No. 760,570. PATENTED MAY 24, 1904.

A. L. SCHELLHAMMER.

OIL BAILING DEVICE.

APPLICATION FILED FEB. 5, 1904.

NO MODEL.

Fig. 1.

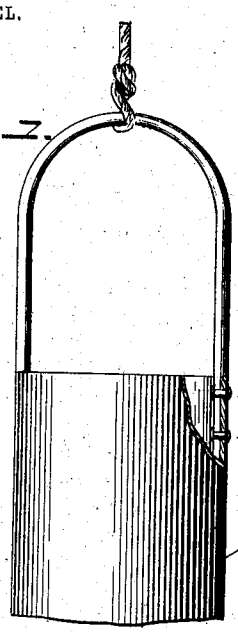


Fig. 2.

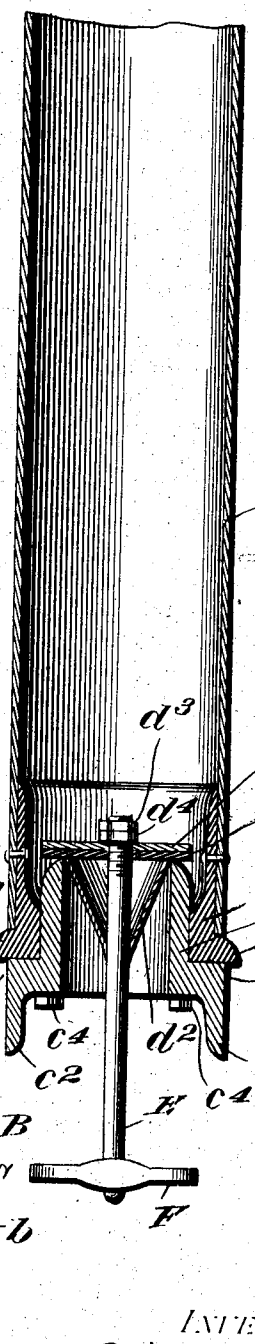


Fig. 4.

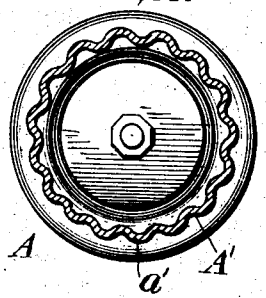
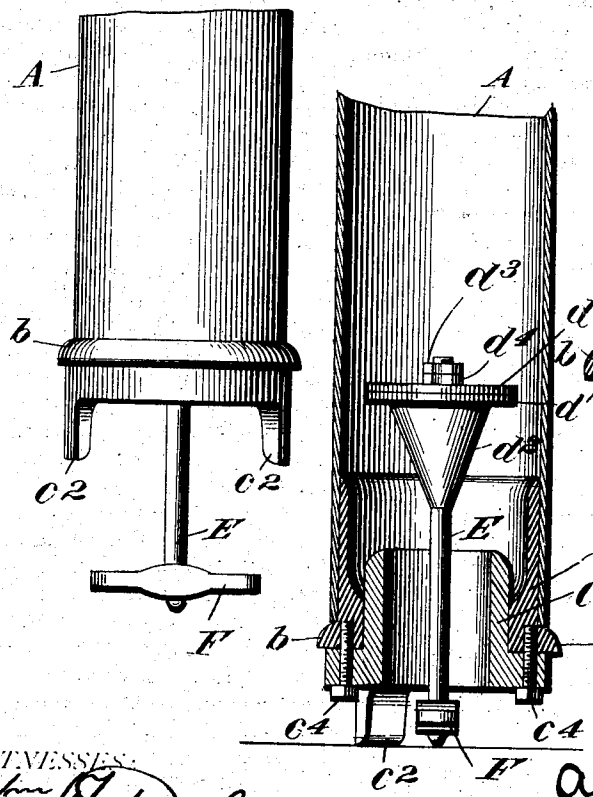


Fig. 3.



WITNESSES:

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 760,570. Patented May 24, 1904.

UNITED STATES PATENT OFFICE.

ALFRED L. SCHELLHAMMER, OF WARREN, PENNSYLVANIA.

OIL-BAILING DEVICE.

SPECIFICATION forming part of Letters Patent No. 760,570, dated May 24, 1904.

Application filed February 5, 1904. Serial No. 192,197. (No model.)

To all whom it may concern:

Be it known that I, ALFRED L. SCHELLHAMMER, a citizen of the United States, residing at Warren, in the county of Warren and State of Pennsylvania, have invented certain new and useful Improvements in Oil-Bailing Devices; 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 improvements in bailers for oil-wells for bailing oil; and it consists in the novel features hereinafter described, reference being had to the accompanying drawings, which illustrate one form in which I have contemplated embodying my invention, and said invention is fully disclosed in the following description and claims.

Referring to the drawings, Figure 1 represents a bailer provided with my improved valve construction. Fig. 2 is a vertical cross-section showing the valve on its seat, and Fig. 3 is a vertical cross-section showing the valve raised. Fig. 4 is a transverse sectional view of a modified form of bailer-casing.

The object of my invention is to provide a valve for bailers to be used in oil-wells for bailing oil which is readily removable from the main casing for cleaning and other purposes and which is less apt to get out of order by reason of becoming dented by the main casing coming in contact with the sides of the well and also to prevent the valve becoming inoperative from sediment settling on the valve-seat.

A represents the main casing of my improved bailer, cylindrical in form and is provided with an inside reinforcing-ring B at its lower extremity, preferably united thereto by soldering to make a tight joint. This reinforcing-ring B is provided with an annular bead *b*, which projects over and beyond the lower edge of said casing, as shown in the drawings, for the purpose of preventing the denting of the outside casing and injury to the valve-seat C. The upper portion of this reinforcing-ring is tapered outwardly, as shown in the drawings, for reasons hereinafter mentioned.

A valve-seat C, adapted to fit the opening in the reinforcing-ring B, is provided, having an enlarged portion *c*, shouldered, as at *c'*, and adapted to retain said valve in place by means of machine-bolts c^4 c^4 passing through openings in said enlarged portion *c* and screwed into said reinforcing-ring. It is obvious that other means may be used for securing the valve-seat in the reinforcing-ring—as, for example, the said valve-seat may be screw-threaded to engage screw-threads provided on the inside of the reinforcing-ring. On the enlarged portion *c* are formed two downwardly-extending projections or legs c^2 c^2, which serve as supports for the bailer and also allow the oil to pass out.

The valve occupies the central opening in the valve-seat C and consists of a washer *d'*, made of leather or other suitable material, held in place on the centering device d^2 by means of the retaining-flange *d* and nuts d^3 and d^4, adapted to engage the stem E. The centering device comprises a hollow funnel-shaped float d^2, secured to the valve-stem by welding or soldering, and my object in using this form of device is to afford a light construction to allow the oil to pass in freely and prevent it from gasing or foaming. The stem E is made of sufficient length to permit the valve to be raised well out of its seat when the legs of the bailer are resting on the bottom of the well. A cross-bar F, longer than the diameter of the opening in the valve-seat, is provided on the end of the stem E to retain said valve in the main casing when the bailer is in use or when it is inverted.

The valve-washer *d'* and the flange-washer *d* are of no greater diameter than the width of the valve-seat, which construction will permit the valve-seat, with the valve, to be slipped out upon the removal of the machine-bolts c^4 c^4 and repaired without removing the reinforcing-ring B.

It will be seen from the drawings that the valve-seat is extended upward above the point

where the tapering of the reinforcing-ring B begins, which forms a sediment-trap, and this keeps the valve-seat clear.

This bailing device is adapted, primarily, for bailing oil from wells of low capacity when pumping would be inconvenient or expensive. It is therefore very important that the valve should be very light, so as to open as soon as the lower end of the bailer strikes the oil, and thereby permit the oil to flow into the casing. Hence the valve is provided with the hollow body or float d^2. In using these devices the bailer is raised and lowered by a rope passing over a sheave in the derrick, and the operator will mark the rope in any convenient manner to prevent the bailer from being lowered to the bottom of the well, which would result in stirring up the sand and impurities and admitting them to the casing, which would injure the quality of the oil removed from the well. When the bailer is filled with oil, it is drawn up out of the well and lowered into a barrel or other receptacle, when the valve-stem strikes the bottom of said receptacle, opening the valve and permitting the oil to flow into said receptacle.

As a modification of my invention I sometimes form the body of the same of sheet-iron, preferably galvanized, which is provided longitudinally with exterior and interior grooved portions forming a crimped or corrugated body, as shown in Fig. 4, in which the body is indicated at A′ and the vertical corrugations at a'. This construction makes the bailer much stronger and prevents it from becoming dented or bent.

What I claim, and desire to secure by Letters Patent, is—

1. A bailer for removing oil from oil-wells, comprising a casing, provided at its lower end with a valve-seat, a valve located on said seat and a float operatively connected to said valve to cause it to open when the lower end of the casing enters the oil, substantially as described.

2. A bailer for removing oil from oil-wells, comprising a casing, provided at its lower end with a valve-seat, a valve located on said seat and a conical float connected to said valve and engaging said seat, to cause said valve to open, when the lower end of the casing enters the oil, and to center the valve upon its seat when the casing is drawn upward, substantially as described.

3. A bailer for removing oil from oil-wells, comprising a casing, provided at its lower end with a valve-seat, a valve located on said seat, a hollow conical float connected to said valve, and extending into said valve-seat, a stem connected to said valve and a securing device in said stem projecting below the lower end of the casing to limit the movement of the valve upward and to open the valve when the casing is lowered into a receptacle for oil, substantially as described.

4. A bailer comprising a casing, a reinforcing-ring, a valve-seat adapted to fit into the opening in said reinforcing-ring, means for detachably securing said valve-seat to said reinforcing-ring and a valve adapted to operate on said seat, substantially as described.

5. A bailer comprising a casing, a reinforcing-ring, a valve-seat adapted to fit into the opening in said reinforcing-ring and forming a sediment-trap between said valve-seat and said ring, and a valve adapted to operate on said seat, substantially as described.

6. A bailer comprising a casing, a reinforcing-ring, a bead on said reinforcing-ring projecting beyond said casing, a valve-seat adapted to fit into the opening in said reinforcing-ring, means for detachably securing said valve-seat to the under side of said reinforcing-ring, a valve adapted to operate on said seat, a cone-shaped float secured to said valve and engaging said seat, a valve-stem extending below the casing and a cross-bar on said stem adapted to retain said valve in said bailer, substantially as described.

7. A bailer for removing oil from oil-wells comprising a casing, provided at its lower end with a valve-seat and having supporting-legs extending below the bottom end of the bailer, a valve engaging said seat, a float operatively connected with said valve, and a stem connected to said valve and extending below said legs whereby when the bailer is filled and is lowered into an oil-receptacle the stem will engage the bottom of said receptacle to open the valve and the oil will be permitted to pass out between said legs into said receptacle, substantially as described.

8. A bailer for removing oil from oil-wells comprising a casing of sheet metal corrugated longitudinally and provided at its lower end with a valve-seat, a valve engaging said seat and a float operatively connected with said valve to cause it to open readily when the lower end of the casing enters the oil, substantially as described.

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

ALFRED L. SCHELLHAMMER.

Witnesses:
JAMES CLARK,
W. J. RICHARDS.