G. H. SCHWARZ AND M. VINTSCHGER.

CONTAINER, &c.

APPLICATION FILED MAR. 19, 1918.

1,314,708. Patented Sept. 2, 1919.

Fig. 1.

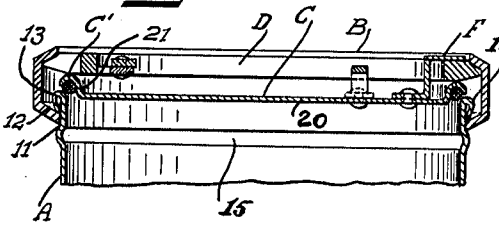


Fig. 3.

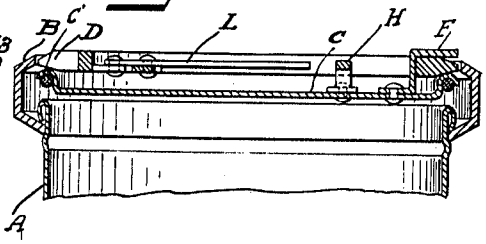


Fig. 2.

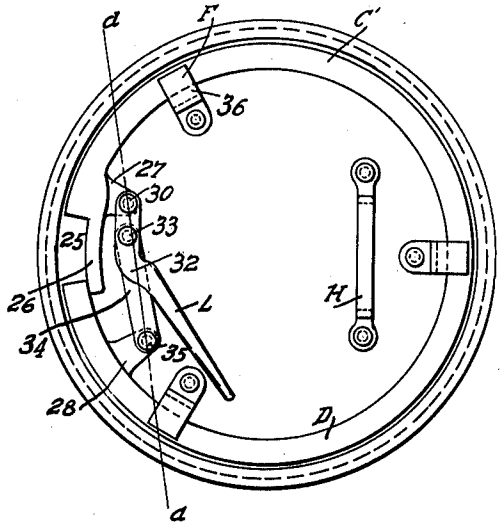


Fig. 4.

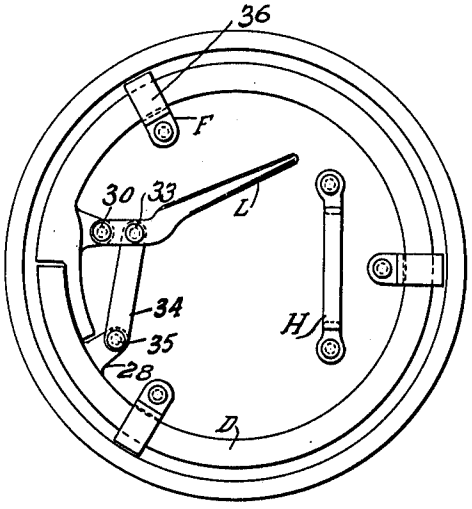
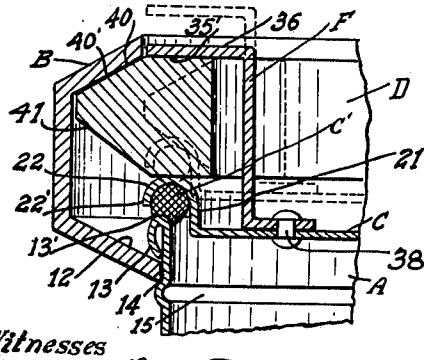


Fig. 5.



Witnesses

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By their Atty F. W. Richards.

UNITED STATES PATENT OFFICE.

GOTTHILF H. SCHWARZ, OF BROOKLYN, NEW YORK, AND MAX VINTSCHGER, OF RIDGEWOOD, NEW JERSEY, ASSIGNORS TO THE POLE AND TUBE WORKS, INC., OF NEWARK, NEW JERSEY, A CORPORATION OF NEW JERSEY.

CONTAINER, &c.

1,314,708. Specification of Letters Patent. Patented Sept. 2, 1919.

Application filed March 19, 1918. Serial No. 223,447.

To all whom it may concern:

Be it known that we, GOTTHILF H. SCHWARZ, a citizen of the United States, residing at #125 Enfield street, Brooklyn, in the county of Kings and State of New York, and MAX VINTSCHGER, a citizen of the United States, residing at Ridgewood, in the county of Bergen, New Jersey, have invented certain new and useful Improvements in Containers, &c., of which the following is a specification.

The objects of our invention are to provide a container of can, barrel or drum form, the head-portion of which while easily and quickly removable, when in position and locked therein, will close such container, etc., air-tight with an annular chime-joint; through a locking mechanism contained within the top central dished cover-portion; all of such mechanism being of exceedingly cheap and simple form of construction and operation; and such parts as have a tendency to wear, or deterioration, through age or much operation, are all quickly and easily renewable at a minimum cost. While not limited to such use our container herein shown, described and claimed is more especially designed and adapted for use as a container for dry powdered materials of any and all characters, which it is necessary to protect from contact with the free atmosphere, water, and atmospheric humidity; but in its practical application our invention is more particularly designed for use in forming metallic barrels or drums of the usual commercial sizes and forms.

Our said invention is shown, described and claimed, in the following specification, of which the accompanying drawing forms a part, wherein similar letters or numerals of reference designate like or equivalent parts throughout the several views; and in which—

Figure 1 is a side-view in central vertical section of the top portion of one of our improved containers, of the cylindrical barrel or drum form showing our improved removable air and moisture-proof top in the fully closed and locked position therein;

Fig. 2 is a top-plan view of Fig. 1, showing the locking and sealing mechanism in the fully closed and locked position.

Fig. 3 is a side view in the same vertical central section as Fig. 1, showing the locking mechanism in the top-unlocking and releasing position; and

Fig. 4 is a top-plan view similar to Fig. 2, showing the locking mechanism in the unlocked and releasing position, shown in Fig. 3.

Fig. 5 is a view in detail on an enlarged scale, of a side-portion of Fig. 1, showing in full-lines the cover in the closed and locked-position, and in dotted lines the same in the unlocked and partially released position, ready to be lifted up and out of the container, etc., so as to fully uncover the same, and so as to give access thereto over the full top surface area, for purposes of inspection, removal, etc., of the contents.

Referring to the drawing:—

In the particular embodiment of our invention herein disclosed, (to which however we do not intend to limit ourselves) the reference letter A, designates the main or body portion of the container, shell usually of sheet steel in the form of a hollow cylinder, spun, struck-up or formed into shape by any suitable process and apparatus; and closed at the bottom (not shown) in any desired manner; but this closing of the bottom not being part of our invention, we have not deemed it essential to show the same herein.

As shown in the drawing the cylindrical sheet-steel body portion A of the receptacle, is provided at the top with an annular inwardly chamfered or channeled securing chime-ring B which answers in its shape and functions to the ordinary interiorly annularly channeled or chamfered end chime-ring portion of an ordinary barrel of wood.

This securing annularly channeled chime-ring B, is usually of steel, cast, rolled or bent up into proper form, usually of that shown; and is secured to the upper open end of the main cylindrical body portion of the receptacle at its lower edge in any suitable manner, which will make the annular joint between such body portion A, and chime-ring B, an air tight joint 11. One of the ways in which such joint may be made so, as shown in detail in Fig. 5, is by slipping the chime-ring B down over the upper end of the cylindrical casing body-portion A, and then swaging the upper annular end portion backward into the annular outwardly flaring central channel of such chime-ring, in the form

of a flattened-coil 13, so as to contact at the lower outer edge of the coil with the downwardly flaring inner-face 12 of the lower part of said chime ring at the base of the coil 13; and the joint between the extreme edge of the ring B, (indicated by 14) is further made air and moisture proof tight by extremely tight outward forcing of the annular wall of the casing against such edge, and also if necessary the parts are further locked in place by the swaging outward underneath the outer inclined wall edge 14, of an annular-bead 15 formed in the receptacle-wall, whereby upward or downward slipping movement of the chime-ring B on the receptacle is absolutely prevented; and such joint may be further made tight by soldering, electric welding, or in any other suitable and desired manner.

The annular top of the backwardly outwardly peripherally turned securing-coil 13, forms an annular gasket-seat 13′, contacting with the annular resilient gasket-ring C′ of the cover C, when the two are forced together, as shown in Fig. 5 of the drawing to form an air and moisture-proof joint.

The cover C is also usually struck up, drawn, or formed in any other desired manner, of any suitable sheet material, usually sheet steel; and comprises a substantially flat circular interior bottom central portion 20; provided with an upwardly extending peripheral annular wall portion 21, which is outwardly and downwardly peripherally curved at the top into the open bottom annular gasket-ring retaining-coil 22; being just sufficiently inwardly curved at its lower outer peripheral edge 22′, to retain therein against accidental outwardly downward displacement, the gasket-ring C′, usually and preferably formed of pure and resilient elastic Para-rubber or other like highly resilient elastic soft, compressible material, which will not be deteriorated by contact with the contents of the receptacle or container, of whatever chemical composition. The gasket-ring C′ is an endless ring and usually of the cylindrical form in cross section clearly shown in Fig. 5, but when the gasket-ring retaining-coil 22, is of other form than semi-circular such gasket is made to conform to the shape thereof; but in any event the construction is such that such gasket ring C′ although firmly held in position in the retaining coil against accidental displacement by the combined resiliency of both gasket-ring and gasket retaining-coil may be removed and a new one inserted in place thereof easily and quickly.

Carried and supported by the cover C, above the gasket-ring retaining-coil 22, and with its bottom inclined face resting on the annular top of such gasket retaining coil, is the annular expansible cover locking ring D formed of any suitable material, usually of resilient spring steel, and in cross-section of the substantially wedge shaped form shown in Figs. 1, 3 and 5, with the point of the wedge peripherally directed outward.

As shown in Figs. 2 and 4 such cover locking-ring D is provided with the vertical split-joint or cut 25 on one side thereof to permit of the peripheral expansion or contraction of such ring; and the same is provided on one side of such split-joint 25 with a guiding tail or lap-tongue 26 interiorly closing such slit or split-joint whether the same be open or closed, and which, through engagement with the interior edge of the adjacent end of the locking-ring D, compels the locking-ring D, to expand truly circularly in its engagement with the inner annular channel of the chime-ring B, and such lap-tongue 26 is provided at its base with an interiorly extending throw-lug 27; while the opposite and opposing end of the locking-ring D is provided beyond the split-joint 25 with a like interiorly extending throw-lug 28.

Pivoted at its inner end by a pivot-bolt 30 to the throw-lug 27 is the manually operated horizontally swinging lock-lever L, to which is pivoted just inwardly of the adjacent pivot bolt by way of the inwardly offset curved rear-portion 32, of such lock-lever L, by means of the pivot bolt 33, the lock-lever connecting-rod 34, pivoted at its other end by the pivot-bolt 35, to the throw-lug 28.

And it will be seen by this particular construction of such compound-lever locking-mechanism (as clearly shown in Figs. 2 and 4) when the hand-lever L is thrown to the outward peripheral and ring locking position, (Fig. 2) the pivot bolt 33 being then thrown peripherally outward beyond the line *a*—*a* of Fig. 2, passing through the center of the pivot bolts 30 and 35, that the entire locking mechanism will when in such position, be automatically locked against any accidental displacement; and practically cannot be forced to the open and unlocked position shown in Fig. 4, save purposely and by hand.

As shown in Fig. 5, the expansible securing-ring D is provided with the top, flat securing face 35′ at its rear and inner edge, over which extends the outwardly projecting upper securing-lugs 36, of the securing-brackets F, (usually three in number as shown in Figs. 2 and 4) secured to the bottom of the cover C by rivets 38.

The play of the ring D up and down beneath the brackets F is somewhat loose; so that the expanding and contracting movement thereof, in locking and unlocking is not interfered with; and when thrown outward to locking position (as shown in full-lines of Fig. 5) the upper downwardly inclined peripheral locking-face 40, coming in

sliding contact with the coacting upper inwardly and upwardly inclined slide-face 40′ of the inner annular channel or chamfer of the chime-ring B, will cause the lock-ring D to bodily descend in such manner that the lower inclined face 41 thereof, as it moves diametrically outward, will press the gasket-ring retaining-coil 22 bodily downward from the position shown in dotted to that shown in full lines in Fig. 5; thus bodily vertically forcing down the cover C so as to form an air-tight joint between the resilient gasket-ring C′ and the annular top-coil 13 of the receptacle body A, at all points. The brackets F, by contact with the inner edge of the locking-ring D, also act as guides to prevent undue contraction of the locking-ring D, and departure from its circular form.

In order to facilitate the lifting off of the cover C, when in the unlocked position shown in Figs. 3 and 4, a suitable handle H secured within the dished central portion of the cover is usually provided; and all the locking mechanism is contained within the dished portion of the cover; and when in the locked-position there is no projection of any of the mechanism beyond the outer edge of the outer securing channeled chime-ring B; which thus protectingly guards the same against accidental displacement during shipment, storage and handling.

We claim:

1. A container comprising a cylindrical body-portion open at the top, an inwardly annularly channeled chime-ring forming an extension of said body-portion and extending above the top line thereof, an annular seal-seat located at the top line of the body-portion of the container, a removable cover insertible in the chime-ring, an expansible locking-ring having a split-joint and supported by said cover for engaging the annular channel of the chime-ring and having at one split-joint end a tail-guide for engaging the adjacent split-joint end of the locking-ring to expand the locking-ring circularly, and means carried by the cover for expanding and contracting the locking-ring and for locking the cover in position closing the container.

2. A container comprising a cylindrical body-portion open at the top, an inwardly annularly channeled chime-ring forming an extension of said body-portion and extending above the top line thereof, an annular seal-seat located at the top line of the body-portion of the container, a removable cover insertible in the chime-ring, an expansible locking-ring having a split-joint and supported by the cover for engaging the annular channel of the chime-ring and having at one split-joint end a tail-guide to expand the locking-ring circularly and to seal the split-joint when the locking-ring is expanded, and means carried by the cover for expanding and contracting the locking-ring and for locking the cover in position closing the container.

3. A container comprising a cylindrical body-portion open at the top, an inwardly annularly channeled chime-ring forming an extension of said body-portion and extending above the top line thereof, an annular seal-seat located at the top line of the body-portion of the container, a removable cover insertible in the chime-ring, an expansible locking-ring having a split-joint and secured to the cover for engaging the annular channel of the chime-ring and having at one split-joint end a tail-guide to expand the locking-ring circularly, securing-brackets on the cover engaging the locking-ring to prevent lifting thereof and to prevent undue contraction of the locking-ring from circular form, and means carried by the cover for expanding and contracting the locking-ring and for locking the cover in position closing the container.

4. A container comprising a cylindrical body-portion open at the top, an inwardly annularly channeled chime-ring forming an extension of said body-portion and extending above the top line thereof, an annular seal-seat located at the top line of the body-portion of the container, a removable cover insertible in the chime-ring, a gasket-ring secured to the under side of the outer edge of the cover and engageable with said seal-seat, an expansible locking-ring having a split-joint and supported by the cover and engageable with the annular channel of the chime-ring and having at one split-joint end a tail-guide, securing-brackets on the cover for the locking-ring, and means for expanding and contracting the locking-ring and for locking the cover in position closing the container.

5. A container comprising a cylindrical body-portion open at the top, an inwardly annularly channeled chime-ring forming an extension of said body-portion and extending above the top-line thereof, an annular seal-seat located at the top line of the body-portion of the container, a removable cover insertible in the chime-ring, a gasket-ring secured to the under side of the outer edge of the cover and engageable with said seal-seat, an expansible locking ring supported by the cover having a split-joint and having an outer edge of wedge-point shape in cross-section and engageable with the annular channel of the chime-ring and having at one split-joint end a tail-guide, securing-brackets on the cover for the locking-ring, and means for expanding and contracting the locking-ring and for locking the cover in position closing the container.

6. The combination, with a container having a body-portion with a cylindrical cir-

cularly walled port or opening, of a chime-ring on the container-body having an inner annular channel with its upper inner wall-face upwardly and inwardly inclined, a cover adapted to be inserted in the chime-ring, an annular locking-ring peripherally carried by the cover having a split-joint end for engaging the inner edge of the adjacent split-joint end of the locking-ring and having an annular face-portion of wedge-point shape in cross-section coacting with the inclined wall-face of the annular channel of the chime-ring, securing-brackets on the cover for the locking-ring, an outwardly faced annular seal-seat peripherally walling the port, a gasket-ring secured to the cover on the under side adjacent to the periphery adapted to coact with the seal-seat, and means carried by the cover for expanding and contracting said locking-ring and for locking said cover; said means comprising a connecting-rod pivotally connected at one end to the locking-ring adjacent to one split-joint end thereof and pivoted to a manually actuated lever and pivoted at the other end to the locking-ring at a point beyond the other split-joint end thereof.

7. In a container of the character described the combination, with a removable cover having an annular peripheral gasket retaining recessed portion at the bottom, of a gasket-ring of soft resilient, elastic material located in said retaining-recess, an expansible split-locking-ring carried at the peripheral edge of the cover above the gasket-retaining recess and having a tail guide at one split-joint end for engaging the adjacent split-joint end of the locking-ring, and means for expanding and locking the locking-ring in expanded position.

8. In a container of the character described the combination, with a removable inwardly dished cover, of a peripheral expansible locking-ring having a split-joint and being of outwardly pointed wedge-shape in cross-section and having a tail-guide at one split-joint end for engaging the adjacent split-joint end of the locking-ring, brackets on the cover to permit of expansible and contractible movement of the locking-ring, and means for expanding and locking the locking-ring in expanded position.

9. In a container having a cylindrical body-portion open at the top and having a chime-ring and a cover insertible in the chime-ring and means for expanding and contracting a locking-ring, an expansible locking-ring carried by the cover having a split-joint with a tail-guide at one split-joint end for engaging the adjacent split-joint end to expand the locking-ring circularly.

10. In a container having a cylindrical body-portion open at the top and having a chime-ring and means for expanding and contracting a locking-ring, the combination of a cover insertible in the chime-ring and an expansible locking-ring carried by the cover, the locking-ring having a split-joint with a tail-guide at one split-joint end for engaging the adjacent split-joint end to expand the locking-ring circularly, and the cover having brackets thereon for engaging the locking-ring to prevent undue contraction of the locking-ring.

In witness whereof we have hereunto set our hands, at the borough of Manhattan, county, city, and State of New York, this 16th day of March, 1918.

GOTTHILF H. SCHWARZ.
MAX VINTSCHGER.

Witnesses:
C. LADD-DAVIS,
H. I. SIEGEL.