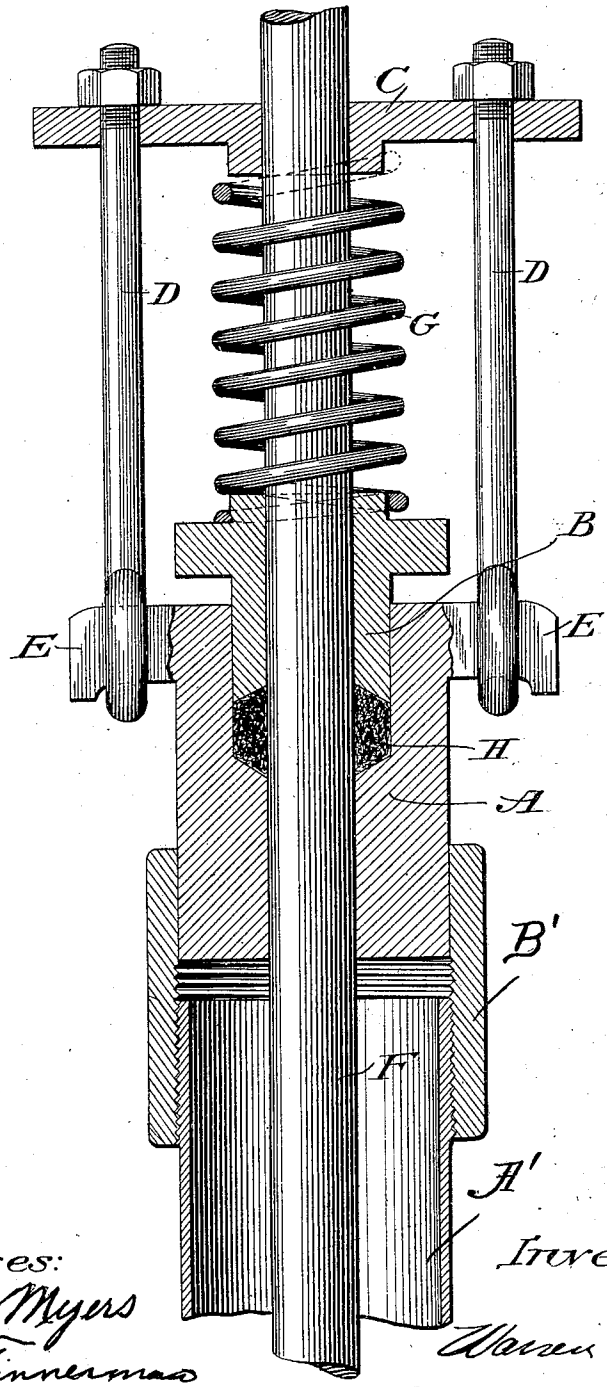
No. 731,156. PATENTED JUNE 16, 1903.

W. BERRYMAN.

PACKING BOX.

APPLICATION FILED DEC. 9, 1902.

NO MODEL.



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

No. 731,156. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

WARREN BERRYMAN, OF ST. MARYS, OHIO, ASSIGNOR OF ONE-HALF TO R. B. GORDON, OF ST. MARYS, OHIO.

PACKING-BOX.

SPECIFICATION forming part of Letters Patent No. 731,156, dated June 16, 1903.

Application filed December 9, 1902. Serial No. 134,483. (No model.)

To all whom it may concern:

Be it known that I, WARREN BERRYMAN, of St. Marys, in the county of Auglaize and State of Ohio, have invented certain new and useful Improvements in Packing-Boxes for Pumps for Oil-Wells, of which the following is a specification.

My invention relates to packing-boxes associated with the casings or tubings employed in pumps for Artesian and oil wells, said boxes being arranged at the upper end of said casings; and the object of the invention is to provide means for automatically taking up any wear upon the packing placed about the polish-rod.

To this end the invention comprises means for maintaining a yielding pressure upon the gland of the upper packing-box, which means includes a spring finding a bearing at one end upon said gland and at its opposite end upon a follower-plate adjustably supported from the packing-box, the supporting means for said plate permitting the latter to have limited lateral movement to permit the same to partake of the vibratory or lateral movement of the polish-rod incident to the operation of the pump.

The invention further includes the details of construction and combination of parts to be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawing, which illustrates what I now conceive to be the preferred embodiment of my invention, the figure shows the upper end of a pump-casing embodying my invention, parts being in section and parts in elevation.

As illustrated in said drawing, the upper end of the casing or cylindrical tube of an oil-pump is indicated by the letter A′, the same having an externally-threaded extremity by means of which it is detachably coupled through the intermediary of an internally-threaded sleeve B′ to a packing-box A, which is provided with a portion for engagement with the sleeve B′. The box A is further provided with a central bore through which the polish-rod F passes, said bore at the upper end of the box being enlarged to provide a stuffing-chamber H, designed to receive a suitable compressible packing medium.

The outer end of the chamber H is closed by a gland B, which is freely movable in said chamber and has means associated with the same for exerting a yielding pressure thereupon to force the same toward the bottom of said chamber, and thereby compress the packing medium to expand the same laterally and thereby maintain the same in contact with the polish-rod.

The means for exerting a yielding pressure upon the gland B comprises a helical spring G, coiled about the rod F, finding a bearing at one end upon the gland B and at its opposite end against a follower-plate C, which is adjustably supported from the packing-box, so that the same may be shifted axially of the rod F or toward and from the gland B to vary the tension upon the interposed spring G and therethrough the pressure upon said gland.

The means employed for adjustably coupling the follower-plate C to the packing-box forms an essential feature of my invention, as the same comprises simple and effective coupling mechanism, which will permit of said plate moving transversely relative to the box to accommodate the usual vibratory or lateral movement of the polish-rod during the ordinary operation of the pump. This means includes a pair of links D, pivotally connected at their lower ends to the packing-box A and having threaded upper ends which pass loosely through openings in the follower-plate C and are surmounted by nuts which find bearings upon the upper face of said plate. The pivotal connection between the lower ends of the links D and the box A is preferably effected through the provision of downwardly-presented hook-shaped lugs E, which project laterally from opposite sides of the box A and are loosely engaged by eyes forming the lower ends of the links D.

The parts of the mechanism described having been assembled with a suitable compressible packing medium in the chamber H, the nuts surmounting links D are tightened up until plate C is drawn such a distance from the box A as to place the desired tension upon the spring G, which in turn presses upon the gland B and compresses the said packing medium. The compression of said medium axially of the rod F tends to expand the same

laterally and to force it into firm contact with said rod. The wear of the packing medium due to attrition will be taken up by the expansion of the spring G, which will maintain a constant pressure upon the gland B sufficient to compress the packing the required degree to insure tight packing of the polish-rod.

The construction and operation of my invention will be readily understood upon reference to the foregoing description and accompanying drawing, and it will be appreciated that the parts and combinations recited may be varied within a wide range without departing from the spirit of the same.

I claim as my invention and desire to secure by Letters Patent—

1. The combination with a reciprocatory rod, of a packing-box having a central bore for the passage of said rod and a packing-chamber, a gland for closing one end of said chamber freely movable therein, a follower-plate separated a distance from said box and gland, a spring interposed between the same and said gland, and means for adjustably supporting said plate from said box, comprising links pivotally connected at one of their ends directly to said box, and adjustably connected at their opposite ends to said plate.

2. The combination with a reciprocatory rod, of a packing-box having a central bore for the passage of said rod and a packing-chamber, a gland for closing one end of said chamber freely movable therein, a follower-plate, a spring interposed between the same and said gland, and means for adjustably supporting said plate from said box, comprising downwardly-presented hook-shaped lugs projecting laterally from opposite sides of the box, and links adjustably connected at their upper ends to said follower-plate, and having eyes at their lower ends loosely engaging said lugs, substantially as described.

In testimony whereof I have hereunto signed my name, in the presence of two attesting witnesses, at St. Marys, in the county of Auglaize and State of Ohio, this 21st day of October, 1902.

WARREN BERRYMAN.

Witnesses:
ANTHONY CULLITON,
THOS. A. WHITE.