

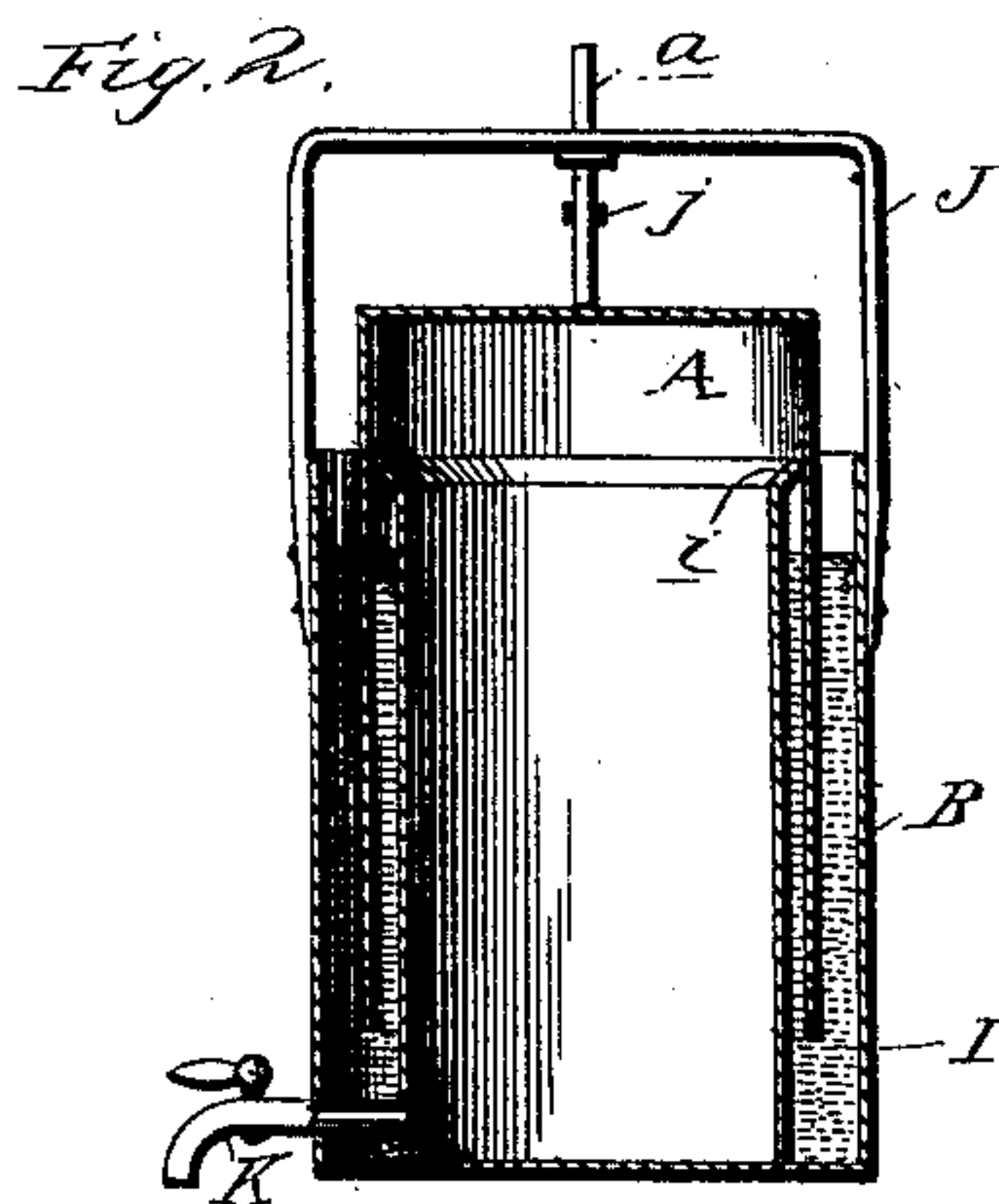
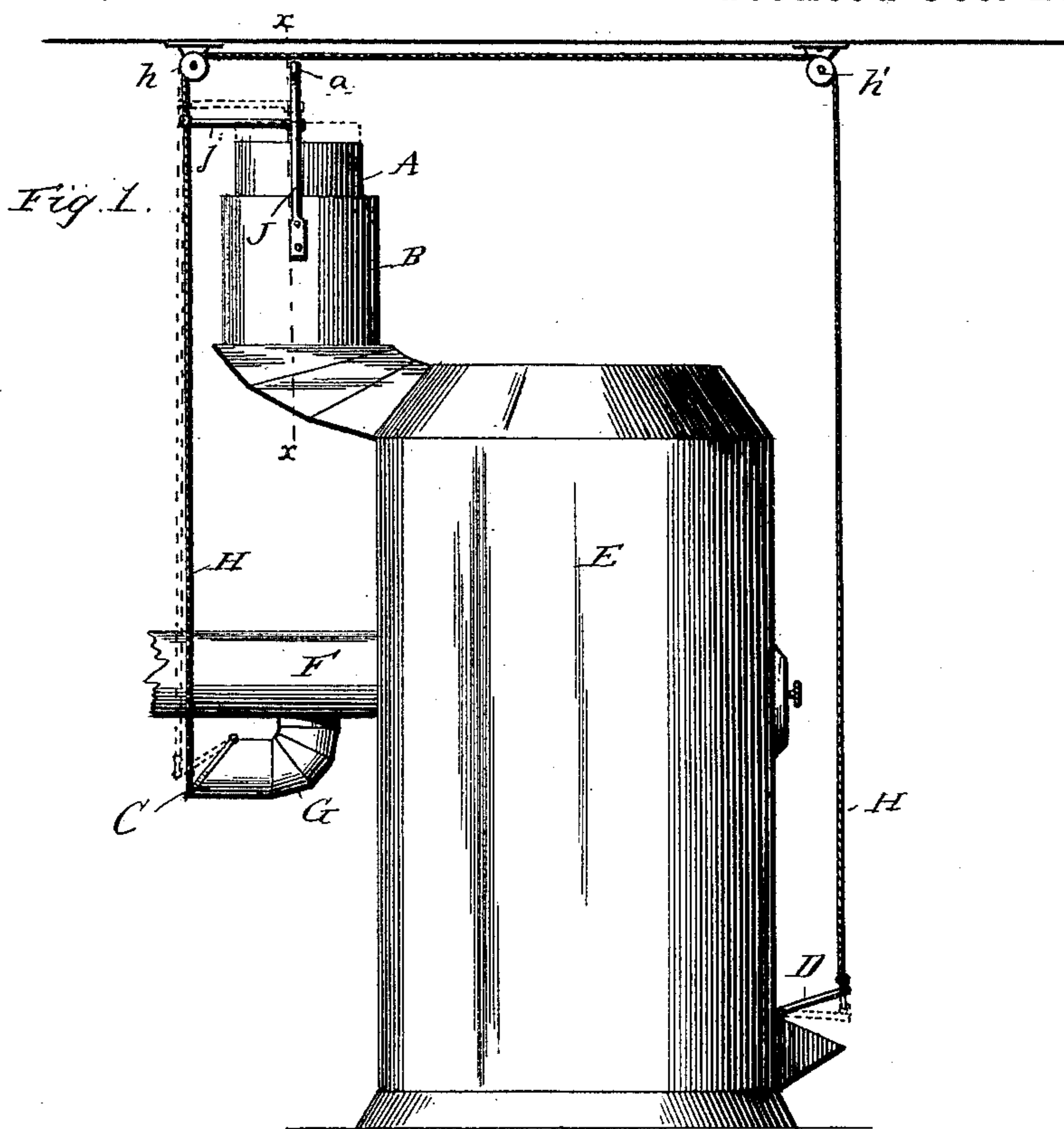
(No Model.)

J. ROCKAFELLER.

DRAFT REGULATING DEVICE.

No. 414,084.

Patented Oct. 29, 1889.



Witnesses
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UNITED STATES PATENT OFFICE.

JOHN ROCKAFELLER, OF ASBURY PARK, NEW JERSEY.

DRAFT-REGULATING DEVICE.

SPECIFICATION forming part of Letters Patent No. 414,084, dated October 29, 1889.

Application filed April 11, 1889. Serial No. 306,783. (No model.)

To all whom it may concern:

Be it known that I, JOHN ROCKAFELLER, a citizen of the United States, residing at Asbury Park, in the county of Monmouth and State of New Jersey, have invented certain new and useful Improvements in Draft-Regulating Devices; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

This invention relates to draft-regulating devices for furnaces, and has for its object to provide a simple device that will quickly respond to a variation in temperature, and which will be simple, economical, efficient, and durable.

The improvement consists of the novel features which will be hereinafter more fully described and claimed.

In the drawings, Figure 1 is a side view showing the application of my invention; Fig. 2, a vertical central sectional view of the regulator on the line X X of Fig. 1.

The furnace E, of ordinary construction, is provided with the usual smoke-pipe F and with the damper D, of well-known construction and relative arrangement. The smoke-pipe F has a lateral branch G, which forms an indirect draft, the opening in which is closed by the damper C. The wire or chain H, passing over suitable pulleys *h* and *h'* on the ceiling, connects the dampers D and C in such a manner that when the damper C is closed the damper D is open, substantially as shown.

The regulator is composed of the two drums A and B. The drum B comprises an outer and an inner shell, between which a space I is formed to receive a liquid for forming a water seal. The drum A is inverted, and its lower end is of such relative size to the drum B that it enters the space I and is free to move vertically therein. The upper edge *i* of the inner shell of the drum B is turned outward to prevent the liquid forming the water seal from splashing into the drum B, and also to guide the said drum A in its movements. The stem *a*, projecting vertically from the drum A and extending through the guide-yoke J, which is secured to the drum

B, is connected by the arm *j* with the chain or wire H.

The operation of the device is as follows: The regulator is placed in close proximity to the furnace, so that the air confined between the two drums will be affected by a change in temperature. When the temperature rises, the air will be expanded in the drums and the drum A will be lifted, causing the damper C to open and the damper D to close. When the temperature falls, the drum A will lower and the damper C will close and the damper D open.

The drum B is provided with the cock K, by means of which any water getting into the inner shell can be drawn off.

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

1. The combination, with the furnace having the dampers C and D and the wire H, connecting the said dampers, of the regulator placed close to and operated by the varying change of temperature of the said furnace, composed of the drums A and B, the drum B having an inner and an outer shell, between which a space I is left, and the drum A inverted and working in the said space I, which is filled with liquid to form a seal, the guide-yoke J, secured to drum B, the stem *a*, projecting from drum A and working through guide-yoke J, and the arm *j*, connecting stem *a* with the wire H, substantially as described.

2. The herein-described regulator, composed of two drums A and B, the drum B comprising two shells, between which a liquid seal is formed, the drum A being inverted and the upper edge of the inner shell of drum B being turned out or flared to guide the drum A in its movements and prevent splashing of the liquid into the inner shell of drum B, substantially as described.

3. The combination, with the regulator comprising the two drums A and B, the drum B having two shells, between which a liquid seal is formed, of the drain-cock K, connected with the inner shell of drum B, substantially as described.

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

JOHN ROCKAFELLER.

Witnesses:

GEO. M. LANE,
J. C. BERRANG.