

H. MEAD.
PUMP PLUNGER.
APPLICATION FILED JAN. 17, 1911.

992,576.

Patented May 16, 1911.

Fig. 1.

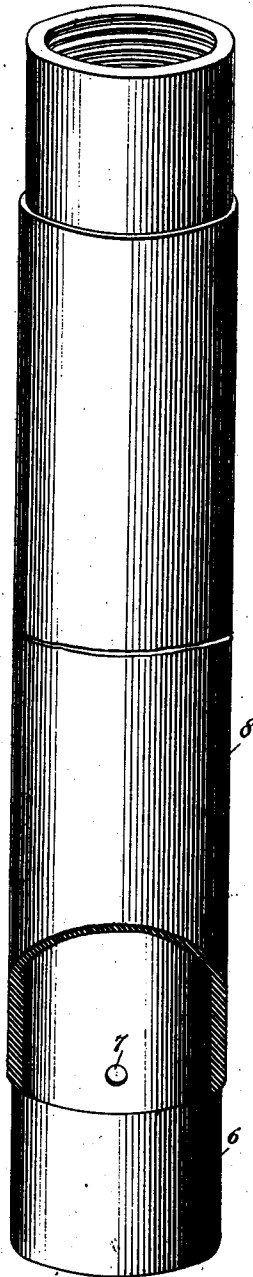


Fig. 2.

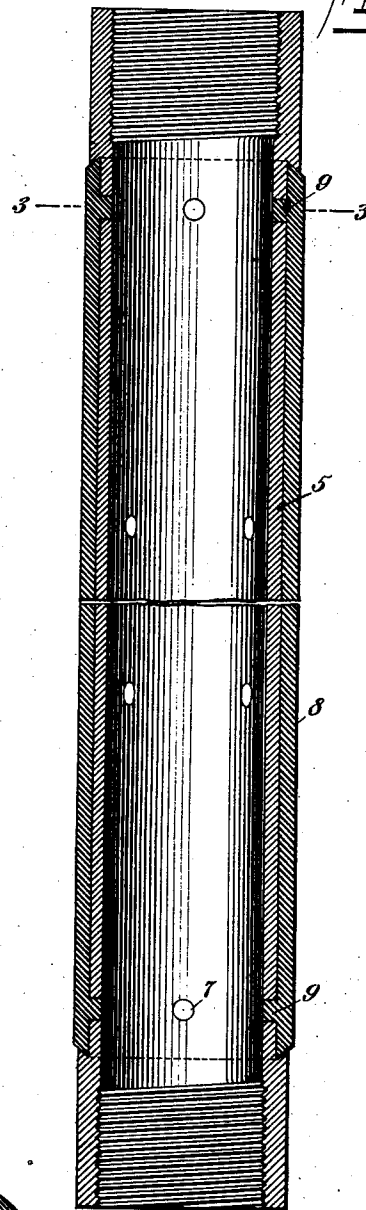
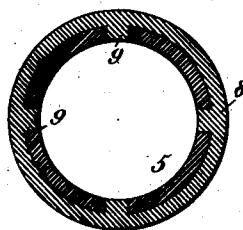


Fig. 3.



WITNESSES

William P. Goebel
P. A. Foster

INVENTOR

Harry Mead
BY Mumfrees
ATTORNEYS

UNITED STATES PATENT OFFICE.

HARRY MEAD, OF COALINGA, CALIFORNIA, ASSIGNOR OF ONE-HALF TO BURNS A. STEWART, OF COALINGA, CALIFORNIA.

PUMP-PLUNGER.

992,576.

Specification of Letters Patent.

Patented May 16, 1911.

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To all whom it may concern:

Be it known that I, HARRY MEAD, a citizen of the United States, and a resident of Coalinga, in the county of Fresno and State of California, have invented a new and Improved Pump-Plunger, of which the following is a full, clear, and exact description.

The invention is an improvement in pump plungers for oil wells, and has in view a tubular plunger having a jacket covering of Babbitt metal so applied that portions or lugs of the metal pass into openings through the wall of the plunger and securely unite the plunger body and jacket, yet fit with sufficient looseness to allow the oil pressure within the barrel to expand the babbitt jacket and take up part of the wear.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a perspective view of a plunger constructed in accordance with my invention, part of the babbitt jacket being removed; Fig. 2 is a central vertical section of the plunger; and Fig. 3 is a cross section of the same on the line 3—3 of Fig. 2.

In accordance with my invention, the plunger is made of a steel tube 5 of a suitable length, which tube is internally threaded at each end for the proper connections, and is turned off exteriorly to reduce the diameter of the body portion between the threaded ends, with the reduced portion formed with a dove-tailed shoulder 6 at each end. The reduced portion of the plunger body is provided with a number of small openings 7 near each end and at intermediate points. About the body of the reduced portion of the plunger is applied a jacket 8 of Babbitt metal, the jacket when completed being slightly larger in diameter than the maximum diameter of the unreduced ends, and having lugs 9 entering into, but loosely fitting, the openings 7. To apply this jacket to the steel tube, the latter is filled with sand and placed in a mold, into which is run or poured Babbitt metal. This metal shrinks enough in the holes to allow the pressure of the oil inside the barrel to expand the babbitt and take up part of the wear.

The plunger is designed for use in a cast iron barrel with common ball and seat valves

at each end, and is employed primarily for pumping oil which is heavy with sand. When thus used, the babbitt being softer than the cast iron barrel will wear quicker and preserve the life of this part of the pump. The babbitt is very easily renewed, and the usefulness of the pump applied in this manner is indefinitely prolonged.

By the term "Babbitt-metal" as above employed, I mean any of the alloys or metallic composition used under this term or as equivalents for the so-called Babbitt-metal. I do not limit myself in every instance to the employment of Babbitt metal, as other metallic substitutes may be employed with substantially the same result.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A pump plunger for oil wells, comprising a tube having openings passing through the wall of the body thereof, and a babbitt jacket about the body of the tube, having lugs passing into and relatively loose in said openings, whereby the oil under pressure within the plunger is adapted to expand the jacket to take up wear.

2. In a pump plunger, a plunger tube provided with openings, a jacket surrounding the tube constituting a bearing for the plunger, and expansible by the pressure within the tube, the jacket being provided with lugs loosely engaging the said openings.

3. In a pump plunger, a plunger tube having openings passing through the walls thereof, and a babbitt jacket arranged about the tube and adapted to be expanded by the pressure within the tube through the said openings, the jacket being provided with lugs loosely engaging the said openings in the tube.

4. In a pump plunger, a plunger tube internally threaded at each end and having an externally reduced body portion provided with openings, the shoulders at the ends of the reduced body portion of the tube being undercut, and a babbitt jacket surrounding the reduced portion of the plunger tube and constituting a bearing for the plunger, and having lugs loosely passing into the said openings.

5. A pump plunger for oil wells, comprising a tube having openings passing through the wall of the body thereof, and a jacket

disposed about the body of the tube and
made of metallic composition, said jacket
having lugs extending into and relatively
loose within said openings whereby oil
5 under pressure within the plunger is adapt-
ed to expand said jacket and take up wear.

In testimony whereof I have signed my

name to this specification in the presence of
two subscribing witnesses.

HARRY MEAD.

Witnesses:

LOUIS GEORGE,

HERBERT S. PIERCE.