J. GRISWOLD.
Safety Valve.

No. 232,708. Patented Sept. 28, 1880.

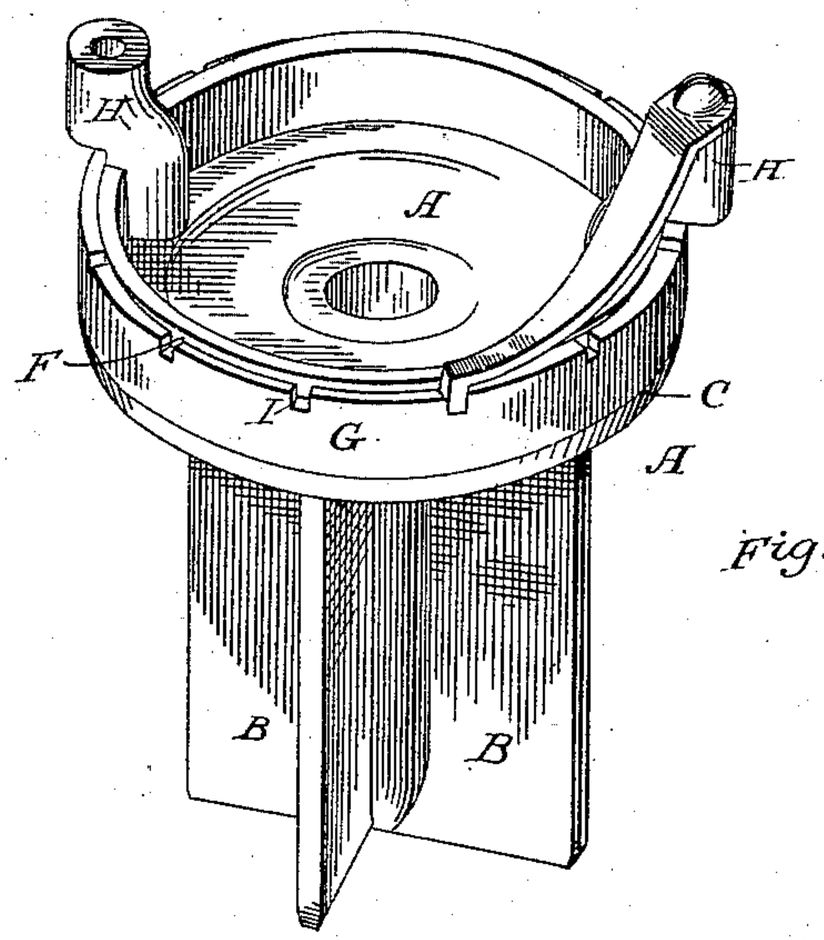

Fig. 1.

Fig. 2.

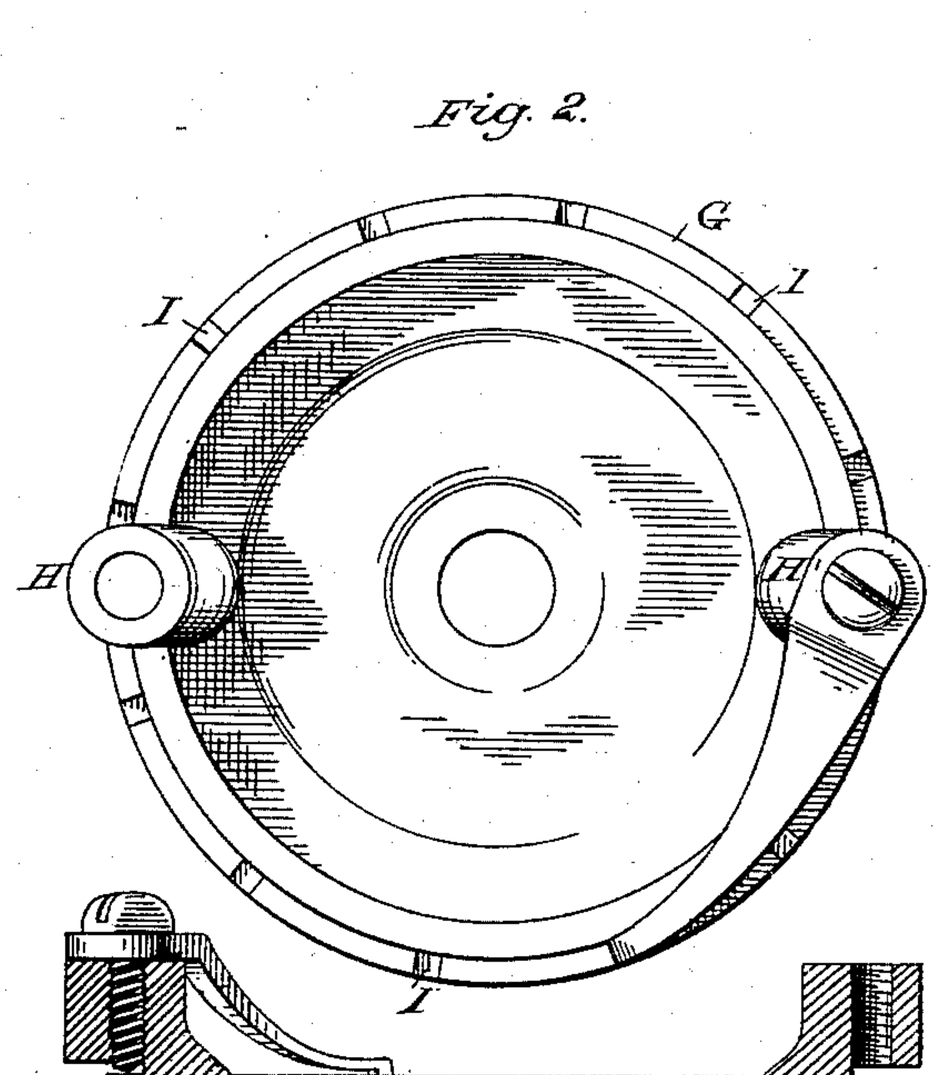

Fig. 3.

Witnesses:
C. Clarence Poole
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Inventor:
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by Ellis Spear,
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UNITED STATES PATENT OFFICE.

JOHN GRISWOLD, OF ELKHART, INDIANA, ASSIGNOR TO HIMSELF AND HENRY J. BURTON; SAID GRISWOLD AND BURTON ASSIGNORS OF ONE-HALF OF THEIR RIGHT TO ORLANDO S. EMERSON AND JOSEPH S. GRAHAM, ALL OF SAME PLACE.

SAFETY-VALVE.

SPECIFICATION forming part of Letters Patent No. 232,708, dated September 28, 1880.

Application filed February 2, 1880.

To all whom it may concern:

Be it known that I, JOHN GRISWOLD, of Elkhart, in the county of Elkhart and State of Indiana, have invented a new and useful Improvement in Safety-Valves; and I do hereby declare that the following is a full, clear, and exact description of the same.

The object of my invention is an improvement on the construction shown in the patent granted to G. W. Richardson, September 25, 1866, for steam safety-valves.

In the patent named the object sought was to increase the area of the surface against which the steam-pressure was exerted by providing a flange or lip which extended around the valve-seat, and formed, in connection with such valve-seat, a chamber, into which the steam, after raising the valve from the seat at the ground-joint, entered, and by its expansive pressure in such chamber raised the valve still higher and escaped through the opening formed between such lip and the valve-seat. This construction was further improved by making the lip adjustable, so that the relative positions of the lip and the valve-seat could be changed, and the steam-pressure required to raise the lip against the usual spring could be varied at will. This adjustable lip was secured by studs or screws to the valve itself, and in its use a serious difficulty arose, which it is the purpose of my present invention to remedy.

In using the valve upon locomotive-engines it has been found that, owing to the constant jarring to which it is subjected, the screws which secure the adjustable lip in proper position work loose and fall out, in which event the lip would, of course, turn, and the relative position of the lip and valve-seat might be materially changed without any change in the steam-pressure to accord with such different adjustment of the parts. In consequence the valve and its parts had to be frequently set, and much inconvenience resulted, which still exists in the valves as now used.

My invention consists in combining with the valve and the adjustable lip secured directly thereto a spring engaging with notches in the lip, which will be sufficient, without the use of screws, to hold the parts securely in position, and yet will permit of their adjustment with much less trouble than if screws were used, and I now proceed to describe my invention in connection with the accompanying drawings, in which—

Figure 1 is a perspective of the valve with my device applied thereto. Fig. 2 is a top view, and Fig. 3 a sectional elevation.

A represents the valve, like that shown in the patent named, provided with wings B B to guide its motion, and having a central bore to receive a stem or spindle to support a spring, against whose pressure the valve is raised. The valve-seat, spring, &c., are not shown, as they differ in no material particular from the patent before named, and are not necessary to a full understanding of my invention.

The valve is beveled or inclined at C to form the ground joint with the valve-seat, and above this beveled portion is an annular rounded portion, D, to form, in connection with the adjustable lip and the valve-seat, a chamber, into which the steam passes after lifting the valve at the ground joint. Above this portion D is a cylindrical and externally screw-threaded portion, F, which receives the adjustable lip G, which is correspondingly screw-threaded internally. With the valve, and on its upper edge, are cast hollow studs H, which project over the edge of the valve, and are screw-threaded on their interior surface.

On the upper edge of the lip G are formed notches I, placed at short intervals around the circumference of the lip, and with these notches engages the free end of a stiff spring, constructed preferably of steel, whose other end is secured by a screw to the lug H.

It is evident that the engagement of this spring with the notches on the lip will hold such lip in place without danger of jarring loose and without the aid of screws. At the same time the spring will permit the lip to be placed in any position with relation to the valve and seat, since it will always maintain a constant pressure.

This construction obviates the necessity of setting the lip at each or every trip of the

locomotive, since the parts will maintain their proper position until it is desirable to change them for purposes of readjustment.

In its manner of application to steam-boilers, as well as in its general mode of operation, my invention does not differ from the patent named, or, indeed, from the valves usually employed.

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

1. The combination of a valve and adjustable lip secured directly thereto, and a spring-catch for maintaining the lip in its proper position with relation to the valve, as set forth.

2. The combination, with the valve A, of the adjustable lip G, formed with a screw-thread to engage directly with such valve, and the spring-catch secured to said valve, and having its free end engaging with notches in the upper edge of the adjustable lip, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN GRISWOLD.

Witnesses:

ORVILLE T. CHAMBERLAIN,

ALBERT N. CHAMBERLAIN.