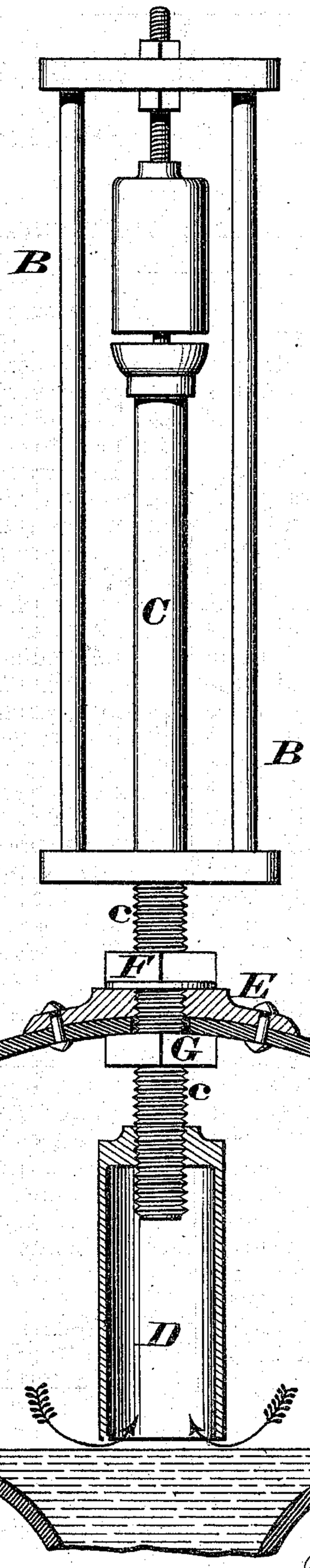
[72.]

J. C. LEISTNER & A. KAYSER.

Improvement in Low Water Alarms.

119,037. Patented Sep. 19, 1871.



Attest.
Jas. H. Layman
John Wilkins.

J. C. Leistner & A. Kayser
INVENTORS.
Knight Bros. Attys.

UNITED STATES PATENT OFFICE.

JOHN C. LEISTNER AND AUGUSTUS KAYSER, OF CINCINNATI, OHIO.

IMPROVEMENT IN LOW-WATER ALARMS.

Specification forming part of Letters Patent No. 119,037, dated September 19, 1871.

To all whom it may concern:

Be it known that we, JOHN C. LEISTNER and AUGUSTUS KAYSER, both of Cincinnati, Hamilton county, Ohio, have invented a new and useful Low-Water Alarm for Steam-Generators, of which the following is a specification:

This is an improvement in the class of low-water alarms which comprises a pipe that penetrates the top of the boiler and terminates a little below the desired water level, and which rises somewhat above the boiler, and is surmounted by a whistle and supplied interiorly with a valve. In this class of alarms the valve is so adjusted relatively to the pipe as to remain closed whenever the latter is charged with water, which the pressure of steam causes it constantly to be whenever the surface level of the water is above the bottom of the pipe. The instant, however, that the boiler becomes so far depleted as for the water to leave the mouth of the pipe that within the pipe is replaced by steam, which, heating the valve-pipe, acts to open the valve and to sound the whistle. A serious difficulty, however, intervenes to prevent the uniform and effective action of this class of safety devices, owing to the liability of the steam to force water up with it into the pipe, which water, reaching the whistle, prevents the sounding of the same. This priming action, with the objectionable results above specified, we effectually prevent by inclosing that part of the pipe which enters the boiler in an enlarged mouth-piece, whose lower or open extremity is placed at the water level, and at a lower elevation than the mouth of the pipe proper, which is shortened for that purpose. The effect of this is that the current of steam in ascending the comparatively wide area of the mouth-piece becomes slackened in speed sufficiently to part with its mechanically suspended water, which falls back into the boiler before reaching the mouth of the pipe.

The accompanying drawing is a partially-sectionized elevation of an alarm provided with our improvements.

A represents a portion of a steam-generator; B, an alarm of customary form, except that its pipe C penetrates but a short distance into the boiler and is surrounded by a mouth-piece, D, in the form of an inverted cup or cylinder of much larger diameter than the pipe proper, and whose lower or open end is conincident with the level of subsidence, at which it is desired that the alarm shall take place. Our device also differs from the customary form in its provisions for attachment and adjustment, which we will now proceed to describe. The pipe C is screw-threaded, *c*, to occupy a corresponding screw-threaded boss, E, which surrounds the opening of the boiler. The pipe C being screwed up or down to its desired position is secured thereto by means of nuts F and G. The mouth-piece D has a screw-threaded orifice, by which it is secured to the screw-threaded lower portion of the pipe at any desired elevation relatively thereto and to the boiler.

We claim as new and of our invention—

1. The arrangement of the pipe C projecting into the enlarged mouth-piece D within the boiler, as described and represented, for the purpose set forth.

2. In the described combination with the elements of the preceding clause, the devices C E F G, whereby the alarm-inlet and its mouth-piece are secured at any desired elevation relatively to each other and to the boiler, for the object designated.

In testimony of which invention we hereunto set our hands.

JOHN C. LEISTNER.
AUGUSTUS KAYSER.

Witnesses:

GEO. H. KNIGHT,
JAMES H. LAYMAN.