W. J. WERNER.

METAL CONTAINER.

APPLICATION FILED FEB. 6, 1913.

1,082,783.

Patented Dec. 30, 1913.

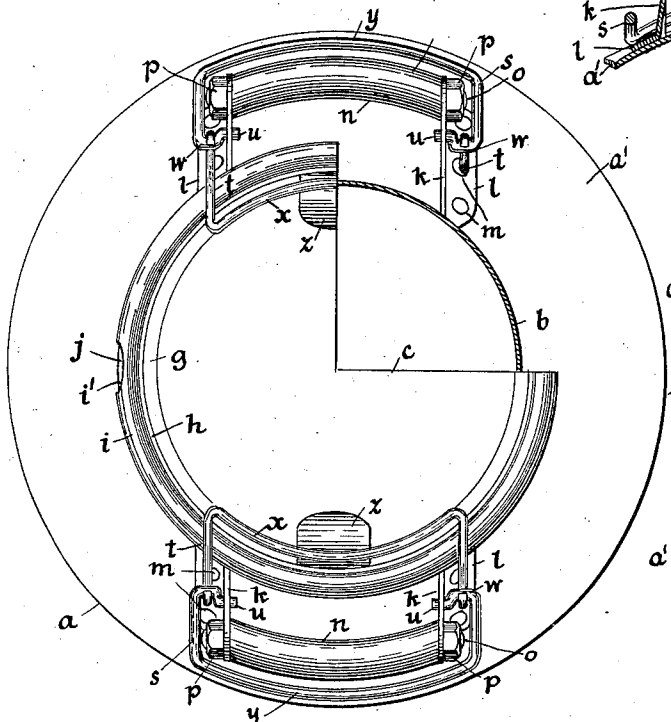


Fig. 1



Fig. 6



Fig. 5

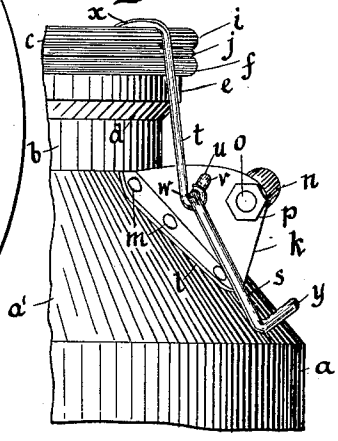


Fig. 4

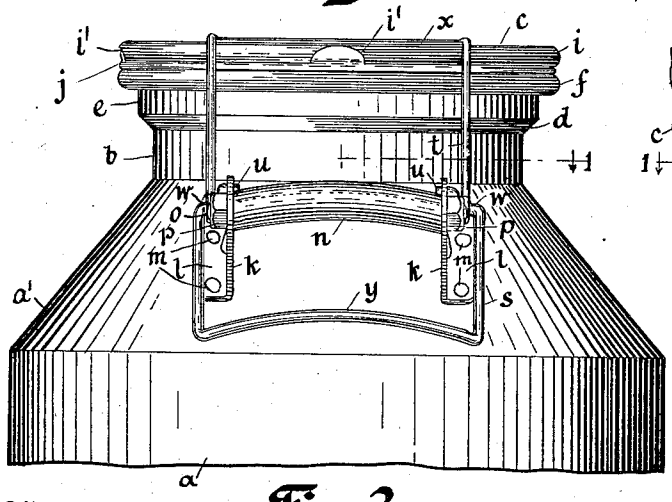


Fig. 2

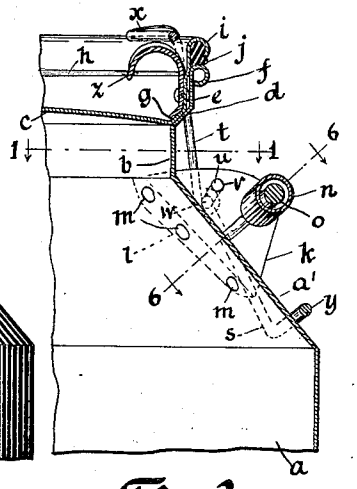


Fig. 3

Witnesses

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METAL CONTAINER.

1,082,783. Specification of Letters Patent. Patented Dec. 30, 1913.

Application filed February 6, 1913. Serial No. 746,479.

To all whom it may concern:

Be it known that I, WILLIAM J. WERNER, of Kiel, Wisconsin, have invented a Metal Container, of which the following is a specification.

This invention relates to metal containers or cans of the class used for transporting and shipping milk, and the objects which I have in view are, first to improve the form of cover-seal illustrated in my United States Patent 1,027,021, issued May 21, 1912; secondly, to provide an improved form of handle; and thirdly to provide a combined handle and cover-lock which shall have the advantages of low cost of manufacture, facility of access in operation, great strength, and freedom from holes or crevices where dirt may accumulate.

Cans used to contain milk should be made with a view to greatest facility of cleaning and least possibility for the existence of crevices or unevennesses of surface in which particles of fat or other materials can lodge, and beyond these requirements a can requires a good cover-seal which will protect the metal from wear and consequent rust, and at the same time prevent the milk from leaking past or slopping over in the transportation of the can. In my aforesaid patent I have described such a cover-seal, in connection with a seamless can; but I have found that some objections exist to the use of the cylindrical rubber sealing-gasket used for a seal in my aforesaid patent, and largely because it leaves a crack or crevice between itself and the can in which dirt may lodge, and because no means are provided for removing it so that it can be cleaned or replaced by a new one. Furthermore, for cans which have to be shipped by rail it is desirable to avoid elements which project above the cover of the can as do the standards supporting the lock of my aforesaid patent.

In my present invention I provide, first, a rubber sealing-gasket of special form which is shaped to conform with that portion of the edge of the can upon which it is placed so as to leave no crevices between them, and furthermore is shaped to provide a large cushioning surface and greater resiliency, so that unevennesses or irregularities or dents in the upper edge of the can can be taken up by the elasticity of the gasket; secondly, I provide a finger-notch in the retaining roll of the can-cover whereby the gasket can be readily removed; thirdly, I provide an improved form of sealing-face between the cover and the can; fourthly, I provide a novel form of lock or fastening disposed upon the body of the can, but so disposed thereon that in the locked position there shall be no projection beyond the contour of the can; fifthly, I provide a novel form of handle in conjunction with said lock; and sixthly, I provide handle-ears for the can-cover which are depressed below the top of the latter so that they cannot become readily knocked in transit and do not interfere with placing one can upon another.

My invention will best be understood from the following detailed specification of the most improved form thereof, taken in connection with the accompanying drawings, wherein—

Figure 1 is a plan of the can complete, the upper right-hand quadrant thereof being sectioned upon the plane 1; Fig. 2 is a front elevation of the upper part thereof; Fig. 3 is a fragmentary axial section thereof in a plane at right angles to Fig. 2 on one side only of the can; Fig. 4 is a fragmentary elevation of one side of the upper part of the can projected on a plane at right angles to Fig. 2; Fig. 5 is a perspective view of a portion of the sealing-gasket shown in transverse section; and Fig. 6 is a transverse section through the can-body in the plane of the handle, being taken on the oblique plane 6.

In these drawings each reference letter or numeral refers to the same part wherever used.

I have illustrated in the drawing a can having a body *a* and a contracted neck *b* which at the top is flared to provide surfaces which coact with the cover *c* to form a seal; said surfaces comprising an inverted conical shoulder *d*, above which is the parallel portion *e*, which ends in a cylindrical roll *f*. The cover *c* fits within the cylindrical portion *e*, being provided with an oblique conical face *g*, which is parallel to and coacts with the internal surface of the shoulder *d*; and above this the cover *c* has on its margin a slight annular jog or offset *h* which is for the purpose of centering the cover against the inner face of the cylindrical portion *e* without permitting friction and abrasion between the two surfaces. The upper edge of the cover *c* is formed with an annular roll *i*, which is only partly closed, and is adapted to clasp and hold an

elastic annular sealing-gasket j, this sealing-gasket constituting an important element of my invention and being shown in section in Fig. 5. It will be seen that said sealing-gasket is provided with an upper enlarged head-portion j' which is adapted to be retained within the partially closed roll i, and a projecting portion j^2 which is adapted to be compressed or squeezed quite freely between the rolls i and f and therefore, having a wide margin of compressibility (which may be varied by increasing or diminishing the depth of the portion j^2), may provide for irregularities or unevennesses of the edge in a much more satisfactory way than would be the case were the gasket of simple circular section. Furthermore, it will be noted that the gasket is provided with a downwardly extending heel or cusp j^3 which grips against the face of the cylindrical portion of the can-cover, and thereby prevents any crevices from existing between the two, and prevents fluids from getting between them. To enable the gasket to be readily removed from the roll i, the latter is formed with a cutout portion or notch i' in one side thereof. This is shown in both side and front view in Fig. 2, but it is to be understood that only one is necessary.

In the present case, as hereinabove indicated, I have devised a combined seal lock and can-handle, the same comprising a pair of upright standards k which have flanges l by which they are secured to the conical portion a' of the can by means of rivets m. These two standards k support a curved tubular handle n, through which passes a curved bolt o, which is a rod threaded on both ends and provided with nuts p; said bolt passing also through holes q in the ends of the standards; so that when the handle n is in place and the bolt o passed through said handle and the holes q, the nuts p being screwed on hold the handle and standards firmly in position. The metal on the edges of the holes q is turned up inwardly to form flanges r on each end of the handle which project inside it, as clearly shown in Fig. 6. The standards k also serve as pivot-supports for the locking-elements, said locking-elements comprising a bail-shaped wire s and a second bail-shaped wire t. The wire s has its ends turned inwardly as shown at u, these inturned ends serving as fulcra or pivots for the member s, which constitutes a lever and turns in holes v in the standards k. Near these pivot-ends there are formed horizontal trunnions w, around which the ends of the wire t are turned as shown. The middle portion of the wire t is bent inwardly as shown at x so as to enable the wire to grip over the edge of the cover, and the respective positions of the pivots v and the trunnions w are such that when the wire-lever s is turned down into the locking-position which is shown in the drawings, the line of reaction of the trunnions w lies slightly inside the pivotal axis, thereby holding the lever firmly down upon the conical face of the can. The middle portion y of the bail-shaped lever is slightly raised from the can in the center as shown, so as to enable it to be readily grasped by the fingers in order to unlock the cover, and it will be seen that it is so placed as not to project beyond the periphery of the can in the locking position.

There are, as shown in Fig. 1, ordinarily two sets of combination handles and locks, disposed on opposite sides of the can, but I do not limit myself to any particular number.

In order to enable the can-cover to be readily handled in removing and replacing, I provide on opposite sides a pair of recurved handle-ears z which are so placed as to be below the upper edge of the can and have the advantage of not leaving any crevices not readily accessible.

It will be understood that in operation the two coacting conical faces d and g will, when the cover is placed on the can not come in contact until the gasket has been compressed by means of the locks, which force the cover down upon the can-mouth and thus bring the two conical faces into contact. In this latter position the extended faces and close fit prevent any of the liquid from rising above them, but when not locked, the cover is still effectively sealed so that the liquid cannot be spilled out of the can.

Various changes and modifications in the constructions as herein shown may be made without departing from the spirit of my invention, and I wish it understood therefore that the latter is not otherwise limited than by the proper scope of my claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A cover seal for cylindrical vessels comprising, on the mouth of the vessel, an inverted extended conical shoulder, a cylindrical portion extending from the outer edge of said shoulder upwardly, and a roll on the upper edge of said cylindrical portion; and on the cover, an inverted conical face having the same angle as and adapted to be seated on said shoulder, a cylindrical portion extending upwardly therefrom, and an annular compressible gasket at the top in position to be seated upon said roll; said gasket being so disposed with respect to said roll that when seated but not compressed thereon said face and shoulder are just out of contact but very close together; and clamping devices adapted to compress said gasket and bring said conical face and shoulder into contact.

2. In a container, in combination with the can-mouth having a rolled edge, a cover having a partially closed roll formed upon its edge and adapted to be disposed immediately over the rolled edge of the can-mouth, said roll being more than a semicircle in cross-section; and a resilient annular gasket having an enlargement or bead adapted to fit within said roll and a cushion-portion extending below said bead and adapted to be compressed between said roll and said rolled edge.

3. In a container, the combination of a can-mouth having a rolled edge and a cover adapted to fit within said rolled edge, said cover having disposed on its edge a partially closed roll of more than a semicircle in cross-section; and a resilient annular gasket adapted to fit within said roll and held in place thereby and having on its inner lower edge a projecting heel or cusp which grips the surface of said cover.

4. In a container, in combination with the can-mouth having a rolled edge, a cover having a partially closed roll formed upon its edge and adapted to be disposed immediately over the rolled edge of the can-mouth, said roll being more than a semicircle in cross-section; and a resilient annular gasket having an enlargement or bead adapted to fit within said roll and a cushion-portion extending below said bead and adapted to be compressed between said roll and said rolled edge, said gasket having further on its lower edge a heel or cusp which grips the face of said cover.

5. In a container, the combination of a can-mouth having a rolled edge and a cover adapted to fit within said rolled edge, said cover having disposed on its edge a partially closed roll of more than a semicircle in cross-section; and a resilient annular gasket adapted to fit within said roll and held in place thereby, said roll having at one point thereof a notch permitting the insertion of the finger for removing said gasket.

6. In a container, in combination with the can-mouth having a rolled edge, a cover having a partially closed roll formed upon its edge and adapted to be disposed immediately over the rolled edge of the can-mouth, said roll being more than a semicircle in cross-section; and a resilient annular gasket having an enlargement or bead adapted to fit within said roll and a cushion-portion extending below said bead and adapted to be compressed between said roll and said rolled edge, said gasket having further on its lower edge a heel or cusp which grips the face of said cover, and said roll having at one or more points a notch permitting the insertion of the finger above the gasket for removing it from said roll.

7. In a metal-container, the combination with a cup-shaped cover having a depressed bottom and a raised encircling margin of a handle-ear secured to the inner periphery of the surrounding margin of said cover and depressed below the edge thereof.

8. The combination of a can, a pair of standards mounted thereon and extending outwardly therefrom, and a tubular handle-bar extending between and bridging said standards; each of said standards having a hole or perforation opposite the end of said bar and the metal thereof turned up to form an annular flange which extends within the hollow of said bar; a bolt extending through said bar; and a pair of nuts mounted on the ends of said bolt and securing said bar and standards together.

In witness whereof I have hereunto set my hand this 3 day of Feb. 1913.

WM. J. WERNER.

Witnesses:
WALLACE R. JOHNSON,
P. O. SCHUBERT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."