(No Model.)

# J. WACKER.

## BEER CASK.

No. 406,246. Patented July 2, 1889.

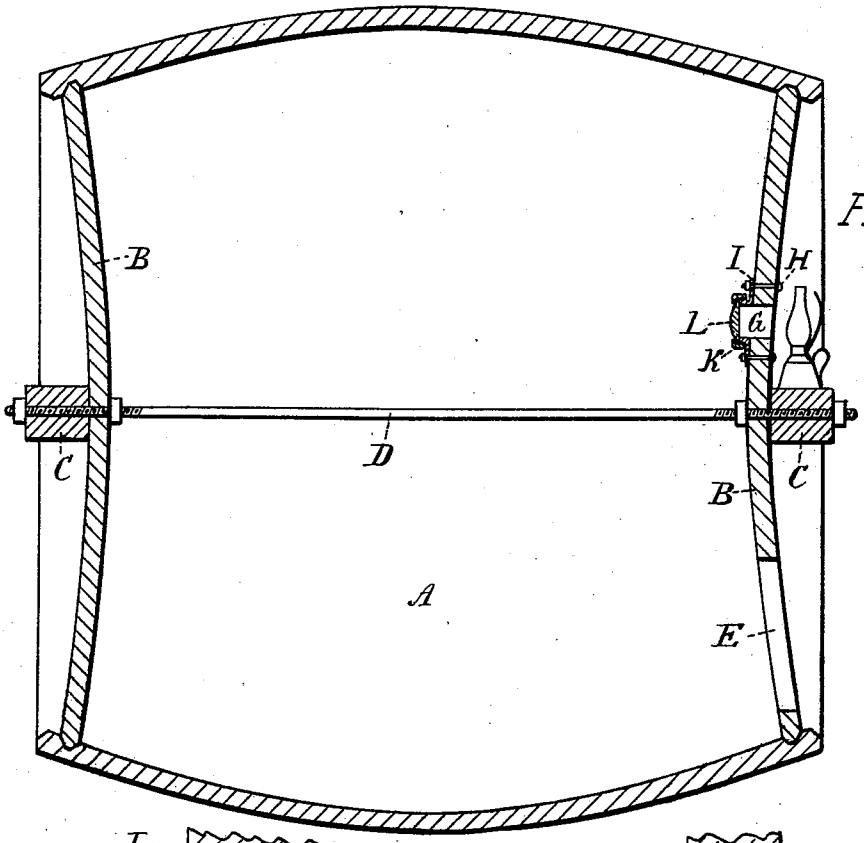



Fig. 1

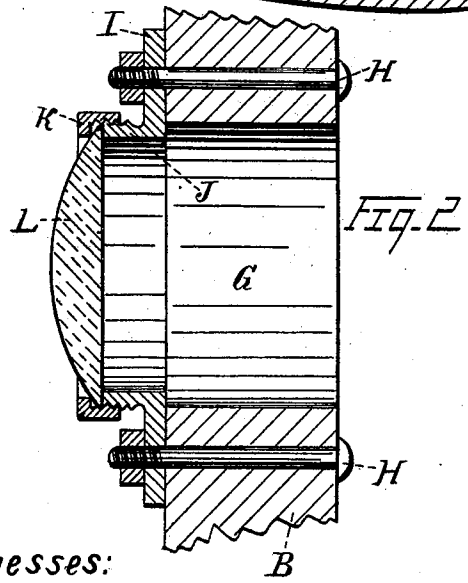



Fig. 2

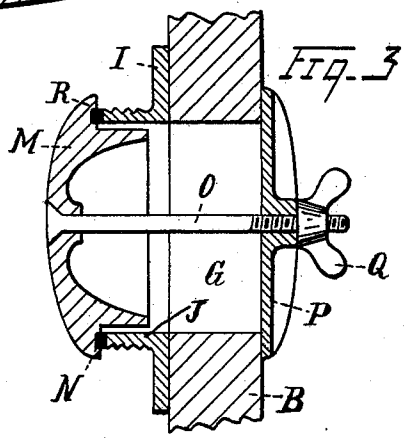



Fig. 3

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Inventor:
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N. PETERS. Photo-Lithographer. Washington, D. C.

# UNITED STATES PATENT OFFICE.

JOHN WACKER, OF DETROIT, MICHIGAN.

## BEER-CASK.

SPECIFICATION forming part of Letters Patent No. 406,246, dated July 2, 1889.

Application filed October 9, 1888. Serial No. 287,618. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN WACKER, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Beer-Casks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in casks, and the invention specifically applies to that class of casks used for storing certain kinds of liquids, such as beer, ale, wines, &c.

It is well known that this class of casks are generally protected upon the inside with a coating of varnish, pitch, isinglass, &c. This coating is applied to the inside of the cask in the form of a solution, of which the main ingredient or dissolvent is alcohol or other similar inflammable liquid, and therefore in applying such solution or varnish great danger is encountered through the formation of inflammable gases, which, as experience has proved, have caused numerous casualties by causing explosions or fires in contact with a lamp or torch, which necessarily has to be used in sufficient proximity to the work to light the workman in his task. My invention is designed to remove all danger arising from this cause by providing the cask with means for lighting up its interior from the outside through the medium of a suitable window or lens in the walls of the cask, whereby all contact of the inflammable gases with the light is prevented.

To this end my invention consists in the peculiar construction, arrangement, and its combination, with a cask, of a lens set in the wall of the cask in such manner as to light the whole interior thereof by means of a lamp placed on the outside; and my invention consists, further, in the means for removing said lens and providing in lieu thereof suitable means for hermetically closing the opening in the cask in which the lens is located, so as not to interfere with the ordinary use of the cask, all as more fully hereinafter described, and shown in the drawings, in which—

Figure 1 shows a central vertical section of a large storage cask or tun provided with my improvement. Fig. 2 shows an enlarged section of the lens and the means for holding it in position at the head of the cask. Fig. 3 is a similar section with the lens removed and the opening closed hermetically by means of a cap.

A represents a cask. B B represent the heads of the cask. C C represent diametrical braces applied on the outside of the heads, and D a tie-rod in the axis of the cask. E is a man-hole, all as in the usual construction of large casks as in present use for storing beer, wines, &c.

In one of the heads I form a suitable aperture G, preferably near the center of the cask, and around this aperture and upon the inside of the head I secure by means of suitable bolts H or otherwise the flanged ring I, which has an outwardly-projecting circular flange J, which is screw-threaded, as shown, and provided with a collar K, adapted to engage therewith.

L is a dioptric lens, preferably plano-convex or of any other suitable form, to effect the dispersion of light on the inside of the cask. This lens is secured to the ring I by the collar K, so as to be readily removed for the purpose of securing in lieu of the lens a suitable cap M, as shown in Fig. 3, adapted to hermetically close the aperture to prevent any leakage when the cask is filled. To this end I use the construction shown in Fig. 3, wherein N is a gasket placed between the ring I and a suitable shoulder R, formed on the cap, and a bolt O, secured to the center of the cap, extends outwardly and is secured by means of a cross-brace P and screw-nut Q upon the end of the bolt, all so arranged that by tightening the nut Q the cap may be set hermetically against the ring I, and it may be readily removed again when it is desired to use the lens.

In practice, with the parts constructed and arranged as shown in Fig. 1, it will be seen that by placing a lamp on the outside of the head opposite the lens L the light from the lamp will be dispersed inside the cask and furnish the workman with a much superior light for aiding him in his work than by the usual means of lighting, which consisted in holding a lamp or torch in front of the man-hole E, and which light necessarily never is sufficient to light the whole inside of the cask.

Aside from the superior result in lighting

the cask, my device effectually removes the dangerous element explained above in varnishing casks, as it will be seen, and experience has demonstrated, that no danger whatever exists of setting the gases liable to be formed in the interior of the cask on fire or cause an explosion by lighting the mixture of atmospheric air with the gases which are formed inside of the cask and issue more or less from the man-hole E. By taking advantage of the cross-brace C on the head of the cask I form a suitable support for the lamp by placing the aperture G in suitable relation thereto. After the work of varnishing the inside of the cask is completed the lens may be removed and the cap M placed in lieu thereof and secured, as shown in Fig. 3, whereby all danger of leakage through the aperture G is prevented when the cask is filled with liquid. I preferably provide the lamp with a suitable reflector to concentrate the light upon the lens L.

What I claim as my invention is—

1. The combination, with the cask having an aperture in its end and a brace across said end beneath said aperture, of a glass over said aperture, and a lamp supported by said brace, substantially as and for the purpose specified.

2. The combination, with the head having aperture G, of the flanged ring I, secured to the head around said aperture and provided with screw-threaded flange J, the lens, and the threaded collar K, for holding said lens against the flange, substantially as shown and described.

3. The combination, with the aperture G in the head of the cask, of the flanged ring I, provided with the screw-threaded flange J, the lens, the threaded ring K, the cap M, provided with the shoulder R, the gasket N, the bolt O, cross-brace P, and screw-nut Q, the parts being arranged to operate substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 4th day of September, 1888.

JOHN WACKER.

Witnesses:
JOHN SCHUMAN,
N. M. HULBERT.