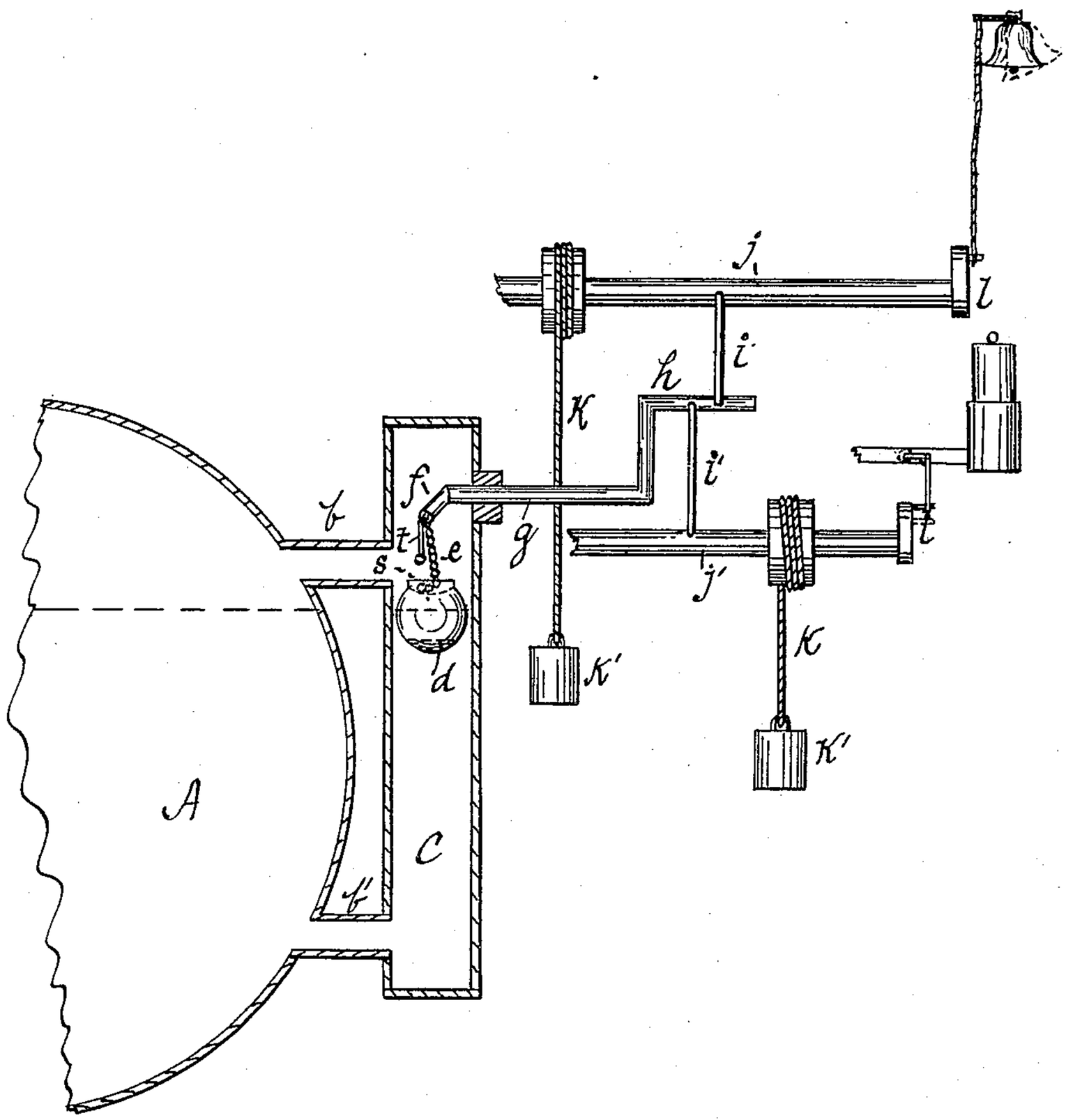
(No Model.)

G. W. GETCHELL.

FEED WATER ALARM FOR STEAM BOILERS.

No. 267,338. Patented Nov. 14, 1882.



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UNITED STATES PATENT OFFICE.

GEORGE W. GETCHELL, OF BREWER, MAINE, ASSIGNOR OF ONE-HALF TO MANLY HARDY, OF SAME PLACE.

FEED-WATER ALARM FOR STEAM-BOILERS.

SPECIFICATION forming part of Letters Patent No. 267,338, dated November 14, 1882.

Application filed September 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. GETCHELL, of Brewer, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in Feed-Water Alarms for Steam-Boilers; and I do hereby declare that the following is a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming a part of this specification, in which is shown an elevation of my invention, partially in section.

My invention consists of an improved feed-water alarm for steam-boilers, adapted to give notice when the water is either too low or too high. It will be readily understood by reference to the accompanying drawing, in which—

A shows a cross-section of a portion of a boiler at *b b'*, pipes extending therefrom above and below the water-line, respectively, and connecting with a cylinder, *c*, admitting the steam and water thereto and keeping the latter at the same level as the water in the boiler. Within this cylinder, at *d*, is a float weighted at the bottom, so as always to retain an upright position, connecting by a chain, *e*, with an arm, *f*, upon a shaft, *g*, working through a packing in the side of the cylinder above the water-line. On the other end of this shaft is a crank or latch, *h*, extending to and engaging with levers *i i'*, secured to shafts *j j'*, and preventing their revolution when the latch is set. As the float falls in the cylinder, indicating low water, it draws down the arm *f* by the attached chain, turning the shaft *g* slightly, and releasing the latch from its engagement with the lever *i*, permitting the shaft *j* to revolve, while the lever *i'* is still retained by the latch. As the float rises the cup *s* thereon, receiving the slack of the chain *e*, strikes against the arm *f* or the downwardly-projecting rod *t*, attached thereto, raising it and turning the shaft and latch in the opposite direction, releasing the lever *i'*, and allowing the shaft *j'* to revolve, sounding the high-water alarm.

Revolution may be communicated to these shafts by a cord or band, *k*, wound around them and weighted, as at *k'*, by coiled springs or in any other convenient way, and a crank, eccentric, or like device secured to them, as at *l*, the revolution of which may be caused by ordinary mechanical attachments to ring a bell, operate a telephone button or bell, or blow a whistle. I prefer to have different signals for the high and low water alarm. The shafts *j j'* are hung in any convenient position for the service required, and the amount of revolution regulated at will.

What I claim as my invention is—

1. In combination with a steam-boiler, a float, *d*, revolving shafts *j j'*, and connecting mechanism, and alarm apparatus, substantially as described, whereby the rise and fall of the said float operates to release one or the other of said shafts as the water is high or low, and sounds the alarm, as herein set forth.

2. In combination with a steam-boiler, the connected cylinder *c*, weighted float *d*, attached to the arm *f* of the shaft *g*, and latch *h*, arranged to engage levers *i i'* upon revolving shafts *j j'*, and to release one or the other as the water-level in the boiler varies, allowing them to revolve and operate an alarm-signal, substantially in the manner and for the purposes set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 12th day of September, 1882.

GEORGE W. GETCHELL.

Witnesses:
JOHN A. BARRY,
WM. FRANKLIN SEAVEY.