(No Model.)

S. P. HINCKLEY.

STEAM PISTON PACKING.

No. 511,423. Patented Dec. 26, 1893.

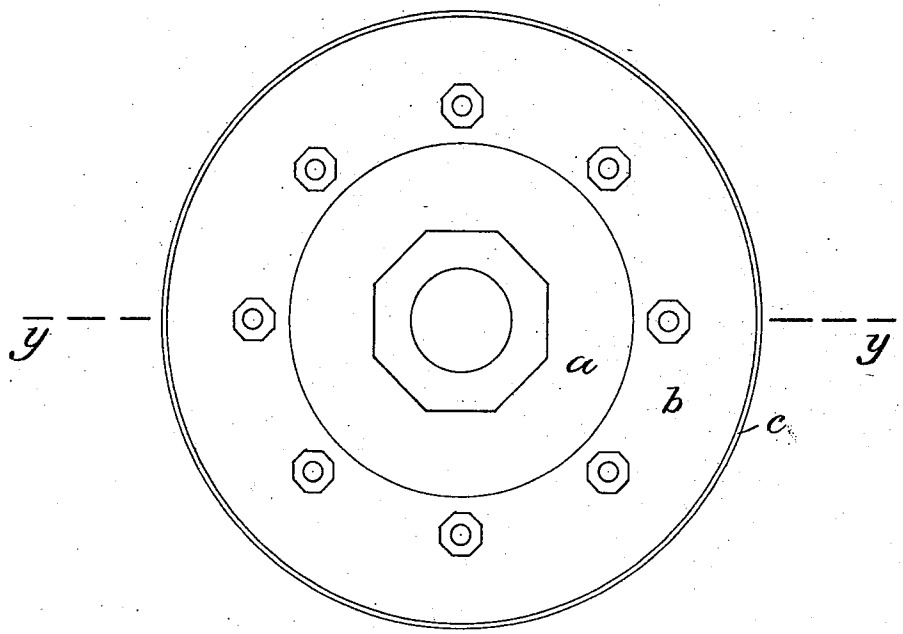

Fig. 1.

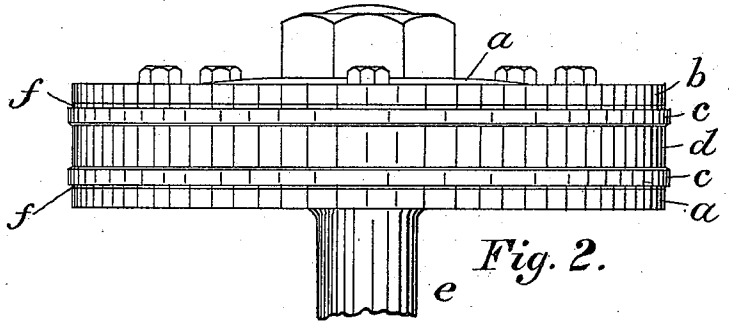

Fig. 2.

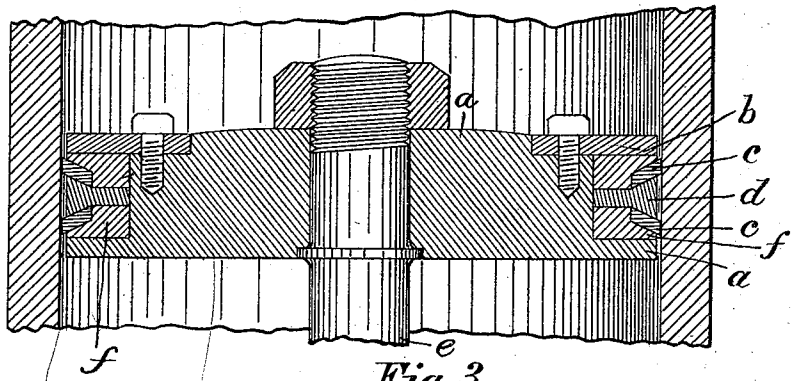

Fig. 3.

Witnesses
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SAMUEL P. HINCKLEY, OF PORTLAND, MAINE.

STEAM-PISTON PACKING.

SPECIFICATION forming part of Letters Patent No. 511,423, dated December 26, 1893.

Application filed July 3, 1893. Serial No. 479,498. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL P. HINCKLEY, a citizen of the United States, residing at Portland, in the county of Cumberland and State of Maine, have invented certain new and useful Improvements in Steam-Piston Packing; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to "packing for steam piston heads and piston valves" and relates to the application of a metallic ring in such manner that the pressure of the steam upon the ring is modified by friction against the filling ring.

Heretofore, in devices of this general description, it has been usual to apply the packing ring so that it shall incline toward the center of the piston head; this arrangement or structure has been found objectionable because of the thrusting or pushing out of the packing toward the center in the direction of the current of steam. By my invention all this trouble is obviated because the packing being placed in the opposite direction the action or movement of it is retarded by the inclination of the ring toward the edge of the piston head and against the direction in which the steam enters.

Having now briefly stated the aim and scope of my present invention, I will proceed to describe the same in detail.

In the drawings: Figure 1. is an end view of the piston head. Fig. 2. is a side elevation of the same. Fig. 3. is a section of the cylinder and piston head through the line *y*, *y* of Fig. 1.

The piston is indicated by the letter *a* and is of the ordinary construction, that is to say, *f*, *f* are the filling rings, between which is a junk ring *d*, which is held in position by means of the follower *b*. I have constructed the junk ring *d*, as shown in the drawings, in form similar to a screw, the stem being straight while the head flares out on either side. On either side of the head of the junk ring, a recess is formed in the filling ring, the line of the bottom of the recess being parallel with the face of the piston head, while the sides are parallel with the flaring sides of the head of the junk ring. Within the recesses thus formed are inserted the steam packing rings *c* conforming in shape to the recesses just described. See Fig. 3. It will be noticed that by this construction the packing inclines toward the edges of the piston head. The rings are made continuous in the ordinary manner to allow contraction and expansion.

The operation of the device will be readily perceived. Assuming the steam to enter the cylinder below the piston head, as shown in Fig. 3. of the drawings, the steam instantly passes in beneath the lower packing ring *c* and between it and the filling ring thus pushing out the ring so that its edge is firmly in contact with the wall of the cylinder. At the end of the stroke, admission of the steam at the other end of the cylinder pushes the other or upper ring against the wall of the cylinder in the same manner. As the action of the steam in forcing out the ring presses it against the inclined plane formed by the flaring head of the junk ring, more or less resistance is exerted by the inclined plane against the too rapid movement of the ring *c*, which is thus preserved from rapid wearing away against the wall of the cylinder. Heretofore, the faces of the junk ring have been straight and continuous offering slight, if any, resistance to the movement of the packing, which has thus been set with great force against the wall of the cylinder and subjected to constant wear.

What I claim as my invention is—

In a steam piston head, the combination of a junk ring with outwardly flaring sides and a packing ring having sides parallel or substantially parallel with said flaring sides, whereby said ring inclines outwardly toward the edges of the piston head, substantially as described.

In testimony that I claim the foregoing as my invention I have hereunto set my hand this 26th day of June, A. D. 1893.

SAMUEL P. HINCKLEY,

In presence of—
A. C. BERRY,
GEO. E. BIRD.