(No Model.)

J. E. DENTON.

STUFFING BOX.

No. 362,367. Patented May 3, 1887.

Fig. 1.

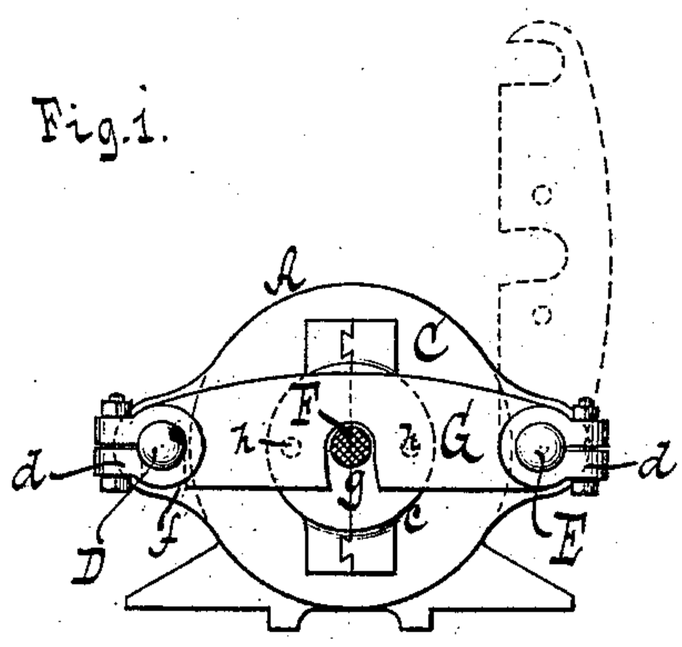


Fig. 2.

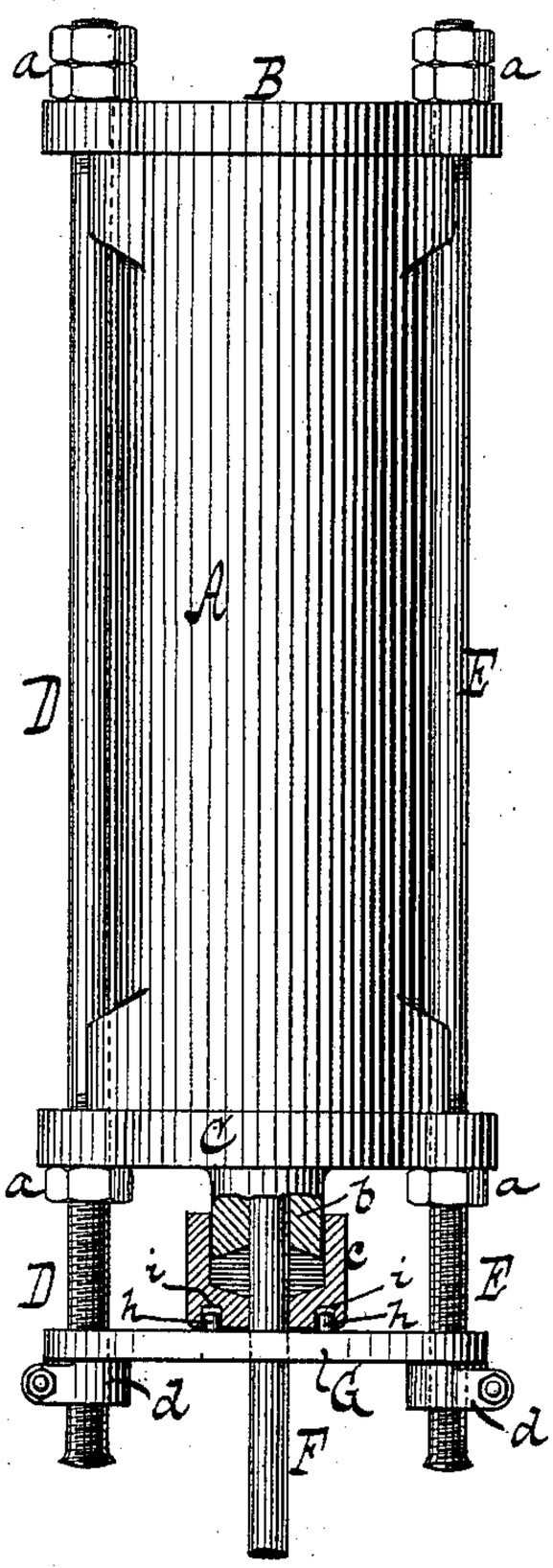


Fig. 3.

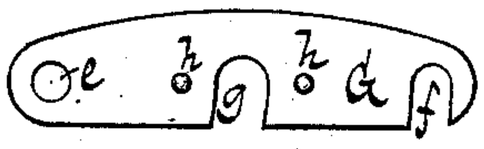
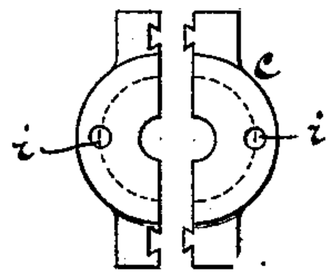


Fig. 4.



WITNESSES:

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INVENTOR

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UNITED STATES PATENT OFFICE.

JAMES E. DENTON, OF HOBOKEN, NEW JERSEY.

STUFFING-BOX.

SPECIFICATION forming part of Letters Patent No. 362,367, dated May 3, 1887.

Application filed November 26, 1886. Serial No. 219,935. (No model.)

To all whom it may concern:

Be it known that I, JAMES E. DENTON, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented new and useful Improvements in Stuffing-Boxes, of which the following is a specification.

This invention relates to an improvement in stuffing-boxes for the pistons of rock-drills or other steam-cylinders; and it consists in certain novel features of construction, which are fully pointed out in the following specification and claims, and illustrated in the accompanying drawings, in which—

Figure 1 is an end view of the steam-cylinder of a rock-drill to which my invention has been applied. Fig. 2 is a sectional side view of the same. Figs. 3 and 4 are details which will be described as the specification progresses.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the steam-cylinder of a rock-drill, the ends of which are closed by the usual cylinder-heads, B and C, the heads being held up tight against the cylinder by rods D and E, on the ends of which are threaded the nuts *a*, by means of which the heads may be drawn up against the cylinder ends.

On the outer surface of the head C, through which the piston-rod F passes, is formed a cylindrical projection or gland, *b*, which is turned to fit into the stuffing-box *c*, also provided with an opening for the passage of the piston-rod. A follower, G, arranged to slide on the rods D and E, is forced against the stuffing-box by the nuts *d*, by means of which the packing in the stuffing-box may be compressed when desired. In one end of this follower is a hole, *e*, through which the rod E may pass, while in its other end is cut a slot, *f*, which passes over the rod D. A somewhat similar slot, *g*, permits the passage of the piston-rod. From the inner face of the follower G project two pins, *h*, which fit into cavities *i* in the outer face of the stuffing-box, which, in the example shown in the drawings, is made in two sections, which are dovetailed together; but it is obvious that it may also be made in one piece. When this form of stuffing-box is employed, the pins *h* aid the dovetails in holding the two parts thereof together, besides holding it from turning with the piston-rod, to which a rotating motion is usually imparted in rock-drills.

By making the stuffing-box in two parts it can be removed altogether without disconnecting the piston-rod.

The nuts *d* may either be what are termed "split nuts," or the usual form of double "jam-nuts" may be used.

To remove the stuffing-box, the nuts *d* are sufficiently unscrewed to withdraw the pins *h* on the follower from the cavities *i* in the stuffing-box. The follower can then be swung up to the position shown in dotted lines in Fig. 1, and the stuffing-box can be slid along the piston-rod past the nuts *d*, and far enough to permit new packing to be inserted.

From the above it will be understood that the nuts need not be removed from the rods D E when it is desired to repack the stuffing-boxes, and the outer ends of these rods may be enlarged by upsetting, as shown in the drawings, or otherwise, and the loss of the nuts by removal is avoided.

The form of stuffing-box here described is particularly advantageous when applied to rock-drills or engines working in tunnels or mines where there is little light and where removable parts are apt to be lost by dropping into places from which they cannot be recovered. If desired, I may also attach the stuffing-box to the cylinder-head and move the gland by means of the follower; nor do I desire to confine myself to the use of the rods D E; but I may employ separate bolts for the operation of the stuffing-box without departing from the spirit of my invention.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the gland *b* and the box *c*, of the rods or bolts D E, the detached follower G, constructed to swing on one of said bolts, and the nuts *d*, substantially as described.

2. The combination, with the gland *b* and the box *c*, of the bolts or rods D E, the detached follower G, constructed to swing on one of said bolts, the pins *h*, projecting from

said follower, the cavities *i*, arranged to engage said pins, and the nuts *d*, substantially as described.

3. The combination, with the gland *b* of the box *c*, made in two sections, of the bolts or rods D E, the detached follower G, constructed to swing on one of said bolts, the pins *h*, projecting from said follower, the cavities *i*, arranged to engage said pins, and the nuts *d*, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

JAMES E. DENTON. [L. S.]

Witnesses:
W. HAUFF,
A. FABER DU FAUR, Jr.