R. CONRADER.

PUMP BARREL.

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1,112,677.

Patented Oct. 6, 1914.

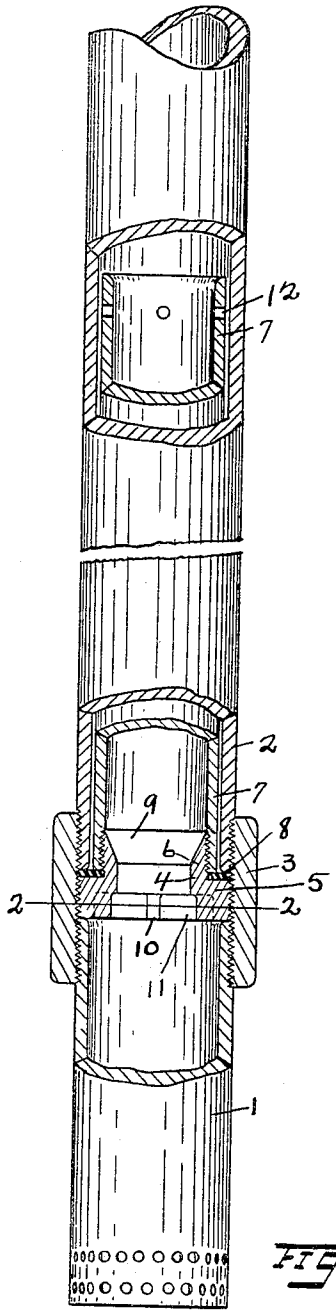


FIG. 1.

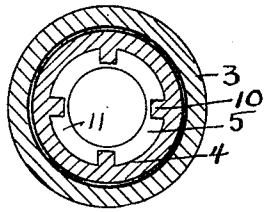


FIG. 2.

Witnesses

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UNITED STATES PATENT OFFICE.

RUDOLPH CONRADER, OF ERIE, PENNSYLVANIA.

PUMP-BARREL.

1,112,677. Specification of Letters Patent. Patented Oct. 6, 1914.

Application filed March 8, 1913. Serial No. 752,896.

To all whom it may concern:

Be it known that I, RUDOLPH CONRADER, a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented new and useful Improvements in Pump-Barrels, of which the following is a specification.

This invention relates to pump barrels and consists in certain improvements in the construction thereof as will be hereinafter fully described and pointed out in the claims.

More particularly the invention relates to that type of pump barrels usually used in deep wells, such as oil wells, and especially such barrels as are made up of double tubes one within the other.

The invention is illustrated in the accompanying drawings as follows:—

Figure 1 is a side elevation of a barrel, partly in section to better show construction. Fig. 2 is a section on the line 2—2 in Fig. 1.

1 marks the strainer, 2 the tubing forming the outer shell of the working barrel, and 3 the coupling with which the strainer is secured to the tubing.

A fitting 4 has the outwardly extending flange 5 which is exteriorly screw threaded and screwed into the coupling 3 between the ends of the strainer 1 and the tubing 2. The end of the strainer 1 may contact the fitting or not as convenient. The fitting has the upwardly extending portion 6, the outer surface of which is spaced from the inner surface of the tubing 2 and this portion 6 is exteriorly screw threaded. An insert 7 having an interior screw thread is screwed on to the fitting 4 and extends upwardly within the tubing 2. The insert 7 forms the working surface of the barrel.

A gasket 8 may be arranged on the top of the flange 5 and the ends of the tubing 2 and the insert 7 may be screwed into engagement with this insert so as to assure a tight joint.

The fitting has the taper upper portion 9 which adapts it for the reception of the standing valve. It is also provided with the shoulders 10 which are arranged in the annular groove 11 in the bottom of the fitting. The fitting may be screwed in place by a flat tube or any convenient device engaging the shoulders 10.

It will be noted when the pump barrel is in service the lower portion of the insert 7 will be free from internal pressure of the liquid on the well while the exterior of this barrel will be subjected to the full pressure of the barrel. By making the fitting 9 exteriorly screw threaded and the insert interiorly screw threaded this pressure tends to tighten the joint rather than loosen it.

By screwing the fitting 4 into the coupling 3 it is brought into exact alinement and concentricity with the coupling and consequently with the tubing 2. This assures the centering and alinement of the insert 7. This is very important as the insert is of comparatively light material and if it were forced into engagement with the walls of the tubing it would be sprung out of round.

I prefer to arrange the openings 12 which extend through the liner adjacent to the top of the liner and form a means of communication between the interior of the liner and the space between the liner and the tubing. The purpose of these openings is to prevent injury to the cups of a plunger when it is drawn from the working barrel. By arranging these openings near the top of the liner as the top of the cup reaches the top of the liner, the liquid communicating through the openings 12 balances the pressure above and below the cups so that there is no pressure tending to open the cups as they pass out of the end of the liner.

What I claim as new is:—

1. In a pump barrel, the combination of a tubing; a coupling screwed on to the tubing; a fitting screwed into the coupling having a beveled upper surface for the reception of a standing valve, and an insert secured to the fitting outside of said beveled surface and extending within the tubing.

2. In a pump barrel, the combination of a tubing; a coupling screwed on to the tubing; a fitting screwed into the coupling and having a screw threaded portion extending into the tubing; and an insert secured to the screw threaded portion of the fitting and extending within the tubing.

3. In a pump barrel, the combination of a tubing; a coupling screwed on to the tubing; a fitting screwed into the coupling, said fitting extending into the tubing and being exteriorly screw threaded with the screw threaded portion spaced from the

inner surface of the tubing; and an insert having an interior screw thread screwed on to the screw threaded portion of the fitting and extending within the tubing.

4. In a pump barrel, the combination of a tubing; a coupling screwed on to the tubing; a fitting screwed into the coupling, the fitting having a portion extending into the tubing and having a beveled inner surface and a screw threaded exterior surface; and an insert having an interior screw thread screwed on to the fitting and extending into the tubing.

5. In a pump barrel, the combination of a tubing; a coupling screwed on to the tubing; a fitting having a flange portion exteriorly screw threaded and screwed into the coupling, said fitting having a portion extending into the tubing, said portion being exteriorly screw threaded; an insert interiorly screw threaded and screwed on to the screw threaded portion of the fitting; and a gasket on the flange forming a joint between the flange and the end of the insert and the end of the tubing.

6. In a pump barrel, the combination of a tubing; and a liner secured in the tubing and forming a space between the tubing and the liner, said liner having openings adjacent to the top thereof and extending through the liner into the space.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

RUDOLPH CONRADER.

Witnesses:
C. D. HIGBY,
A. T. DAVENPORT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."