No. 692,371. Patented Feb. 4, 1902.

B. J. SHAW.

AUTOMATIC TIGHTENER FOR STUFFING BOXES.

(Application filed Feb. 21, 1901.)

(No Model.)

Fig. 1.

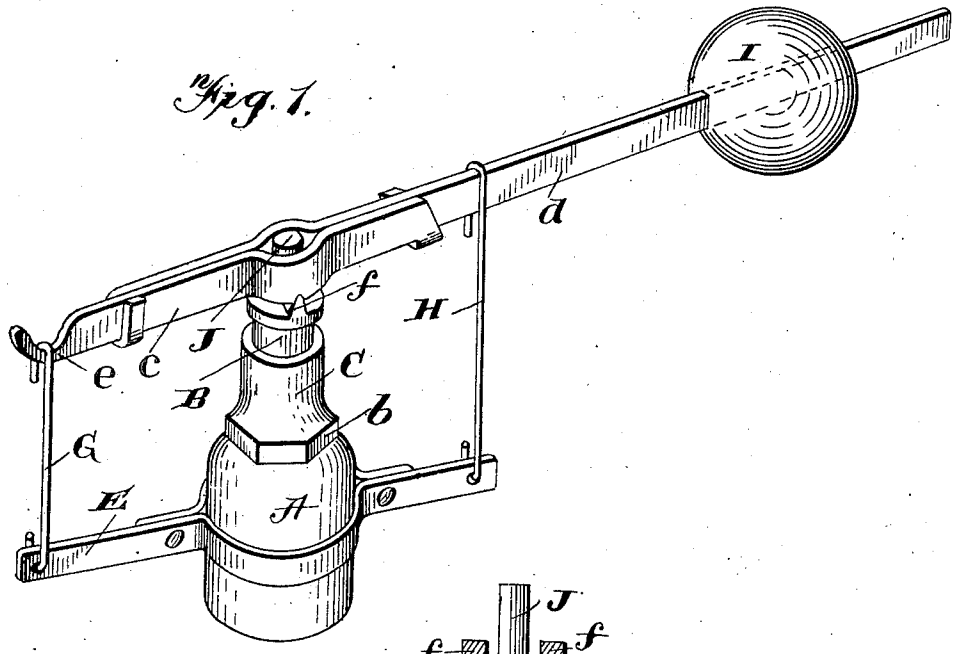


Fig. 2

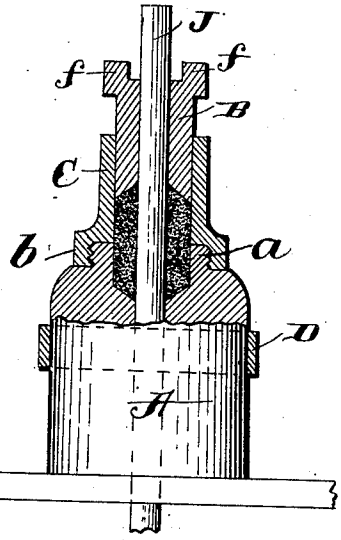
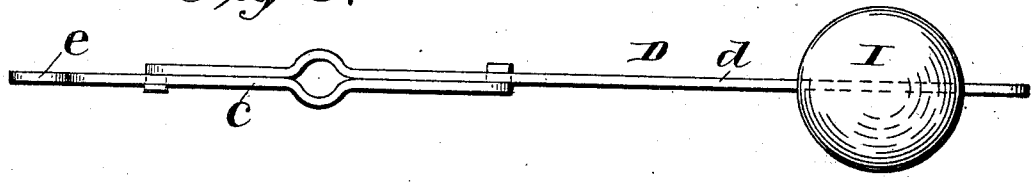


Fig. 3.



Witnesses

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AUTOMATIC TIGHTENER FOR STUFFING-BOXES.

SPECIFICATION forming part of Letters Patent No. 692,371, dated February 4, 1902.

Application filed February 21, 1901. Serial No. 48,365. (No model.)

To all whom it may concern:

Be it known that I, BERT J. SHAW, a citizen of the United States, residing at Warren, in the county of Huntington and State of Indiana, have invented certain new and useful Improvements in Automatic Tighteners for Stuffing-Boxes, of which the following is a specification.

My invention relates to improvements in automatic tighteners for stuffing-boxes, and pertains to means whereby the packing in a stuffing-box is kept automatically tight, all of which will be fully described hereinafter, and particularly pointed out in the claims.

This invention is particularly adapted for use in connection with oil-wells, though it is equally as well adapted for automatically tightening the packing in stuffing-boxes for use where steam, gas, water, air, or fluid is to be confined.

In the accompanying drawings, Figure 1 is a perspective view of my invention. Fig. 2 is a vertical longitudinal sectional view of the stuffing-box, the weighted lever being omitted. Fig. 3 is a top plan view of the weighted lever detached.

In the accompanying drawings, A indicates the top end of the tubing or casing of an oil-well, which has projecting from the upper end an externally-screw-threaded flange *a*.

C is a stuffing-box having at its lower end internal screw-threads for the purpose of receiving the flanged screw-threaded portion *a*, the lower end of the stuffing-box C having a shouldered portion *b* for the reception of a wrench, by means of which it is screwed or unscrewed from the said flange *a*.

B is a plunger which moves vertically or longitudinally within the stuffing-box C, and the stuffing is placed within the stuffing-box below the lower end of the follower or plunger B.

Firmly clamped to the upper end A of the oil-well or casing is the bar D, having oppositely-extending ends for a purpose to be presently explained.

The plunger B is of tubular form, and the piston or polish-rod J passes through, as is well understood by those skilled in the art.

The plunger B has its lower end in contact with the stuffing, so as to cause the stuffing to be automatically expanded or tightened around the piston or rod J to prevent the escape of oil, air, gas, steam, or fluid of any kind.

The means by which the plunger is kept normally downward under pressure consists of a lever D, which, as illustrated in Fig. 3, has its pivoted end constructed of the two parts *c* and *d*, which are interlocked together, as illustrated. The projecting end *e* has connected with it a rod or wire G, the opposite end of the said wire or rod G being connected with one arm of the bar or clamp E and forms a point of resistance. The two parts *e* and *d* of the lever are so shaped as to pass around the projecting end of the piston or rod J and are provided at their under edge with notches adapted to receive projections *f*, extending from opposite sides of the plunger B. A weight I is placed upon the opposite end of the lever D, and the lever is guided in its vertical movement through the medium of the chain, bar, or other guide H for the purpose of preventing the said lever from being unseated or otherwise displaced. From this description it will be seen that the weight I upon the lever serves to hold the plunger B in position and the stuffing tightly around the rod or piston J. By means of this construction the stuffing is automatically kept tight and does not require the constant attention that the screw adjustment of the plunger heretofore used must have.

I here show my invention as being applied to a vertically-arranged rod or piston J; but it will be readily understood that by a slight modification of the lever D it is equally as well adapted to be used in connection with a piston or rod J which may extend horizontally or at any angle between the vertical and horizontal planes.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. An improved stuffing-box for oil-wells comprising a casing, a stuffing-box connected to the upper end thereof, a tubular plunger, a clamp below the plunger and having oppositely-extending arms, a lever consisting of two separate but interlocking portions having intermediate engagement with the upper end of the plunger, one end of the lever connected with one of said clamp-arms, and an upwardly-projecting guide carried by the op-

posite arm and engaging loosely the opposite end of the said lever, and a weight carried by the lever, substantially as described.

2. An improved stuffing-box for oil-wells, comprising a casing, a stuffing-box at the upper end thereof, a tubular plunger within the stuffing-box, a laterally-projecting arm, a lever having intermediate engagement with the upper end of the plunger, a connection between the arm and one end of the said lever, a weight carried by the opposite end of the lever, the said lever formed of two separate but interlocking longitudinally-extending portions, whereby the lever can be readily separated or detached from the device, substantially as described.

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

BERT J. SHAW.

Witnesses:
ORVILLE CHRISTMAN,
LEVI L. SIMONS.