

(No Model.)

F. A. WALSH.

DOUBLE SEAMING SHEET METAL CANS.

No. 272,500.

Patented Feb. 20, 1883.

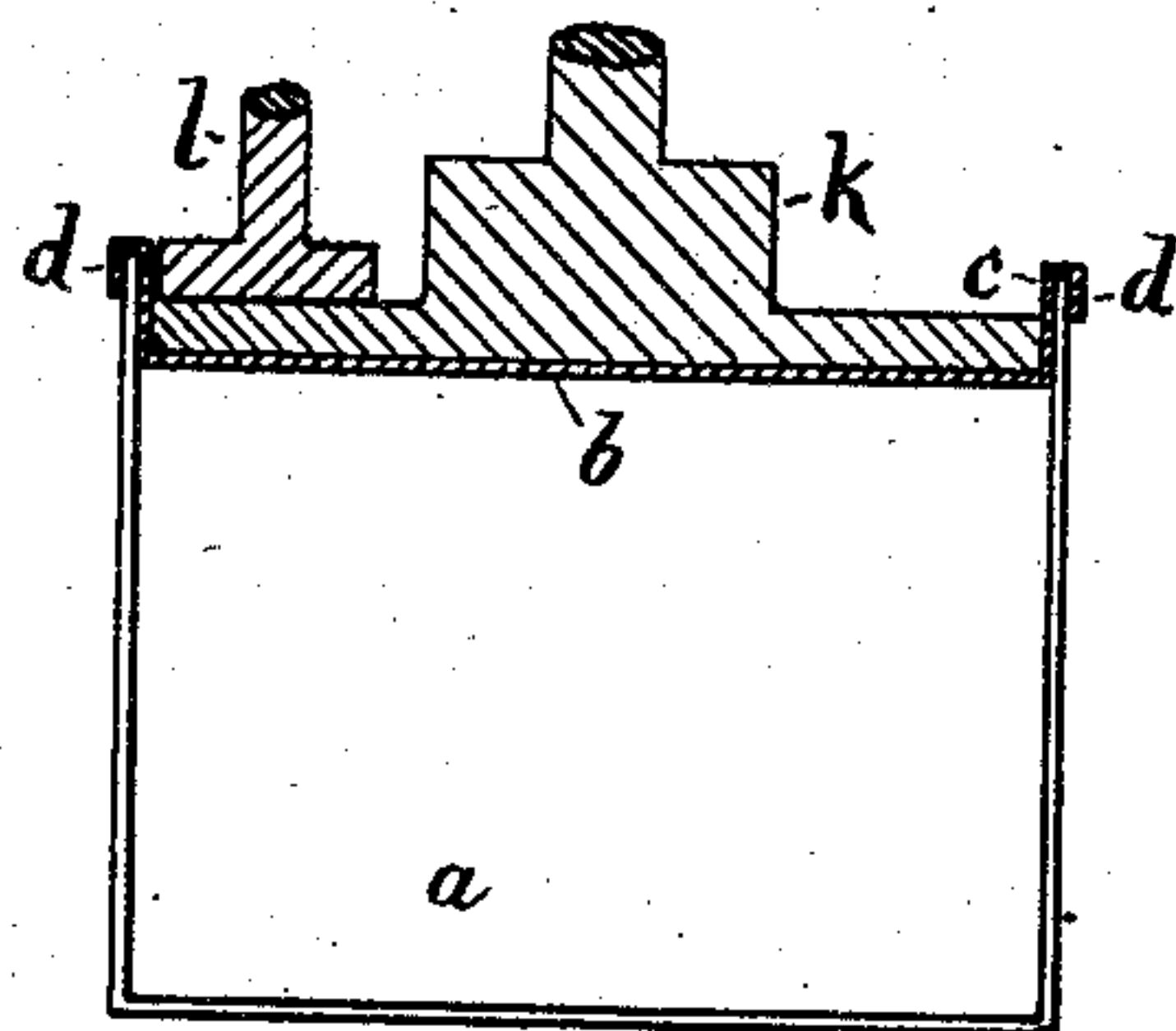


Fig 2

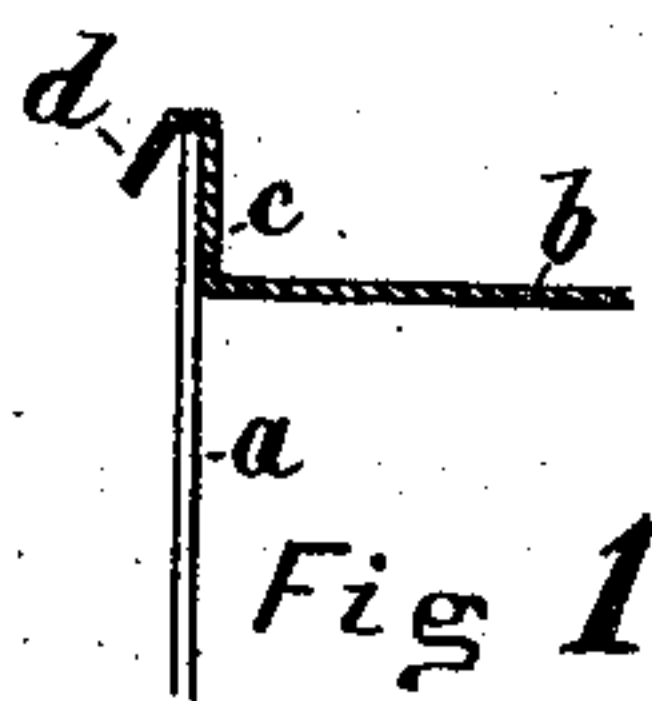


Fig 1

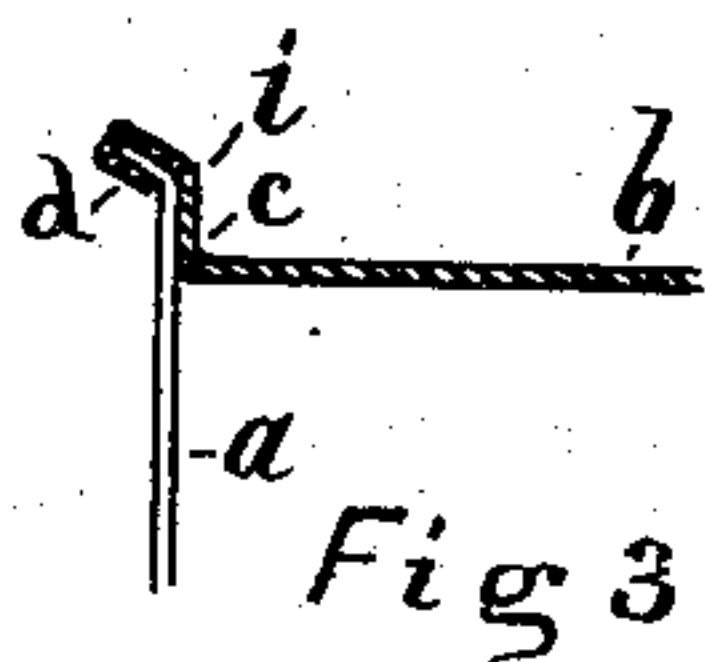


Fig 3

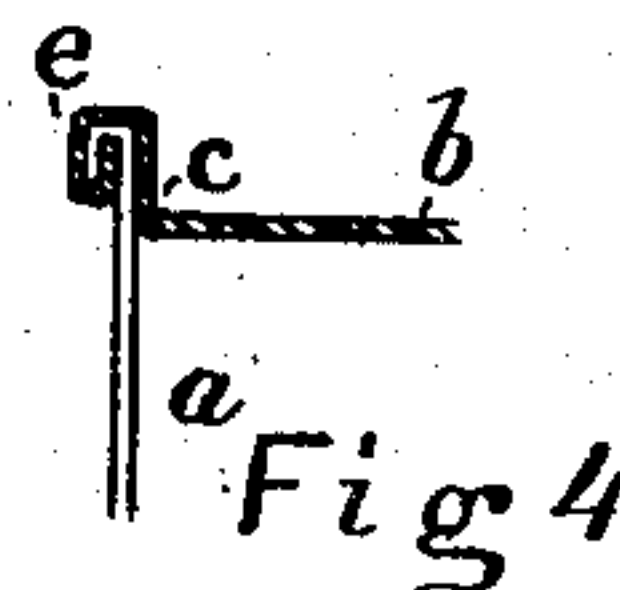


Fig 4

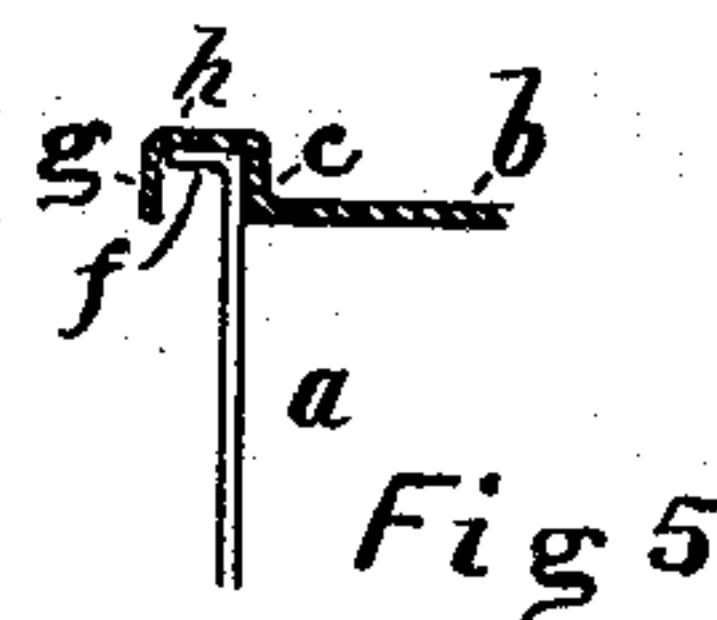


Fig 5

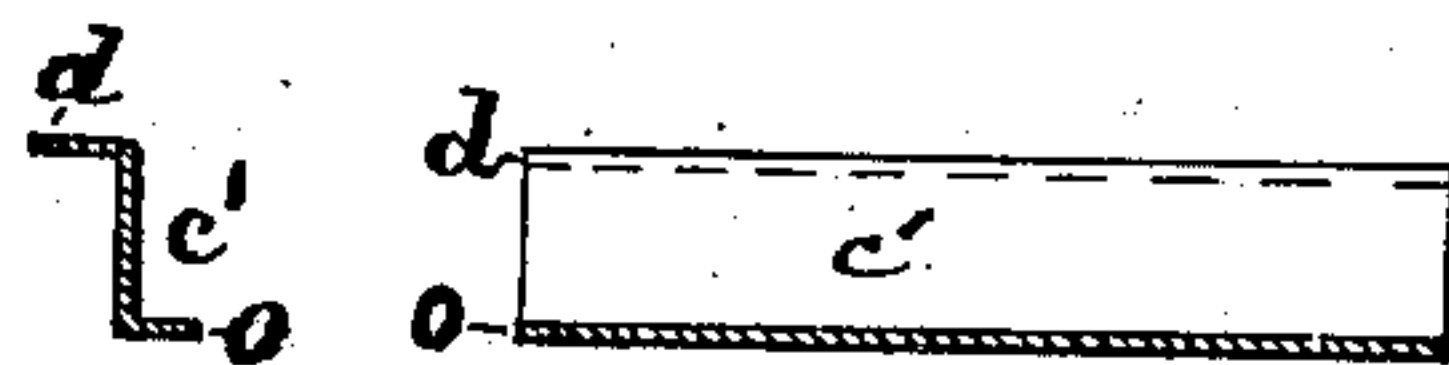


Fig 6

Fig 7.

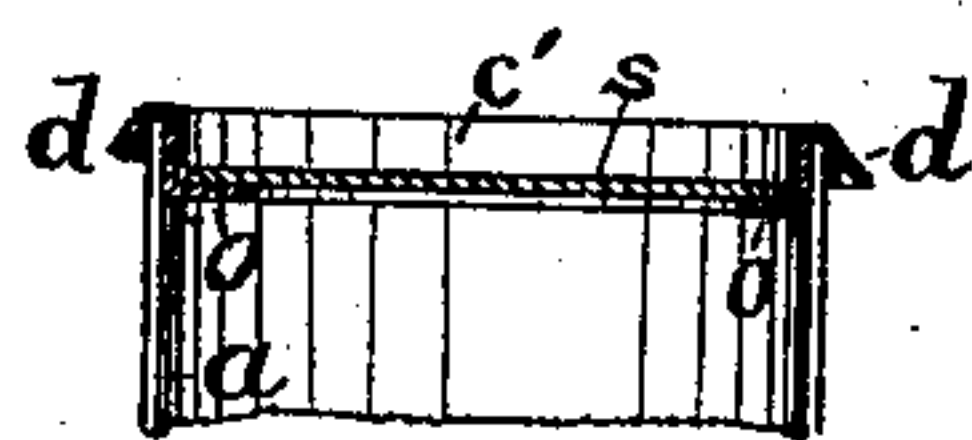


Fig 8

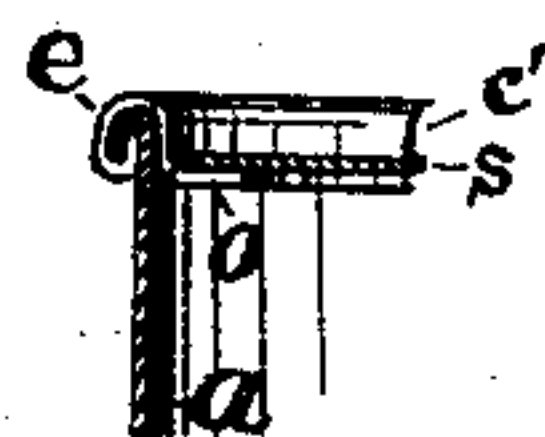


Fig 9

Witnesses.
Henry Decker
Benton & Decker.

Inventor.
Francis A. Walsh
By Wm Zimmerman
Atty

UNITED STATES PATENT OFFICE.

FRANCIS A. WALSH, OF CHICAGO, ILLINOIS.

DOUBLE-SEAMING SHEET-METAL CANS.

SPECIFICATION forming part of Letters Patent No. 272,500, dated February 20, 1883.

Application filed August 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS A. WALSH, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in the Art of Making Double Seams for Sheet-Metal Cans; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention relates to make and use the same, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 2 represents a sectional view of a sheet-metal can with a countersunk cover in place, and of which the flange *d* is already turned down against the body of the can, which is the first of the operation in my improved process. Fig. 1 represents part of a can body and cover, showing the form of the can and cover previous to the operation of turning down the flange, as shown in Fig. 2. Fig. 3 represents the can and cover partly turned over at one point of the operation of forming the double seam. Fig. 4 represents the double seam completed. Fig. 5 represents the form of the cover and can as they must be formed in the old way before they are united for double-seaming. Fig. 6 represents an end section, and Fig. 7 a longitudinal side elevation, of a strip of sheet metal shaped ready to be formed into a ring to form the head of the can. Fig. 8 represents a vertical central section of the upper part of a can, showing the strip shown in Fig. 7 formed into a ring, and the opening of the ring closed by a disk, *s*, soldered to the flanges *o*, and its flange *d* turned down, as shown in Fig. 1. Fig. 9 represents the parts as shown in Fig. 8 finished into the double seam *e*.

Like letters of reference indicate like parts.

The object of my invention is to construct a double seam on a sheet-metal can without first flanging the body.

As heretofore constructed, the can *a* was first provided with a flange, *f*, (see Fig. 5,) and the cover *b* with a countersink having a wall, *c*, of the height desired for the finished seam, a horizontal part, *h*, extending beyond the flange *f*, and a burr, *g*. These different parts of the can and cover were previously prepared each and then put together, as shown in Fig. 5, after which the burr *g* was turned under and

against the flange *f*, and then both were turned down against the body of the can, as shown at *e*, Fig. 4; but there were various serious practical objections to this process, all of which I avoid.

In the drawings, *a* represents a sheet-metal can provided with a countersunk cover, *b*, having a vertical wall, *c*, which slips and fits into the interior of the can. Said wall *c* is preferably made about twice the depth of the finished seam, and the flange *d* of about half the depth of the wall *c*, or about the width of the finished seam. The cover *b* is stamped into the form as shown in Fig. 1, with the flange *d* bent downward, or, if desired, horizontal, as shown in Fig. 6. When so formed the cover is ready to be seamed to the can-body. It is slipped therein, as shown, and the flange *d* is then turned down against the can-body, as shown in Fig. 2, the cover being held in a chuck, *k*, which just fits into the countersink, and is about half the height of the wall *c*. A roller, *l*, supports the upper part of the wall *c* while the flange *d* is turned down, after which the wall *c* and can-body are bent over by suitable mechanism, (not shown,) which will form the subject of another patent. In Fig. 3 the wall *c* and can-body are both bent over at *i*, being one position in the operation, which is shown completed in the finished seam *e*, Fig. 4.

The can-body *a*, it will be observed, is not flanged, as in the old way of making a double seam, but is straight and smooth, and the flange *d* is bent against the body of the can before it is operated upon, and when the body of the can is turned over it is not touched by the rollers, but is held between the wall *c* and flange *d*, which hold it securely, and thereby prevent its edge from tearing apart, which in the first place has not lost any of its soft and ductile properties, as is the case when the can is first flanged. In the latter case it is rendered more or less hard and brittle by the pressure on it of the rollers, and when it is then bent farther it is much more liable to break, and so cause the can to become leaky.

Another still more desirable and important feature attained by uniting an unflanged can-body with the cover is this: that the can-bodies can be handled with very much less liability to injury. When a can-body is flanged it must be handled with care, for if it is com-

pressed so as to flatten it but slightly, the flange will crack and cause leaks in the can when finished. Besides this, the flange must be on the proper angle, so as to unite properly with the cover, and if out of shape it has to be replaced by hand, which is a tedious and expensive job.

Cans with a flanged open end are furnished to the paint trade, so shipped from the manufacturer, and are filled and closed by double-seaming; but, owing to the aforesaid practical difficulties, many cans are ruined by having their flanges, and through them the can-body, broken and leaky, besides being much more expensive to handle and ship on account of the care required to prevent injury to the flanges, all of which trouble and expense are avoided by my method of double-seaming.

Although the covers *b* may be stamped with dies, it is not absolutely necessary, as by my new method a strip of tin, *c'*, may be formed into a flanged hoop, as shown in Fig. 6, with inward and outward flanges *d* and *o*. Upon the flange *o* a disk of sheet metal, *s*, may be soldered, as shown in Figs. 8 and 9, thus forming the countersunk end, which may be so constructed without the use of dies, and united to the can-body in the same manner as the stamped cover.

It will be observed that the can and cover will be permanently united by turning the wall *c* and can-body *a* outward, as shown in Fig. 3, at or nearly at right angles to the can-body, and, again, that the operation of rolling the metals upon themselves may be continued, so as to make a treble seam upon the same principle.

What I claim is—

1. The art of forming a seam for sheet-metal cans, which consists in forming a head with a wall, *c*, and flange *d*, and placing said head within a flangeless can-body, turning said flange *d* down against the body of the can, and then turning the wall *c* and can-body together outward and down against the can-body, which thus completed forms the usual double seam, substantially as specified.

2. A sheet-metal can provided with a head or end consisting of a ring or band, *c*, provided with flanges *d* and *o*, and a disk, *s*, united to the flange *o* and the flange *d* to the can-body, substantially as specified.

FRANCIS A. WALSH.

Witnesses:

WM. ZIMMERMAN,
JULIUS STERN.