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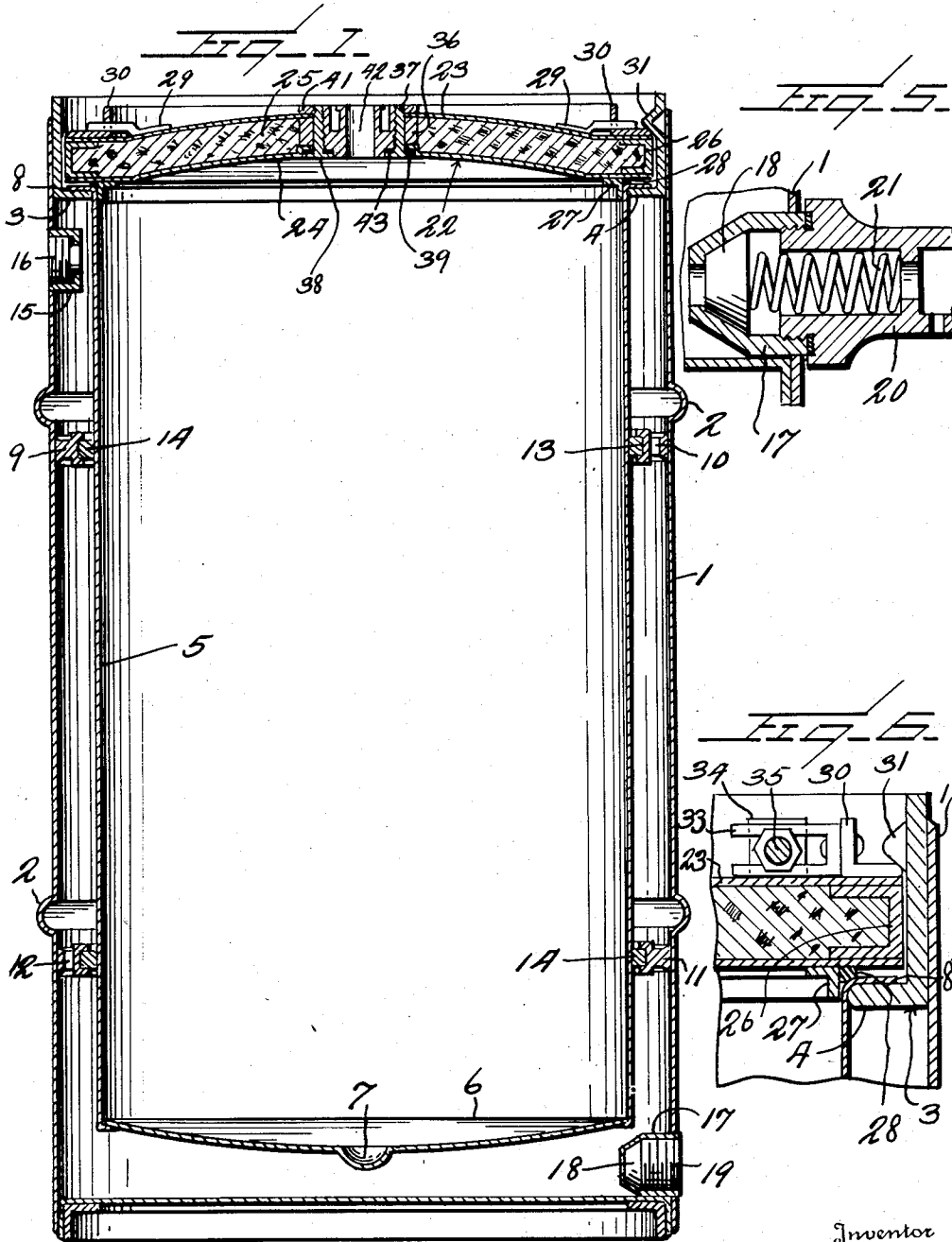
W. R. MILLER

2,000,780

METALLIC CONTAINER

Filed Sept. 7, 1933

2 Sheets—Sheet 1



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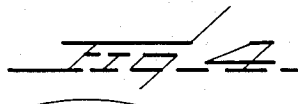
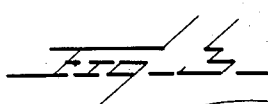
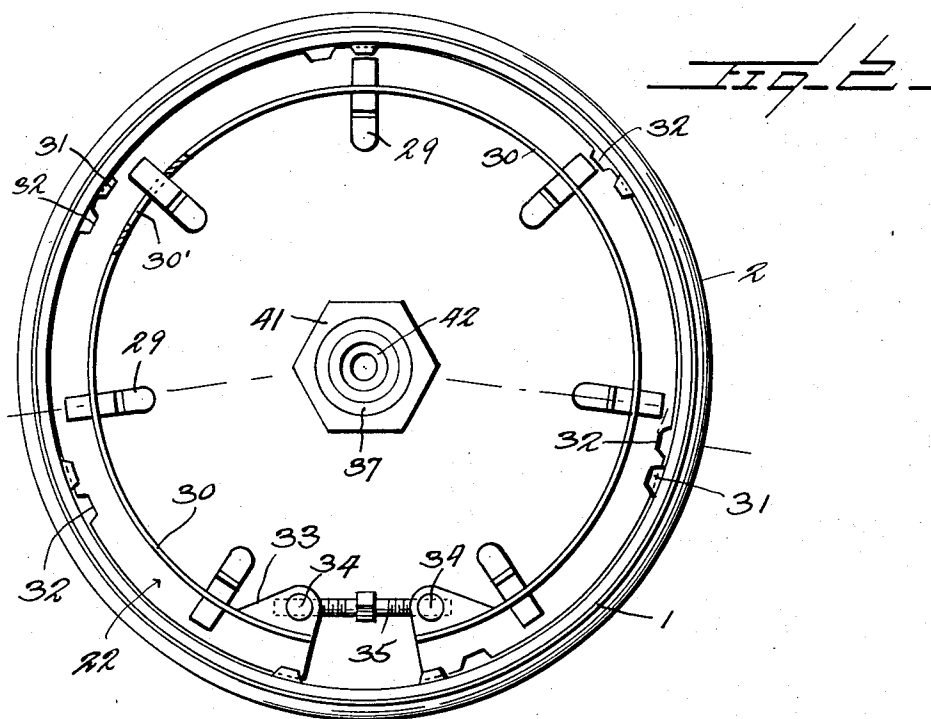
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Filed Sept. 7, 1933

2 Sheets-Sheet 2



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UNITED STATES PATENT OFFICE

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METALLIC CONTAINER

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Application September 7, 1933, Serial No. 688,508

3 Claims. (Cl. 220—13)

This invention relates to metallic shipping and storing receptacles and it has for its primary object a simple, durable, and efficient construction of metallic container designed particularly for the shipping, storing, and dispensing of beer, although manifestly applicable for use with other commodities generally.

Another object of the invention is to provide a container of this character which is so constructed that if desired a partial vacuum may be established between the inner and outer walls of the container, this partial vacuum being subsequently released and provisions being made for the circulation of cold water through the container between the inner and outer walls in order to keep the beer cool while it is being dispensed.

Still a further object of the invention is a device of this character which is so constructed that it will completely comply with the sanitary requirements that have been established, especially noting the fact that at present beer is dispensed to a large extent in cafes, restaurants, and lunchrooms where the sanitary conditions are strict, and in the present instance my barrel is so formed that there are no angles that are liable to collect sediment, dirt and the like, the construction providing for the easy cleansing of the container throughout its entire interior wall without any liability of any contamination being effected.

With these and other objects in view, reference is to be had to the accompanying drawings which show the preferred embodiment of my invention, and in which

Figure 1 is a vertical longitudinal section of a metallic barrel embodying the improvements of my invention.

Fig. 2 (Sheet 2) is a plan or top view of the barrel.

Figs. 3 and 4 are detail plan views of combined spacing and circulating rings that will be hereinafter specifically described.

Fig. 5 (Sheet 1) is a detail sectional view of a nozzle that may be used for an air exhaust pump in the event that it is desired to establish a partial vacuum between the inner and outer walls of the container, and

Fig. 6 is a detail sectional view through the expansion bolt of the latch ring for holding the head in tightly sealed position upon the body of the barrel.

Referring to the drawings, the numeral 1 designates generally the metallic outer shell of my improved container, the same being preferably

provided with the usual reinforcing and rolling beads 2. Within the upper end of the outer shell 1 a metallic ring or hoop 3 is set, the same being preferably secured in place by welding, and said ring 3 is formed at its lower edge with an inturned annular flange 4 as clearly illustrated in Figs. 1 and 6.

5 designates the inner shell of the container, the same being preferably formed of metal of any suitable nature and being preferably provided with a slightly dished bottom 6 which is provided with a central depression 7 as clearly illustrated in Fig. 1, so that the "sword" of the beer dispensing apparatus may reach that point and every particle of the beer be dispensed, which of course will effect an economy.

The upper edge or end of the inner shell 5 is provided with an out-turned flange 8 which extends over and rests upon the inwardly turned flange 4 of the ring 3 and is preferably welded thereto. Thus it will be seen that the inner shell 5 has no bottom support so far as the outer shell 1 is concerned, but is spaced at its bottom from the bottom of the outer shell 1, or in other words is suspended within the outer shell, the walls of the inner and outer shells being spaced from each other to provide either a dead-air space or a partial vacuum, as will be hereinafter specifically described, and also a space for the circulation of cold water when the container is used for the storage and dispensing of beer or other beverages.

To assist in holding the inner shell 5 securely in position, I provide hoops which in the present instance are two in number, although it is to be understood that my invention is not limited to this number and that any desired number may be used. In the present instance, however, there are two of these hoops, as above stated. The upper hoop designated 9 and shown in detail in Fig. 3, is formed along one side with any desired number of perforations or orifices 10, and the lower hoop 11 is similarly formed with corresponding perforations or orifices 12, arranged in a series substantially diametrically opposed to the series on the upper hoop 9, for a purpose to be hereinafter explained. Each hoop is formed with an annular recess 13 making it of channelled formation, and in these channels that are thus formed are rings 14 of any insulating substance or material which project slightly beyond the inner surface of the hoops and engage and snugly receive the side walls of the inner shell 5, as clearly illustrated in Fig. 1.

At one side near the upper end of the outer

shell 1 an inlet opening 15 is formed, the same being closed when desired by means of a plug 16 of any formation, and at the lower end of the outer shell 1 and preferably at a point diametrically opposed to the inlet opening 15, an outlet opening 17 is provided, the same being preferably tapered at its inner end to provide a valve seat for a valve 18 which may be temporarily held in place by means of a screw plug 19.

From as much of the description as has preceded, in connection with the different views of the drawings, it will be understood that when the container is used for the dispensing of beer, for example, the inlet 15 and the outlet 17 are opened and are connected in any suitable manner with a cold water system, the cold water entering the inlet 15 manifestly being forced to circulate around the upper portion of the space between the two shells of the container, thence downwardly thru the orifices 10 of the upper hoop 9, thence around the space again to and thru the orifices 12 and finally across and underneath the bottom 6 of the inner shell and out thru the opening 17. In this way the water is positively forced to circulate in a somewhat circuitous route around the space between the two shells so as effectively to cool the entire area and maintain the beer or other beverage in the container in a palatable condition.

If desired, a partial vacuum may be formed in the space between the two shells when the barrel is completed and ready for shipment to the purchaser and dispenser of the beer, or if desired the space between the two shells may be merely a dead-air space at that time, but if a partial vacuum is desired it may be very readily formed by means of a nozzle 20 such as is illustrated in detail in Fig. 5. This nozzle is designed to be connected to an air exhaust pump (not shown) and is provided with an expansion spring 21 which is designed to press against the valve 18 in the operation of forming the partial vacuum, and thus it is obvious that when the air exhaust pump is set in operation the air will be partially exhausted from the space between the shells 1 and 5 and after the desired partial vacuum is established, the nozzle is detached and the vacuum itself will hold the valve 18 in place until the plug 19 can be applied. But when the barrel is set up for use in dispensing the beer or the like, the plugs 16 and 19 are of course removed and water connections are made, as hereinbefore specified.

The top or head 22 of my improved metallic barrel is preferably formed of upper and lower complementary members 23 and 24, the space between the two being filled with insulating material 25 of any desired character, and preferably, although not necessarily, a channeled ring 26 is provided to which the upper and lower plates or members 23 and 24 of the head 22 are suitably connected. The head is provided with a spacing ring 27 designed to facilitate the application and proper centering of the head within the body of the container, and a gasket 28 is preferably interposed between the head 22 and the outwardly turned flange 8 formed at the upper end of the inner shell 5 so that when the head is applied and fastened in place by means hereinafter described, the contents of the barrel will practically be hermetically sealed and the entire barrel will be fully able to withstand any pressure that may be formed without danger of any leakage and any spoiling of the contents.

In order to hold the head in place, it is provided with any desired number of radially disposed guide fingers 29, the outer and free ends of which are raised slightly as clearly illustrated in Fig. 1, and a latch ring 30 extends around the upper surface of the head and is formed with longitudinally extending slots 30' which receive and accommodate the latch fingers. The latch ring 30 is preferably angular in cross section and its lower or horizontal flange is preferably slightly beveled on its outer edge, so that when the latch ring is expanded, its outer edge will take underneath lugs 31 that are formed on the ring 3 within the upper end of the outer shell 1. These lugs 31 are of any desired number and are preferably pressed inwardly from the metal out of which the ring 3 is formed. In order to set the head 22 in place, it is formed at intervals with recesses 32, which are designed to register with the lugs 31 and pass them when the head is set down into the upper end of the barrel, whereupon a slight turn is given to the head so as to take the recesses 32 out of registry with the lugs 31, after which the latch ring 30 is expanded by means that I shall now describe and the head is forced downwardly tight upon the flange 8 of the inner shell, this construction and arrangement of parts, especially with the intervening gasket 28, providing a tight seal as hereinbefore mentioned.

The latch ring 30 is a split ring, as clearly illustrated in Fig. 2, and at its ends it is provided with two sets of ears 33 in which thimbles 34 are disposed. These thimbles are formed with threaded openings and a double or right and left-hand bolt 35 has its ends fitted in the threaded openings of the thimbles 34 so that obviously when the bolt 35 is turned in one direction the ends of the latch ring will be forced apart and the latch ring expanded so as to hold the head tightly in place.

In Fig. 1 is shown the improved tap and bung closure with which my improved barrel is provided. To construct this a bushing 36 is set in between the upper and lower portions of the head at the central opening which is formed therein, and within this bushing is set a metallic thimble 37 formed at its lower end with a circular head 38. A gasket 39 is interposed between the outermost central opening of the head in the lower member of the latter, whereupon a large nut 41 is secured upon the upper end of the thimble 38 and against the gasket 39 so as to hold the thimble securely in place. The inner wall of the thimble 38 is threaded as will be seen, and within this threaded opening is set the ordinary standard tap 42, a gasket 43 being preferably interposed between the bottom of the standard tap 42 and the innermost flange of the thimble 38. Thus it will be seen that by this construction and arrangement of parts I provide at a single point in the barrel structure, namely, in the head 22, a tap and bung closure assembly which avoids the necessity of an additional opening in the body of the barrel, as is customary with ordinary constructions of this kind.

While the accompanying drawings illustrate what I believe to be the preferred embodiment of my invention, it is to be understood that my invention is not limited thereto, but that various changes may be made in the construction and arrangements and proportions of the parts without departing from the scope of the invention as claimed.

What is claimed, is:

1. A container of the character described, the body portion of which comprises inner and outer shells arranged in spaced relation to each other, a hoop secured in the upper end of the outer shell and formed with an inwardly extending flange, the inner shell having its outer edge turned outwardly and secured upon said flange, and upper and lower hoops secured within the space between said shells, said upper and lower hoops being formed with orifices for the circulation of liquid therethrough, said upper and lower hoops being formed with annular recesses, and spacing rings of heat insulating material secured within said recesses and contacting the inner shell.

2. In a container of the character described, a body portion comprising outer and inner shells arranged in spaced relation to each other, a hoop secured in the upper end of the outer shell and formed with an annular intumed flange, the inner shell being formed at its upper end with an outturned flange resting upon and secured to said intumed flange and by which it is completely supported within the outer shell, the outer shell being formed with inlet and out-

let openings for the passage of liquid, a plurality of hoops secured within the outer shell in vertically spaced relation to each other and formed with orifices to allow liquid to circulate therethrough, each of said last named hoops being formed with an inwardly facing annular channel, and insulating rings secured within said channels and extending beyond the inner faces of the last named hoops into contact with the outer wall of the inner shell.

3. A container, comprising inner and outer shells each having an open end, means securing the inner shell at its open end to the outer shell at a point inwardly of the open end thereof, a cover supported by said means for closing the open end of the inner shell and completely disposed within the open end of the outer shell, an annulus surrounding the inner shell and abutting the inner wall of the outer shell, said annulus being formed to provide a channel in its inner face, and an annulus of insulation disposed in said channel and contacting with the inner shell to maintain the latter in spaced relation with the outer shell.

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