

D. B. WHITEHILL.
 BAILING BUCKET FOR OIL WELLS.
 APPLICATION FILED MAY 27, 1907.

952,393.

Patented Mar. 15, 1910.

Fig. 1.

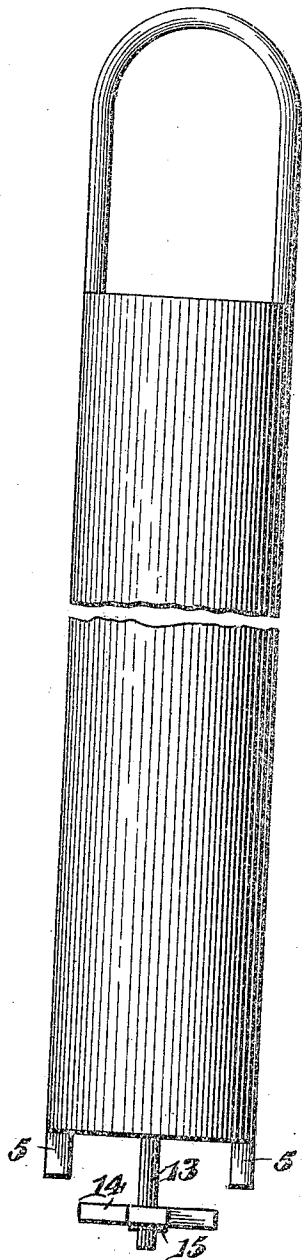


Fig. 2.

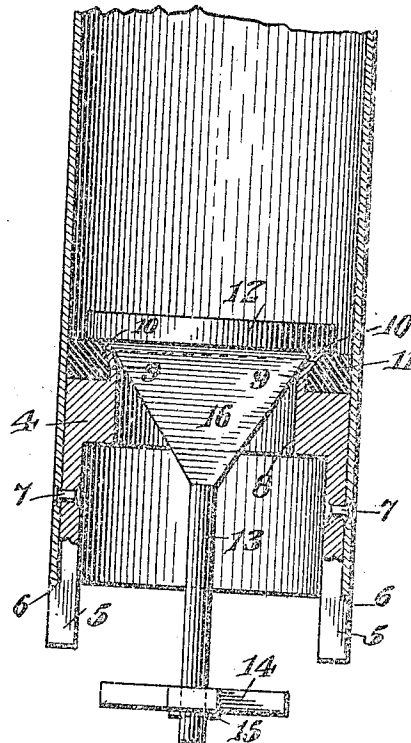
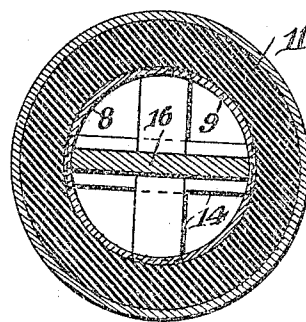


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

DAVID BROWN WHITEHILL, OF NORTH CLARENDON, PENNSYLVANIA.

BAILING-BUCKET FOR OIL-WELLS.

952,393.

Specification of Letters Patent.

Patented Mar. 15, 1910.

Application filed May 27, 1907. Serial No. 375,988.

To all whom it may concern:

Be it known that I, DAVID B. WHITEHILL, a citizen of the United States, residing at North Clarendon, in the county of Warren and State of Pennsylvania, have invented a new and useful Bailing-Bucket for Oil-Wells, of which the following is a specification.

The present invention relates to buckets for bailing oil and analogous wells, and the primary object is to provide a novel and simple structure wherein the parts can be easily manufactured and readily assembled, and wherein the valve mechanism will permit the ready passage of liquid into the bucket while effectively prohibiting leakage therefrom.

In the accompanying drawings, Figure 1 is a side elevation of the bucket. Fig. 2 is a vertical sectional view therethrough. Fig. 3 is a cross sectional view.

Similar reference numerals designate corresponding parts in all the figures of the drawings.

In the form of construction shown, a bottom wall 4 is employed, having depending peripheral lugs 5, provided with shoulders 6. The usual tubular side wall surrounds the bottom wall 4, and depends below the same, inclosing the upper portion of the lugs 5, and resting on the shoulders 6. Rivets 7, or other suitable fasteners pass through the lugs and depending portions of the tubular wall, thus effectively securing the bottom in place.

The bottom wall 4 is provided with a central opening 8, surrounded by an upstanding rim 9, the upper end of which is flared, as shown. This rim is received within the opening 10 of a packing washer 11, located upon the bottom wall 4, and held in place by said rim 9. The washer 11 is of suitable resilient material, and has flat upper and lower sides. In constructing the same, it is preferably made of slightly greater diameter than the bottom wall 4, so that when said bottom wall is placed in position, the washer 11 is compressed, and therefore snugly fits the interior of the tubular wall.

A valve disk 12 coöperates with the packing washer 11, and has a depending stem 13 extending through the central opening 8, said stem carrying at its lower end a cross bar 14 of greater length than the diameter of the opening in the bottom wall 4, said cross bar thus limiting the upward move-

ment of the valve. The cross bar is held in place by any suitable means, as for instance, by a pin 15, located below it and extending through the stem 13. The upper portion of the stem is enlarged, as shown at 16, and the upper portion of the enlargement where it joins the under side of the valve 12 corresponds in width to the diameter of the bottom opening, extending over the flared rim 9. The opposite sides of the stem are flat and said stem, as shown, is much thinner than the diameter of the opening.

With the above described simple arrangement, it will be apparent that when the bailer is lowered, the lower ends of the lugs will strike the bottom, thus supporting the body in spaced relation to said bottom so that the liquid can pass freely through the bottom thereof into the same, as the valve will readily rise. On the upward movement of the bailer, the valve will close upon the packing washer. In this structure, there is nothing that is liable to become deranged or inoperative, and the parts are exceedingly simple. Moreover, the flat sided enlarged valve stem takes up comparatively little space, in the central opening in the bottom, so that a comparatively large amount of liquid can flow into the bailer, and yet by means of the structure shown, the valve will always be centered when it closes, and when closed, rests upon the packing washer in spaced relation to the rim.

A further and very important feature of the invention is the compressible ring employed, which performs two functions. When in position, it is held against upward movement by the flared boss, over which it is sprung. Moreover, it is compressed sufficiently to fill out about the rivets and joints, making a thorough leak-proof structure, thus constituting packing at the lower ends of the bailer, besides serving as a seat for the valve. Moreover particles of stone and dirt will embed therein, permitting the valve to close tightly. Moreover it may be readily removed and replaced by a new one whenever wear makes it ineffective.

From the foregoing, it is thought that the construction, operation, and many advantages of the herein described invention will be apparent to those skilled in the art, without further description, and it will be understood that various changes in the size, shape, proportion and minor details of con-

struction, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

What I claim, is:—

5 1. A bailing bucket having a cylindrical bucket shell, an annular bottom attached on its exterior to said shell and having an upwardly extending annular flange surrounding its central opening, said flange being
10 outwardly flared toward the exterior wall of the bucket, and an imperforate annular packing ring having a flat upper face of such thickness to extend above the flange when in place, said ring being compressed
15 between the flange and the exterior shell of the bucket and closing the joint between said shell and the outer face of the annular bottom, and a valve having an unbroken upper face provided with a stem projecting
20 downwardly through the annular bottom and having a lower flat margin adapted to rest upon said packing.

2. A bailing bucket having a cylindrical bucket shell, an annular bottom attached to
25 said shell, an annular elastic packing ring supported on said bucket and having its outer face compressed against the wall thereof, the inner face of said packing ring around its central opening being inclined
30 upwardly and outwardly and covered with an outwardly and upwardly inclined metallic guard, in combination with a valve having a stem passing downward through the end of the bottom, its lower margin
35 adapted to rest upon said packing, and a stem projecting downwardly from the under face of the valve, the upper end of said stem being conical in section, the base of said cone

being of the same width as the opening and of the same angle and adapted to bear
40 against said metallic packing ring when the valve is in place.

3. A bailing bucket having a cylindrical bucket shell, an annular bottom having a
45 downwardly projecting exterior flange and downwardly projecting lugs extending below the bottom of said shell and formed with outwardly projecting shoulders contacting with the bottom edge of the bucket
50 shell, an upwardly and outwardly extending flange formed on the upper face of the annular bottom and surrounding the central opening, a packing ring compressed between said flange and the wall of the bucket, said
55 packing ring being square in section and covering the joint between the bottom and the exterior wall of the bucket, a valve composed of an imperforate valve disk, the lower margin of which is flat and adapted
60 to contact with the flat upper surface of the packing ring, said valve being provided on its under side with a downwardly projecting flat-sided, downwardly tapered valve stem
65 extending through the central opening of the bottom, said stem at its upper enlarged end having a width substantially equal to the diameter of the opening in the bottom and having its edges of the same angle as the inwardly inclined flange.

In testimony, that I claim the foregoing
70 as my own, I have hereto affixed my signature in the presence of two witnesses.

DAVID BROWN WHITEHILL.

Witnesses:

M. METZ,

JOHN HUNTER.