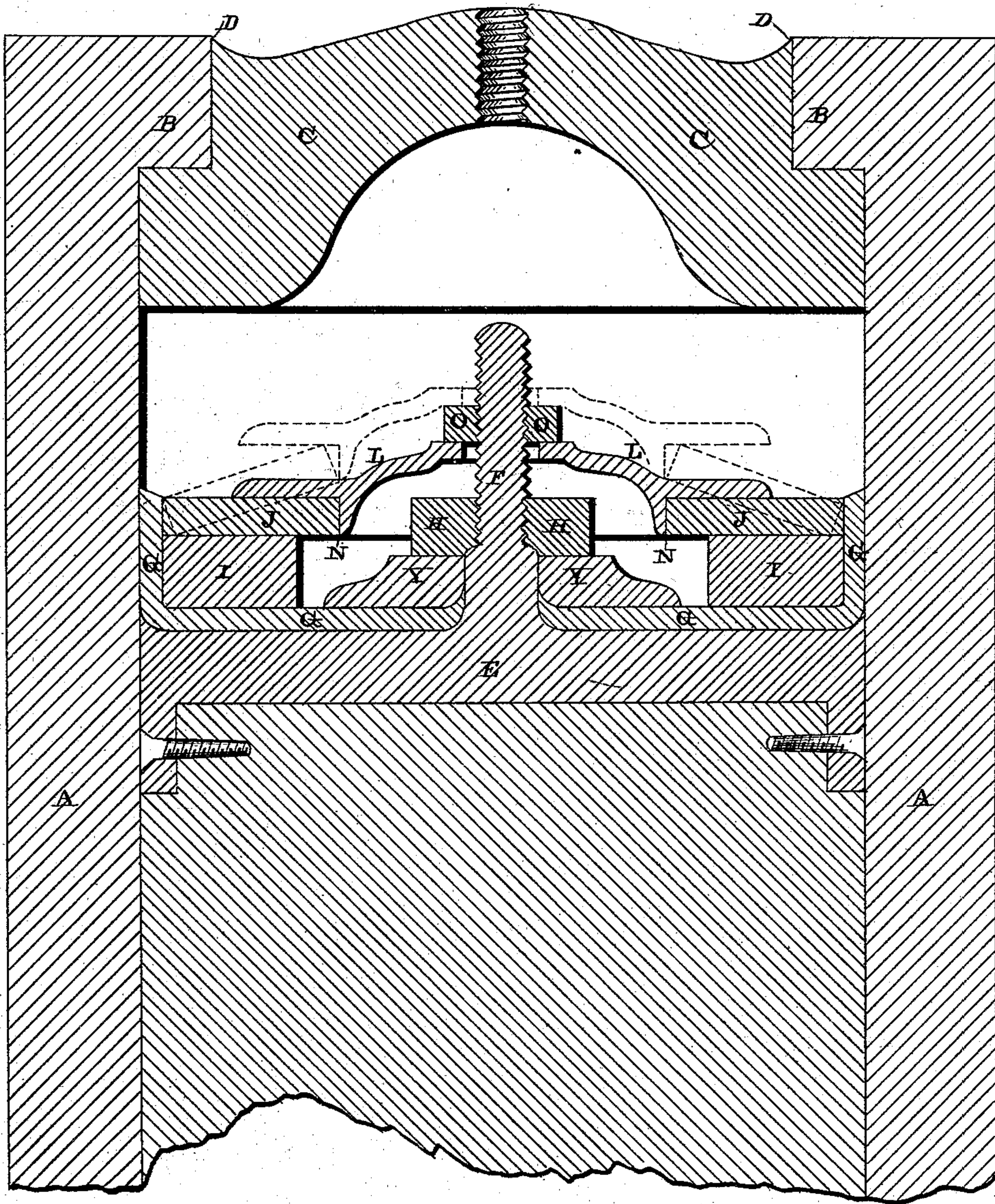


(No Model.)

S. M. BROWN.
Piston Packing.

No. 235,736.

Patented Dec. 21, 1880.



Witnesses

Wm. H. Mortimer.

Wm. H. Kern

Inventor.

S. M. Brown.

per

F. A. Lehmann,

Atty

UNITED STATES PATENT OFFICE.

SILAS M. BROWN, OF MARENGO, OHIO.

PISTON-PACKING.

SPECIFICATION forming part of Letters Patent No. 235,736, dated December 21, 1880.

Application filed November 19, 1880. (No model.)

To all whom it may concern:

Be it known that I, SILAS M. BROWN, of Marengo, in the county of Morrow and State of Ohio, have invented certain new and useful Improvements in Piston-Packings; and I do hereby 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 pertains to make and use it, reference being had to the accompanying drawing, which forms part of this specification.

My invention relates to an improvement in piston-packings for steam-engines, pumps, hydraulic cylinders, and other such devices; and the first part consists in securing the packing in position by means of a suitable clamping device, and then expanding this packing against the side of the cylinder by means of a suitable spring or springs, which are compressed or held in place by a separate and independent holding and clamping device of its own, as will be more fully described hereinafter.

The object of this part of my invention is so to construct the packing of pistons that the packing can be expanded from time to time as it wears away, so as to keep it in close contact with the side of the cylinder, and thus prevent leakage.

The accompanying drawing represents a vertical section of my invention.

Secured to the upper end of the piston or plunger, in any suitable manner, is the iron plate or casting E, which has a slightly smaller diameter than the bore of the piston, and from the center of which projects the screw-rod F. The upper side or face of this casting is made slightly concave, as shown, so that the packing G, of leather or any other suitable substance, will be curved upward, as shown, both at its inner and outer edges. Passed down over the screw-bolt is an iron plate or casting, Y, which bears directly upon the top of the packing G, and which has the lower edge of the opening through its center cut away, as shown, so as to allow the fine edge of the packing to be forced in between it and the rod, and thus assist in holding the packing more securely in place.

Passed over the screw-rod, so as to bear down upon the top of this plate or casting, is

a clamping-nut, H, by means of which the casting can be held tightly down upon the plate. By means of this rod, nut, or casting a separate and distinct clamping device is formed for the inner portion of the packing, as shown.

Inside of the packing, where it is turned upward so as to bear against the side of the cylinder, is placed a ring, I, of wood, iron, or any other suitable substance, and which serves as a bearing for the spring J, of rubber or any other suitable material, which is used to keep this packing at its upper edge forced tightly against the side of the cylinder. This spring may be made in one continuous piece, or in a number of pieces, as may be preferred, and should be of such a nature that it can be compressed so that it will automatically expand as fast as the packing is worn away against the side of the cylinder, and thus keep the packing tightly in place without the necessity of constantly adjusting the spring for that purpose.

Passed through the upper end of the screw-rod is a plate, L, which is made concave on its under side, and provided with the shoulder N for catching against the inner side of the spring. Also passed over the upper end of the screw-rod and bearing down upon the top of this plate is a clamping-nut, O, by means of which the plate can be forced down into position from time to time as the packing wears away. The spring which operates in connection with this plate is at first made larger than is absolutely necessary, and in order to secure a suitable bearing against the spring by means of this plate the spring has to be turned up upon edge, as shown in dotted lines, and then the plate is forced downward from time to time, as occasion demands, until the spring is forced into position.

By means of the construction, as above shown, it will be seen that there is a separate clamping device for holding the packing, and another distinct and separate clamping device for securing the spring in position, and that the device for holding the spring can be adjusted from time to time without in any way interfering with the packing.

Having thus described my invention, I claim—

1. A piston-packing consisting of a casting, E, provided with a screw-rod, F, a packing, and a clamping device for securing it at its center, in combination with a bearing or support for the spring, a spring for forcing the packing out against the side of the cylinder, and the clamping device for holding the spring in position, substantially as described.

2. In a piston-packing, the combination of a screw-rod, a clamping device for holding the packing in position, and a clamping device for

securing the rubber in position, which expands the packing, the two clamping devices being entirely separate and distinct and secured upon the same rod, substantially as specified. 15

In testimony that I claim the foregoing I have hereunto set my hand this 19th day of November, 1880.

S. M. BROWN.

Witnesses:

C. S. DRURY,
A. C. KISKADDEN.