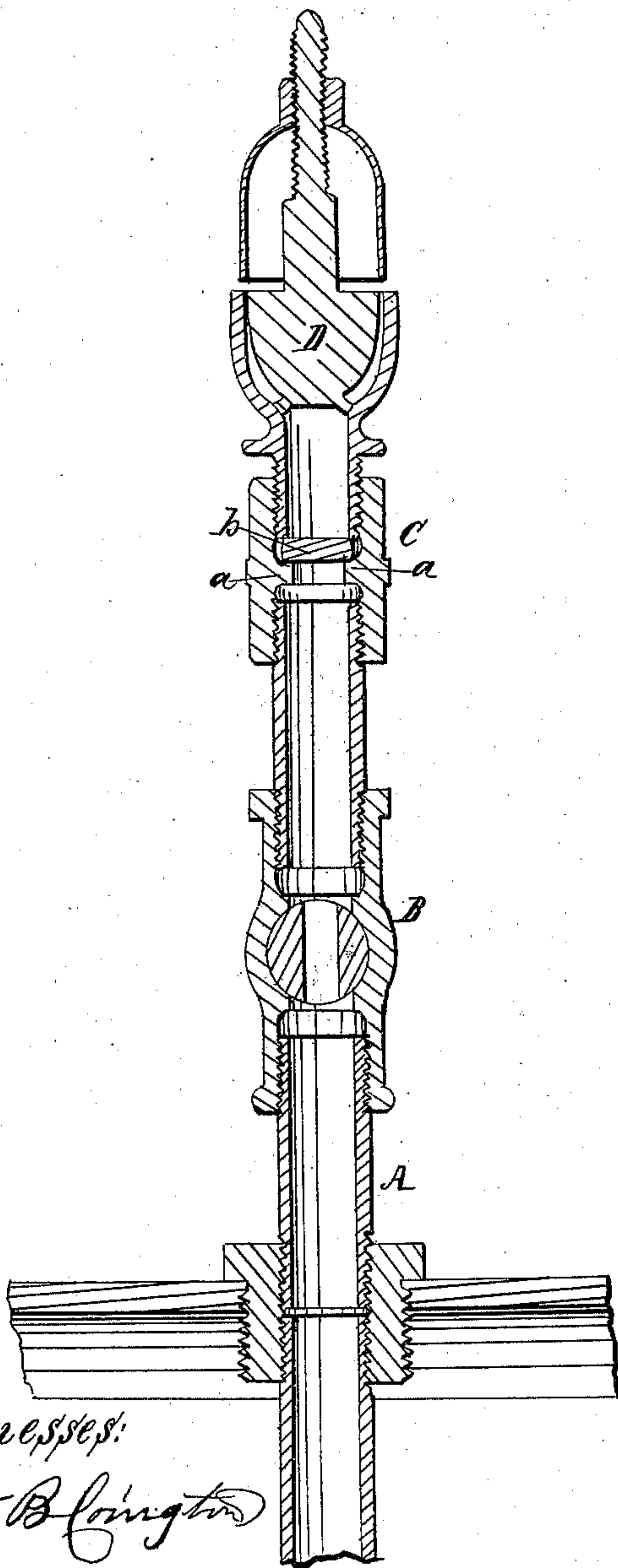


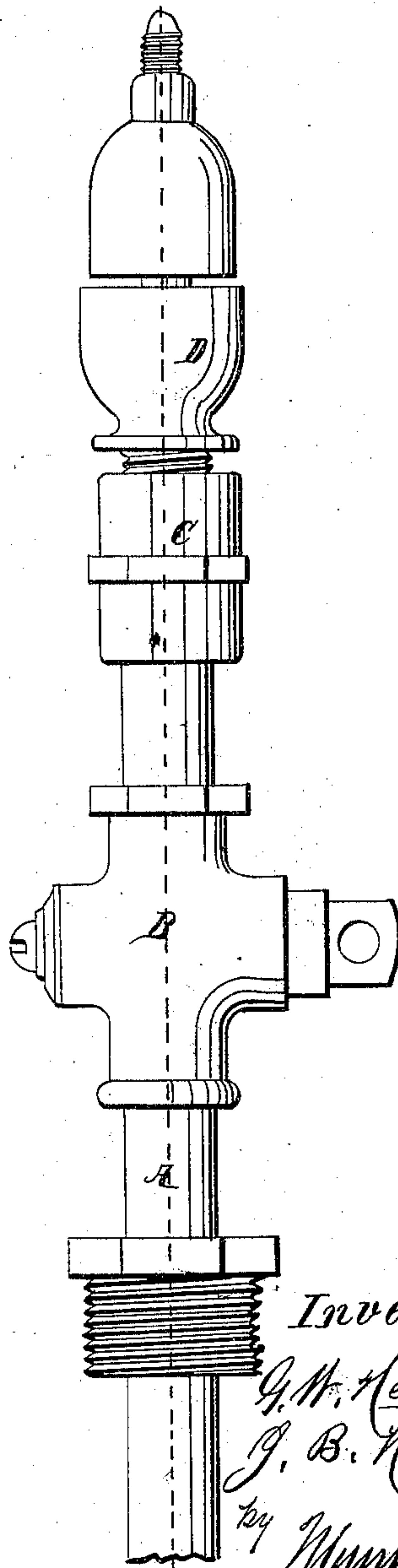
Herrett & Haley,
Steam-Boiler Indicator.
N^o 54,544. Patented May 8, 1866.

Fig. 1.



Witnesses:
J. W. Blington
for A Service,

Fig. 2.



Inventors:
G. M. Herrett
J. B. Haley
by Munnell
Attys

UNITED STATES PATENT OFFICE.

G. W. HEWITT AND J. B. HALEY, OF CINCINNATI, OHIO.

IMPROVEMENT IN LOW-WATER DETECTERS.

Specification forming part of Letters Patent No. 54,544, dated May 8, 1866.

To all whom it may concern:

Be it known that we, G. W. HEWITT and J. B. HALEY, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and Improved Low-Water Detector; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a vertical central section of this invention, the line *x x*, Fig. 2, indicating the plane of section. Fig. 2 is a side elevation of the same.

Similar letters of reference indicate like parts.

This invention relates to certain improvements on a low-water detector known in the trade as "Ashcroft's Patent Low-Water Detector." This detector consists of a tube rising vertically from the boiler and terminating on its top in a spherical air-chamber. From this vertical tube extends a horizontal arm which is closed at its outer end and from which rises a steam-whistle. The channel leading through this horizontal tube, and forming the communication between the vertical tube and the steam-whistle, is closed by a disk of easily-fusible metal, and a stop-cock in the vertical pipe serves to open and close the communication between the upper portion of said pipe and the steam-boiler.

By the improvements which form the subject-matter of this present invention the construction of this instrument is considerably simplified, its cost reduced, and its operation improved, as will be readily understood from the following description.

A represents a tube which rises from the boiler in a vertical direction, its lower end being made to extend to such a depth that it will be closed by the water in the boiler until the same sinks below the level of the lowest gage-cock. This tube extends up to a stop-cock, B, and it continues from said stop-cock up to a coupling, C, which unites the same with the steam-whistle D, the tube A, coupling C, and whistle being all in a straight line, as shown in the drawing.

The coupling C is provided with an internal

flange, *a*, which is intended to support the fusible disk *b*, said disk being secured between the inner end of the shank of the whistle and the flange *a*, as clearly shown in the drawing.

The air-chamber, which in Ashcroft's detector is used to receive and hold the cold water accumulating in the pipe, we do not use, not only because the same is superfluous, but because we consider it actually injurious to the correct operation of the instrument.

When the stop-cock is opened too soon in Ashcroft's detector all the cold water accumulating in his air-chamber, and the hot water coming in contact with the fusible plug or disk melts the same, and an opening is made through which the water or steam rushes out. It is therefore necessary with Ashcroft's instrument to temper the water at least one hour before the cock can be fully opened, and the utility of the instrument is impaired.

In our instrument the stop-cock can be opened as soon as steam is raised in the boiler, or whenever it may be desirable, and the cold water standing in the pipe A, having no chance to escape, will prevent the hot water coming in contact with the fusible plug.

By doing away with the air-chamber we are furthermore enabled to place the steam-whistle on the upper end of the pipe A, and to dispense with the lateral arm, which still further reduces the expense of the instrument.

The operation of our instrument is precisely the same as that of Ashcroft's, with the exception that we are able to open the stop-cock at any time without danger of melting the fusible disk.

We do not claim as our invention the use of a fusible disk or plug in a low-water detector; neither do we claim, broadly, the combination of such fusible disk or plug with a steam-whistle; but

We do claim and desire to secure by Letters Patent—

A low-water detector constructed as described, as a new article of manufacture.

G. W. HEWITT.
J. B. HALEY.

Witnesses

J. B. HORESMAN,
TH. P. CORRY.