

G. D. ROLLINS.
 METALLIC PACKING FOR AMMONIA MACHINES AND THE LIKE.
 APPLICATION FILED FEB. 24, 1908.

934,629.

Patented Sept. 21, 1909.

Fig. 1.

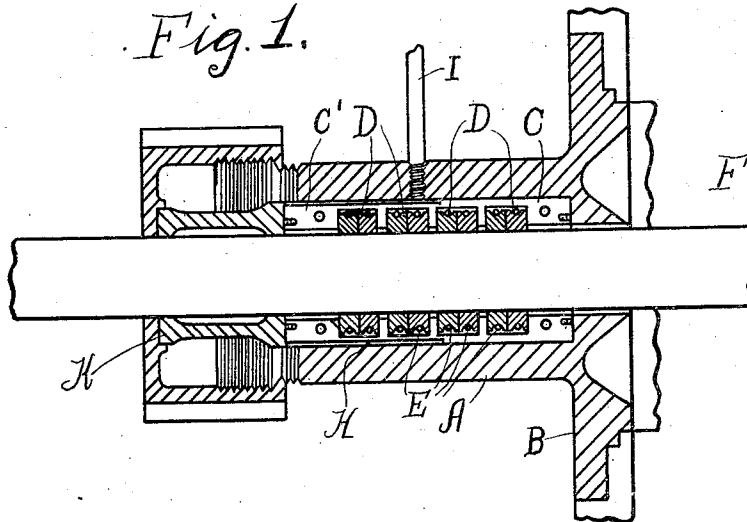


Fig. 2.

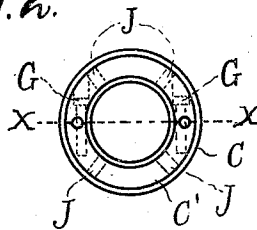


Fig. 3.

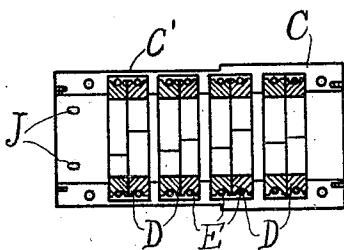
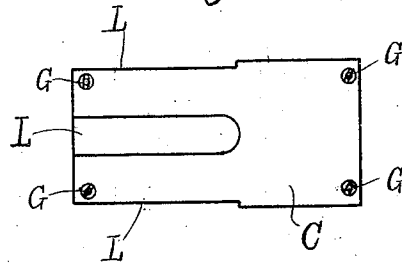


Fig. 4.



WITNESSES

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METALLIC PACKING FOR AMMONIA-MACHINES AND THE LIKE.

934,629.

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To all whom it may concern:

Be it known that I, GEORGE D. ROLLINS, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a certain new and useful Improvement in Metallic Packing for Ammonia-Machines and the Like, of which the following is a specification.

My invention relates to a new and useful improvement in metallic packing for ammonia machines and the like, and has for its object to provide an exceedingly simple and effective construction by which that portion of the gas or liquid which creeps or leaks through the packing will be confined and drawn off so as to prevent its escape to the air.

A further object of my invention is to so construct a metallic packing for this class of machines as to obviate the excessive friction upon the piston rods and to provide for the packing rings following the expansion and contraction of the rods due to the change of temperature from the compression and expansion of the gases.

With these ends in view, this invention consists in the details of construction and combination of elements hereinafter set forth and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, I will describe its construction in detail, referring by letter to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a sectional view of a stuffing box of a well known type of ammonia compressor for ice making machines showing my improved packing applied thereto. Fig. 2, an end view of the packing removed from the stuffing box. Fig. 3, a longitudinal section of the packing casing on the line X—X of Fig. 2, and Fig. 4, a side elevation of the packing showing a slight modification.

In carrying out my invention as here embodied, A represents the stuffing box which may be of any construction, and here shown as one of the forms used upon standard ice making machines, B being the head of the cylinder with which the stuffing box is formed.

C represents the casing of the packing which has any suitable number of grooves formed therein for the reception of the pack-

ing rings D, said rings being of any well known form of metallic packing rings having springs E around their peripheries for holding them in constant contact with the plunger rod F, and this casing is preferably made in two semi-cylindrical sections secured together by the screws G, and is here shown as being of two diameters C and C', the object of the reduced portion C' being to form a chamber or pocket H within the stuffing box when the packing is fitted therein for the purpose hereinafter set forth.

I represents a pipe leading from the chamber or pocket H, and this pipe may be either passed back to the compressor or to a receiver or other point where suction can be applied thereto.

J represents holes or passages leading from the interior of the casing beyond the packing rings to the chamber H, and any suitable gland K may be secured upon the end of the stuffing box so as to fit tightly against the casing of the packing as clearly shown in Fig. 1.

In practice the compressible rings D fit snugly upon the rod F and pack said rod against the escape of the gases, but as is well known a small amount of the gas when under pressure will creep past any packing and this leakage reaching the chamber H through the passages J will be drawn off through the pipe I and thus be prevented from escaping to the outside air.

Of course I do not wish to be limited to the exact form of packing casing here shown as the chamber H may be formed by flattening the casing, as shown at L in modification of Fig. 4, or the casing may be grooved for this purpose, and instead of the holes J grooves may be formed in the outer end of the casing at the point where the gland bears thereon, the gist of my invention resting in the broad idea of providing a chamber for receiving the leakage beyond the packing and means for drawing the same off.

One of the great advantages of my improvement is the fact that the packing rings follow the expansion and contraction of the rod due to the extreme changes of temperature and thus overcoming the great disadvantages of soft packing which does not follow the expansion and contraction of the rod and which may be set up so tightly as to cause undue friction upon the rod which of necessity cuts and scores said rod in its reciprocations.

While I have shown the pipe I for drawing off the gas from the chamber it is obvious that the outlet may be through conduits formed in the casing or otherwise
 5 provided for the drawing off of this gas.

Having thus fully described my invention, what I claim as new and useful, is—

1. The herein described combination of a stuffing box, a casing of two diameters
 10 adapted to fit within the stuffing box and form a chamber therein, compressible rings fitted within the casing adapted to bear against the rod, passages formed in the casing communicating with said chamber, and
 15 an outlet leading from the chamber through which the gas may be drawn, as specified.

2. The herein described combination of a stuffing box, a casing of two diameters,
 20 one of said diameters fitting snugly within the stuffing box, the other diameter being such as to leave a chamber in said stuffing

box, means for holding the casing steam tight in the stuffing box, packing rings located in the casing, passages leading from the interior of the casing to said chamber, and means for drawing off fluid from the chamber, as specified.

3. In combination a stuffing box, a casing of two diameters, one fitting the stuffing box, the other forming a chamber, packing rings fitted into said casing, passages leading from the interior of the casing to the chamber outside the packing rings, and a pipe leading from the chamber to draw off fluid leaking to said chamber, as specified.

In testimony whereof, I have hereunto affixed my signature in the presence of two subscribing witnesses.

GEORGE D. ROLLINS.

Witnesses:

S. M. GALLAGHER,
 E. N. SCHOFIELD.