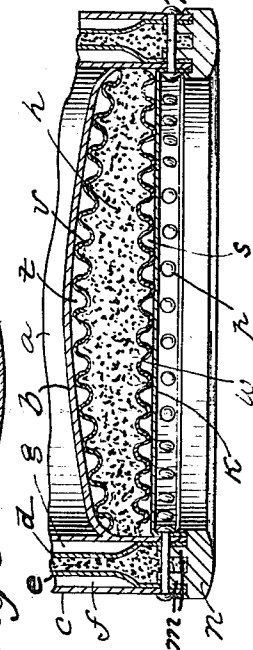
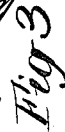


964,080.

Fig. 1



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UNITED STATES PATENT OFFICE.

JOHN JACOB WOLF, OF PHILADELPHIA, PENNSYLVANIA.

METAL CASK OR BARREL.

964,080.

Specification of Letters Patent.

Patented July 12, 1910.

Application filed January 25, 1908. Serial No. 412,622.

To all whom it may concern:

Be it known that I, JOHN JACOB WOLF, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Metal Casks or Barrels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in metallic casks or barrels intended principally for the storing of ale, beer, and like liquids, under pressure, and for preserving the temperature of the contents of the cask or barrel as against the higher temperature of the external atmosphere, so that a retail dealer, receiving the cask of ale or beer from the cooling room of the brewery and at the low temperature of storage, will be able to keep it at substantially that temperature, without the employment of ice, until its contents are fully dispensed.

In the accompanying drawing, Figure 1 represents a longitudinal section of a metallic cask or barrel embodying my improvements; Fig. 2 represents a transverse section thereof on a plane indicated by the line 2—2 of Fig. 1; Fig. 3 represents a section through one of the heads of the metallic cask or barrel on a plane indicated by the line 3—3 of Fig. 1; Fig. 4 represents a detail view of one of the taps or bung-hole fittings in its relation to the adjacent parts of the metallic cask or barrel.

Similar letters of reference indicate similar parts throughout the several views.

Referring to the drawing, it will be noted that the inner chamber within which the beer or ale is to be contained consists of a metallic cylinder *a* provided with inwardly flaring or dished heads *b*, which are preferably welded, electrically or otherwise, to the cylinder *a*, so as to make a complete and absolute closure at their points of junction with the cylinder. The outer wall *c* of the cask or barrel consists of a like metallic cylinder, and between the inner cylinder *a* and outer cylinder *c* are interposed two cylinders *d*, *e*, having corrugated walls, the corrugations being in contact respectively with the outer surface of the inner cylinder *a* and the inner surface of the outer cylinder *c*. These intermediate corrugated cylinders, which are

of metal, strongly reinforce the barrel and prevent the denting or buckling thereof in the hard usage to which a barrel is subjected. They also form with the inner and outer cylinders *a*, *c*, a series of longitudinal air cells *f*, *g*, which, being entirely closed, constitute dead air spaces, of very considerable heat insulating capacity. A third space intermediate between the two corrugated cylinders is preferably occupied by a body of granulated dry cork *h*, or its equivalent, which serves as an additional heat insulator around the entire periphery of the cask or barrel.

The top and bottom ends of the cylinders *a*, *c*, *d* and *e* are provided with cap pieces *n* of massive iron (preferably wrought-iron). These cap pieces not only form a rolling tread for the cask or barrel, but, being provided with annular flanges *m* as shown, they likewise serve to firmly unite the ends of the cylinders to each other and to themselves, by means of rivets *p*, thereby making a staunch and reliable connection.

The heads of the metallic cask or barrel are likewise provided with insulating dead air spaces *s* and *t* by means of the dished corrugated plate *v* and the corrugated plate *w*, with an intervening body of dry granulated cork *h*, as before. The outer surface of each head is made up of a reversely flanged plate *k* and the rivets *p* which secure the caps *n* to the vertical cylinders likewise pass through the flange of this outer plate *k*, thereby securing the heads in place by the same means which unite the caps or treads to the vertical cylinders. The bung-fitting 1 and the tap and vent fittings *x*, *z*, are inserted during the putting together of the parts of the vessel, and are adapted to receive the usual closing bungs or taps.

In order to make water and air tight the joint between the cap pieces or tread rings *n* and the surfaces which they overlap. I also prefer to form the tread rings at their side edges with small flanges which I press inwardly and laterally, by hydraulic pressure or otherwise, into absolutely intimate contact with the edges of the flanged plates *k* and outer cylinder *c*.

Having thus described my invention, what I claim is:

1. In a metallic cask or barrel, a body portion comprising inner and outer cylinders, intermediate reinforcing cylinders located in the annular space between said

first named cylinders and provided with reinforcing corrugations, and means at the upper and lower rims or edges of the barrel to which said intermediate cylinders are secured; substantially as described.

2. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders located in the annular space between said first named cylinders, and means for securing both ends of said intermediate cylinders to the inner and outer cylinders at the upper and lower edges or rims of the barrel; substantially as described.

3. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders located in the annular space between said first named cylinders, and annular members at opposite ends of the barrel to which both ends of said intermediate cylinders are secured; substantially as described.

4. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate reinforcing cylinders located in the annular space between said first named cylinders and substantially co-extensive with the latter, and a tread ring to which said reinforcing cylinders are secured; substantially as described.

5. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders located in the annular space between the first named cylinders and extending substantially throughout the height of the barrel, and a tread ring fitting over the ends of all of said cylinders and to which all of the same are attached; substantially as described.

6. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders within the annular space between the first named cylinders and extending from the bottom of the barrel to the top thereof, and a tread ring having flanges to which all of said cylinders are riveted; substantially as described.

7. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders within the annular space between the first named cylinders and ex-

tending substantially throughout the height or length of the barrel, a tread ring having annular flanges against the outer faces of which the intermediate cylinders lie, and means to secure said cylinders, and the inner and outer cylinders, to said flanges; substantially as described.

8. In a metallic cask or barrel, the combination of inner and outer cylinders, cylinders located within the annular space between the first named cylinders and provided with reinforcing corrugations, and tread rings at the opposite ends of the barrel to which all of said cylinders are secured; substantially as described.

9. In a metallic cask or barrel, the combination of a main body portion embodying inner and outer cylinders, a tread ring having a portion fitting between said cylinders, a head-plate fitting within the inner cylinder and having a circumferential flange, and rivets which extend through said flange, the cylinders, and the tread ring and secure the parts together; substantially as described.

10. In a metallic cask or barrel, the combination of inner and outer cylinders, intermediate cylinders located between the inner and outer cylinders, a tread ring having flanges entering the space between the intermediate cylinders and against the outer faces of which said intermediate cylinders are seated, a head-plate having a circumferential flange resting against the inner cylinder, and rivets which pass through the cylinders and the flanges of the tread ring and head-plate; substantially as described.

11. In a metallic cask or barrel, a main or body portion comprising inner and outer cylinders, a tread ring, an inner head plate secured to the inner cylinder, an outer head plate secured to the tread ring, and plates in the hollow head formed by said head plates and forming dead air spaces therein; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

JOHN JACOB WOLF.

Witnesses:

FELIX GOERGENS,
JOHN H. GRIEB.

Correction in Letters Patent No. 964,080.

It is hereby certified that in Letters Patent No. 964,080, granted July 12, 1910, upon the application of John Jacob Wolf, of Philadelphia, Pennsylvania, for an improvement in "Metal Casks or Barrels," an error appears in the printed specification requiring correction, as follows: Page 1, line 100, after the word "overlap," the period should be stricken out and a comma inserted instead; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 2nd day of August, A. D., 1910.

[SEAL.]

F. A. TENNANT,

Acting Commissioner of Patents.