

W. BARLOW.
LIQUID JACKET.
APPLICATION FILED OCT. 24, 1910.

981,238.

Patented Jan. 10, 1911.

Fig. 1.

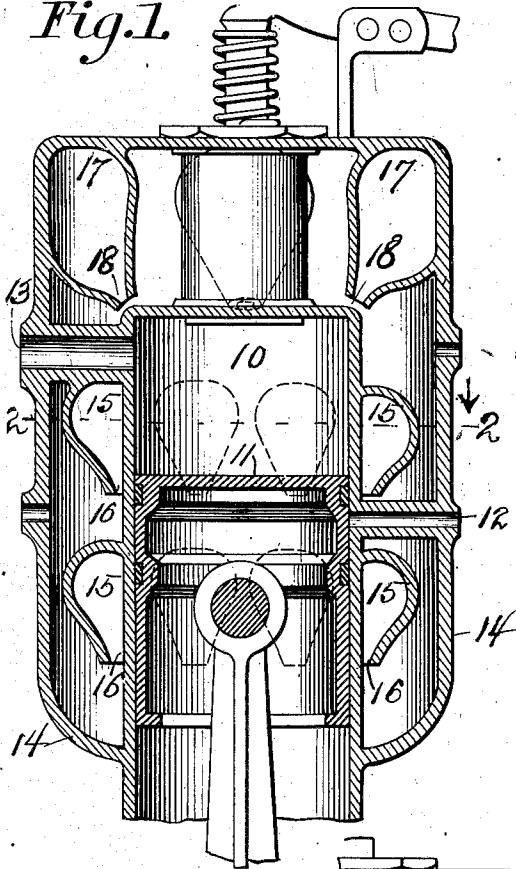


Fig. 2.

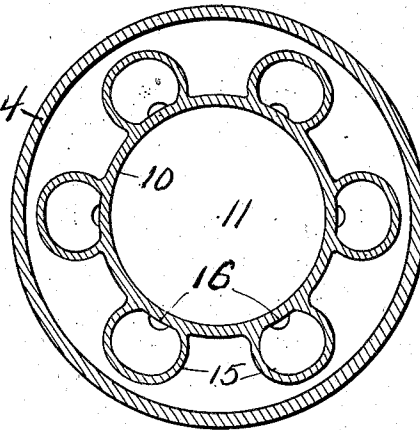
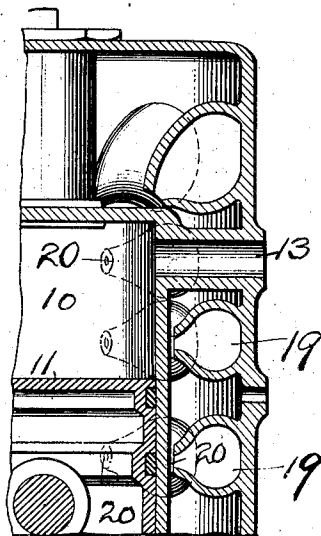


Fig. 3.



WITNESSES

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LIQUID-JACKET.

981,238.

Specification of Letters Patent. Patented Jan. 10, 1911.

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To all whom it may concern:

Be it known that I, WESLEY BARLOW, a citizen of the United States, residing at Greentown, county of Howard, State of Indiana, have invented certain new and useful Improvements in Liquid-Jackets, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to a device for cylinders containing liquids and is particularly adapted for application to the water jacket of a gasoline engine cylinder.

The invention has for an object to provide a chamber within a cylinder water jacket closed at one end and open at its opposite end to permit the compression of air contained therein and thus provide for the expansion of the liquid within the jacket while freezing.

Other and further objects and advantages of the invention will be hereinafter set forth and the novel features thereof defined by the appended claims.

In the drawing—Figure 1 is a vertical section through an engine having the invention applied thereto; Fig. 2 is a cross section on line 2—2 of Fig. 1; and Fig. 3 is a section showing a modified application of the invention.

Like numerals of reference refer to like parts in the several figures of the drawing.

The numeral 10 designates a cylinder within which a piston 11 is mounted and adapted to be operated by any desired means. This cylinder is provided with ports 12 and 13 as shown in Fig. 1 and is surrounded by a casing 14 spaced therefrom. Intermediate of the cylinder and casing, a series of air chambers 15 are disposed and those secured upon the cylinder are provided with a contracted liquid opening 16 by which the air within the chamber may be compressed through the pressure of the liquid. The upper portion of the casing is provided with similar chambers 17 having openings 18 communicating with the liquid of the water jacket and the function of these chambers is similar to those of the chambers 15.

In the modified form of the invention

shown in Fig. 3, the casing 14 has chambers 19 cast thereon which are provided with openings 20 adjacent the wall of the cylinder 10 and act in a similar manner to permit compression of the body of air therein so that in event of the freezing of the liquid in the jacket, a proper expansion would be secured to avoid breaking or fracture of the casting used for either the cylinder or the jacket. The invention therefore presents a simple and efficient form of antifreezing device adapted to be formed integral with either the cylinder or jacket and to prevent fracture thereof through the expansive freezing action of the liquid contained in the jacket.

Having described my invention and set forth its merits what I claim and desire to secure by Letters Patent is—

1. In a liquid jacket, a series of pockets secured upon the walls thereof and having openings at their lower ends of less diameter than the body of said pockets.

2. In an antifreezing device, a cylinder, a liquid jacket surrounding said cylinder and spaced therefrom, and a series of pockets carried by the walls of said cylinder and having openings of less diameter than the body of said pockets.

3. In an antifreezing device, a cylinder, a liquid jacket surrounding said cylinder and spaced therefrom, a series of pockets carried by the walls of said cylinder and having openings of less diameter than the body of said pockets, and a series of pockets carried by the casing of said jacket and having inlet openings of less diameter than the body thereof.

4. In a liquid jacket, an antifreezing chamber secured to a wall thereof and having an opening of less diameter than the body of the chamber to permit a compression of air within said chamber upon the freezing of any liquid within the jacket.

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

WESLEY BARLOW.

Witnesses:

LUCY WAGNER,
OTTO KEMMER.