No. 695,879. Patented Mar. 18, 1902.

M. GRANT.

CAN.

(Application filed Apr. 29, 1901.)

(No Model.)

Fig 1

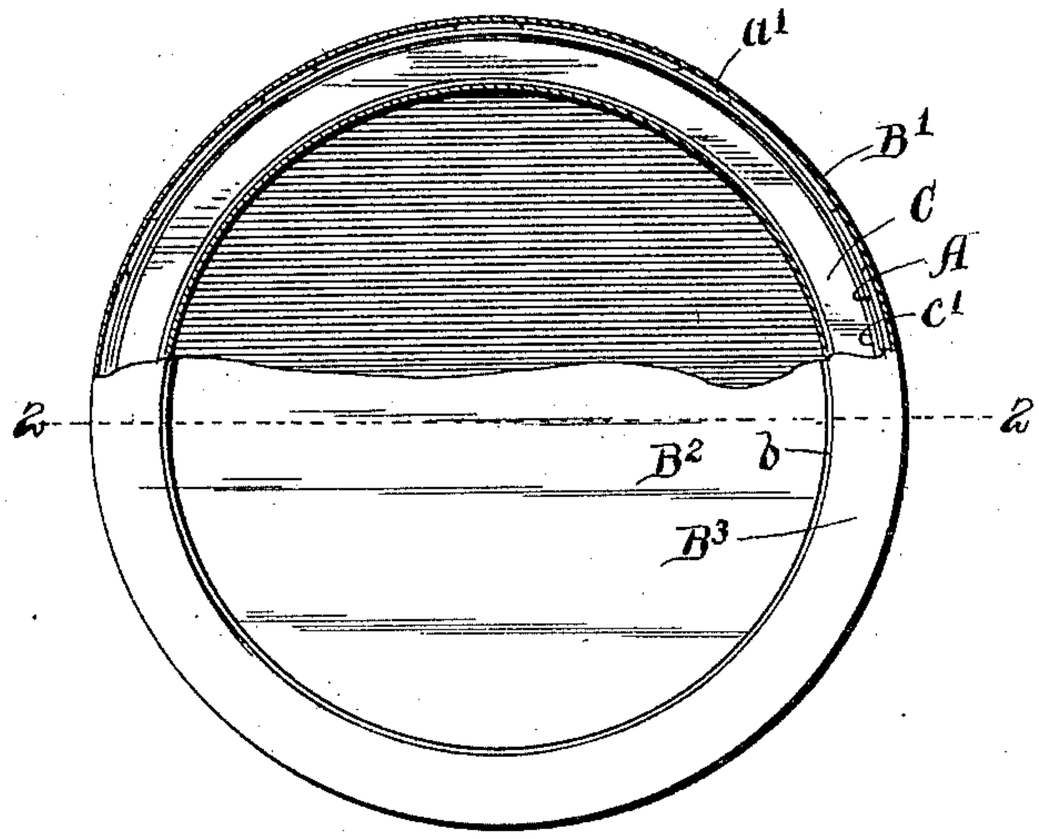


Fig 2

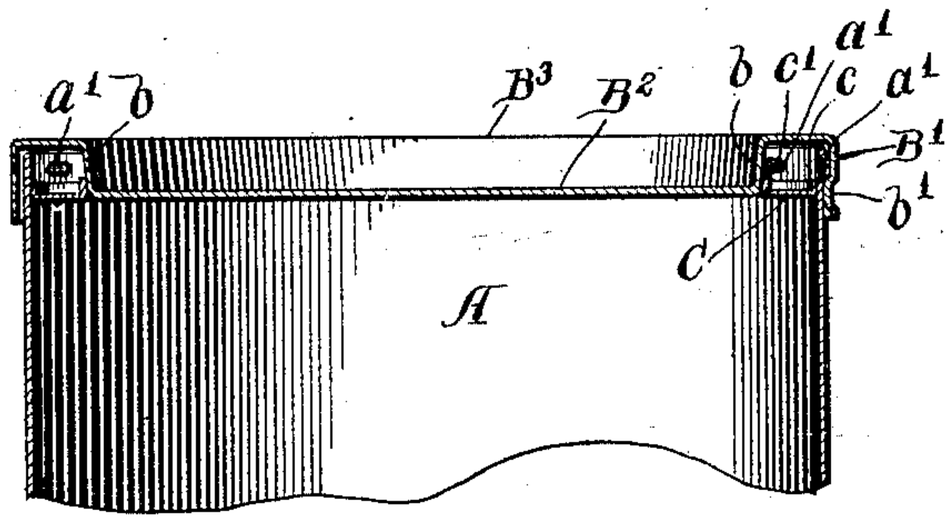


Fig 3

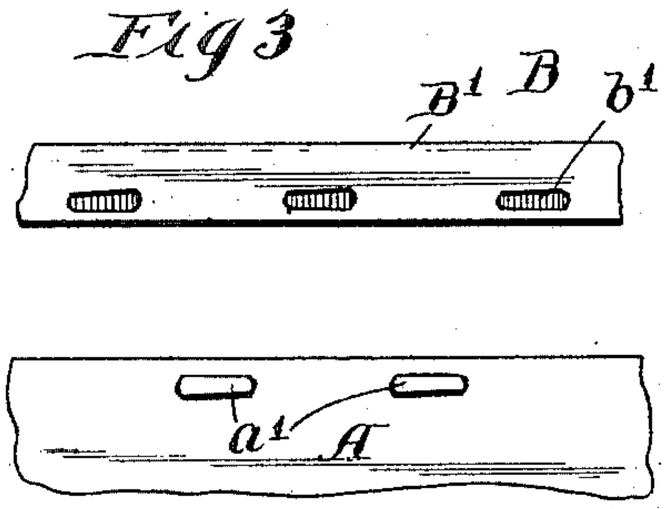


Fig 4

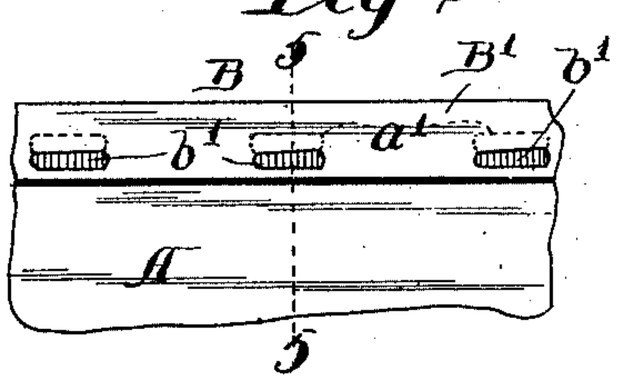


Fig 5

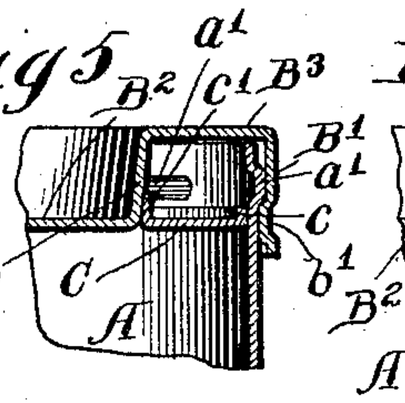
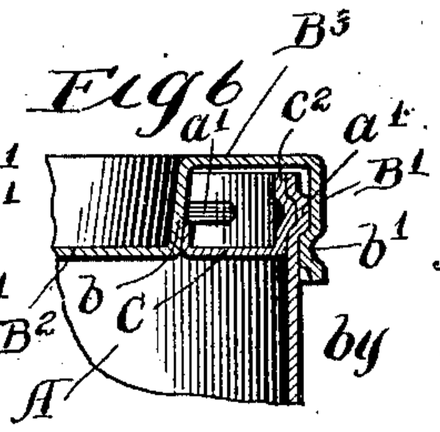


Fig 6



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UNITED STATES PATENT OFFICE.

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CAN.

SPECIFICATION forming part of Letters Patent No. 695,879, dated March 18, 1902.

Application filed April 29, 1901. Serial No. 57,906. (No model.)

To all whom it may concern:

Be it known that I, MAX GRANT, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cans; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in sheet-metal cans of that kind or class having removable tops or covers or in which the tops or covers are not permanently secured or soldered to the body of the can, but are detachably secured thereto, whereby said covers may be removed from the can-bodies to afford access to the contents of the can without cutting or destroying the covers or the metal of the can.

My invention may be more readily understood by reference to the accompanying drawings, in which—

Figure 1 is a top or plan view, partly in section, of the can constructed in accordance with my invention. Fig. 2 is a cross-sectional view of the top or upper part of the can, taken on line 2 2 of Fig. 1. Fig. 3 is an enlarged fragmentary view of the top or upper part of the can-body and the top or cover separated from each other, showing interlocking projections or ribs on the can body and top by which said parts are secured together. Fig. 4 is a similar enlarged view showing the top connected with the body. Fig. 5 is an enlarged cross-sectional view taken on line 5 5 of Fig. 4. Fig. 6 is a sectional view similar to Fig. 5, showing a slightly-modified form of construction in the parts.

As shown in said drawings, A indicates the can-body, and B the top or cover thereof.

C indicates a sheet-metal ring secured within the top of the body A a short distance below the upper edge or margin of said top and projecting inwardly from the wall of the body, so as to form an annular flange. Said ring C is secured to the inner surface of the wall of the can-body in any suitable manner, as by soldering, and to facilitate the formation of the joint between the said ring and the inner edge of the body the ring is shown as slightly upturned at its outer edge or provided with an upwardly-extending annular flange *c*, which rests in contact with and is soldered to the said wall of the can-body. Said flange *c* is, however, not essential, but, as above stated, is merely used for convenience of construction. At its inner margin said ring C is provided with an upturned flange *c'* of approximately cylindric form.

The cover B is provided at its outer margin with a depending cylindric flange or rim B', which overlaps the upper marginal part of the body A. The central portion B^2 of said cover B is depressed below its marginal part B^3, the depressed central portion being connected with the elevated marginal portion by means of a nearly vertical or cylindric annular wall *b*, which depends from the marginal part B^3 and which is made of such depth or width vertically that when the cover is placed on the can-body the lower portion of said wall *b* engages or fits within the upturned flange *c'* on the annular ring C, the construction being such that the said circular or annular depending wall *b* of the can-top will fit closely or tightly within the flange *c'*, and thereby form a tight joint when the cover is in place on the can. Preferably the depending part or wall *b* of the cover is made slightly conical in form or downwardly and inwardly inclined, so that when inserted within the flange *c'* it will become wedged within the annular flange *c'* in the same manner that a cork is wedged in the mouth of a bottle; but it is manifestly not necessary to produce this result that anything more than the lower portion of said wall *b*, which immediately engages the flange *c'*, should thus be made tapered or conical. While the central depressed part B^2 of the top B is shown as made flat, yet manifestly in its part within the wall *b* it may be made of convexly-curved form or any other shape that may be desired.

Devices are provided for locking the outer marginal rim B' of the top to the can-body as follows: Said rim B' is provided on its inner face with a series of inwardly-projecting separate circumferentially-arranged ribs or projections *b'*, while the upper marginal parts of the can-body are provided with a similar set of outwardly-extending ribs or projec-

tions a'. The ribs b' on the cover are slightly inclined on their upper surfaces, while the ribs a' on the body are slightly inclined on their lower surfaces, and the said ribs on the cover and body are so positioned or located with respect to each other that the ribs on the cover may be carried beneath and interlocked with those on the body by partially turning or rotating the cover on the body, it being obvious that in placing the covering on the body the ribs on the covers will pass between the ribs on the body and that when the cover is in place on the body, with the inner depressed portion thereof in tight-fitting engagement with the flange c', said ribs b' on the cover will come just below the ribs a' on the body.

As an economical and simple way of forming the ribs on the cover and body the same are shown as formed from the metal of the cover and body itself by pressing parts of the metal inwardly in the case of the cover, and outwardly in the case of the body, the operation of forming said ribs being accomplished by the use of dies in a familiar manner. In the construction shown in Fig. 5 the ribs a' are formed by extending or pressing outwardly the metal of the can-body above the ring C; but in the construction shown in Fig. 6 the outer margin of the ring C is provided with a flange c^2, which rises to the upper margin of the can-body, thereby making the upper edge of the can-body of double thickness from its upper edge downwardly to the ring C, and both thicknesses of metal are pressed outwardly to form the ribs a', thus making the ribs stronger and more rigid than would be the case if formed of a single thickness of metal. Ordinarily, however, said ribs will be sufficiently strong and rigid when made of a single thickness of metal, as illustrated in Fig. 5.

Manifestly, the cover of the can made as above described may be easily and quickly applied and removed, the cover being placed on the can, pressed downwardly as far as permitted by the binding of the central depressed portion thereof within the upturned flange c', and then turned a short distance, so as to produce the desired interlocking engagement of the ribs a' and b' on the cover and body. To detach the cover, it is merely necessary to turn the same backward a short distance until the interlocking ribs are disengaged and then lift the cover from the body.

It is manifest that in a can such as is above described when closed an air or liquid tight joint will be formed between the depending wall b of the cover and inner margin of the ring C and that the joint thus formed is alone relied upon to make the can air or water tight, while the interlocking of the rim B' with the body of the can serves to secure the top or cover in place on said body and to hold the said wall b in tight-fitting engagement with the flange c'.

The can shown is of cylindric form from top to bottom; but manifestly it may be of other shape or its upper annular margin, to which the cover is applied, may be smaller than the body of the can—as, for instance, the body of the can may be square and have a flat top, and the upper margin of the can, to which the cover is secured in the manner described, may have the form of an annular cylindric flange rising from said flat top around the opening or orifice therein.

The can herein shown, as above described, is especially useful for holding paint or similar manufactured commodity where it is desirable that the cover should be secured strongly in place and may be readily detached, while at the same time affording a tight joint between the can body and cover to prevent a leakage of the contents of the can.

I claim as my invention—

1. The combination with a can-body provided at its upper margin with an inwardly-extending ring which is provided at its inner margin with a short raised flange having an upwardly-directed free edge, of a top having inside of its outer margin a downwardly-directed annular wall fitting closely within said raised flange and having a marginal rim which overlaps and has interlocking engagement with the upper margin of the can-body.

2. The combination with a can-body provided at its upper margin with an inwardly-extending ring having at its inner margin a short raised flange approximately cylindric in form and having an upwardly-directed free edge, of a cover provided with a marginal rim which extends downwardly over and has interlocking engagement with the upper margin of the can-body, with a horizontal part which extends inwardly from the top edge of said rim and with a downwardly-extending conical part which fits within said raised flange.

3. The combination with a can-body provided below its upper margin with an inwardly-extending ring which is provided at its inner margin with a short raised flange, of a top having inside its outer margin a downwardly-directed annular wall fitting closely within said raised flange and provided with a marginal rim which overlaps the upper margin of the can-body, and interlocking projections and recesses on the can-body and rim located above said ring.

4. The combination with a can-body provided at its upper margin with an inwardly-extending ring which is provided at its inner margin with a short raised flange, of a top having inside of its outer margin a downwardly-directed annular wall fitting closely within said raised flange, and having a marginal rim which overlaps the upper margin of the can-body, and locking means on the can-body and rim consisting of a plurality of circumferentially-separated ribs having oblique contact-surfaces.

5. The combination with a can-body provided below its upper edge with an interior inwardly-projecting ring having at its inner

margin a short raised flange, of a cover provided inside of its outer margin with an annular wall which fits closely within said raised flange and having a depending marginal rim which extends around and embraces the upper part of said body, said can-body and the flange of the cover being provided with interlocking circumferentially-arranged ribs integral with the metal of the can-body and cover said ribs extending outwardly from the can-body above said ring and inwardly from the depending rim of the cover.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 24th day of April, A. D. 1901.

MAX GRANT.

Witnesses:
MARGUERITE GRANT,
HEDWIG SCHUETTE.