No. 811,603. PATENTED FEB. 6, 1906.

P. H. WEAVER.

PISTON ROD PACKING.

APPLICATION FILED MAR. 17, 1905.

FIG. 1

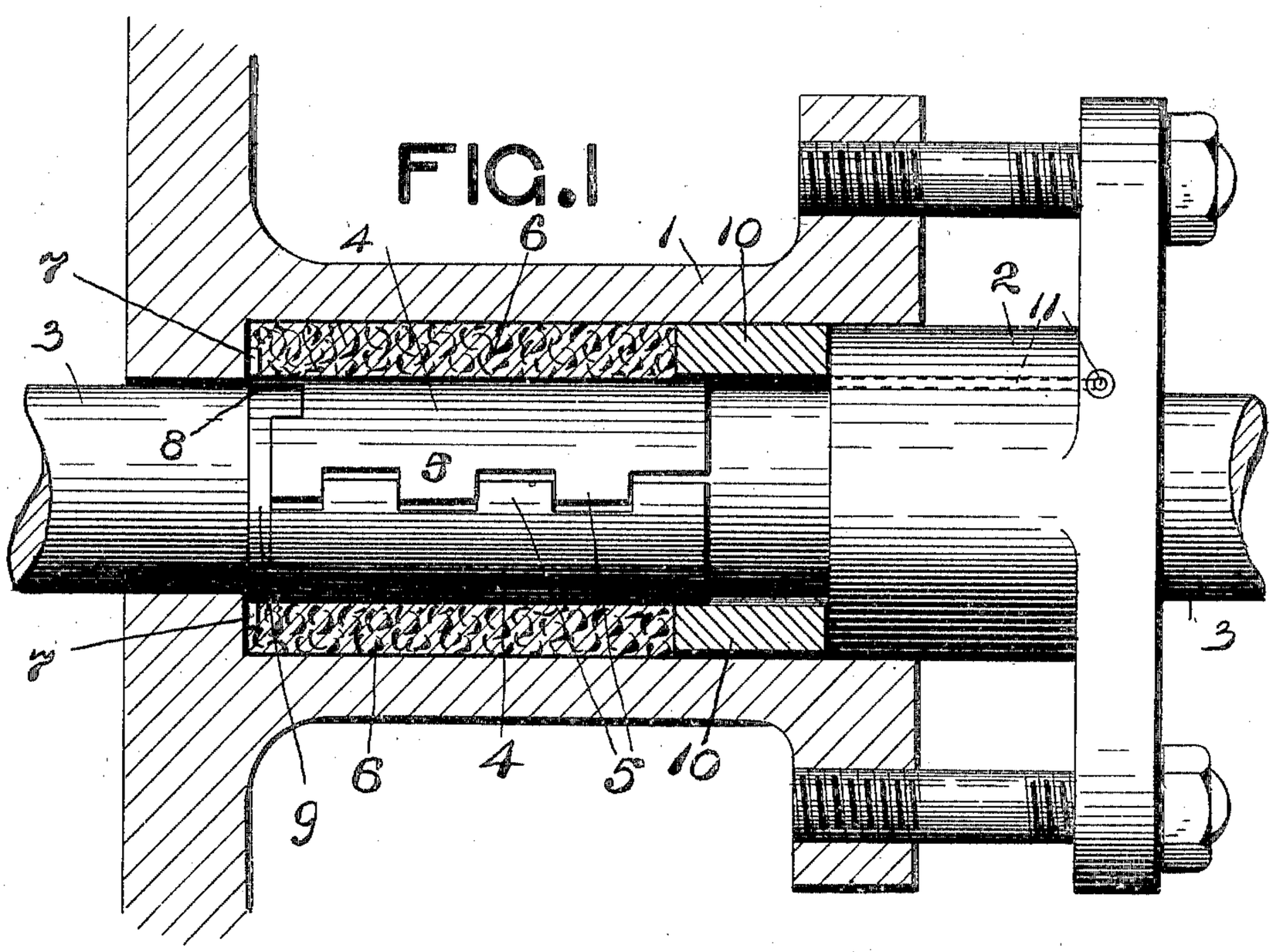


FIG. 8

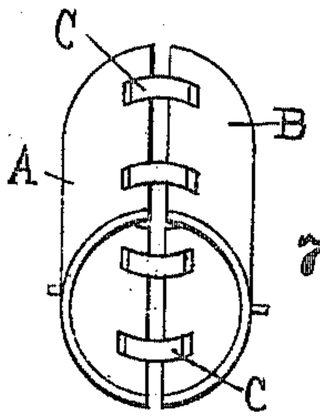


FIG. 2

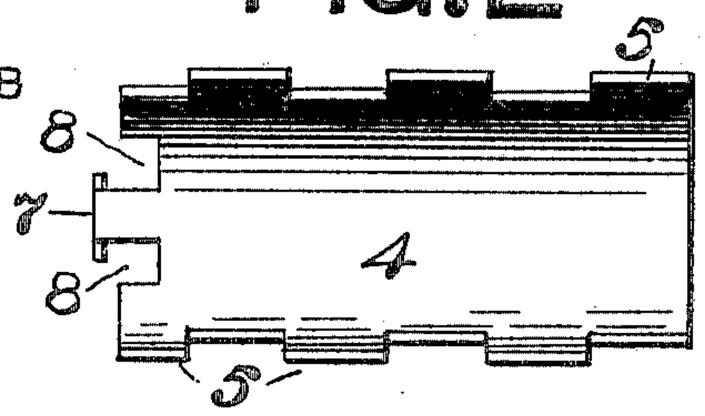


FIG. 3

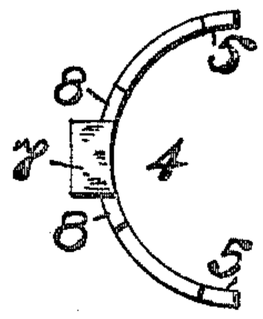


FIG. 4

FIG. 5

FIG. 6

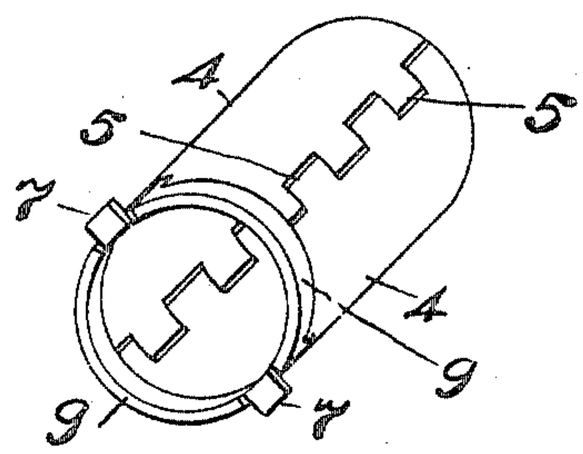
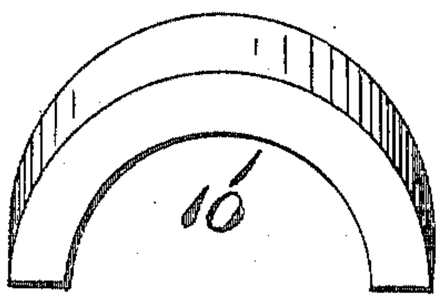


FIG. 7



WITNESSES:

W. M. Smith

George G. Friedrich

INVENTOR

Philo H. Weaver

BY

Richard D. Harrison

His ATTORNEY

UNITED STATES PATENT OFFICE.

PHILO H. WEAVER, OF PITTSBURG, PENNSYLVANIA.

PISTON-ROD PACKING.

No. 811,603. Specification of Letters Patent. Patented Feb. 6, 1906.

Application filed March 17, 1905. Serial No. 250,527.

To all whom it may concern:

Be it known that I, PHILO H. WEAVER, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Piston-Rod Packing; and I do 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, reference being had to the accompanying drawings, and to the characters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in piston-rod packing, consisting of a combination of metallic and non-metallic elements assembled and applied in and to the stuffing-box and piston-rod, the object being to provide a perfectly steam-tight joint capable of being maintained for a long period of time with little or no attention and which can be applied to the ordinary form of stuffing-box and gland without any material change or inconvenience.

In the accompanying drawings I have shown my invention in application and in detail, in which drawings—

Figure 1 represents a longitudinal sectional view through the stuffing-box, showing my improvements therein upon the rod, a portion of which improvements are in section. Fig. 2 is a plan view of one of the metallic packing-sleeve sections. Fig. 3 is an end view of said section. Fig. 4 is an edge view of one of the metallic gibs employed in connection with the sleeve-sections. Fig. 5 is a side view of the same. Fig. 6 is a perspective view of the sleeve-sections and gibs assembled. Fig. 7 is a perspective view of one of the follower-sections. Fig. 8 is a perspective view of a modified form of sleeve assembled.

My invention is designed particularly for service in connection with the ordinary form of stuffing-box, gland, and rod, wherein the numeral 1 designates the stuffing-box, 2 the gland, and 3 the piston-rod, and to put my invention into practice I provide a metallic packing-tube to engage over the rod within the stuffing-box, which is formed of two like semicircular sections 4, provided with interlocking circumferentially-disposed tongues 5, which are capable of yielding circumferentially to take up wear by means of play or clearance at the tongue extremities and also capable of preventing possible longitudinal leakage of steam by forming the tongues that they will interlock or closely engage laterally, said tubular sections being compressed circumferentially about the rod by soft packing 6, surrounding the same within the stuffing-box. Each of the said tube-sections is provided at their inner extremities with a small projection 7 to engage in the soft packing and prevent possible displacement by the steam-pressure acting endwise on the end of the sections. Offsets 8 are also formed in the inner ends of the said tube-sections at each side of the said projections to receive the shouldered ends of a pair of like segmental gibs 9, which gibs are intended to prevent leakage of steam to the clearance-space between the edges of the tubular sections, especially where the device is employed in connection with high pressure of steam, and also to some extent assist in holding the tubular sections together when applying the same to the rod, the offsets 8 being formed long enough in proportion to the width of the shoulder on the gibs as will permit the necessary circumferential yielding of the tube-sections when taking up wear.

Interposed between the gland and soft stuffing upon the end of the tubular sections is a follower-ring, composed of two like sections 10, which is adapted to compress the soft packing by adjusting the gland.

At Fig. 8 I have shown a modified form of tubular packing-sections A and B, in which the tongues instead of being formed integral therewith are formed into segments C, engaging in offsets formed in said sections.

In some cases it may require an increase of lubricant over and above that conveyed along the rod from the interior of the cylinder, and to provide for this contingency a hole 11 may be drilled in the gland to extend to the outer extremity of the metallic packing-ring, into which oil may be placed when desired.

As the application of my invention requires no change in the stuffing-box or gland and as the elements embraced in the invention are simple in form, they may be applied with little or no inconvenience.

It is apparent that slight variations in the tubular structure may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim is—

1. In a piston-rod packing, the combination with the stuffing-box the gland and piston-rod, of a pair of metal sleeve members

of approximate semicircular form in cross-section arranged within said stuffing-box around the said piston-rod and interlocking with one another by circumferentially-disposed laterally-engaging tongues, a soft packing in said stuffing-box surrounding the inner major part of said sleeve members, and a divided follower arranged over the outer end of said members between the soft packing and gland, as shown and set forth.

2. In a piston-rod packing, the combination with the stuffing-box the gland and piston-rod, of a metal sleeve arranged in said stuffing-box around said rod and longitudinally divided into two parts or sections interlocking with one another by circumferentially-disposed laterally-engaging tongues, a soft packing within said stuffing-box and surrounding the inner major part of said sleeve, a divided follower-ring arranged over the outer end of said tube between said soft stuffing and gland, and projections carried by the inner ends of said sleeve-sections to extend up into the stuffing-box, as shown and set forth.

3. In a piston-rod packing, the combination with the stuffing-box the gland and piston-rod, of a metal sleeve arranged in said stuffing-box around said rod and longitudinally divided into two parts or sections interlocking with one another by circumferentially-disposed laterally-engaging tongues, offsets formed in the inner ends of each of said tubular sections, segmental gibs engaging at their heads in said offsets, a soft packing within said stuffing-box surrounding the inner major part of said sleeve, and a divided follower-ring arranged over the end of said tube between the soft packing and gland, as shown and set forth.

4. In a piston-rod packing, the combination with the stuffing-box the gland and piston-rod, of a metal sleeve arranged in said stuffing-box around said rod and longitudinally divided into two parts or sections interlocking with one another by circumferentially-disposed laterally-engaging tongues, offsets formed in the inner ends of said tubular sections, segmental gibs engaging at their heads in said offsets, a soft packing within said stuffing-box surrounding the inner major part of said sleeve, a divided follower-ring arranged over the outer end of said tube between the soft packing and gland, and projections carried by the inner ends of said sleeve-sections to extend up into the stuffing-box, as shown and set forth.

5. In a piston-rod packing, the combination with the stuffing-box the piston-rod and gland, of a pair of metal sleeve members of approximate semicircular form in cross-section arranged within said stuffing-box around the said piston-rod and interlocking with one another by circumferentially-disposed laterally-engaging tongues, a soft packing in said stuffing-box surrounding the inner major part of said sleeve members, a divided follower arranged over the outer ends of said sleeve members between the said soft packing and gland, and an oil-opening extending through the cylindrical part of the gland to the interior of the stuffing-box, as shown and set forth.

6. In a piston-rod packing, the combination with the stuffing-box and rod, of a pair of sleeve members of approximately semicircular form in cross-section arranged within said stuffing-box around the said piston-rod and interlocking with one another by circumferentially-disposed laterally-engaging tongues, a soft packing within said stuffing-box and surrounding the inner major part of said sleeve members, and a gland on said rod and protruding into said box to compress the soft packing, as shown and set forth.

In testimony whereof I affix my signature in presence of two witnesses.

PHILO H. WEAVER.

Witnesses:
R. S. HARRISON,
W. M. SMITH.