

No. 672,255.

Patented Apr. 16, 1901.

C. J. L. BOBERG.
STUFFING BOX PACKING.

(Application filed May 14, 1900.)

(No Model.)

Fig. 1.

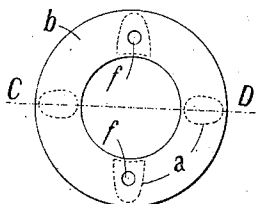


Fig. 3.

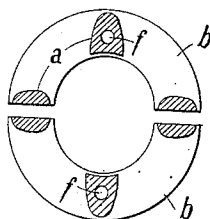


Fig. 5.

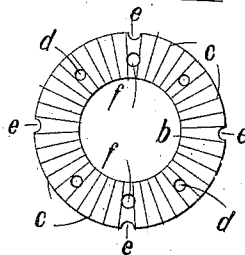


Fig. 2.

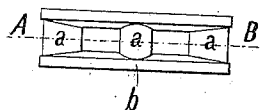


Fig. 4.

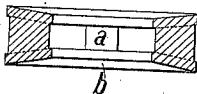


Fig. 6.

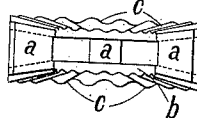


Fig. 7.

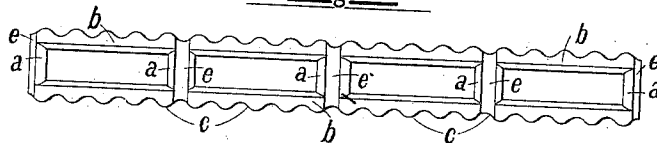


Fig. 8.

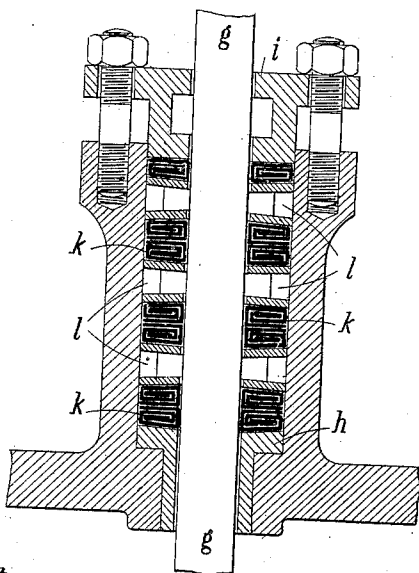
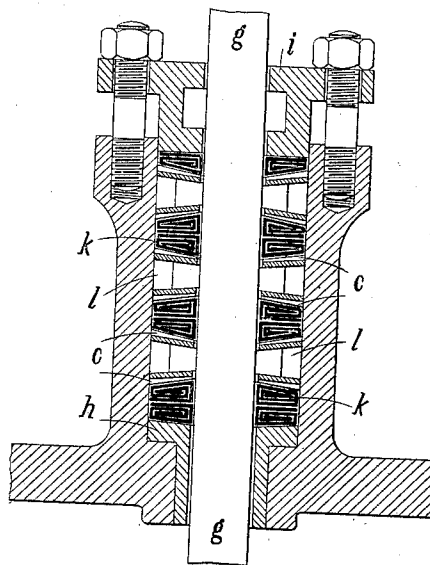


Fig. 9.



Witnesses:

John Becker.

Thomas Burke

Inventor:

Christian Johannes Lorenz Boberg
by his attorney
Roeder & Briesau

UNITED STATES PATENT OFFICE.

CHRISTIAN JOHANNES LORENZ BOBERG, OF HAMBURG, GERMANY.

STUFFING-BOX PACKING.

SPECIFICATION forming part of Letters Patent No. 672,255, dated April 16, 1901.

Application filed May 14, 1900. Serial No. 16,622. (No model.)

To all whom it may concern:

Be it known that I, CHRISTIAN JOHANNES LORENZ BOBERG, a citizen of the German Empire, and a resident of Bauksstrasse 28, Hamburg, Germany, have invented certain new and useful Improvements in and Connected with Stuffing-Box Packing, of which the following is a specification.

The present invention relates to rings for stuffing-box packings and similar purposes. A ring according thereto comprises two disks connected with each other by spacing-pieces. In the accompanying drawings such rings are shown detached and in combination with stuffing-boxes.

Figure 1 is a plan view, and Fig. 2 a side view, of such a ring. Fig. 3 is a horizontal section corresponding to the line A B of Fig. 2, and Fig. 4 is a vertical section corresponding to the line C D of Fig. 1. Figs. 5, 6, and 7 show in top plan, vertical section, and partial side view a modified form of construction. Figs. 8 and 9 show in longitudinal section two stuffing-boxes fitted with the expansion and condensing rings, any suitable packing medium being employed.

The rings, which are dished, consist of two disks *b b*, connected with each other by spacing-pieces *a*, and are preferably divided vertically into two equal halves for convenience of manipulation. They may, however, be employed in the form of a closed ring. The outer surfaces of these rings are either smooth, Figs. 1 to 4, or provided with radially-converging grooves *c*, Figs. 5, 6, and 7. The disks may be provided with holes *d* and on their peripheries with recesses *e*. Two opposite spacing-pieces *a* are each provided with a screw-threaded hole *f* for the purpose of permitting of the removal of the rings from the interior of the stuffing-box by means of correspondingly-screw-threaded rods. The rings act as expansion and condensing devices and are applied as shown by way of example in Figs. 8 and 9. Their bore is somewhat greater than the diameter of the piston-rod, so that this latter does not come in contact with the metal. When employing these rings, the metal sleeve *h*, as well as the gland *i*, may be made slightly larger in bore than the piston-rod, so that it does not come in contact with metal generally.

Layers of packing *k* of soft material and rings of the kind described are placed alternately in the bore of the stuffing-box. On the similarly-dished sleeve *h* is placed a packing-ring of hemp, asbestos, or similar material, upon this a metal ring *a b*, on the latter again a layer *k* of packing, and so on. By means of the rings arranged between each layer of packing chambers *l* are formed, into which the steam which penetrates through the layers of packing enters and there undergoes a gradual expansion and is ultimately condensed. The water of condensation is readily absorbed by the soft packing material, which is thus always kept moist, so that no hardening thereof can take place, and the tightening up of the glands is rendered unnecessary, as the soft packing held firmly between the rings by being continually supplied with moisture always presses with a uniform pressure upon the piston-rod. Moreover, as the piston-rod is not touched by the metallic parts of the stuffing-box nor by the inserted rings, but is always and only in contact with the constantly-moist packing material which surrounds it, there is very little or practically no friction, and consequently no drag. By the arrangement of the holes *d* in the disks *b b*, the recesses *e* on their peripheries, and the radial grooves *c* upon their surfaces a continual and regular feed, and thereby a uniform distribution of the condensation water, is maintained.

I claim—

In a stuffing-box packing, a steam-cylinder combined with a series of perforated disks arranged in pairs and having intervening spacing-pieces to form condensing-chambers, and with layers of soft packing material arranged between each pair of disks, the spaces containing said packing material being in communication with the adjoining condensing-chambers, substantially as specified.

Signed by me at Hamburg, Germany, this 27th day of April, 1900.

CHRISTIAN JOHANNES LORENZ BOBERG.

Witnesses:

A. POTHS,
E. H. L. MUMMENHOFF.