

Petty & Fredricks.

Well Packing.

N^o 63,747.

Patented Apr. 9, 1867.

Fig. 1.

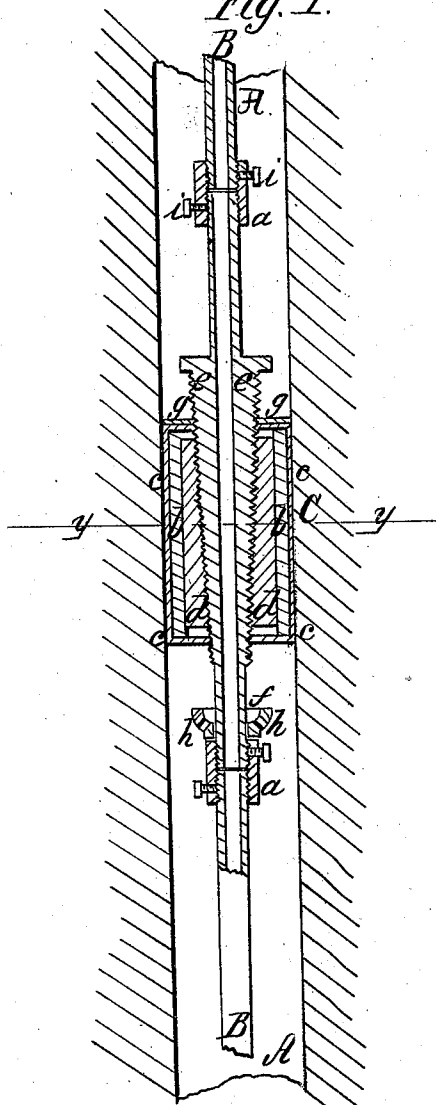
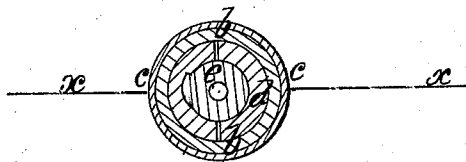


Fig. 2.



Witnesses;
T. A. Jackson
J. P. Service

Inventors;
J. B. Petty
J. Fredricks
Per M. M. M. M.
attorneys

United States Patent Office.

J. B. PETTEY AND JEROME FREDRICKS, OF CONNEAUT, OHIO.

Letters Patent No. 63,747, dated April 9, 1867.

IMPROVEMENT IN STUFFING-BOXES FOR DEEP-WELL PUMPS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that we, J. B. PETTEY and JEROME FREDRICKS, of Conneaut, in the county of Ashtabula, and State of Ohio, have invented a new and improved Stuffing-Box for Oil Wells; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of the stuffing-box of our invention taken in the line *x x*, fig. 2.

Figure 2 is a transverse section taken in the line *y y*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a stuffing-box for keeping the surface water from oil wells instead of a "seed-bag," now employed for that purpose. Although the "seed-bag" has been and is in general use, it is quite imperfect, and has several practical objections. It is liable to get out of order and burst; and on starting a well is attended with great difficulty and uncertainty in placing it properly and making it water-tight. Whenever it becomes necessary to withdraw the tubing, the column of water above the seed-bag, generally several hundred feet, has to be raised with it unless the seed-bag bursts, in which case it remains in the well, and by filling the crevices in the rock chokes and obstructs the flow of oil. The stuffing-box of our invention obviates all these difficulties. It consists in forming a cylindrical stuffing-box to fit the bore of the well, made of India rubber or other suitable elastic material, covered with leather, within which is fitted a metal nut or female screw, split in sections longitudinally, and cut tapering to receive a hollow taper-screw that forms a part of the well tubing. The taper-screw spreads the sectional nut as it enters, and expands the elastic cylinder against the wall of the well, thus making the stuffing-box water-tight, so that the surface water cannot pass below it. On the upper side of the stuffing-box is placed a leather or rubber washer, which closes against the threads of the screw when it is screwed into the sectional nut to prevent the passage of water through it; and below the stuffing-box is placed a perforated collar to support the stuffing-box when the screw is withdrawn and allow the surface water to pass down, before the tubing is raised.

The bore of an oil or artesian well is represented by *A*. *B* is the well tubing, made in the ordinary way of gas pipe, the joints of the sections united with screw-collars *a a*. *C* is the stuffing-box, formed of an interior India-rubber cylinder, *b*, covered with a sewed leather casing, *c*. Within the cylinder *b* is fitted a nut or female screw, *d*, which is divided into two or more sections longitudinally and centrally, formed straight on the outside next the rubber cylinder, but cut internally to receive a hollow taper-screw, *e*, which forms a part of the well tubing *B*. Below the stuffing-box, and resting on a joint coupling, *e*, a loose collar, *f*, is placed on the tubing, which is cup-shaped at the upper end, and is perforated with holes *h h*. Above the stuffing-box a leather or rubber washer, *g*, is placed on the screw *e*. To prevent disconnection of the joints when the screw *e* is turned back to withdraw it, the collars *c* above the stuffing-box are provided with set-screws *i i*. When the tubing with the stuffing-box attached is lowered into the well, the screw fits in the nut or female screw *d* without expansion, but when the stuffing-box is to be made water-tight by pressure against the wall of the well, the tubing is turned with a wrench, which causes the screw *e* to spread the sectional nut and expand the rubber cylinder *b* sufficiently for that purpose, the washer *g* is pressed down against the top of the stuffing-box at the same time, and closes the threads of the screw, so as to prevent any access of water through the sectional divisions of the female screw. When the screw is reversed and withdrawn, the stuffing-box will rest upon the shoulder of the loose collar *f*, and the surface water will run out through the holes *h h*, so that the tubing can be raised without difficulty.

Having thus described the construction and operation of our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. An elastic stuffing-box for oil wells, formed of a rubber cylinder cased in leather, or its equivalent, combined with a hollow taper-screw, forming part of the well tubing, and working in a female screw within the cylinder, divided into two or more longitudinal sections, constructed and operating substantially as and for the purposes herein described.

2. We claim the perforated collar *f*, placed on the tubing below the stuffing-box, and the washer *g* on the screw *e* above the stuffing-box, in combination therewith, constructed as and for the purposes herein described.

J. B. PETTEY,
JEROME FREDRICKS.

Witnesses:

ORSON A. CARLIN,
JAMES M. CARLIN.