(No Model.)

W. H. ATKINSON.

CAN.

No. 471,528. Patented Mar. 29, 1892.

Fig. 1.

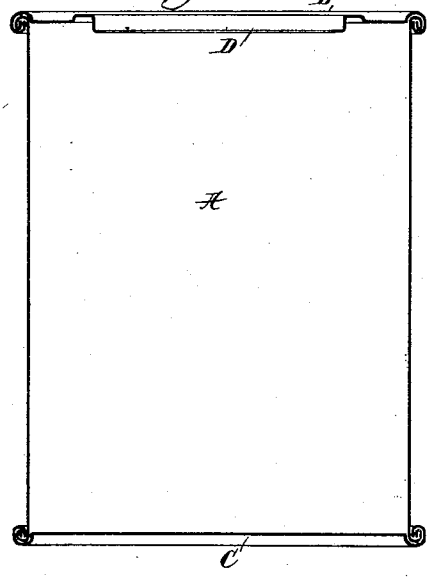

Fig. 2.

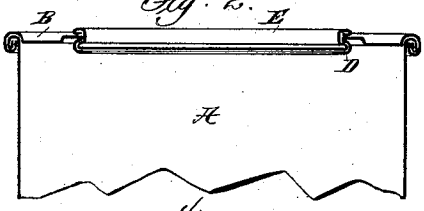

Fig. 3.

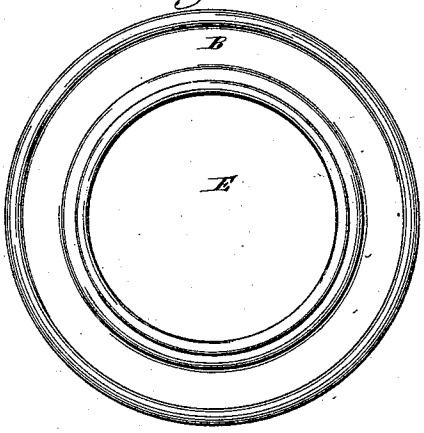

Fig. 4.

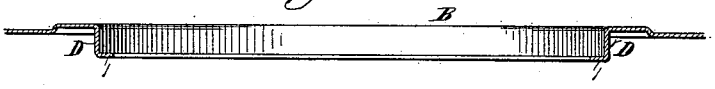

Fig. 5.

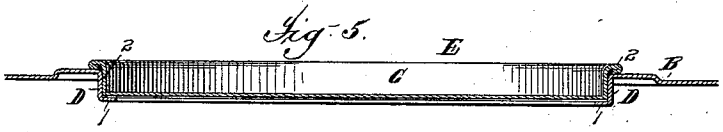

Fig. 6.

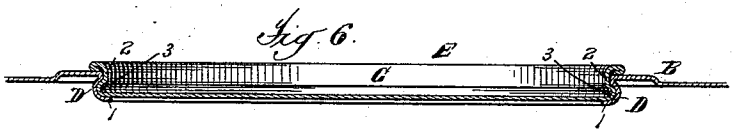

Fig. 7.

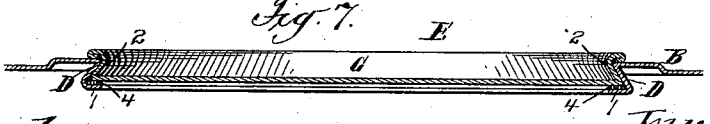

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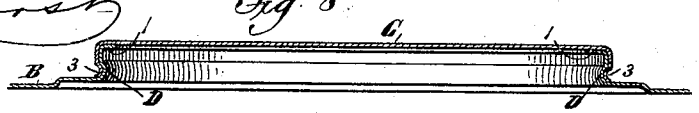
Fig. 8.



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UNITED STATES PATENT OFFICE.

WILLIAM H. ATKINSON, OF BROOKLYN, NEW YORK.

CAN.

SPECIFICATION forming part of Letters Patent No. 471,528, dated March 29, 1892.

Application filed October 29, 1890. Serial No. 369,649. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. ATKINSON, a citizen of the United States, residing at Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Cans, fully described and represented in the following specification and the accompanying drawings, forming a part of the same.

This invention relates to an improved can, its object being to provide a simple, cheap, and convenient means for closing cans which shall possess all the advantages of the constructions heretofore in use, and in addition thereto shall provide a closed can of greater strength and capable of resisting greater interior pressure than such constructions.

The special class of cans to which my invention relates are those employed in packing butter, fruits, and other similar perishable articles, in which the can is first filled and then sealed against the admission of air for shipment and sale, the can being opened either at the end at which it is closed or the opposite end by cutting the sheet metal of which the heads are composed or otherwise removing one of the heads.

I attain the desired result by a novel construction employing expansion in forming the joint; and my invention consists of the improved can, as fully set forth and claimed herein.

In the accompanying drawings, Figure 1 is a central vertical section of my improved can before closing. Fig. 2 is a similar view showing the upper part of the can after closing. Fig. 3 is a plan view of Fig. 2. Fig. 4 is a central section, on an enlarged scale, showing the top of the can before closing. Fig. 5 is a similar view showing the cover in place prior to expansion. Fig. 6 is a similar view showing the can after expansion, and Figs. 7 and 8 show modifications.

Referring to said drawings, A is the body of a cylindrical sheet-metal can, and B C the heads forming the ends of the can and secured to the body in any suitable manner, preferably by the double-lap seam shown. The heads are secured to the can in the process of manufacture, and the can is filled through a filling-opening in the head B.

For the purpose of closing the can the filling-opening is formed, preferably, by cutting a circular piece out of the head and then bending the edges of the opening inwardly toward the opposite end of the can to form a flange D and then inwardly toward the center of the head to form an annular flat lip 1, extending about the bottom of the opening in the head. The cover E is formed of a circular piece of sheet metal stamped up to form an annular flange G, the edge 2 of which is preferably turned outward, so as to overlap the top B when the cover is in place and preferably turned under, as shown, to avoid a sharp edge. The cover is placed within the filling-opening, with the body of the cover resting on the lip 1, and the flange G extends over and preferably fits closely in the flange D, although it is evident that this is not absolutely necessary, but is preferable, since it lessens the expansion required.

The position of the parts prior to expansion is shown clearly in Fig. 5. The cover having been placed in position the flanges D G are expanded outward by an expander of any suitable form, provided, preferably, with a narrow expanding edge engaging the flange of the cover, thus producing the expanded joint 3, (shown in Fig. 6,) which evidently is of great strength. The rim 1, formed upon the flange of the head, resists expansion, so that considerable pressure is necessary, and this resistance is increased by the close proximity of the line of expansion to the body of the cover and the fact that the upper part of the flange on the cover is held against expansion by the body of the head, these features increasing greatly the strength of the joint.

In Fig. 7 I have shown a modification in which a ring 4, of paper, rubber, or any other suitable material, is inserted between the cover and the rim 1, and the expanding force is applied in a plane extending outward and downward from the interior of the cover, so that the operation of expansion forces the cover firmly against the ring and secures the latter in position between the cover and the head. If desired, this ring may be placed between the body of the head and the portion of the cover overlapping the same; but the construction shown is preferable, as a tighter joint is thus produced.

In Fig. 8 I have shown a modification in which the flange D upon the head B is turned outwardly from the end of the can and the cover is placed outside instead of inside the flange D, its inner surface resting upon the lip 1. In this construction the joint 3 is formed by expanding the flanges inwardly, as shown, the expander being placed upon the outside of the circular projection formed upon the end of the can by the flange and cover. The ring 4 of Fig. 7 may be used with this construction, being placed upon the rim 1 before putting on the cover.

It is evident that modifications may be made in the cans shown and described, while retaining the essential features of my invention, and I am not to be limited to the exact construction shown, but intend to cover such modifications.

What I claim is—

1. A can having a head provided with a filling-opening surrounded by a flange having an inwardly-projecting lip and a cover having a flange extending over the flange of the filling-opening transversely to the lip, the cover being secured by an expanded joint formed in the two flanges between the lip and body, substantially as described.

2. A can having a head provided with a filling-opening surrounded by an inwardly-extending flange having a lip projecting into the opening and a cover having a flange extending over the flange of the filling-opening transversely to the lip, the cover being secured by an outwardly-expanded joint formed in the two flanges between the lip and body, substantially as described.

3. A can having a head provided with a filling-opening surrounded by a flange having an inwardly-projecting lip, a cover closing said opening and having a flange extending over the flange of the filling-opening transversely to the lip, the cover being secured by an expanded joint formed in the two flanges between the lip and body, and a ring of rubber, paper, or other suitable material pressed between the cover and lip, substantially as described.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM H. ATKINSON.

Witnesses:
GEO. R. WEED,
OSCAR M. BERRY.