(No Model.)

E. A. DAVID & J. RATH.

BARREL OR KEG.

No. 503,580. Patented Aug. 22, 1893.

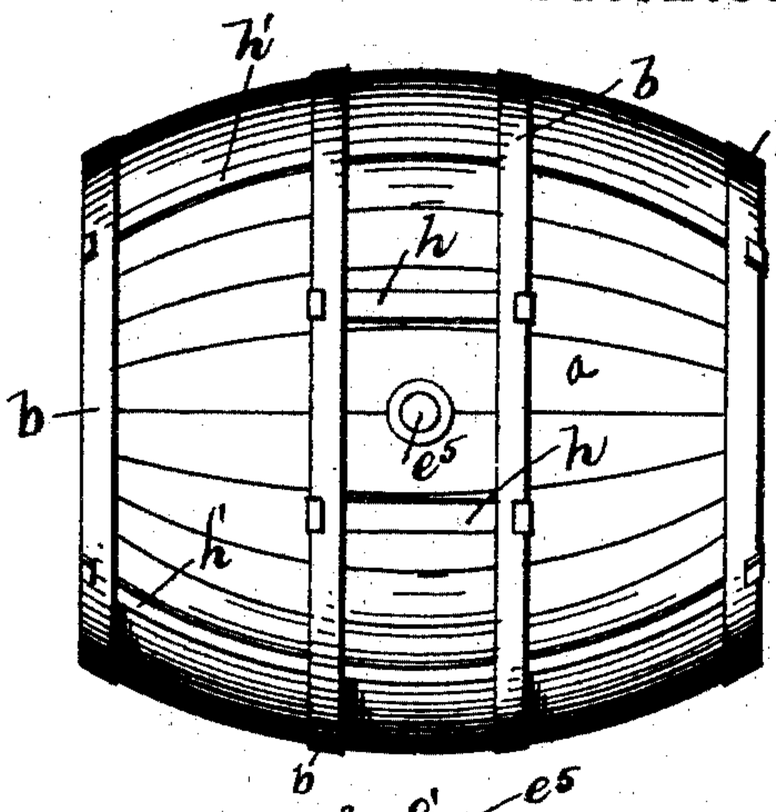

Fig. 1

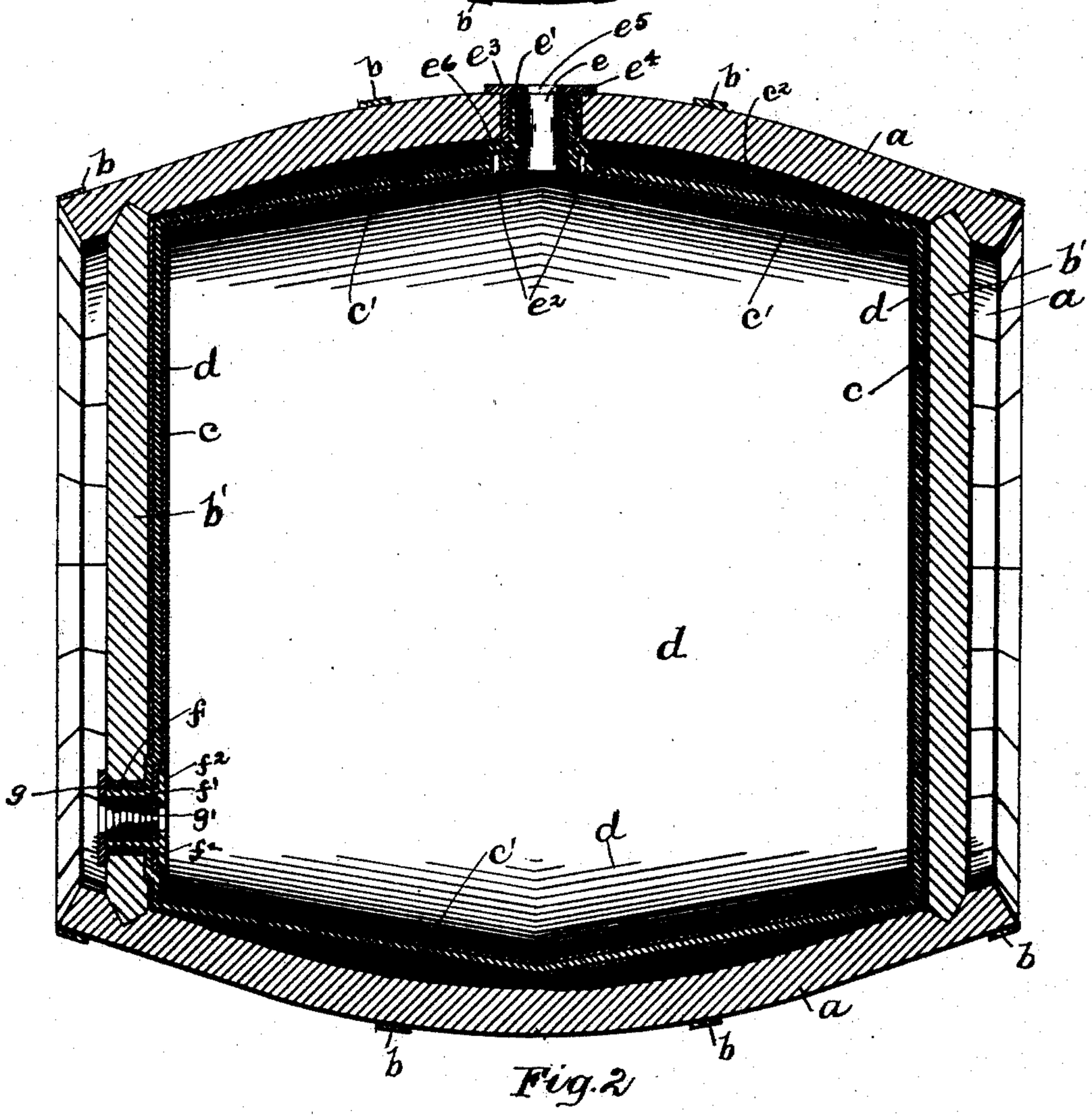

Fig. 2

Witnesses
H. B. Bradshaw
C. E. Bragg.

Inventors:
Edmund A. David
Joseph Rath.
By their Attorneys
Staley and Shepherd

UNITED STATES PATENT OFFICE.

EDMUND A. DAVID AND JOSEPH RATH, OF COLUMBUS, OHIO, ASSIGNORS OF ONE-THIRD TO JOSEPH P. MERRILL, OF SAME PLACE.

BARREL OR KEG.

SPECIFICATION forming part of Letters Patent No. 503,580, dated August 22, 1893.

Application filed November 5, 1892. Serial No. 451,029. (No model.)

To all whom it may concern:

Be it known that we, EDMUND A. DAVID and JOSEPH RATH, citizens of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Barrels or Kegs, of which the following is a specification.

Our invention relates to the improvement of barrels or kegs or similar receptacles and has particular relation to casks designed to contain malt liquors.

The object of our invention is to construct an improved bung-hole with a nipple therein and a surrounding cap therefor, the nipple projecting outward from a metallic lining which is mounted within a wooden casing, the cap surrounding the nipple and fitting tightly within the opening through the casing.

Further objects will appear hereinafter in the specification describing said invention.

These objects we accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of one of our improved barrels or casks and Fig. 2 is a central longitudinal section of the same, shown on an enlarged scale.

Similar letters refer to similar parts throughout the several views.

a represents the wooden staves of a keg which are of the usual bowed form and which are united by means of the usual hoops *b*.

b' represents the keg ends or heads which connect said staves near their outer ends in the usual manner. The wooden keg or vessel thus formed is provided as shown at *c* with an internal casing or lining formed of steel or other suitable metal. While this metal lining *c* has substantially the outline of a keg, it will be observed that the bowed sides thereof which are indicated at *c'* are retained at a distance from the inner surface of the staves, thus resulting in a space c^2 between said staves and the metal portion *c'*. The ends of the metal casing or lining *c* are however, made to fit closely against and conform to the shape of the wooden heads *b'*. The inner and outer sides of the metal lining *c* are enameled as shown at *d* with a suitable enamel, porcelain, granite or other similar substance.

At a suitable point in the center of the bulge of our improved cask, we provide a bung-hole *e*, the latter passing through the staves and communicating with the interior of the cask through a similar opening in the metal lining *c*.

e' represents an externally threaded nipple, the inner flanged end of which is riveted or otherwise secured as shown at e^2 to the outer surface of the metallic plate c^2, about the bung-hole opening therein. The tubular outwardly projecting portion of the nipple *e'* passes through the bung-hole opening of the stave and has screwed thereon the tubular inwardly projecting portion of a cap e^3, said cap being provided on its outer end with a flange or head e^4, which projecting laterally bears against the outer surface of the staves and which has its inwardly projecting portion bearing against the end of the nipple *e'*. This cap is provided with a central opening e^5 which forms a continuation of the nipple opening. Before securing the cap e^3 in place upon the nipple *e'*, we preferably encircle the inner end portion of the nipple adjacent to its flanges with a suitable washer e^6, preferably of leather. The outer face of this cap is smooth and cylindrical and preferably of a size to fit tightly within the opening in the wooden casing, by which means it is prevented from becoming accidentally unscrewed from the nipple as will be clear.

In constructing a tap or outlet opening in one end of the barrel or keg we provide an opening *f* within which is inserted from the interior of the cask, a nipple *f'* having external threads on its tubular neck and having a flanged head portion f^2 on its inner end. The head of the inner flanged end of the nipple *f'* is as shown, countersunk until flush with the inner surface of the cask.

g represents an internally threaded cap-

piece which corresponds substantially with the cap e^3 of the bung-hole, said cap g being screwed over the tubular outwardly extending portion of the nipple f', the outer face of this cap-piece being also smooth and cylindrical and fitting tightly within the opening in the wooden casing for the same purpose as described above.

g' represents leather washers which are arranged, one upon the other within the nipple f' and the openings in which gradually increase toward the outer end of said nipple. These washers are clamped as shown in the drawings, between the inner flanges of the cap g and nipple f'; and they serve when in place to frictionally bind and hold the bung, or the spigot when the bung is removed and the spigot inserted for tapping the cask.

As herein illustrated for the construction of a bung-hole, the surface of the bung-hole and tap opening may be enameled as prescribed for the inner surface of the metallic lining.

h represents short metallic straps which serve to connect the inner pair of outer hoops b, said straps passing under said hoops and having their ends bent outward and over the outer faces of the hoops, thus serving to couple the same together and prevent any tendency of said hoops to move outward or down the incline of the staves. In order to prevent any tendency of the outer end hoops b from slipping over the staves, we couple said outer end hoops through the medium of straps h', the turned ends of which pass beneath said hoops and engage with the outer edges thereof, as shown.

From the construction herein shown and described, it will be observed that a barrel or keg is produced by means of which the liquid contained therein is brought in contact with the surface of material which will in nowise affect the chemical or other qualities of said liquid. It is well-known that beer and kindred liquids have their qualities, taste, and freshness seriously impaired by contact with the wood of the ordinary kegs or barrels, but the use of the enameled metallic lining herein shown and described will obviate any difficulties of this character, owing to the fact that no chemical, or other injurious action takes place by the contact of the beer with the enamel.

In the construction of this keg, it will be seen that the space which extends between the metal lining and the wooden staves and which is indicated by c^2 in the drawings, will serve to cushion said lining against any jar or concussion rising from the rough handling of the barrel or the contact of its staves with other hard surfaces. It will thus be observed that by this construction any crevices or openings between the staves of the keg which may be caused by shrinkage or otherwise, will in nowise affect the contents of the barrel, inasmuch as the latter will be inclosed in the metallic enameled lining and that said lining forms in itself a complete inclosure.

It is obvious that the metallic lining herein shown and described may be formed of two or more united sections.

It is evident that the enamel covering of the outer side of the metal lining will serve to prevent any tendency of the metal to rust or corrode through a leakage between the staves and that the metal portions of our cask are completely protected by the enamel.

Having now fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a keg or barrel, the combination with the outer wooden casing having a suitable opening; of an inner metallic lining having a bung-hole, an exteriorly threaded nipple secured to said lining around the hole and projecting out said opening, and a cap having interior threads for engaging those on the nipple, its exterior being cylindrical and smooth and tightly fitting the opening in the casing, as and for the purpose set forth.

2. In a keg or barrel, the combination with the outer wooden casing having a suitable opening in one end; of an inner metallic lining having a bung-hole, a nipple passed outwardly through said hole and having an enlarged flanged head at its inner end countersunk flush with the inner face of said lining, the tubular neck of the nipple being exteriorly threaded and standing within said opening, and a cap having interior threads for engaging those on the nipple, its exterior being cylindrical and smooth and tightly fitting the opening in the casing, as and for the purpose set forth.

3. In a keg or barrel, the combination with the outer wooden casing having a suitable opening in one end; of an inner metallic lining having a bung-hole, a nipple passed outwardly through said hole and having a flanged head at its inner end countersunk flush with the inner face of said lining, the flanges of the head projecting both inside and outside of the tubular neck of the nipple and the latter being exteriorly threaded and standing within said opening, a cap having interior threads for engaging those on the nipple, a flanged head at the outer end of the cap extending inward to a diameter smaller than that of the interior of the nipple, and a series of washers clamped between the inner flanges of said heads and standing within the nipple, as and for the purpose set forth.

4. In a keg or barrel, the combination with the outer wooden casing having a suitable opening in one end; of an inner metallic lining having a bung-hole, a nipple passed outwardly through said hole and having a flanged head at its inner end countersunk flush with the inner face of said lining, the flanges of the head projecting both inside and outside of the tubular neck of the nipple and the latter being exteriorly threaded and standing

within said opening, a cap having interior threads for engaging those on the nipple, a flanged head at the outer end of the cap extending inward to a diameter smaller than that of the interior of the nipple, and a series of washers clamped between the inner flanges of said heads and standing within the nipple, the openings in said washers gradually increasing in size toward the outer end of said nipple, as and for the purpose set forth.

EDMUND A. DAVID.
JOSEPH RATH.

In presence of—
C. C. SHEPHERD,
C. E. BLUE.