

(No Model.)

2 Sheets—Sheet 1

J. STIDHAM.
OVEN THERMOMETER.

No. 384,876.

Patented June 19, 1888.

Fig. 3.

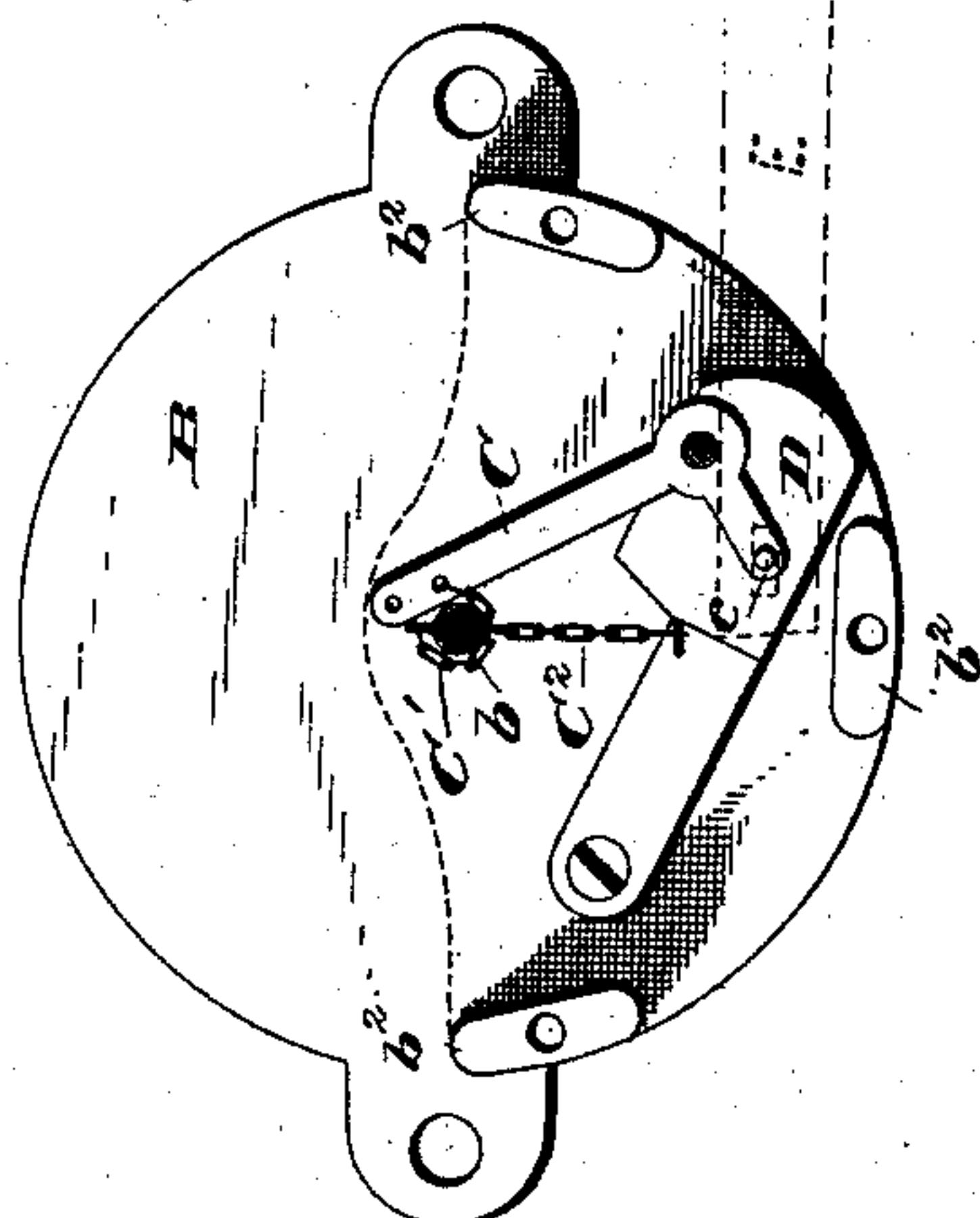


Fig. 2.

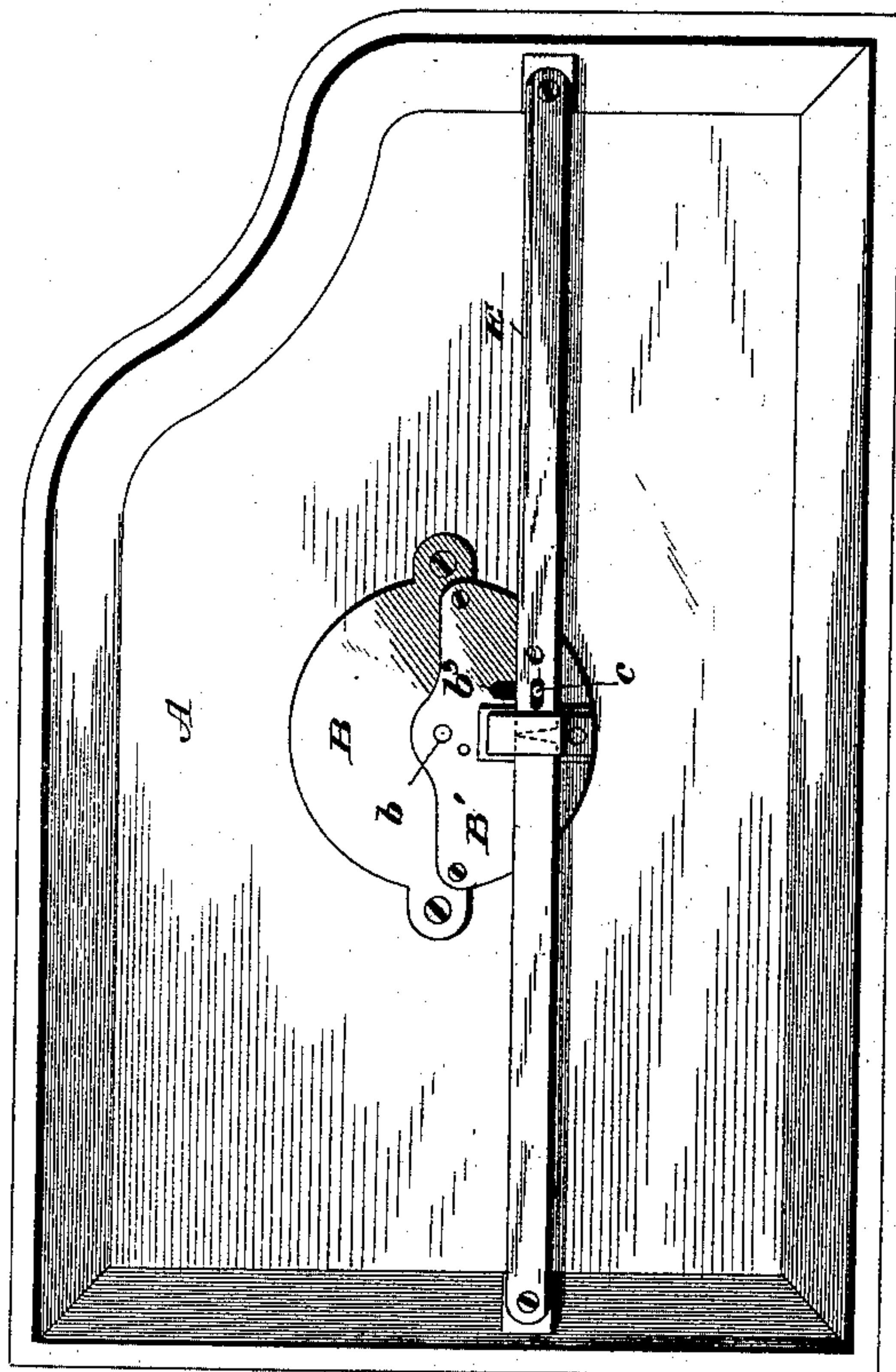
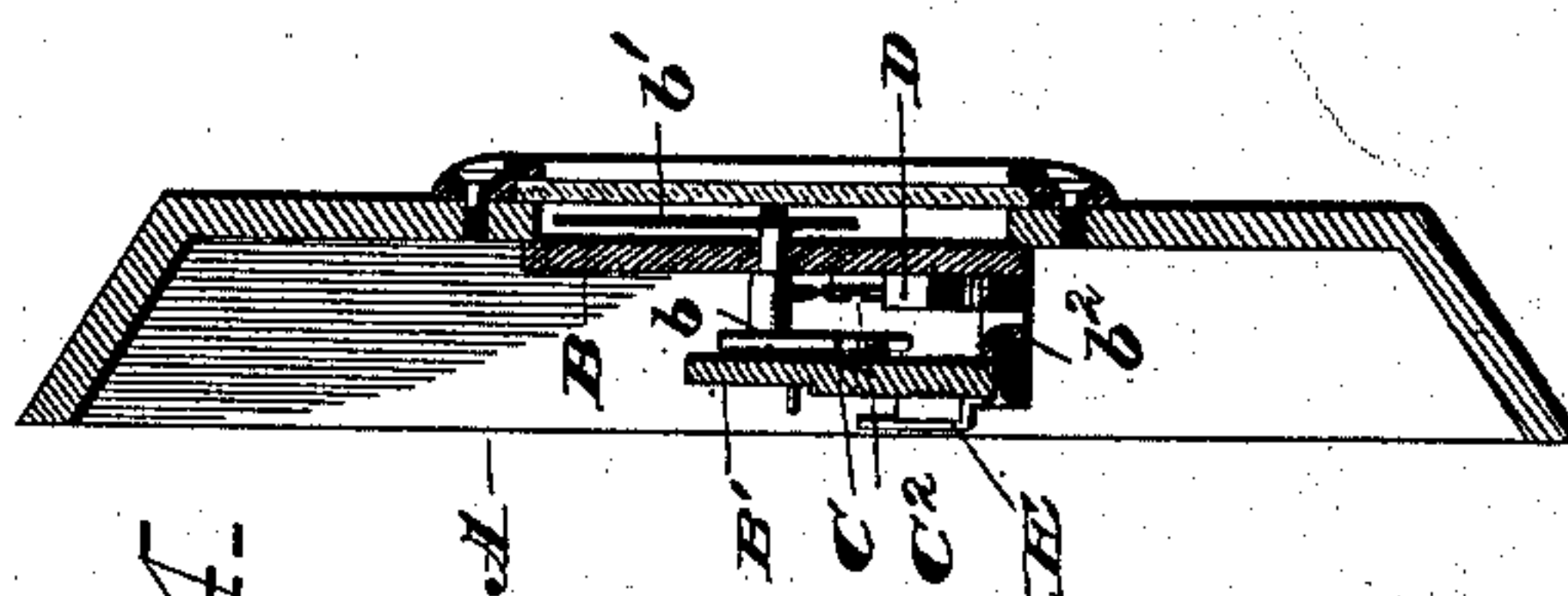
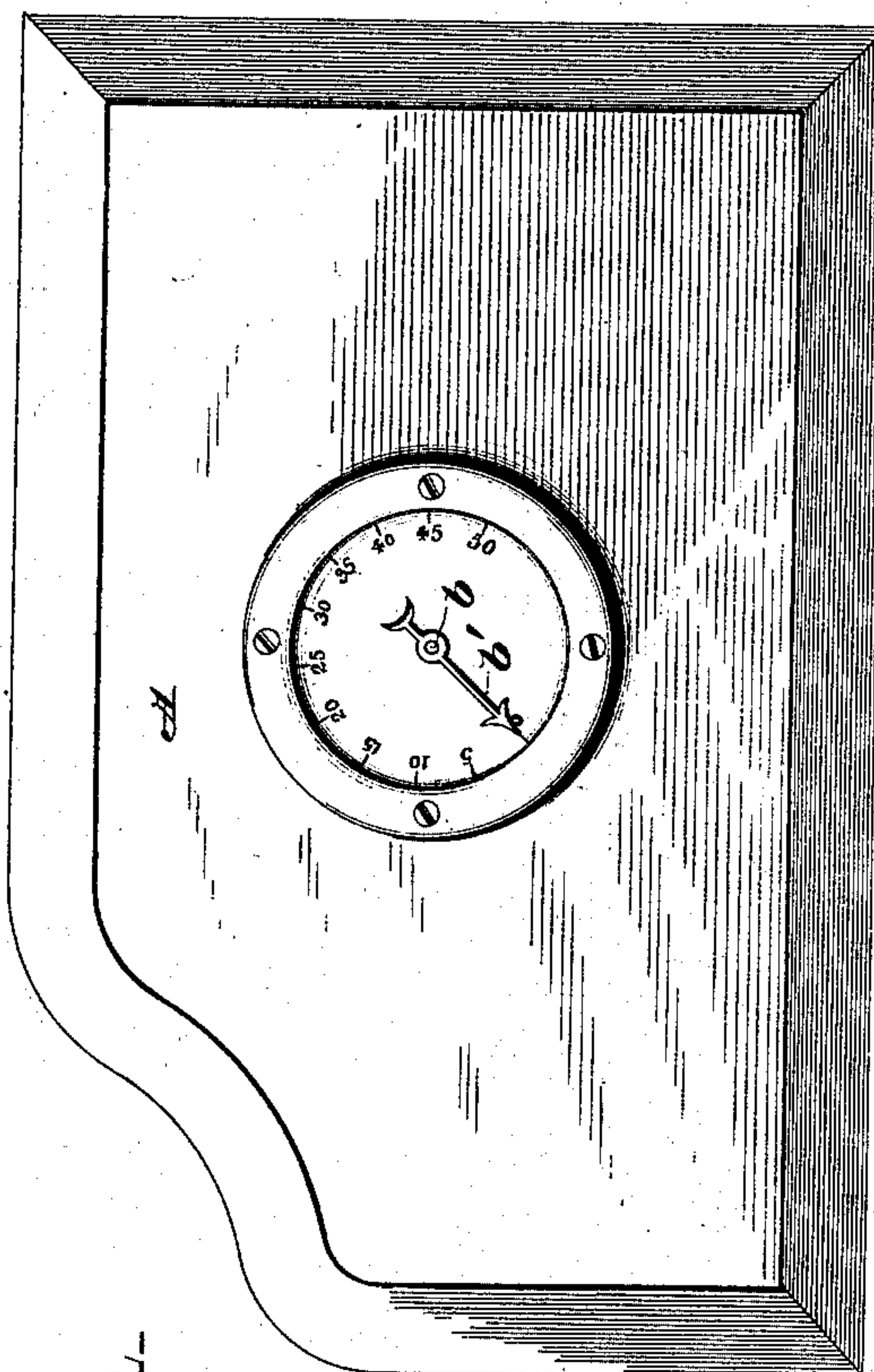


Fig. 1.



Witnesses,

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M. Johnson.

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Inventor.

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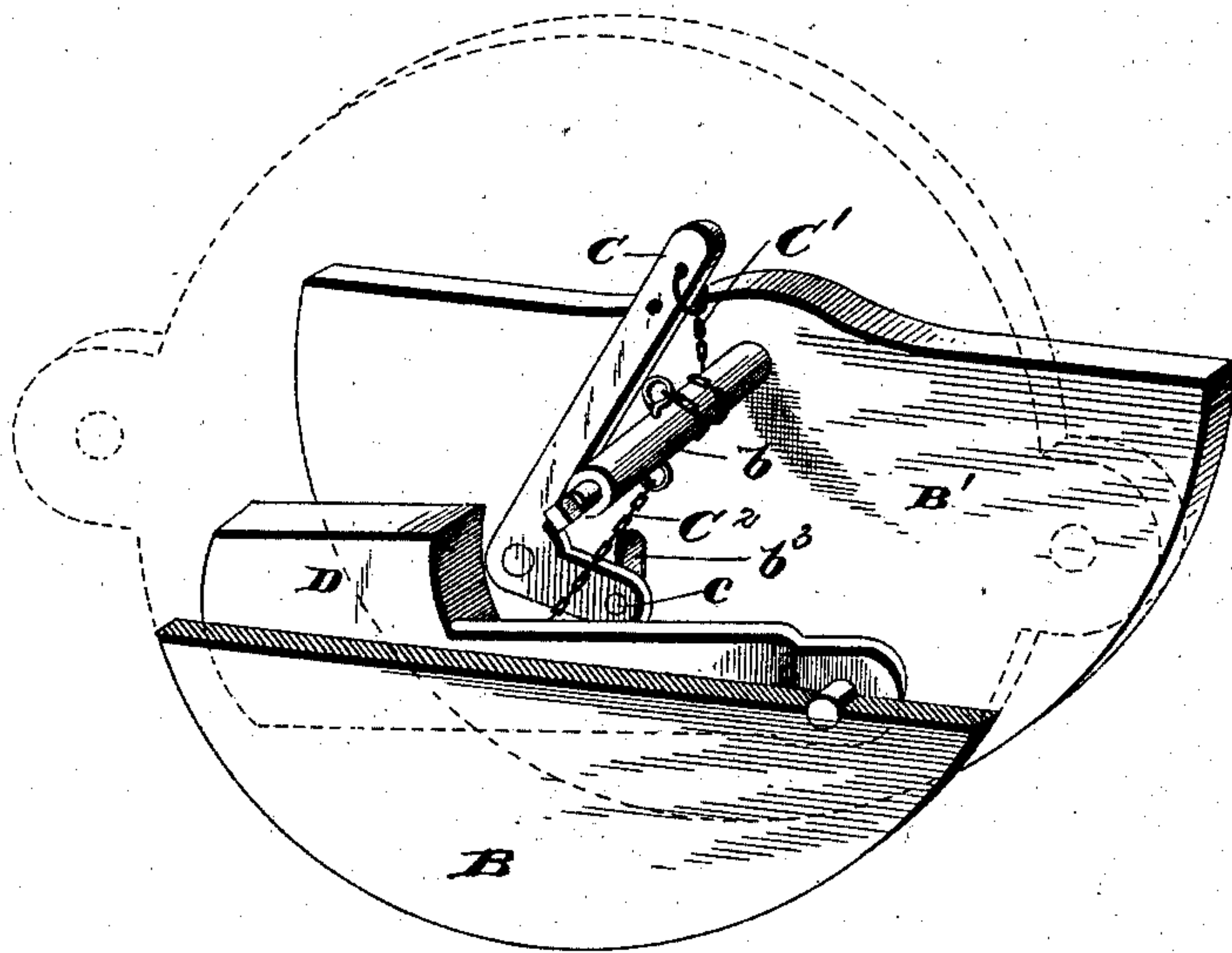
2 Sheets—Sheet 2.

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Fig. 5.



WITNESSES.

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UNITED STATES PATENT OFFICE.

JOHN STIDHAM, OF ROCHESTER, PENNSYLVANIA.

OVEN-THERMOMETER.

SPECIFICATION forming part of Letters Patent No. 384,876, dated June 19, 1888.

Application filed December 15, 1887. Serial No. 257,920. (No model.)

To all whom it may concern:

Be it known that I, JOHN STIDHAM, a citizen of the United States of America, residing at Rochester, in the county of Beaver and State of Pennsylvania, have invented certain new and useful Improvements in Heat-Indicators for Ovens; and I do hereby 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 letters or figures of reference marked thereon, which form a part of this specification.

My invention relates to certain new and useful improvements in heat-indicators for ovens; and it consists in the novel construction and arrangement of the parts, which will be more fully hereinafter described, and particularly pointed out in the claims.

The object of my invention is to provide a novel device for attachment to oven-doors for indicating, by a suitable dial on the outside of the door, the heat of the oven, the said dial having a hand revolved and controlled in its indication by the expansion and contraction of two metallic bars operating suitable mechanism. I attain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate similar parts in the several views, and in which—

Figure 1 is a rear elevation of an oven-door, showing the rear side of my improved construction. Fig. 2 is a front elevation of an oven-door, showing the dial-plate and indicator. Fig. 3 is an elevation of a portion of my improved construction. Fig. 4 is a transverse vertical section. Fig. 5 is a perspective view of a part of the mechanism, showing the connection of the bell-crank and gravity levers with the arbor, the supporting-frame being partially broken away.

A indicates an oven-door of any preferred form of construction, which has a metallic disk, B, secured thereto. The said disk B is provided with a central aperture, through which an arbor, *b*, passes, on the outer or front end of which a hand, *b'*, is mounted, which operates in connection with a dial-plate provided with degree-marks. The said plate B is

also formed with suitable blocks, *b*², each of which is provided with screw-threaded apertures, and upon these space-blocks *b*² a plate, B', is secured. Between the plates B and B' a bell crank lever, C, is mounted, which is provided at its upper end with apertures engaged by a chain, C', which passes around the central arbor, *b*, and is secured thereto, and another chain, C², is secured to the arbor and extends downward, and is connected at its lower end to a gravity-lever, D. The lower end of the bell-crank lever C is provided with a wrist-pin, *c*, which projects through a vertical slot, *b*³, formed in the plate B', and through a horizontal slot, *e*, in one of the horizontally-disposed rods or bars E, which is secured at each end to the oven-door.

Two rods or bars E are used, which are constructed with inner beveled ends opposingly situated and supported within an angle-plate secured to the back of the plate B'. The attachment of the bars to the oven-door allows them to have a vertical movement at this point. The bevels on the inner ends thereof are at an angle to each other, as shown in dotted lines, Fig. 1.

When the heat of the oven acts upon the sectional bar, the natural tendency will be to expand the same, and said expansion being restrained will cause the central portion or opposing ends of the said bars to rise upward, when the wrist-pin *c* will be drawn upward with the section with which it engages and throw the bell-crank lever away from the arbor *b* and cause the chain to revolve the same by engagement therewith, as hereinbefore described. The revolution of said arbor will of necessity revolve the hand on the dial and indicate the degree of heat of the oven. The more intense the heat of the oven the greater will be the expansion of the bars E, and consequently the hand on the dial will continue to revolve around the face of the dial as the heat increases. As soon, however, as the oven cools, the hand will revolve backward over the face of the dial, and when it reaches such a point that the gravity-lever D will act upon the chain C² the said lever will drop and bring the hand on the dial at the zero-point.

It will be understood that in the operation of the bell-crank lever C in its movement away

from the arbor an upward force will be exerted upon the chain C, which will raise the gravity-lever D.

Having thus described my invention, what I claim as new is—

1. The combination, with the oven-door, of the plates B and B', central arbor, *b*, bell-crank lever C, having wrist-pin *c* on its lower end, chains C' and C², gravity-lever D, and the bars E, all arranged and operating substantially as described.

2. The combination, with the oven-door, of the plates B and B', the central arbor, *b*, carrying a hand on its outer end adapted to engage with the dial-plate, the bell-crank lever C, having the upper end of its longer arm provided with

a series of apertures, the chain C', connected at its upper end to said arm of the bell-crank lever and passing around the arbor *b*, the gravity-lever D, secured to the lower end of a chain, C², which is also secured to the arbor *b*, the bars E, pivotally secured to the oven-door at their outer ends and formed with bevels at their inner opposing ends, and an angular clip, within which the inner opposing ends of the said bars E rest, substantially as described.

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

JOHN STIDHAM.

Witnesses:

M. F. MECKLEN,
JOS. A. NELSON.