No. 730,925. PATENTED JUNE 16, 1903.

J. S. KLEIN, DEC'D.

E. E. KLEIN, ADMINISTRATRIX.

ROD PACKING.

APPLICATION FILED MAY 19, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 2.

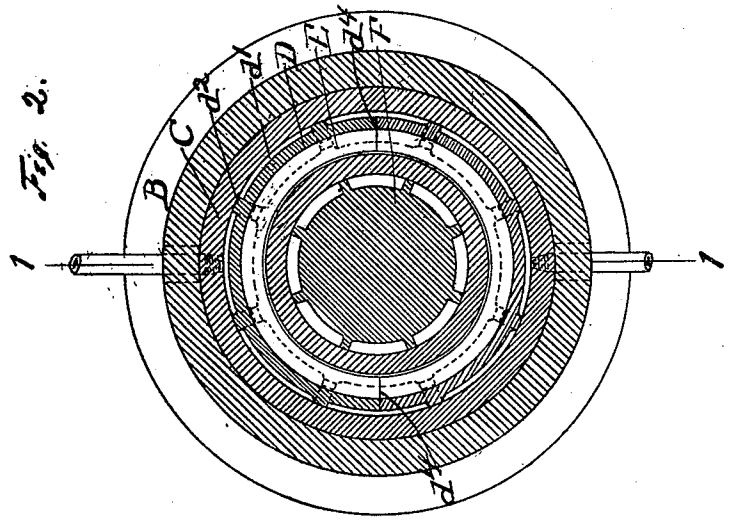
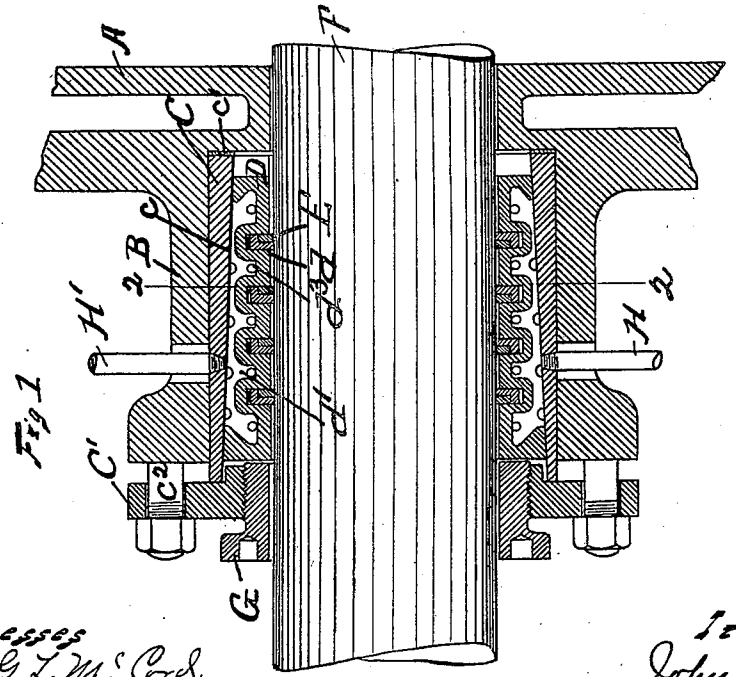


Fig. 1.



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NO MODEL. 2 SHEETS—SHEET 2.

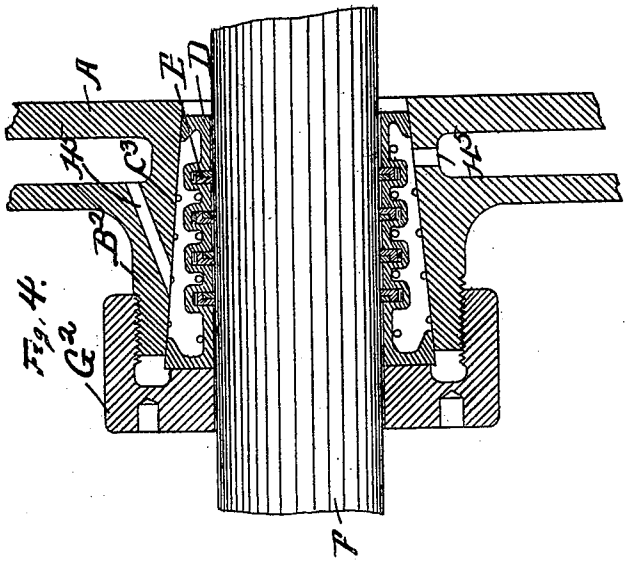


Fig. 4.

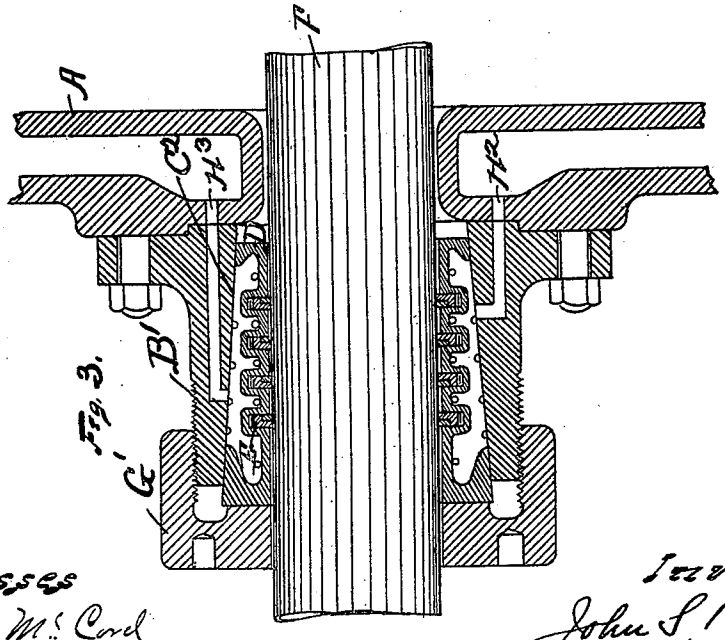


Fig. 3.

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

No. 730,925. Patented June 16, 1903.

UNITED STATES PATENT OFFICE.

JOHN S. KLEIN, OF OIL CITY, PENNSYLVANIA; EMILY E. KLEIN ADMINISTRATRIX OF SAID JOHN S. KLEIN, DECEASED.

ROD-PACKING.

SPECIFICATION forming part of Letters Patent No. 730,925, dated June 16, 1903.

Application filed May 19, 1902. Serial No. 108,088. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. KLEIN, a citizen of the United States, residing at Oil City, in the county of Venango and State of Pennsylvania, have invented new and useful Improvements in Rod-Packing, of which the following is a specification.

This invention relates to rod-packing; and it consists in certain improvements in the construction thereof, as will be hereinafter fully described, and pointed out in the claims.

More particularly the invention applies to rod-packing in which it is desirable to keep the packing medium or rings cool. Other features of the invention will appear from the specification and claims.

The invention is illustrated in the accompanying drawings, as follows:

Figure 1 shows a section on the line 1 1 in Fig. 2; Fig. 2, a section on the line 2 2 in Fig. 1. Fig. 3 shows a central section of an alternative construction. Fig. 4 also shows a central section of an alternative construction.

A marks the cylinder-head; B, the stuffing-box. These may be of the ordinary construction. Within the stuffing-box I preferably place a separate shell C. This shell C may, however, be integral with the walls of the stuffing-box and the stuffing-box may be integral or attached to the cylinder-head. The shell C has the taper bore c, which rests against the packing-ring c'. The gland-ring C' is arranged at the outer end of the shell C and is provided with the stud c^2, by which the casing C may be forced into engagement with the packing c'.

A ring-casing having tapered outer surfaces is forced into the shell C by means of the gland G. The outer surface of this ring-casing is provided with depressions. As the casing is forced into the shell the edges of the casing form a joint with the shell and form the passages d' within the shell. The two parts form a joint at d^4. The taper of the shell forces the two parts together, so as to make the joint d^4 water-tight as well as the contact-surfaces between the shell and the ring-casing. Partitions or webs d^2 are arranged in the passages d' to strengthen the ring-casing. Perforations d^3 are arranged in these webs, so that practically an annular water-passage extends entirely around the ring-casing. Water is admitted through the pipe H and exhausted through the pipe H'. The rings E are placed in the cavities d and bear against the rod F in the usual manner.

It will be noted that the water-passage d' extends on three sides of the ring-cavity d and are on surfaces adjacent to the ring-cavity, so that water in the passages absorbs the heat from the rings and cools them.

In Fig. 3 I show an alternative construction in which the stuffing-box B' is attached to the cylinder-head A and the shell C^2 is integral with the stuffing-box. The gland G' is threaded directly on the stuffing-box and the water-passages H^2 H^3 are connected directly with the water-jacket of the cylinder. The packing-rings E and the ring-casing D are similar to the construction shown in Fig. 1.

In Fig. 4 I show another alternative construction in which the stuffing-box B^2 is integral with the cylinder A and the shell C^3 is integral with the stuffing-box and the cylinder A. A gland G^2 is arranged on the stuffing-box. Water is admitted directly from the jacket of the cylinder through the passages H^4 H^5. The packing-ring E and ring-casing D are similar to the construction shown in Fig. 1.

What I claim as new is—

1. In a rod-packing, the combination of a packing-ring; a casing having cavities in which the ring is arranged; and a water-passage having surfaces on the casing near the cavity extending on three sides of the cavity.

2. In a rod-packing, the combination of a packing-ring; a multiple-part casing in which the ring is arranged; the parts of said casing having water-tight joint; and a water-passage having surfaces on the casing near the cavity, said passage extending by a joint from one part to another.

3. In a rod-packing, the combination of a shell; a ring-casing fitting in the shell with a water-tight joint and having a water-passage formed between its walls and the wall of the shell.

4. In a rod-packing, the combination of a shell having a taper bore; and a ring-casing having taper surfaces to correspond with the

bore of the shell, one of said parts having a depression forming a water-passage between the shell and the casing.

5. In a rod-packing, the combination of a shell having a taper bore; and a ring-casing having taper surfaces to correspond with the bore of the shell, one of said parts having a depression forming a water-passage between the shell and the casing, said casing having a depression forming a water-passage between the shell and the casing.

6. In a rod-packing, the combination of a shell; a multiple-part ring-casing arranged within said shell and forming a water-tight joint with said shell, one of said parts being provided with a depression forming a water-passage between the shell and the casing.

7. In a rod-packing, the combination of a shell having a taper bore; a multiple-part ring-casing having taper surfaces to correspond with the bore of the shell, one of said parts being provided with a depression forming a water-passage between the shell and casing.

8. In a rod-packing, the combination of a shell; a multiple-part ring-casing arranged in the shell, one of said parts being provided with a depression forming a water-passage between the shell and the casing, and the parts of the casing being provided at their outer edges with water-tight joints.

9. In a rod-packing, the combination of a shell having a taper bore; a multiple-part ring-casing having a taper surface to correspond with the bore, the parts forming water-tight joints at their edges, and one of said parts being provided with depressions forming water-passages between the shell and casing all of said joints being closed by the action of the taper as the ring-casing is forced to place.

10. In a rod-packing, the combination of a shell having a taper bore; a ring-casing having taper surfaces to correspond with the shell; and depressions to form a water-passage between the shell and casing, said casing being provided with webs extending from the bottom of the depression to the shell to strengthen the casing.

11. In a rod-packing, the combination of a stuffing-box; a detached taper-bore shell; a packing-ring between said shell and stuffing-box; a ring-casing having a taper surface corresponding with the bore of the shell and provided with depressions forming a water-passage between the shell and the casing-ring.

12. In a rod-packing, the combination of the stuffing-box B; the shell C, having the taper bore; water-passages II II′, leading to and from said shell; the ring-casing D, having the ring-cavities d, the cavities d', extending on three sides of the cavity d, the webs d^2, and perforations d^3, in the webs, the outer surfaces of the ring-casing being tapered to fit the shell C, and forming water-tight joints therewith, said ring-casing being formed in parts, the joint d^4, between the parts being closed by the taper effect of the ring-casing C; and the rings E.

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

JOHN S. KLEIN.

Witnesses:
JUSTIN P. SLOCUM,
H. C. LORD.