

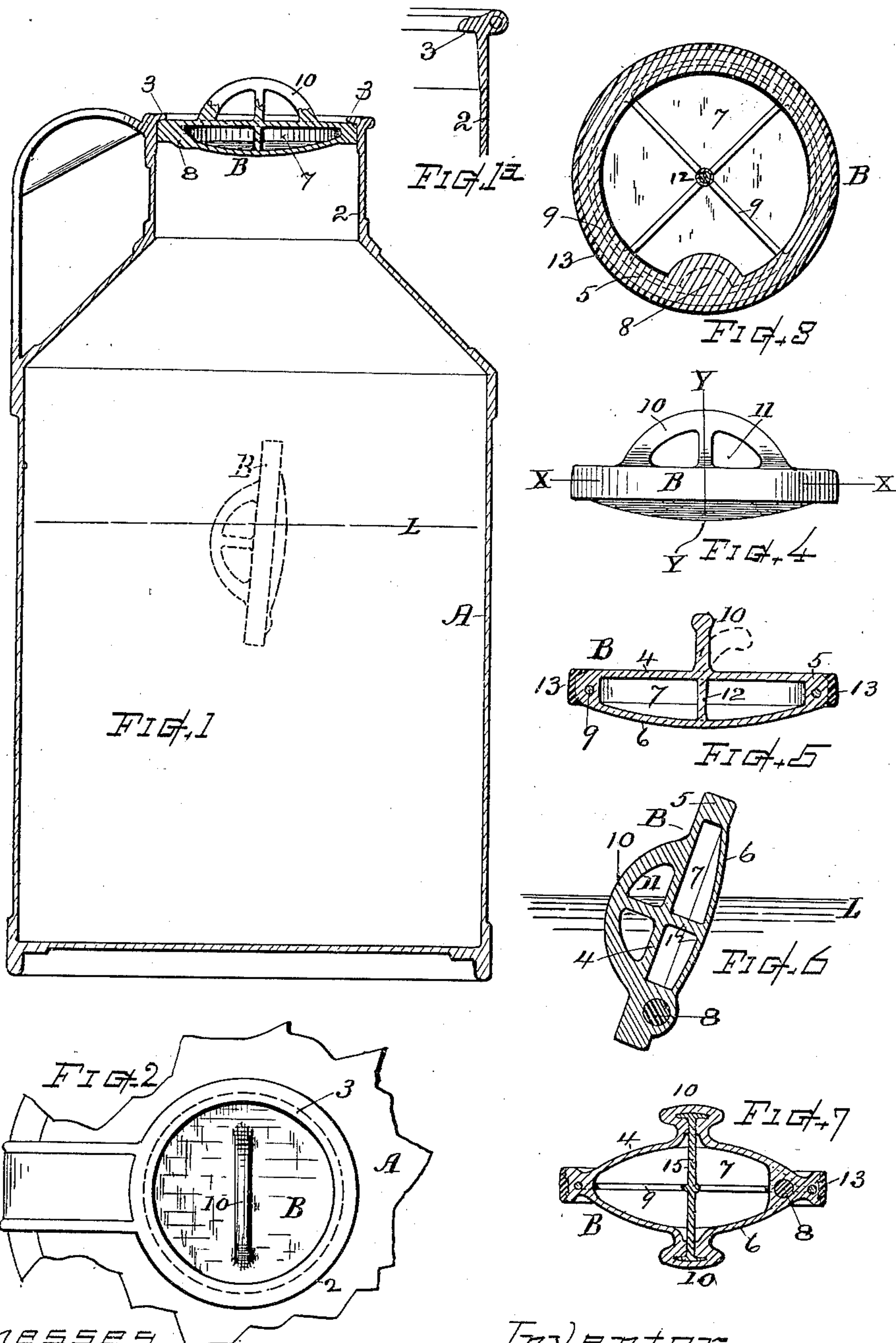
No. 662,782.

Patented Nov. 27, 1900.

A. B. FISHER.
STOPPER FOR MILK CANS.

(Application filed July 5, 1900.)

(No Model.)



Witnesses.

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UNITED STATES PATENT OFFICE.

ALVAN B. FISHER, OF RUTLAND, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO FREDERIC B. STEARNS, OF SAME PLACE.

STOPPER FOR MILK-CANS.

SPECIFICATION forming part of Letters Patent No. 662,782, dated November 27, 1900.

Application filed July 5, 1900. Serial No. 22,560. (No model.)

To all whom it may concern:

Be it known that I, ALVAN B. FISHER, a citizen of the United States, residing at Rutland, in the county of Worcester and State of Massachusetts, have invented a new and useful Stopper for Milk-Cans, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The object of my present invention is to provide an improved stopper or means for the closure of metal cans and similar vessels, more especially such as are employed for transportation of milk, and of that class wherein the stopper is kept continually within the can; also, to provide an internal closing-stopper that can be properly cleansed and conveniently manipulated when in use, as more fully hereinafter explained.

The minor objects and features of the invention are set forth in the following detailed description, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 represents a sectional view of a milk-can and its internal closing-stopper, illustrating my invention. Fig. 1^a shows a section of the mouth-lip on larger scale. Fig. 2 is a top plan of the mouth of the can with the stopper therein. Fig. 3 represents a diskwise section through the stopper at line *x x*. Fig. 4 shows a side view of the stopper; Fig. 5, a transverse section at line *Y Y*. Fig. 6 is a sectional view illustrating the manner of flotation; and Fig. 7 shows a modification in form, illustrating a stopper as made with a handle or knob on each side of the disk.

The nature of my invention consists in constructing the can or receptacle with an inwardly-projecting bead, ledge, or offset within the neck thereof and in providing an internally-closing stopper made of impervious or water-repellent material and rendered buoyant by a chambered or hollow interior, said stopper being impounded or confined within the interior of the can, but free to float in the manner specified upon the liquid con-

tents when the can is filled and adapted to be turned and drawn upward within the neck against the said ledge or offset for securely closing the mouth of the can in the manner illustrated.

Referring to the drawings, the letter A designates the milk can or receptacle, which may be of the ordinary or any suitable shape and having a neck 2 of substantially cylindrical form. Around the interior of the neck, at or near the mouth, I provide an inwardly-projecting bead or flange 3, presenting on its under side an annular offset or ledge, as best shown in Fig. 1^a. Said ledge may be close to the mouth or at a short distance down in the neck.

My improved stopper consists of a disk-shaped body B, constructed of hard or comparatively firm vulcanized rubber or some similar suitable impervious or water-repellent material. This stopper is made of a diameter that will fit the interior of the neck 2 of the can below the ledge 3, which diameter (see dotted line, Fig. 2) is sufficiently greater than the opening through the circle of the ledge to prevent the stopper escaping from the interior.

The stopper is composed of thin upper and lower disk shells 4 and 6, integrally united with a solid rim or outer circle 5, and is thus formed hollow or with an interior hermetically closed air-chamber or chambers 7 of sufficient capacity to render the stopper buoyant or floatable in common liquids L, as water, milk, &c. The buoyancy and gravity are preferably arranged or adjusted so that the stopper will float at a comparatively high level and the chamber 7 and solid material so disposed as to give preponderance at one edge or, by a counterweighting 8 near one side, to cause the stopper to float edgewise or with its side edge uppermost, as illustrated in Fig. 6, so that the stopper will always assume a predetermined position when in use.

The stopper if formed of a partially-flexible material, as spring-rubber, is best braced and reinforced by a stiff skeleton or spider frame 9, that supports its periphery in position and prevents distortion of the disk to a degree that would allow it to pass the mouth-open-

ing. When made of hard rubber or similar rigid substance the skeleton reinforce may, if so desired, be omitted.

The stopper is provided with a handle or handles 10, integral with the disk face and projecting therefrom. Said handle is preferably flexible to be bent toward one side or the other. (See dotted line, Fig. 5.) A hole or holes 11 are best provided therein, as shown. A brace or tie 12 connects the upper and lower disk shells 4 and 6 at or near the center.

When the stopper-body is formed of hard substance, I prefer to provide thereon a peripheral rim-facing 13, of soft elastic material, integrally united to the circular rim 5 of the body and forming an inseparable part thereof without any intervening joint, cleft, or fissure, said elastic portion being disposed as best shown in Figs. 3, 5, and 7.

The exterior of the stopper is made smooth, with rounded corners and without sharp inward angles or crevasses therein, so that it can be readily cleansed by rinsing and scalding, and no unsanitary accumulation of matter will adhere thereto.

In its operation the stopper B, being loose within the interior of the can A, becomes cleansed and scalded by the cleansing and scalding of the interior of the can. When the milk or other liquid L is filled into the can, the stopper floats upon the surface (see dotted lines, Fig. 1) until its uppermost edge is presented at the mouth or neck 2 as the can becomes filled. The stopper is then taken by its handle 10, turned to a horizontal position, and drawn up close beneath the lip or ledge 3, as illustrated in Figs. 1 and 2, thus securely closing the neck by internal closure. For opening the can the stopper is pushed inward at one side, which turns its disk to vertical position in the neck-passage or forces the entire stopper down the can. In either case the contents may then be poured from the can.

Although this stopper is intended for use in cans that are completely filled and emptied at each successive act, it may sometimes be used otherwise, and the stopper may be readily raised in a partially-filled can by means of a hooked rod caught into the hole 11 in the handle 10, and thus drawn up to the ledge 3, as above specified.

In Fig. 7 I have shown a form in which the stopper may be made if it is desired to have a handle or knob 10 on each side of the disk or body. In this the skeleton frame 9 is provided with a headed center bar 15 for supporting and strengthening the necks of the handle-knobs.

I am aware that floatable bottle-stoppers of different construction have heretofore been devised and described in several prior patents; also, that floatable bottle-stoppers have been weighted to keep them in endwise upright relation. I do not, therefore, claim such

features broadly or irrespective of construction, as my invention relates to a stopper embodying the specific improved construction as herein defined.

What I claim, and desire to secure by Letters Patent, is—

1. An internal closing-stopper for cans, consisting of an externally complete and creaseless disk-shaped body integrally composed of two opposite disk plates united at their periphery by a solid circular rim portion, and embracing between said portions a hollow interior, air chamber or space, said rim portion having a preponderance or weight at one side of its circle, whereby said stopper is caused to assume an edgewise upward position when floating, as shown and described.

2. An internal closing-stopper for cans, composed of water-resisting material, such as india-rubber, and comprising upper and lower disk-face portions, an interior hollow or air chamber for floating said stopper, a solid circumferential rim, and provided with a rigid or stiff skeleton frame embedded within said rim, substantially as set forth.

3. An internal closing-stopper for cans, consisting of a flat circular discoidal body of impervious material embodying an upper and lower surface-shell united by a solid peripheral rim portion, and central brace, and having a hermetically-closed interior hollow or air chamber, rendering said stopper buoyant, a counterweight embedded in and inclosed by said body material at or near one edge and a handle integral upon the disk face, for the purposes set forth.

4. An internal closing-stopper for cans, comprising the hollow, floatable discoidal-shaped body having a solid peripheral rim or edge circle made of comparatively hard rubber or non-pervious material, said circle provided with an integral peripheral edge facing of soft elastic material inseparably united to and forming a part of the rim-circle without any intervening joint fissure or crevice, substantially as shown and described.

5. The combination with a sheet-metal milk-can having a cylindrical neck provided with the inwardly-projecting annular lip, lining bead or offset within the neck-opening; of the floatable internal closing-stopper consisting of the circular discoidal body composed of upper and lower disk shells integrally united with a solid peripheral rim adapted to fit within said neck; said stopper counterweighted to float edgewise upward, and provided upon its disk face with an integrally-united handle, said stopper being exteriorly smooth and devoid of joints or creases, substantially as shown and described.

Witness my hand this 2d day of July, 1900.

ALVAN B. FISHER.

Witnesses:

CHAS. H. BURLEIGH,
FREDK. B. STEARNS.