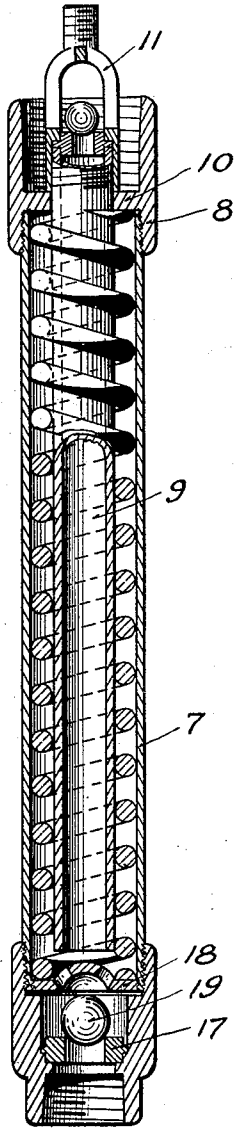


C. E. H. LLOYD.  
PUMP PACKING.  
APPLICATION FILED FEB. 17, 1913.

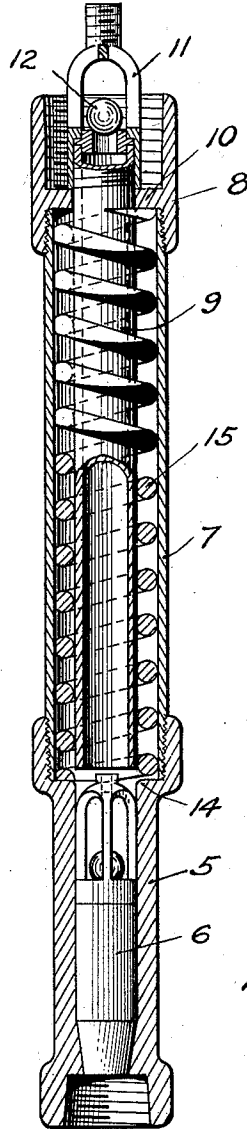
1,097,341.

Patented May 19, 1914.

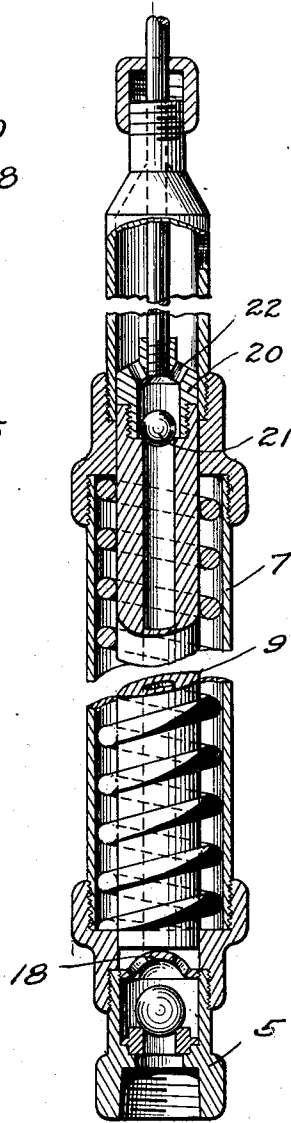
*Fig. 2*



*Fig. 1*



*Fig. 3*



*Witnesses:*  
*W. T. Keene*  
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*Inventor*  
*Charles E. H. Lloyd*  
*by Hazard Chase,*  
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# UNITED STATES PATENT OFFICE.

CHARLES E. H. LLOYD, OF LOS ANGELES, CALIFORNIA.

## PUMP-PACKING.

1,097,341.

Specification of Letters Patent.

Patented May 19, 1914.

Application filed February 17, 1913. Serial No. 748,775.

*To all whom it may concern:*

Be it known that I, CHARLES E. H. LLOYD, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Improvement in Pump-Packing, of which the following is a specification.

This invention relates to pump packing, and the principal object is to provide a pump packing in which the fluid pumped forms a part of the packing.

It is also an object to provide a pump packing that is not affected by sand or other foreign matter in the oil, and is efficient as well as durable.

It is a further object to provide a packing for deep well oil pumps composed of a spiral coil or spring surrounding the plunger between the coils by which the fluid is retained and completes the packing.

In the drawing accompanying this specification Figure 1, is a longitudinal section through the pump barrel casing, the coil forming a portion of the packing and the plunger being partly in section. Fig. 2, is a similar section showing a modified form of standing valve. Fig. 3, is a sectional view on slightly larger scale showing a modified form of a plunger valve.

More specifically in the drawings 5 designates the standing valve coupling in which is mounted the standing valve 6 in the usual and well known manner. Secured to the upper flange of the lower coupling is the pump barrel 7, of common cylindrical form to the upper end of which is secured the upper coupling 8, in which is slidably mounted the plunger 9, preferably a cylindrical structure of somewhat less diameter than the internal diameter of the pump barrel. To provide for the proper spacing of this plunger of reduced size, the flange 10 in the upper coupling is provided with a central bore concentric in which the plunger is freely mounted, its movement being limited by the lower end of the valve gage 11 provided with a ball valve 12 to close the upper end of the plunger.

Between the flange 10 and the shoulder 14 formed on the lower coupling the coil 15 is placed the diameter or cross section of the material or rod of which the coil is formed being of slightly less diameter than the an-

nular chamber formed between the plunger and the pump barrel. As clearly shown a plurality of these coils are carried spaced apart about the distance of the diameter out of the rod. The fluid has complete access to the annular chamber and in which the movement of the latter is retarded or delayed so that it efficiently forms a barrier and acts as a packing.

The plunger in its reciprocation slides freely between the inner peripheral surface without friction, and sand or other foreign matter carried by the oil does not grind or wear the parts, so that the lifetime is materially prolonged and the packing lasts indefinitely. In connection with the packing is shown a modified form of standing valve having a seat 17 and a closure 18 preferably perforated between which is confined a ball 19 forming a closure or valve. The upper end of the plunger may be provided with a valve casing 20 of cylindrical form, the seat being formed in the upper end of the plunger at the point 21 and the gage perforated or provided with the openings 22 through which the fluid may readily pass.

The operation of the improved pump will be readily understood from the drawings and description. The plunger being reciprocated in the well known manner a distance equal to about two thirds of the length of the pump barrel and returned, and as previously stated a sufficient amount of fluid is preserved and retained in quiescent state between the coils of the metal portion of the packing to efficiently provide for the necessary tight joint to complete the efficient action of the pump.

What I claim is:

1. A pump packing comprising a plurality of coils spaced apart and adapted to retain a fluid entirely and freely in contact therewith to form a fluid tight packing.

2. In combination with a pump barrel and a concentric tubular plunger mounted therein of a plurality of coils surrounding and separated from said plunger and inclosed by said barrel, whereby a certain amount of fluid is freely in contact therewith and is retained and forms a packing for said plunger.

3. In combination with the pump barrel and a concentric cylindrical tubular plunger of a continuous spaced coil of metal inclosed

in said pump barrel and extending from end  
to end thereof to allow the free movement of  
said plunger in said coil of metal and con-  
fine fluid between and around the coils of  
said metal, whereby a fluid packed pump is  
provided.

In witness that I claim the foregoing I

have hereunto subscribed my name this 10th  
day of February, 1913.

CHAS. E. H. LLOYD.

Witnesses:

EDMUND A. STRAUSE,  
MARIE BATTEY.

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