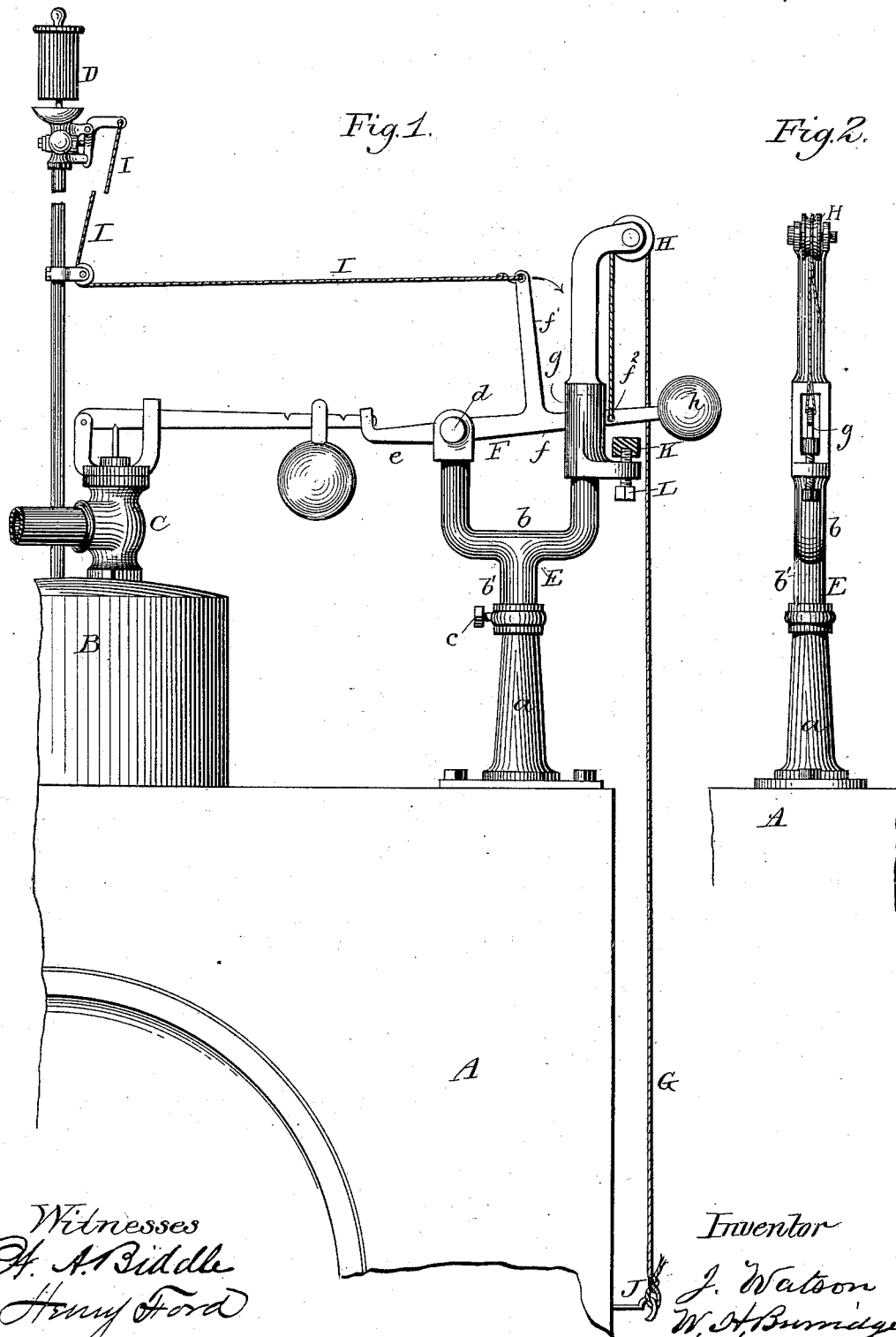


(No Model.)

J. WATSON.
SAFETY ATTACHMENT FOR BOILERS.

No. 423,098.

Patented Mar. 11, 1890.



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UNITED STATES PATENT OFFICE.

JOHN WATSON, OF CLEVELAND, OHIO.

SAFETY ATTACHMENT FOR BOILERS.

SPECIFICATION forming part of Letters Patent No. 423,098, dated March 11, 1890.

Application filed September 28, 1889. Serial No. 325,466. (No model.)

To all whom it may concern:

Be it known that I, JOHN WATSON, a resident of Cleveland, in the county of Cuyahoga and State of Ohio, and a citizen of the United States, have inserted a certain new and Improved Safety Attachment for Steam-Boilers; and I do hereby declare the following to be a full, clear, and complete description thereof.

This invention relates to certain steam-boiler appliances arranged in connection with the safety-valve and whistle thereof, the object of which is to assure a frequent action of said valve to cause alarm in case of fire and a simultaneous opening of the safety-valve signaling.

That the invention may be fully understood, reference will be had to the following specification and accompanying drawings, in which—

Figure 1 illustrates a partial exterior view of a steam-boiler provided with the attachment above referred to, and Fig. 2 is a front side view of the apparatus shown in Fig. 1.

Like letters of reference refer to like parts in the several views.

A in Fig. 1 indicates the exterior brick-work of a steam-boiler, B the dome, C the safety-valve, and D the whistle thereof. The appliance or apparatus is arranged in connection with both the valve and whistle, and both are simultaneously affected by the same, in the manner as hereinafter set forth.

Substantially, the appliance consists of the stand E and the lever F, with cord G. The stand E is constructed of two parts, namely: the pedestal *a* and the bracket *b*, which bracket is adjustably arranged in the socket of the pedestal *a* by means of the neck *b'* and the set-screw *c*, according to the required height for suspending the lever F in relation to the lever of the safety-valve C. Said lever F, pivoted at *d*, has a short arm *e* and a long arm *f*, with a branch arm *f'*. The short arm extends under the free end of the safety-valve lever and the long arm through the slot *g*, with a weight *h* at the free end thereof. The cord G is attached to the arm *f*, as seen at *f'*, and is withdrawn over the pulley H, as seen in Figs. 1 and 2, from where it is extended to a convenient place of access for being used, as hereinafter set forth. From the end of

the lever *f'* connection is made with the lever of the whistle D by means of the cord I, as seen in Fig. 1. Thus on the depression of the arm *f* both the safety-valve and whistle come into use—that is, when the cord G is released from engagement of the hook J. Ordinarily the lever E is held in the position as shown in Fig. 1 by means of the cord G, in which instance both the safety-valve and whistle are relieved from the influence of the weight *h* on the arm *f*. In order to blow the whistle, the cord must be unhooked at J to allow the lever F to turn or descend, which draws the cord I of the arm *f'* in direction of the arrow, and also causes the arm *e* to lift the safety-valve lever, which results in a simultaneous blowing off of the steam through said valve whenever the whistle is used, the advantage of which lies in the assurance that the steam through said valve will blow off without requiring special attention; hence its effectiveness can always be relied upon for the purpose designed.

As shown in the drawings, the arm *f* will, when relieved, bear upon the cap L of the set-screw K, by which means the movement of said lever can be governed, as required, for blowing the whistle and lifting the safety-valve lever. Aside from the simultaneous operation of the whistle and safety-valve this appliance is devised for serving as a safeguard in case of a conflagration about the premises in which the boiler is situated. For this reason inflammable material is used for the rope G and easily-fusible material for the cap K. Thus before the boiler could be seriously endangered by fire the rope would burn off and disconnect from the lever F, so that the same would fall and give alarm through the whistle, relieving the safety-valve. The heat in that instance would also melt the fusible cap L, allowing the lever to drop still farther, thereby opening the safety-valve to an extent sufficient to relieve the boiler from internal pressure and danger of explosion.

A steam-boiler provided with the improvement above referred to has its safety-valve tried as often as the whistle is used. Thus the danger which would be involved by not testing said valve from time to time is avoided,

the responsibility on the part of the fireman is diminished, and the safety of persons and property increased.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In combination with a steam-boiler, a safety attachment consisting of a three-armed lever which is loaded, a stand for support of said lever, and a cord for suspending the loaded arm thereof, the other two arms arranged, respectively, in connection with the whistle and safety-valve of the boiler, in a manner as and for the purpose described.

2. In a steam-boiler and safety attachment, the combination of the stand E, lever F, and inflammable cord G, the said stand adapted for support and suspension of said lever and provided with a fusible cap and adjusting-screw, the lever F having three arms re-

spectively in connection with the safety-valve, whistle, and a weight, constructed and arranged substantially as described, and for the purpose set forth.

3. The combination of a steam-boiler safety-valve, a lever F, with arms *eff'* and weight *h*, a stand E, with pivot at *d*, cap K upon set-screw L, and a cord G, in direct connection with said lever and indirect connection with the whistle by means of the arm *f*, constructed substantially as set forth, and for the purpose specified.

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

JOHN WATSON.

Witnesses:

W. H. BURRIDGE,
B. M. BURRIDGE.