(No Model.)

F. A. WALSH.

SHEET METAL CAN.

No. 333,179. Patented Dec. 29, 1885.

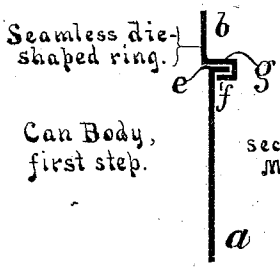


Fig. 1

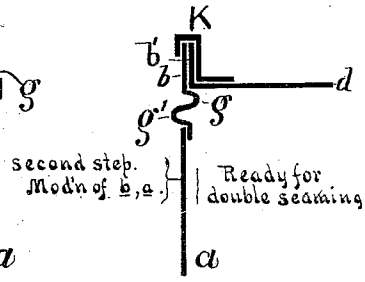


Fig. 2

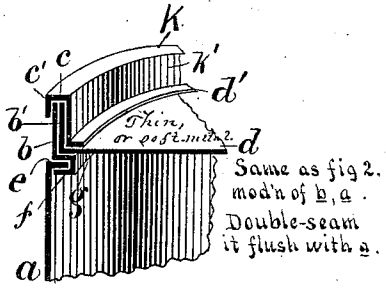


Fig. 3

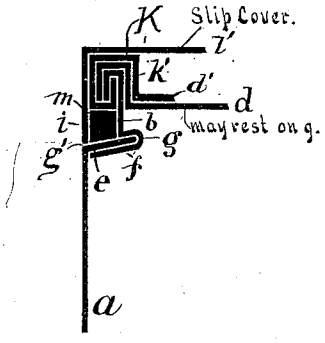


Fig. 4 (mod'n)

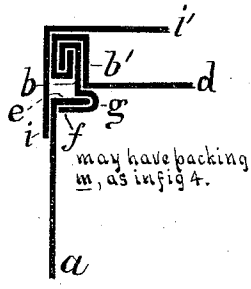


Fig. 5 (mod'n)

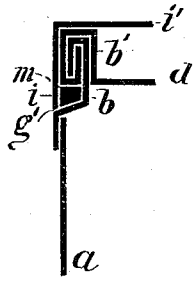


Fig. 6 (mod'n)

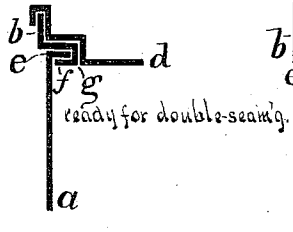


Fig. 7 (mod'n)

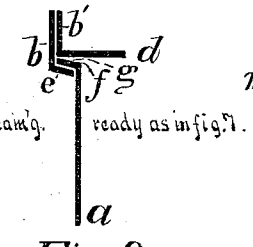


Fig. 8 (mod'n)

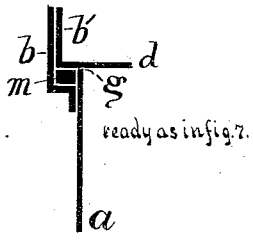


Fig. 9 (mod'n)

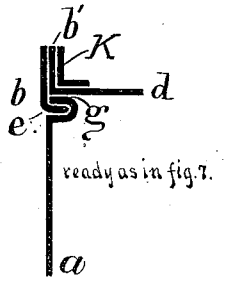


Fig. 10 (mod'n of a, b, K)

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N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

FRANCIS A. WALSH, OF CHICAGO, ILLINOIS.

SHEET-METAL CAN.

SPECIFICATION forming part of Letters Patent No. 333,179, dated December 29, 1885.

Application filed June 18, 1883. Serial No. 98,428. (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 certain new and useful Improvements in the Construction of 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 1 represents a vertical sectional elevation of one side of a can-body with its seamless ring *b* and joint and shoulder *g*. Fig. 2 represents a vertical sectional elevation of one side of a can-body with cover and ring K, and in which the seamless ring *b* is provided with internal and external shoulders, said parts ready to be united by a double seam. Fig. 3 represents a vertical sectional elevation of one corner of a can, shown in perspective, ready to be united by a double seam. Fig. 4 represents the same in sectional elevation with seam completed and a slip cover and packing, *m*, applied. Fig. 5 represents the same as Fig. 4, but without the ring K and packing *m*. Fig. 6 represents the same as Fig. 4, but shows another way of joining the can-body and seamless ring. Fig. 7 shows the can-body and cover as shown in Fig. 1, with a cover doubly countersunk and formed ready to be united to the can-body. Figs. 8, 9, 10 show modifications in the way of uniting the ring *b* and can *a* shown in Fig. 1.

Like letters of reference indicate like parts.

The object of my invention is to construct a can whose ends shall be without an external side seam, so that the same may be united to the covers or heads without the liability to leak, which is sure to be where the side seam extends through the whole length of the can-body when solder is not used, and also to use a head having a wall and form a can having a simply-formed end, *d*, having a wall, *b'*.

In the drawings, *a* represents a can-body, and *b* a ring united to said can-body at one or both ends by various methods, as shown in the drawings. Said ring is cut from a flat piece of sheet metal in the form of a ring, which is then, by means of dies, drawn into a vertical form, and also by said means provided with the hooks and offsets, &c., as shown, to fit upon the cam-body, which, with the ring, may then be united by closing the joints of said hooks and grooves, or by soldering the ring and body together.

In Fig. 1 the collar or ring *b* and can are united by an offset or shoulder, *g*, and the collar *b* is made larger in diameter than the can-body.

In Fig. 2 the collar *b* is united to the can by a pipe or telescopic joint, and is provided with two beads—one, *g*, forming the internal shoulder, and *g'* an external shoulder.

In Fig. 3 the collar and can-body are united with a joint, as shown in Fig. 1, but the collar *b* is of smaller diameter than the can, so that the finished seam may be of the same diameter as the can-body, as is shown in Fig. 5. In this and Fig. 3 a ring, K, is applied over the collar *b* and flange *b'* of the can-head *d*, to hold them together and to be with them formed into a double seam, as shown in Fig. 4, the can end *d* having a flange or wall, *b'*, fitting closely within the collar *b*. Said ring K is formed of the wall *k'*, top *c*, burr *c'*, and flange *d'*, of which the parts *k' c c'* are turned over with the parts *b b'* into a double seam. (Shown completed in Fig. 4.)

In Fig. 4 a slip-cover is applied over the finished structure, to protect the thin end *d*, in which the parts are so proportioned that when finished the burr *i* of the slip-cover *i'* and can-body *a* shall have the same external diameter. An internal shoulder, *g*, is also shown, upon which may rest the cover *d*, also shown in Figs. 1, 2, 3, 4, 5, 7, 8, 9, and 10, and an external shoulder, *g'*, is shown in Figs. 2, 4, and 6, upon which the burr *i* of the slip-cover rests.

In Figs. 4 and 6 a rubber packing, *m*, is placed between the shoulder *g'* and double seam for the purpose of closing the can air-tight after the cover *d* has been opened by cutting it away inside of the flange *d'* or close against the shoulder *g*. The rubber packing is equally applicable to the construction shown in Fig. 5, although no ring K is used, and the burr *i* has no shoulder to rest upon.

In Fig. 6 the burr *i* rests upon a shoulder, *g'*, but no internal shoulder, *g*, is formed, and a packing, *m*, is shown. In Fig. 7 the cover *d* is also countersunk, to fit within as well as

upon the shoulder *g*, and is formed ready to be turned into a double seam, which seam, with all the others shown in this application, is formed after the manner described and patented to me February 20, 1883, for double-seaming flangeless can bodies and ends together.

In Fig. 9 the can-body is left straight, and the collar *b*, of larger diameter than the can-body, is formed so as to let the can-body project above the joint and so as to leave a channel, into which the packing *m* is laid, and whose top, with the can-body, forms a shoulder for the end to rest upon outside of the can-body proper.

In Fig. 10 the hook forming the shoulder *g* is formed on the can-body instead of on the collar, as shown in Fig. 1, and the part *e* is formed on the collar. The end *d* in these cases is intended to be of thin or soft metal, that may be cut away with a knife to open the can, and the ring K, when used, serves to support the chuck of the seaming-machine used to close the cans, and also serves to protect the end *d* and its wall *b'* from injury in seaming. The end *b* of the can, it will be observed, is primarily an extension of the can-body, which may assume any position from such direct extension to within ninety degrees, or a right angle to the can-body, so long as a flange, *b'*, is required to the end *d*.

What I claim is—

1. A sheet-metal can having shoulders *g g'*, collar *b*, cover *d*, having wall *b'*, and ring K, united by a double seam.

2. A sheet-metal can having shoulders *g g'*, collar *b*, cover *d*, having wall *b'*, united by a double seam, in combination with a slip-cover, *i'*, and packing *m*.

FRANCIS A. WALSH.

Witnesses:
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