of the cap.

The above-described appliances are operated in the following manner: In their normal

condition, as shown in Fig. 1, the receiver A is separated from the devices B C and the plunger is elevated, as shown in Figs. 1 and 2, said plunger being maintained in its elevated condition on account of the oblique projections *h* of the handle binding within the slots *f'*. The bottom I of the fruit-can is then dropped into the receiver A and allowed to rest upon the member E of the latter, after which the sealing-trough J is applied so as to be supported on the ledge *a*. This being done the piece of sheet metal K that is to constitute the body of the can, and which has been previously cut to the proper shape, is then inserted so as to fit within the upturned marginal flange *i* of the bottom I, and also within the sealing-trough J. The apertures D, by admitting the ends of the tinner's fingers, greatly facilitate this stage of the operation.

The location of these various members I J K within the receiver will be readily understood by referring to the sectioned portions of Fig. 2. The bottom, the trough, and the body of the can being thus properly located in the holder, the next stage of the process is as follows:

The expander B is introduced into the body K of the can and allowed to descend therein until its annular rim G rests upon the top of the trough J, and thus serves to maintain the latter in a proper position with reference to the upper end of said body. The operator, by pressing upon the handle A, forces down the plunger C, thereby expanding the member B and causing the body of the can to fit tightly within the flange *i* and sealing-trough J, which condition of the several parts is shown in Fig. 3. As this enlargement of the expander B has united the body temporarily to its bottom and trough, they are therefore readily withdrawn from the receiver and soldered, the handle H enabling the workman to perform this part of the operation with the utmost ease and in the most rapid manner. The sealing-trough and bottom being thus soldered to the body of the can, the operator now draws upon the handle H so as to retract the plunger C, which allows the expander to collapse a sufficient distance to permit the ready withdrawal of the complete can.

The flange G does not form an essential part

of the invention, but is preferably used, especially in constructing the particular form of can shown in the drawing.

*Claims.*

I claim as my invention—

1. The holder A a D E and longitudinally-divided expander B b, constructed and combined to operate substantially as set forth.
2. The combination of the holder A a D E,

expander B b, plunger C, and cap or cover F f, as set forth, either with or without the flange G.

In testimony of which invention I hereunto set my hand.

JOHN F. MERRILL.

Witnesses:

GEO. H. KNIGHT,

JAMES H. LAYMAN.

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