

(No Model.)

F. C. J. ROENNAU.
MILK CAN OR ANALOGOUS RECEPTACLE.

No. 526,460.

Patented Sept. 25, 1894.

FIG. 1.

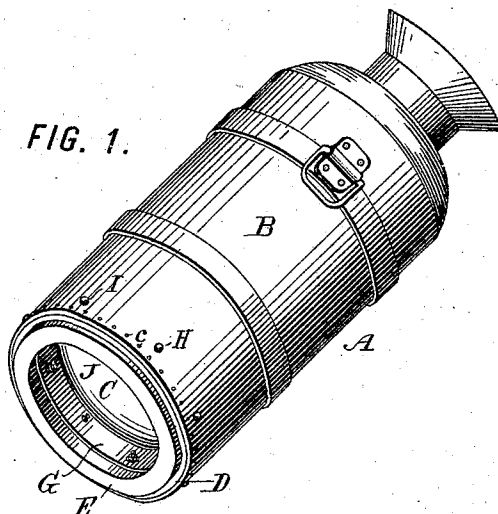


FIG. 2.

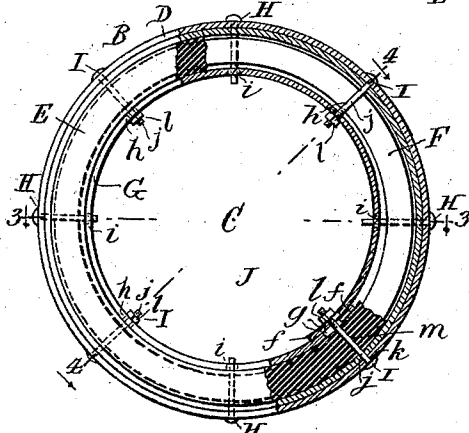


FIG. 3.

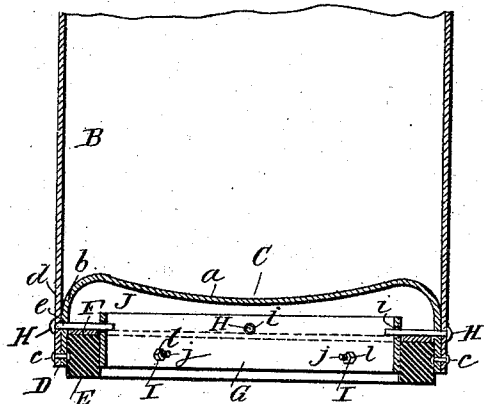


FIG. 5.

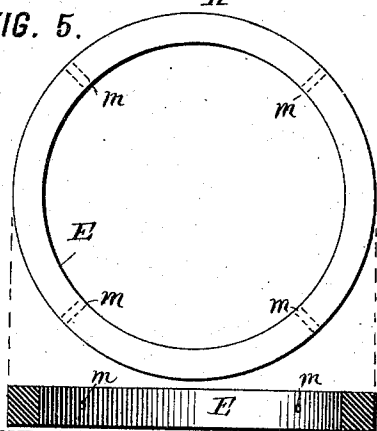
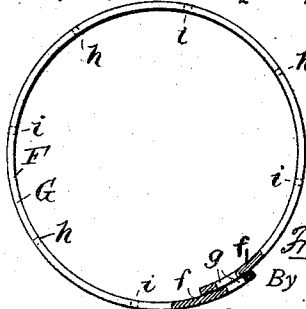


FIG. 4.



FIG. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MILK-CAN OR ANALOGOUS RECEPTACLE.

SPECIFICATION forming part of Letters Patent No. 526,460, dated September 25, 1894.

Application filed July 18, 1894. Serial No. 517,908. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK C. J. ROENNAU, a citizen of the United States, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Milk-Cans or Analogous Receptacles, of which the following is a specification.

This invention relates to milk cans and other portable receptacles, and is designed to provide certain improvements in such articles which will be hereinafter fully set forth.

Heretofore milk cans have been constructed with cylindrical bodies, to the bottoms of which have been riveted inwardly bulging flanged heads, whereby the lower end of the can consists of an annular edge composed of the metal of the side and bottom pieces, and a slight hollow within this edge. In handling such cans it is frequently customary to drop them with much violence on the pavement, and in transporting them it is usual to stand them side by side on the floors of wagons. The violent shock to which they are subjected necessitates much strength of construction, and consequently so great a weight of metal is employed that the cans are unduly heavy. When transported in wagons, the jarring of the cans not only wears away the wagon floor, but also causes much disagreeable noise. To overcome these disadvantages there has been provided a rubber or spring cushion for the bottom of such receptacles, which served also as a sound deadener therefor. The cushion tempers the shocks due to dropping the cans, diminishes the wear on the cans, and the wear by the latter on the wagon floors, and the sound deadener prevents vibration and greatly diminishes the noise incident to transportation of the cans.

My present invention provides certain improvements in the application of such cushions to the cans which will be hereinafter fully set forth.

In the accompanying drawings, which illustrate the preferred form of the invention, Figure 1 is a perspective view of a milk can provided with my improvements. Fig. 2 is a bottom plan view thereof partly in horizontal section and showing part of the rubber broken away. Fig. 3 is a fragmentary axial section thereof cut on the line 3—3 in Fig. 2 and

looking in the direction of the arrow. Fig. 4 is a fragmentary axial section thereof cut on the line 4—4 in Fig. 2 and looking in the direction of the arrow. Fig. 5 is a plan view and cross-section of the rubber ring removed, and Fig. 6 is a plan view of the clamping ring removed.

Referring to the drawings, let A indicate the can as a whole; B, the body thereof; C, the bottom thereof; D, the bottom flange thereof, and E the cushioning and sound deadening device.

The can A may be any usual or suitable construction of portable metallic can, that shown being the usual milk can, the body B of which is composed of cylindrical sheet metal, and the bottom C of which is a sheet metal head having concave outwardly bulging center *a*, and flanged edges *b*, which are united by rivets *c* to the lower edge *d* of the cylindrical part D. The rivets *c*, or any suitable substitute therefor for fastening the two parts together, extend around the lower edge D of the can and form slight inward projections at the inner face of this edge, as usual.

As usual the cushioner E is provided at the bottom of the can, being attached thereto in suitable manner to contact with the floor upon which the can may be dropped, so as to receive the force of the concussion and graduate or cushion the shock in transmitting this force to the body of the can. The cushioner should be of yielding and elastic material, and properly fixed to the body of the can. As heretofore I construct the cushioner to also serve the function of a sound deadener, for which purpose it is constructed of a non-vibratory material. Indiarubber, or a composition containing a considerable proportion of rubber, best serves both these purposes, and therefore is what I prefer to employ for this device.

According to my improvements for attaching the cushion to the can I prefer to provide a detachable connection between the two of the construction shown, which connection consists preferably of a support F for the cushion maintaining it in vertical position, a clamp G for the cushion preserving it against the can, studs H carrying the support F and guiding the clamp G, and bolts I for adjusting and holding the clamp. The support F

is preferably a flat annular ring fitting within the space J in the bottom of the can, and loosely mounted thereon. The studs H may be of any construction suitable for preventing inward movement of the support F. I prefer to form these studs as inwardly projecting radial pins having headed outer ends fixed in holes *e* in the flange D, and cylindrical inner ends projecting into the space J above the support, and considerably inwardly of the inner edge thereof. Four diametrically opposite studs H are shown, separated at ninety degrees from each other. The clamp G I prefer to construct as a thin metallic ring-shaped strip having overlapping ends *f* movably embracing each other to permit adjustment. In its ends *f* the clamp has elongated holes *g*, through which one of the bolts I passes, and intermediate of these ends it has other bolt holes *h* for the other bolts I. The lower edge of the clamp G is preferably flush with the bottom edge of the flange D, and the clamp extends upwardly within the space J preferably beyond the upper edge of the cushioning material E and its support F. Near its upper edge the clamp is preferably constructed with guide holes *i*, through which the inwardly projecting ends of the studs H pass, whereby these studs are reinforced at their inner ends by the clamp, and the latter is guided and in part maintained in position by the pins. The bolts I may be any suitable construction of bolt, but I prefer to construct them as headed bolts having shanks *j* tightly seated in and passing through holes *k* in the flange D between the rivets *c* and the studs H, and having screwthreaded ends on which screw nuts *l* against the inner face of the clamp G. Preferably the bolts I are arranged radially and intermediately of the studs H.

The cushioning material E is preferably a molded endless annular ring or strip of rubber of rectangular cross-section, and less width than height, designed to fit in the rectangular space within the flange D beneath the support F and exteriorly of the clamp G, and to project a sufficient distance below this space to give the requisite cushioning bearing. The rubber ring shown is constructed with radial holes *m*, ninety degrees apart and near its upper edge, through which holes the shanks *j* of the bolts I pass.

In using my improvements according to the construction shown, the studs H and bolts I are permanently fixed to the can by being driven home in their respective holes in the flange D. The supporting ring F is placed upon the studs H before the bolts are driven home, and is then retained in its position against loss before the parts are all assembled. The rubber ring E is then sprung with its holes *m* over the shanks of the bolts, whereupon the clamping strip G is placed within this ring and expanded until its holes *g* *h* engage the bolts, and its holes *i* the studs. The nuts *l* are then screwed tightly against the ring, first

that diametrically opposite the overlapping ends *f*, then the two on each side, and finally the nut bearing directly against these ends. In this way the clamp is drawn very tightly against the ring, compressing the upper portion of the latter in the space above the rivets *c*, whereby the ring is held firmly and permanently in position. As the clamp is drawn home, its overlapping ends *f* slightly separate until its final position is reached. When the rubber ring is thus clamped tightly against the sides of the can, it greatly decreases the vibration thereof, and hence reduces the noise emitted when the can is jarred or struck. By projecting at its lower edge below the can, it takes up most of the shocks to which the can is subjected, and renders its transportation much less noisy than formerly. When the can is thrown or dropped from one place to another, the cushioning of the spring graduates the resulting concussion, and correspondingly reduces the strains to which the can is subjected, thereby permitting the use of a lighter material in its construction, and a consequent decrease in the weight of the can itself.

It will be seen that my invention provides an improvement in portable cans and like receptacles, which is simple and effective and particularly advantageous when used with metallic milk cans, and it will be understood that the invention is not limited to the particular construction and arrangement of the parts set forth as constituting the preferred form of the invention, as it may be employed with such modifications of the various parts, or with such equivalents thereof, as circumstances or the judgment of those skilled in the art may indicate.

I prefer to construct the supporting ring F and the clamping ring G of thin malleable cast iron, but any suitable sheet metal or other material may be used instead.

What I claim is—

1. In a can having a hollow bottom and a surrounding edge having radial bolt holes, a cushioning material surrounding the inner side of said edge and having through its body radial bolt holes corresponding to those therein, an annular metallic clamp at the inner side of said material clamping the latter against said edge and having radial bolt holes corresponding to those in said material, and bolts drawing said clamp toward said edge, traversing entirely through said holes through said edge, clamp and the body of said cushioning material, preventing displacement of the latter, and drawing said clamp thereagainst, substantially as set forth.

2. In a can having a hollow bottom and a surrounding edge, a cushioning material at the inner face of said edge, a separate support at top for said material, and a separate clamp independent of said support at the inner side of said material clamping the latter against said edge.

3. In a can, a body B, and head C, having a

space J, and a bottom edge D having radial bolt holes, in combination with a ring E of cushioning material, having radial bolt holes corresponding to those in said edge D, a support F at top for said ring, a clamp G within said ring and clamping the latter against said edge D, said clamp consisting of a substantially vertical metallic ring having radial holes corresponding to those in said ring E, said ring E extending above and below the lower edges of said clamp G and said edge D, and bolts I traversing said ring E, through said holes and through said edge D, and clamp G, drawing the latter toward the former and preserving said ring E in position, substantially as set forth.

4. In a can, the body B and head C having bottom edge D and hollow J, in combination with the rubber ring E within said edge D, the support F within said space and at top of said ring, the studs H above said support, and a clamp G at the inner side of said ring E clamping the latter against said edge D, and

having holes *i* engaging said studs H, substantially as and for the purpose set forth. 25

5. In a can, the body B and head C having annular edge D and bottom hollow J, in combination with the rubber ring E within said hollow, the clamp G consisting of an annular strip of metal having overlapping ends *f*, having coinciding elongated holes *g* in said ends, and bolt holes *h* intermediate of said ends, said clamp engaging the inner face of said ring E, and bolts I traversing said clamp, and the body of said ring engaging said edge D, drawing said clamp against said ring, and thereby clamping the latter against the inner face of said edge D, substantially as and for the purpose set forth. 30 35

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses. 40

FREDERICK C. J. ROENNAU.

Witnesses:

GEORGE H. FRASER,

THOMAS F. WALLACE.