(No Model.) 2 Sheets—Sheet 1.

A. GOODRICH.

PACKING EXTRACTOR.

No. 458,453. Patented Aug. 25, 1891.

Fig. 1

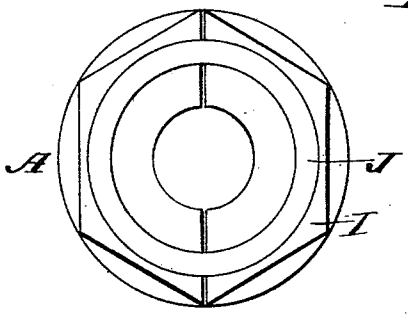


Fig. 2

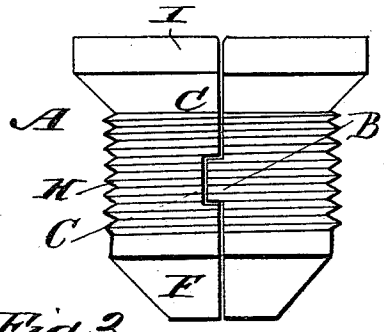


Fig. 3

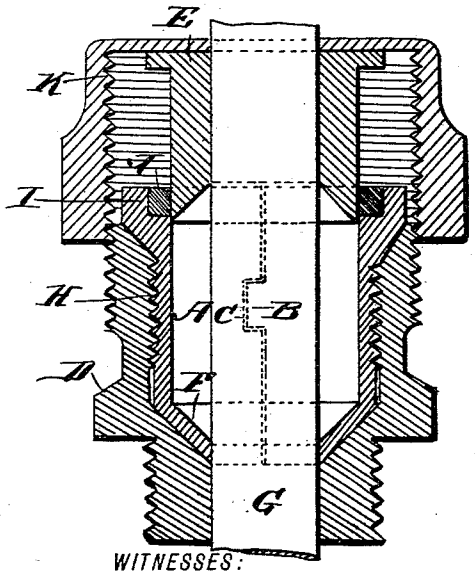


Fig. 4

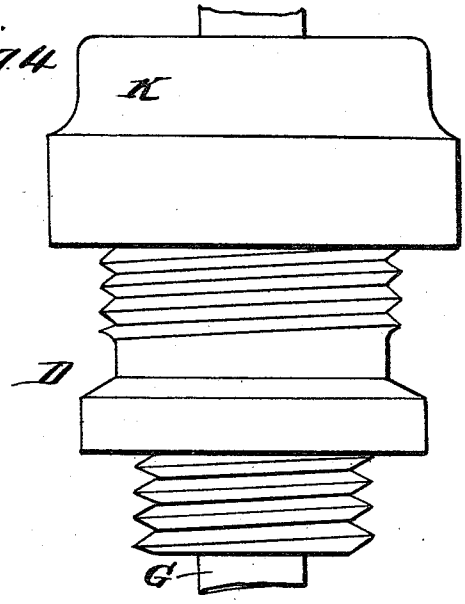
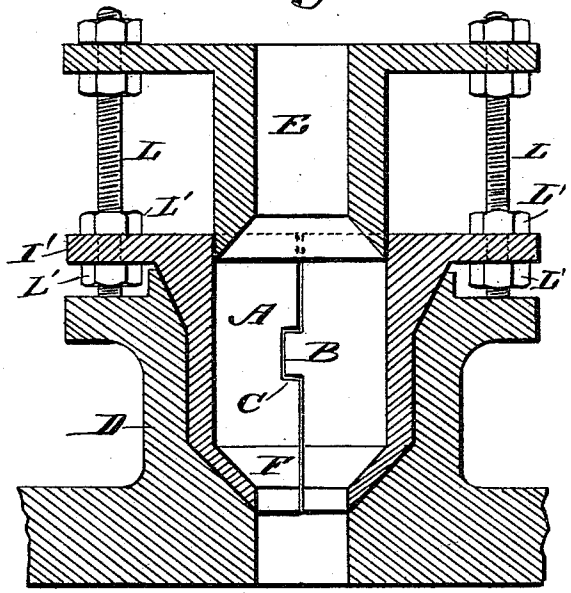


Fig. 5



WITNESSES:

F. McArdle.

C. Sedgwick

INVENTOR:

A. Goodrich

BY Munn & Co

ATTORNEYS

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

(No Model.) 2 Sheets—Sheet 2.

A. GOODRICH.

PACKING EXTRACTOR.

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Fig. 6.

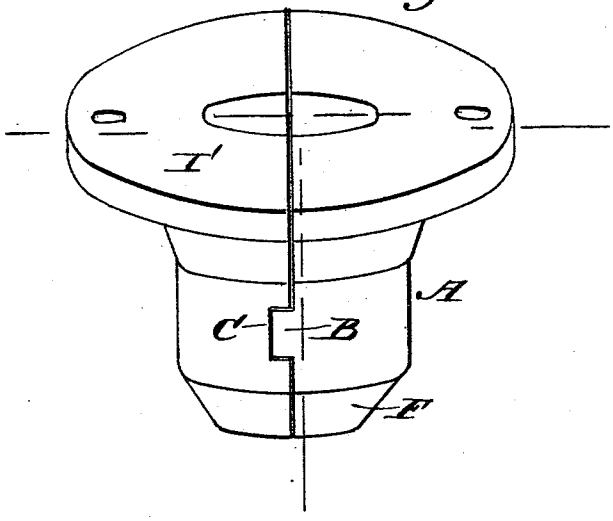


Fig. 9.

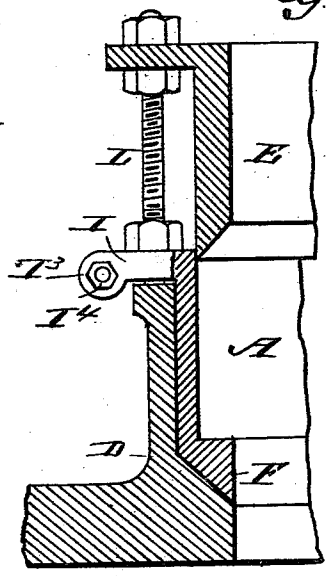


Fig. 10

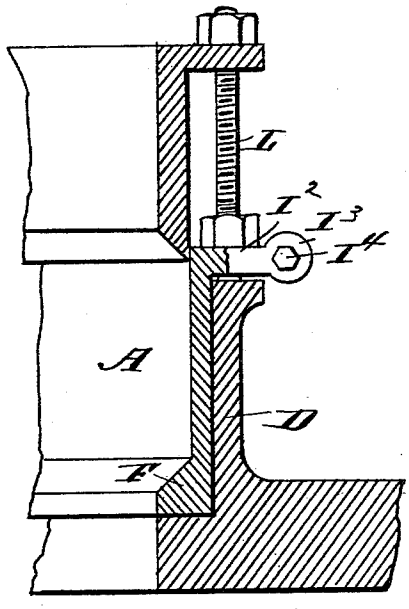


Fig. 7.

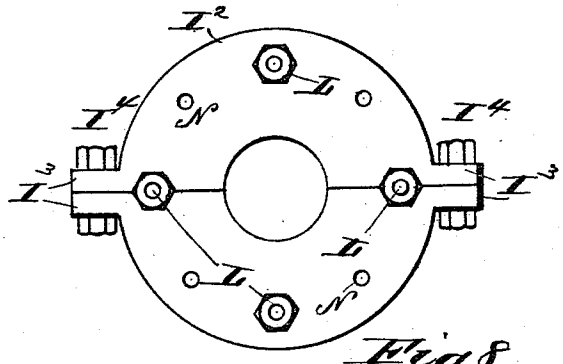
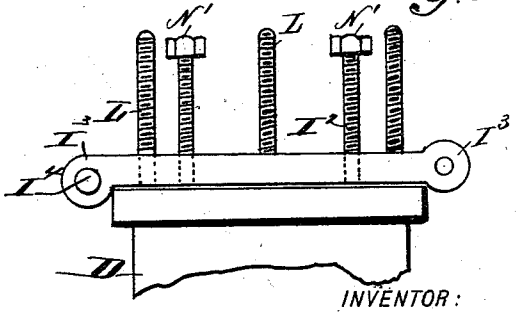


Fig. 8



WITNESSES:

Francis M. Ardle.

C. Sedgwick.

INVENTOR:

A. Goodrich

BY Munn & Co.

ATTORNEYS

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

UNITED STATES PATENT OFFICE.

ADDISON GOODRICH, OF ASTORIA, OREGON.

PACKING-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 458,453, dated August 25, 1891.

Application filed November 6, 1890. Serial No. 370,487. (No model.)

To all whom it may concern:

Be it known that I, ADDISON GOODRICH, of Astoria, in the county of Clatsop and State of Oregon, have invented a new and Improved Packing-Extractor, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved extractor especially designed for conveniently and rapidly extracting worn-out packings from stuffing-boxes without removing or injuring the rod or stem.

The invention consists of a bushing adapted to be placed in the stuffing-box, made in sections, and formed in its bottom with an inwardly-extending flange for supporting the packing.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claim.

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

Figure 1 is a plan view of the improvement. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional side elevation of the same as applied. Fig. 4 is a side elevation of the same. Fig. 5 is a sectional view of a modified form of the improvement as applied. Fig. 6 is a perspective view of a modified form of the improvement. Fig. 7 is a plan view of another form of the improvement. Fig. 8 is a side elevation of the same as applied. Fig. 9 is a sectional side elevation of the same as applied, and Fig. 10 is a similar view of another modified form of the improvement as applied.

The improved packing-extractor consists of a bushing A, made in two sections split longitudinally, one section being provided at the split with a tongue or tongues B, fitting in corresponding grooves C at the split of the other section, so that when the two sections are fitted together a longitudinal displacement of the sections is impossible. The bushing A is fitted into the stuffing-box D, and into the upper end of the bushing A is adapted to pass the gland E to press the packing toward the inwardly-projecting flange F formed in the lower end of the bushing. The packing placed inside of the bushing A surrounds the rod or stem G. The flange F may be straight or beveled, as illustrated in Figs. 3, 5, 9, and 10, according to the shape of the stuffing-box and the kind of packing used.

The bushing A, as illustrated in Figs. 2 and 3, is provided with an exterior thread H, screwing into a corresponding interior thread formed on the stuffing-box D, so that the bushing is securely held in place when screwed into the stuffing-box D. In order to conveniently turn the bushing in the stuffing-box its head I is made square or hexagonal, so that a wrench or other tool can be conveniently applied to screw the bushing into or out of the stuffing-box A. In the head I is also formed an annular groove adapted to receive a ring J to hold the bushing true. The gland E, as shown in Fig. 3, is pressed into the bushing A and against the packing therein by a cap K, screwing on the outside of the stuffing-box D. As illustrated in Figs. 5, 9, and 10, the gland E is forced inward by the usual bolts L, which also hold the bushing A in place in the stuffing-box when the said bushing is not provided with an exterior thread, as shown in the figures referred to.

As shown in Figs. 5 and 6, the head I′ of the bushing A is flanged, and through the flange pass the bolts L for securing the gland to the stuffing-box D. Nuts L′ screw on the bottom and top of the said flange of the head I′, so as to lock the bushing in place in the stuffing-box D. As shown in Figs. 7, 8, 9, and 10, the head I^2 of the bushing A is also flanged and formed with side lugs I^3, extending in line with the split of the sections, the opposite lugs being bolted together by bolts I^4. Threaded holes N are made in the head-flange of the bushing for the insertion of headed bolts N′, by screwing down which the bushing can be removed from the stuffing-box.

In using this device the bushing A is placed into the stuffing-box D, so as to engage with its flanged bottom the stem or piston-rod G, after which the packing is inserted in the bushing and surrounds the stem or rod G, and then the gland E is passed into the outer end of the bushing against the packing, so as to securely pack the latter around the rod or stem G. When the packing is worn out, the operator first removes the cap K and gland

E, then moves the bushing A out of the stuffing-box D by unscrewing the said bushing or removing the nuts on the bolts and then sliding the bushing off the same until the latter is completely out of the stuffing-box D. The two sections of the bushing can then be taken apart, so that the packing can be unwrapped from the stem or rod G, it being understood that the packing is moved out with the bushing A. A new packing can then be placed on the stem, the two sections of the bushing A fitted over it, and then the bushing screwed or otherwise placed in the stuffing-box D again, after which the gland E is passed into the outer end of the bushing A to securely pack the packing within the bushing A. Thus it will be seen that the packing can be conveniently taken out of the stuffing-box without any injury whatever to the stuffing-box, gland, or stem.

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

A packing-extractor consisting of a screw-threaded bushing made in sections, one section being provided with tongues and the other with grooves, and provided with an annular packing-groove in its head and with an annular inwardly-projecting flange at its bottom, substantially as herein shown and described.

ADDISON GOODRICH.

Witnesses:
JOHN FOX,
D. J. MCVICAR.