

May 10, 1938.

E. F. LEE

2,116,795

DOUBLED WALLED BARRELS

Filed Feb. 10, 1937

2 Sheets-Sheet 1

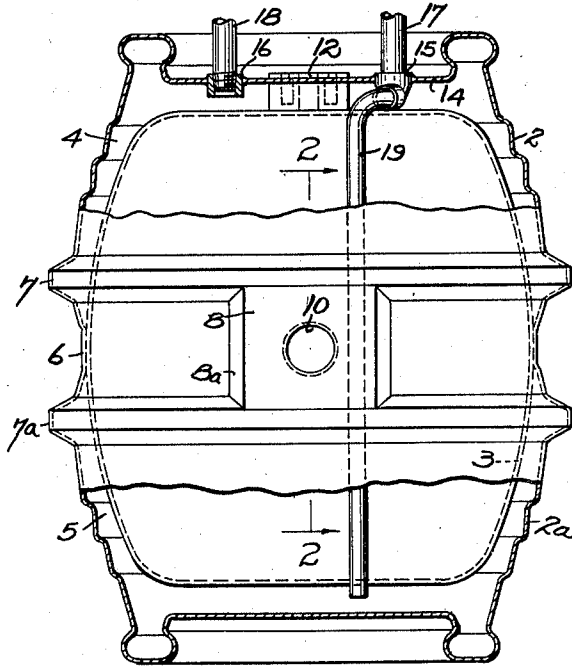


Fig. 1.

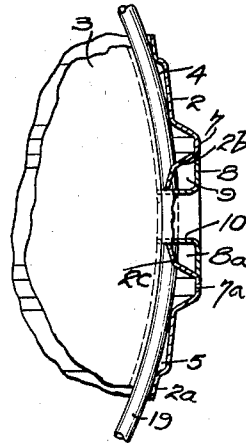


Fig. 2.

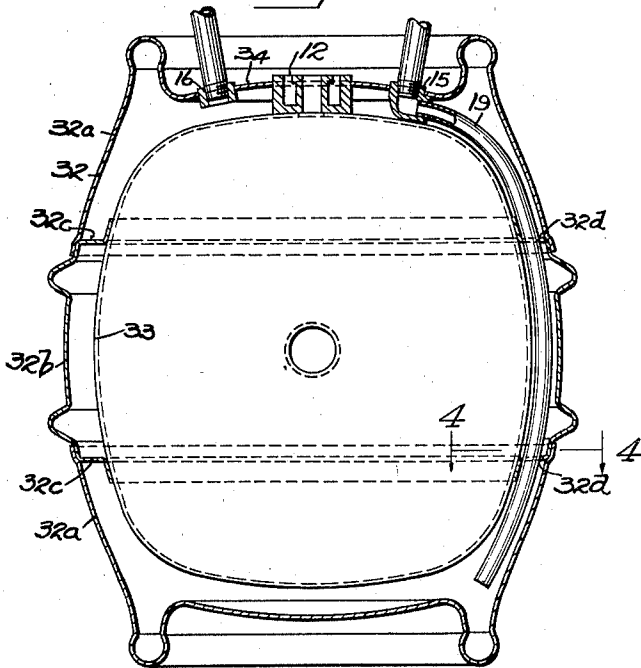


Fig. 3.

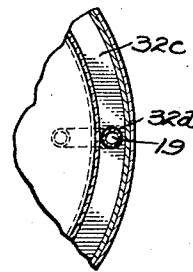


Fig. 4.

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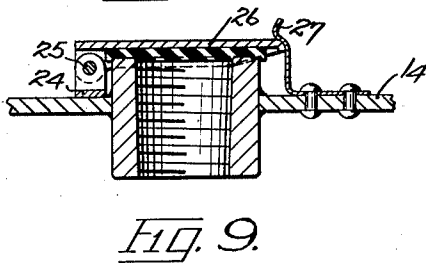
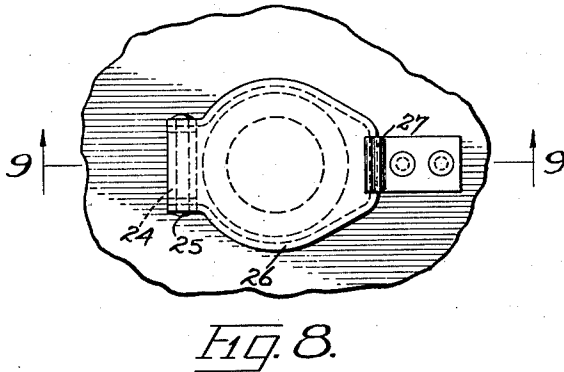
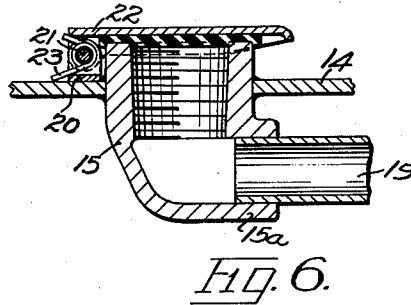
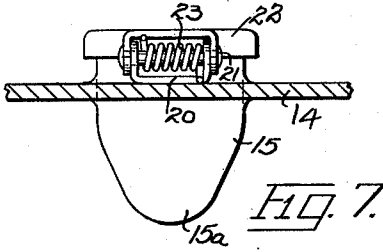
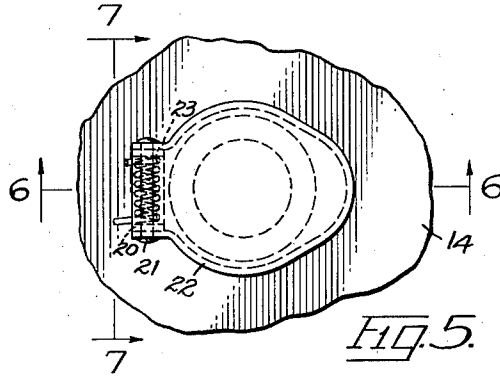
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DOUBLED WALLED BARRELS

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2 Sheets-Sheet 2



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2,116,795

DOUBLE WALLED BARREL

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10 Claims. (Cl. 220—13)

This invention relates to improvements in double-walled barrels, and refers more particularly to such barrels wherein means are provided for circulating a cooling medium between the inner and outer walls for cooling the contents.

At the present time double-walled barrels are used a great deal as beer containers. The beer is shipped in these barrels and the latter are then frequently stored in rows beneath a counter, and the beer drawn from them and dispensed to customers.

It is an object of this invention to provide a double-walled barrel wherein an inlet and an outlet connection are provided in the outer wall of the barrel head in which the tap bush occurs. Thus I aim to provide a barrel having connections to which inlet and outlet pipes of a water cooling and circulating system may be readily attached, and wherein the barrel connections are so arranged that there is very little possibility of any water which remains between the walls of the barrel being spilt when the connections are disconnected for removal of the barrel.

Another object of the invention is to provide a double-walled barrel having inlet and outlet connections provided in the outer wall of one head, and a pipe extending from the inlet connection to substantially the opposite extremity of the barrel, so that the water introduced through the inlet circulates between the barrel walls throughout substantially the entire length of the barrel before returning to the outlet.

A further object of the invention is to provide such a double-walled barrel wherein the inlet and outlet connections terminate within the chime and wherein closures are provided upon the said connections to prevent dirt getting into the connections or the latter becoming damaged in transit.

Having thus briefly and broadly stated some of the major objects and advantages of the invention, I will now proceed to describe the invention more fully with the aid of the accompanying drawings, in which:

Figure 1 illustrates a side view, partly in section, showing one form of my barrel, neglecting however the closures for the connections.

Figure 2 is a section on the line 2—2 of Figure 1.

Figure 3 shows a side sectional view of a modified form of barrel made according to my invention, again neglecting the closures for the connections.

Figure 4 is a section on the line 4—4 of Figure 3.

Figure 5 is an enlarged plan view of the inlet connection and the closure therefor.

Figures 6 and 7 are sections on the lines 6—6 and 7—7 respectively of Figure 5.

Figure 8 is an enlarged plan view of the outlet connection and the closure therefor, and

Figure 9 is a section on the line 9—9 of Figure 8.

Referring now to Figures 1, 2, and 5 to 9 of the drawings; the outer shell of the barrel consists of two halves 2 and 2a the adjacent annular margins of which terminate contiguous to one another and are welded around the periphery of the inner shell 3 substantially centrally of its length, thereby holding the outer and inner shell portions spaced from one another and in contact only around the central portion of the barrel. Consequently an annular upper and lower chamber 4 and 5 respectively are formed between the shells separated by the circular welded joint 6.

Formed around the outer shell portions 2 and 2a equidistant from the joint 6 are outwardly directed corrugations 7 and 7a. Extending between the outer portions of these corrugations and secured thereto around a portion of the circumference of the barrel is a bung plate 8 which is outwardly spaced from the joint 6. The sides 8a of the plate 8 are inwardly flexed and are secured to the outer face of the outer shell portions 2 and 2a and to the joint 6, thereby enclosing an intermediate compartment 9. Formed centrally in the plate 8 and extending through the joint 6 is a conventional bung collar 10; and on each side of the latter beneath the plate 8 the inwardly inclined portions 2b and 2c of the outer shell adjacent the joint 6 are apertured.

A tap bush 12 is provided through both the inner and outer shells of the head 14, and mounted in the outer shell of the same head are inlet and outlet fittings 15 and 16 to receive pipes 17 and 18 respectively of a water circulating system.

In the present instance the inlet fitting 15 is provided at its inner extremity with an angle connection 15a to which a pipe 19 is secured. The latter extends through the upper chamber 4, through the apertures formed through the inwardly inclined portions 2b and 2c of the outer shell, through the intermediate compartment 9, and terminates towards the bottom of the lower chamber 5. The outlet fitting 16 merely extends through the outer shell of the head 14. Consequently cold water delivered through the pipes 17

and 19 and the fitting 15 is ejected in the lower chamber 5 near the bottom thereof, and rises therein, through the intermediate chamber 9 and upper chamber 4, and is discharged through the fitting 16 and pipe 18.

It will be noted that the outer extremities of the fittings 15 and 16 terminate within the chime and only slightly above the head 14, though in Figures 5 to 9 the distance they project above the head is exaggerated to more clearly show the preferred forms of closures with which they are equipped.

Secured upon the head 14 is a bracket 20 carrying a hinge pin 21 on which a closure 22 is pivoted. Around the pin 21 a helical spring 23 is provided which tends to retain the closure in shut position, though obviously it may be opened sufficiently for the pipe 17 to be connected to the fitting 15.

Adjacent the outlet fitting a bracket 24 is mounted upon the head 14 to carry a pin 25 on which a closure 26 is pivoted to cover the mouth of the fitting 16. 27 denotes a spring by which the closure 26 is held against accidental movement when in closed position.

In the construction shown in Figures 3 and 4, the arrangement is the same as that shown in Figures 1 and 2 except that the outer shell 32 consists of two end portions 32a and an intermediate portion 32b. The latter is provided at both extremities with inturned annular flanges 32c which are suitably secured around the periphery of the inner shell 33. The adjacent extremities of the end portions 32a of the outer shell extend annularly over the intermediate outer shell portion 32b to which they are usually welded.

The head 34 in which the tap bush 12 is provided also carries inlet and outlet fittings 15 and 16. From the fitting 15 the pipe 19 extends downward between the shells 32 and 33, through perforations 32d through the flanges 32c, and terminates towards the lower end of the barrel between the inner and outer shells. Water discharged from the pipe 19 passes upwardly again between the shells, through the flange perforations 32d to the outlet fitting 16.

While in the foregoing the preferred embodiments of the invention have been described and shown, it is understood that further alterations and modifications may be made thereto provided the said alterations and modifications fall within the scope of the appended claims.

What I claim as my invention and desire to secure by Letters Patent is:

1. A double-walled barrel having inner and outer shell portions spaced from one another throughout the greater portion of the barrel, and spaced head portions one within the other, an inlet and an outlet fitting extending through the outer shell of one head, and a pipe extending from the inner extremity of the inlet fitting and terminating adjacent the opposite extremity of the barrel through which a cooling medium is adapted to be circulated from the inlet fitting, through the space between the outer and inner shells and back to and through the outlet fitting.

2. A double-walled barrel comprising the combination set forth in claim 1, wherein the outer extremities of the inlet and outlet fittings terminate within the barrel chime adjacent the outer face of the head, closures for the said fittings, and spring means tending to hold said closures in closed position.

3. A double-walled barrel having inner and outer shells spaced from one another throughout

the greater portion of the barrel, at least one annular connection between said shells providing intermediately of the length of the barrel dividing the space enclosed between the shells into separate chambers, means connecting said chambers, an inlet and an outlet fitting extending through the outer shell of one head, and a pipe mounted on the inlet fitting, extending between the shells through the means connecting the chambers and terminating adjacent the opposite extremity of the barrel through which a cooling medium is adapted to be circulated from the inlet fitting, through the chambers between the shells and the means connecting said chambers, and back to and through the outlet fitting.

4. A double-walled barrel comprising two outer shell portions and an inner shell portion, the adjacent margins of the outer shell portions being substantially contiguous and annularly secured around the inner shell portion substantially centrally of its length thereby forming a joint, outwardly disposed corrugations formed around the outer shell portions, a bung plate extending between said corrugations and spaced from the outer shell portion beneath it and said joint, said plate having its lateral margins inwardly flexed and secured to the outer shell portions and said joint thereby enclosing a compartment beneath said plate, the outer shell portions beneath the plate being apertured to afford passage from said compartment to the chambers enclosed between the inner and outer shells towards and around the barrel ends, an inlet fitting mounted in the outer shell of one head of the barrel, a pipe extending from said fitting passing through the plate apertures and through the compartment and terminating adjacent the opposite end of the barrel, and an outlet fitting in the outer shell of the head in which the inlet fitting is mounted.

5. A double-walled barrel comprising an inner shell, an intermediate outer shell portion spaced around the central part of the latter and having inturned flanges at its extremities secured around said inner shell, two end outer shell portions spaced from the inner shell and having their adjacent annular margins mounted upon the intermediate outer shell portion adjacent its flanges, whereby the space between the shells is divided into three chambers, said flanges being apertured to provide passage from one chamber to the next, an inlet fitting mounted in the outer shell of one head of the barrel, a pipe extending from said fitting through the apertures in the flanges and terminating adjacent the opposite extremity of the barrel, and an outlet fitting mounted in the outer shell of the head in which the inlet fitting occurs.

6. A combination shipping and dispensing container comprising a closed inner shell adapted to contain a beverage, a closed outer shell surrounding the latter whereby an enclosed chamber is defined between the shells, means holding the shells in spaced relation, means providing direct access into the inner shell, said outer shell having an inlet opening and an outlet opening into said chamber, and a pipe in the chamber through which a cooling liquid is adapted to flow, said conduit pipe extending from one of the openings and terminating in an open end adjacent the bottom of the container, said liquid being adapted to enter through the inlet opening, circulate between the walls in heat transfer relation with the contents of the inner shell and to pass out of the outlet opening.

7. A combination shipping and dispensing con-

5 tainer comprising a closed inner shell adapted to
contain a beverage, a closed outer shell surround-
ing the latter and spaced from the underside of
the inner shell whereby an enclosed chamber is
defined around and beneath the inner shell,
means holding the shells in spaced relation,
means providing direct access into the inner shell,
said outer shell having an inlet opening and an
outlet opening into said chamber, and a pipe in
10 the chamber through which a cooling liquid is
adapted to flow, said conduit pipe extending from
one of the openings and terminating in an open
end adjacent the bottom of the container, said
liquid being adapted to enter through the inlet
15 opening, circulate between the shells in heat
transfer relation with the contents of the inner
shell and to pass out of the outlet opening.

8. A combination shipping and dispensing con-
tainer comprising a closed inner shell adapted to
20 contain a beverage, a closed outer shell com-
pletely surrounding the inner shell whereby an
enclosed chamber is defined within the outer shell
and around the entire inner shell, means holding
the shells in spaced relation, means providing
25 direct access into the inner shell, said outer shell
having an inlet and an outlet opening into the
chamber, and a pipe in said chamber extending
from the inlet through which a cooling fluid is
adapted to be introduced, said pipe terminating
30 in an open end adjacent the bottom of said cham-
ber, said fluid being adapted to circulate through

said chamber in heat transfer relation with the
contents of the inner shell and to pass through
the outlet.

9. A combination shipping and dispensing con-
tainer comprising a closed inner shell adapted to
5 contain a beverage, a closed outer shell completely
surrounding the latter whereby an enclosed
chamber is defined around the entire inner shell,
an outlet fitting mounted in the top of the inner
and outer shells and opening into the inner shell,
10 means holding the shells in spaced relation, the
top of the outer shell having an inlet opening and
an outlet opening into the chamber, a pipe in the
chamber through which a cooling liquid is adapt-
ed to flow, said conduit pipe extending from one
15 of the openings and terminating in an open end
adjacent the bottom of the container, said liquid
being adapted to enter through the inlet open-
ing, circulate between the shells in heat transfer
relation with the contents of the inner shell and
20 to pass out of the outlet opening, and a bung
collar extending through both shells and opening
into the inner shell.

10. In a combination shipping and dispensing
container comprising the combination set forth in
25 claim 9, wherein the means holding the shells in
spaced relation consists of inturned flanges on
the outer shell through which apertures are
formed for passage of the pipe and the cooling
fluid.

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