

No. 691,893.

Patented Jan. 28, 1902.

T. H. BUTLER & O. HAMMOND.

ROD PACKING.

(Application filed Apr. 26, 1901.)

(No Model.)

FIG. 1.

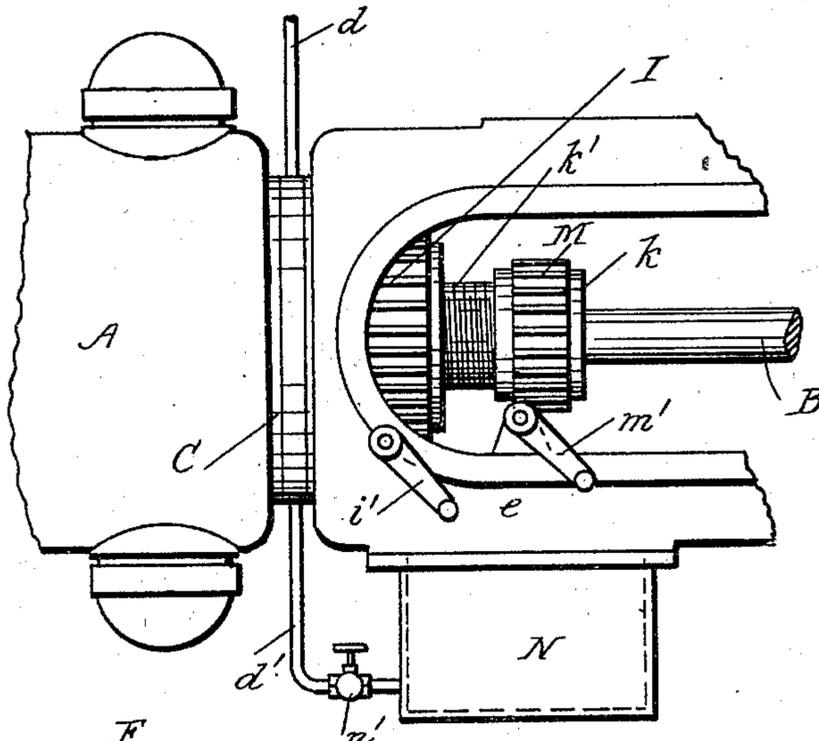


FIG. 2.

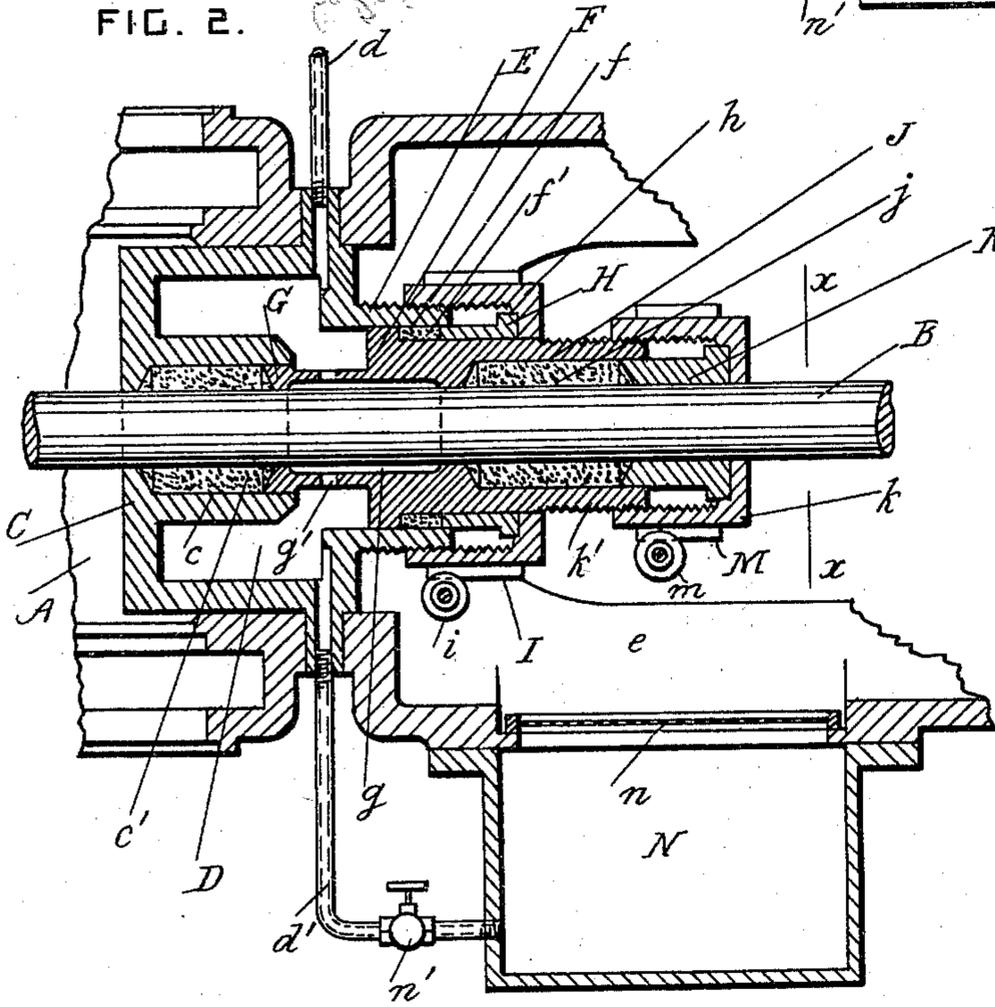
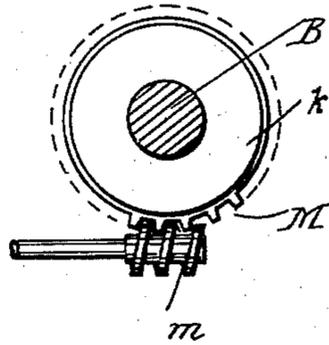


FIG. 3.



WITNESSES

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THOMAS H. BUTLER AND ORMOND HAMMOND, OF BALTIMORE, MARYLAND.

ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 691,893, dated January 28, 1902.

Application filed April 26, 1901. Serial No. 57,551. (No model.)

To all whom it may concern:

Be it known that we, THOMAS H. BUTLER and ORMOND HAMMOND, citizens of the United States, residing at Baltimore city, in the State of Maryland, have invented certain new and useful Improvements in Rod-Packing; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to rod-packing; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a side view of a portion of an ammonia-gas compressor such as used in ice and refrigerating machines, showing this invention applied to its piston-rod. Fig. 2 is a longitudinal section through the packing devices drawn to a larger scale. Fig. 3 is a cross-section taken on the line xx in Fig. 2.

A is a portion of the pump-cylinder of an ammonia-gas compressor, and B is its piston-rod.

C is a cover which closes one end of the cylinder A and which is secured to the cylinder in any approved manner. A stuffing-box c is formed on the cover C, and c' is packing material in the stuffing-box c , which encircles the piston-rod.

D is an oil-supply chamber in the cover C around the stuffing-box c . This oil-supply chamber is provided with an inlet-pipe d and an outlet-pipe d' , by means of which it is supplied with fresh and clean oil or any other equivalent lubricating fluid.

E is a screw-threaded guide on the front end of the cover C, concentric with the stuffing-box c .

F is a plunger which is slidable in the guide E. A stuffing-box f is formed within the guide E around the plunger F, and f' is packing material in the stuffing-box f .

G is a follower formed on the rear end of the plunger F and sliding in the stuffing-box c . An annular oil-chamber g is formed in the plunger F around the piston-rod, and g' are holes which connect the annular chamber g with the oil-chamber D.

H is a follower which slides in the stuffing-box f upon the plunger F, and h is a screw-

threaded gland which engages with the screw-threaded portion of the guide E and which tightens up the packing material f' . This gland also slides the plunger longitudinally in its guide, and thereby tightens the packing in the stuffing-box c . The gland h is adjusted and locked in any approved manner, and it is preferably provided with a worm-wheel I on its periphery. A worm i is journaled in suitable bearings in a stationary frame or support e , and is provided with a handle i' for revolving it. The worm gears into the worm-wheel and provides a means for adjusting the gland and for locking it, so that it cannot slip after it has been adjusted.

J is a stuffing-box formed in the front end of the plunger F around the piston-rod, and j is packing material in the stuffing-box J.

K is a follower which slides in the stuffing-box J, and k is a screw-threaded gland which engages with a screw-threaded portion k' on the stuffing-box J and enables the position of the follower J to be adjusted. The gland may be adjusted and locked by any approved means; but a worm and worm-wheel similar to those used for the gland h are preferred.

M is the worm-wheel on the gland k . m is the worm which gears into it, and m' is the handle on the worm-shaft for revolving it.

N is an oil-receiver supported below the said stuffing-boxes, so that it can catch all the oil which passes outwardly through them. A strainer n is provided at the top of the receiver N. The pipe d' is connected with the receiver N and is provided with a stop-valve n' , so that the oil in the supply-chamber D can be emptied into the receiver when desired. The oil in the receiver N is pumped up and is used over again.

The oil from the oil-chamber D keeps the piston-rod constantly lubricated and prevents any ammonia-gas from passing out of the cylinder around the piston-rod. A portion of the oil is carried into the cylinder by the piston-rod at each outstroke and in this manner furnishes a constant supply of lubricating material to the piston and cylinder, so that no other means for lubricating the piston in the cylinder are required.

What we claim is—

1. The combination, with a cylinder-cover provided with a stuffing-box, an oil-supply

chamber, and a guide arranged in front of the
said oil-chamber and of greater diameter than
the said stuffing-box; of a plunger slidable in
the said guide and provided with an oil-cham-
5 ber sliding within and constantly communi-
cating with the aforesaid oil-supply chamber,
said plunger having also a follower at its rear
end for the said stuffing-box, and a stuffing-
box at its front end; a rod which slides in the
10 two said stuffing-boxes and the oil-chamber
of the plunger; and means for keeping the
said plunger oil-tight in its guide, substan-
tially as set forth.

2. The combination, with a cylinder-cover
15 provided with a stuffing-box, an oil-supply
chamber, and a guide arranged in front of the
said oil-chamber and of greater diameter than
the said stuffing-box; of a plunger slidable in
the said guide and provided with an oil-cham-

ber sliding within and constantly communi- 20
cating with the aforesaid oil-supply chamber,
said plunger having also a follower at its rear
end for the said stuffing-box, and a stuffing-
box at its front end; a stuffing-box around
the said plunger in the said guide; a single 25
means for adjusting the packing material in
the last said stuffing-box and for moving the
plunger longitudinally; and a rod which slides
in the said stuffing-box of the cylinder-cover
and in the stuffing-box and oil-chamber of the 30
said plunger, substantially as set forth.

In testimony whereof we affix our signa-
tures in presence of two witnesses.

THOMAS H. BUTLER.
ORMOND HAMMOND.

Witnesses:

W. N. FINLEY,
A. G. HUNTER.