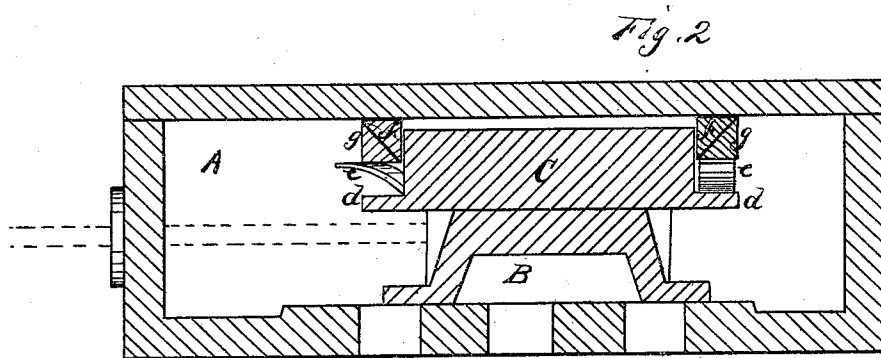
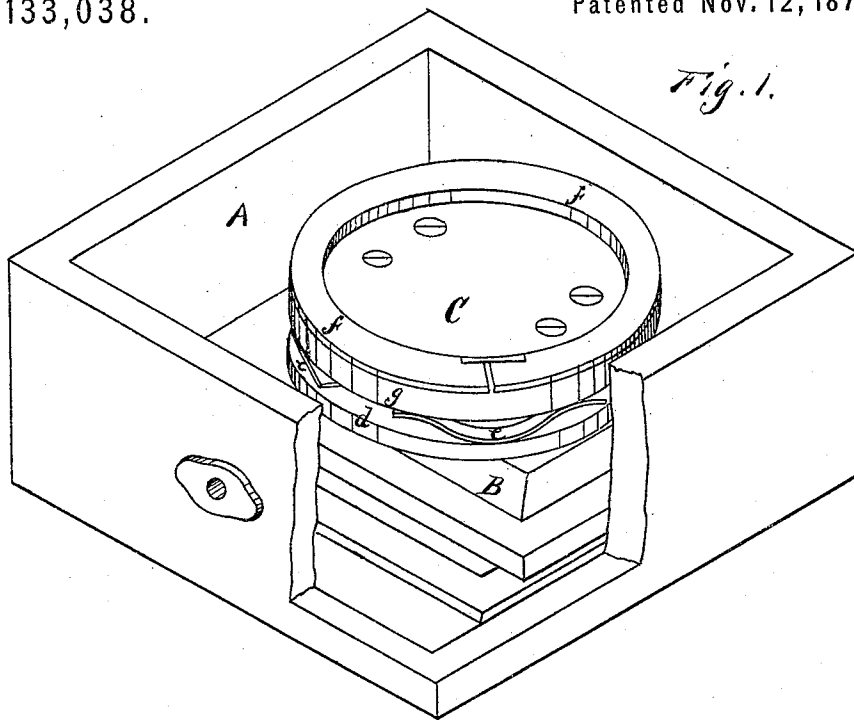


H. KESSLER.
 Improvement in Balanced Slide-Valves.
 No. 133,038. Patented Nov. 12, 1872.



Witnesses

J. L. Bone
C. M. Richardson

Inventor

Henry Kessler
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Attys

UNITED STATES PATENT OFFICE.

HENRY KESSLER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN BALANCED SLIDE-VALVES.

Specification forming part of Letters Patent No. 133,038, dated November 12, 1872.

To all whom it may concern:

Be it known that I, HENRY KESSLER, of San Francisco city and county, State of California, have invented Improvements in Slide-Valves; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvements without further invention or experiment.

My invention relates to improvements in that class of slide-valves which have a bearing against the top of the steam-chest in order to prevent the steam from getting above it, and thus permit the valve to move easily without a pressure of steam upon it. My improvement consists in employing two beveled packing-rings around the upper end of the valve, which are supported on springs so as to be held above the upper face of the valve. These rings bear against the under side of the cover of the steam-chest and make a tight joint, thus preventing the entrance of steam above the valve, which is thereby balanced and the pressure on the seat materially reduced.

In order to more fully illustrate and explain my invention, reference is had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a perspective view of the steam-chest valve and rings. Fig. 2 is a vertical section of the same.

A represents the steam-chest, and B the slide-valve. On top of this valve I secure a circular disk, C, from the base of which a horizontal flange, *d*, projects. This disk should be made of a thickness to come almost, but not quite, up to the top of the steam-chest, as

shown. At two or more points around the circumference of the disk C I secure upon the flange *d* a spring, *e*. Each of these springs consists simply of a thin steel plate, which is bent upward at each end and secured by a rivet at its middle to the flange, so that their upturned ends provide the spring. *f* and *g* are two packing-rings, having their opposite edges beveled so that they will fit one inside of the other, as shown. These rings are of the proper size to fit down over the disk C, and rest upon the springs *e*. The two rings are of sufficient thickness to extend above the upper face of the disk C when placed upon the springs *e*, and when the cover of the steam-chest is firmly screwed down the springs *e* are compressed by the pressure of the cover upon the rings, thus making a tight joint between the rings and cover, which will prevent the steam from getting above the valve.

By this arrangement I secure all of the advantages of a balanced slide-valve, and also reduce the area of the friction-surface to the simple bearing-surface of the rings.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The valve B, provided with the disk C with its flange *d*, in combination with the springs *e* and beveled packing-rings *f g*, all constructed and arranged as described, to operate substantially as and for the purpose above set forth.

In witness whereof I hereunto set my hand and seal.

HENRY KESSLER. [L. S.]

Witnesses:

J. L. BOONE,

C. M. RICHARDSON.