

J. F. MERRILL.

Fire-Places

Patented May 25, 1875.

No. 163,678.

FIG. 1.

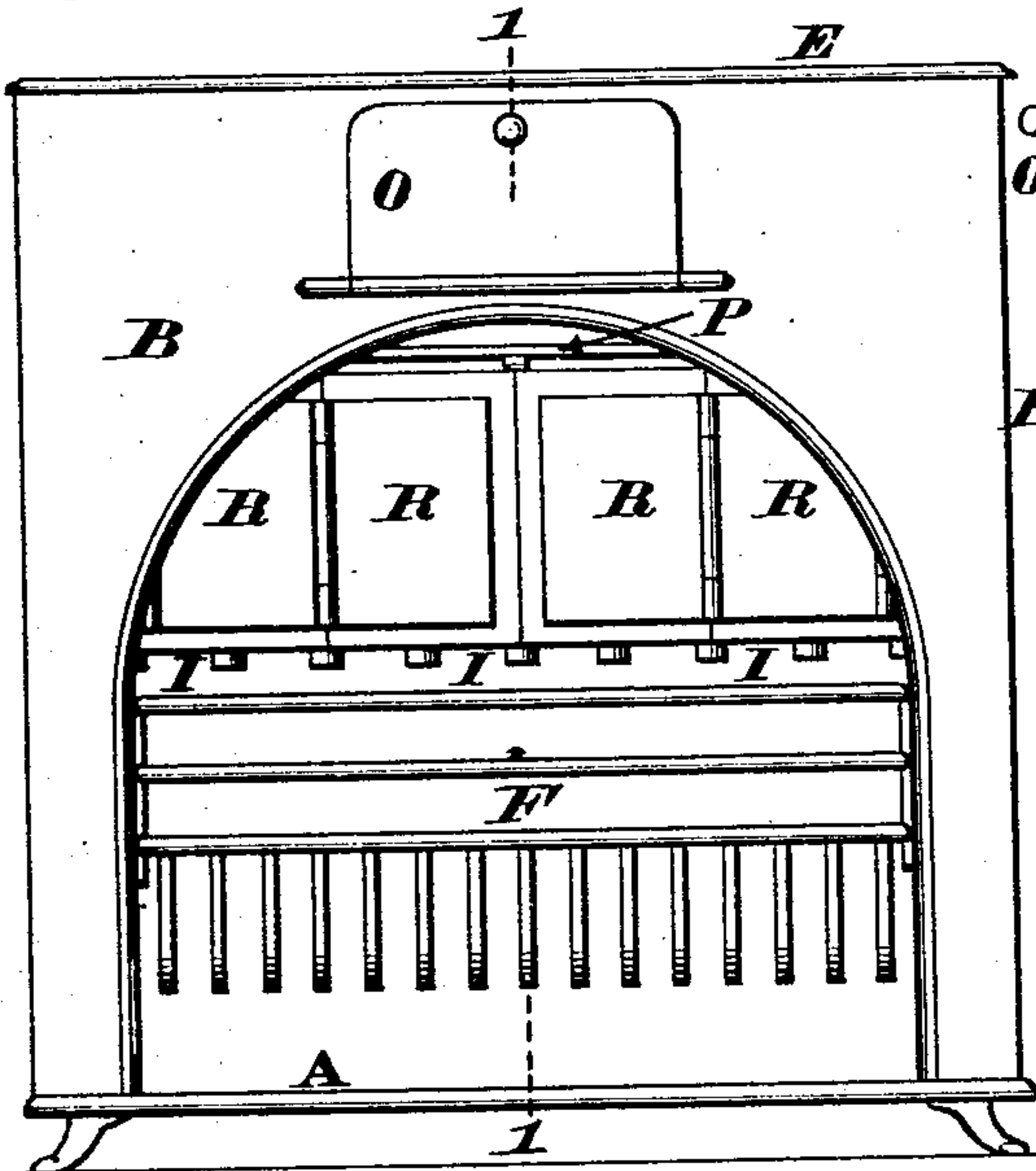


FIG. 2.

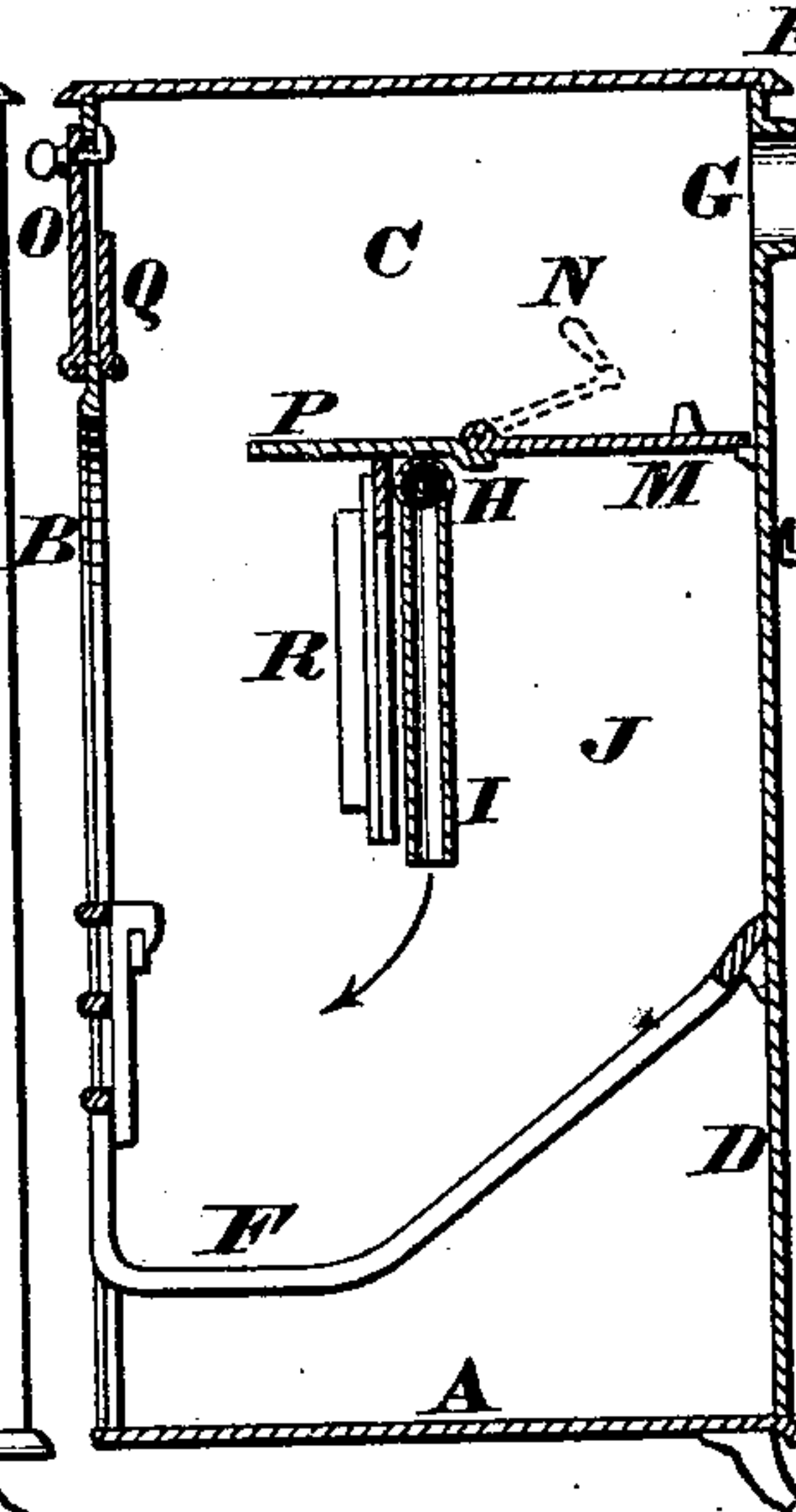


FIG. 3.

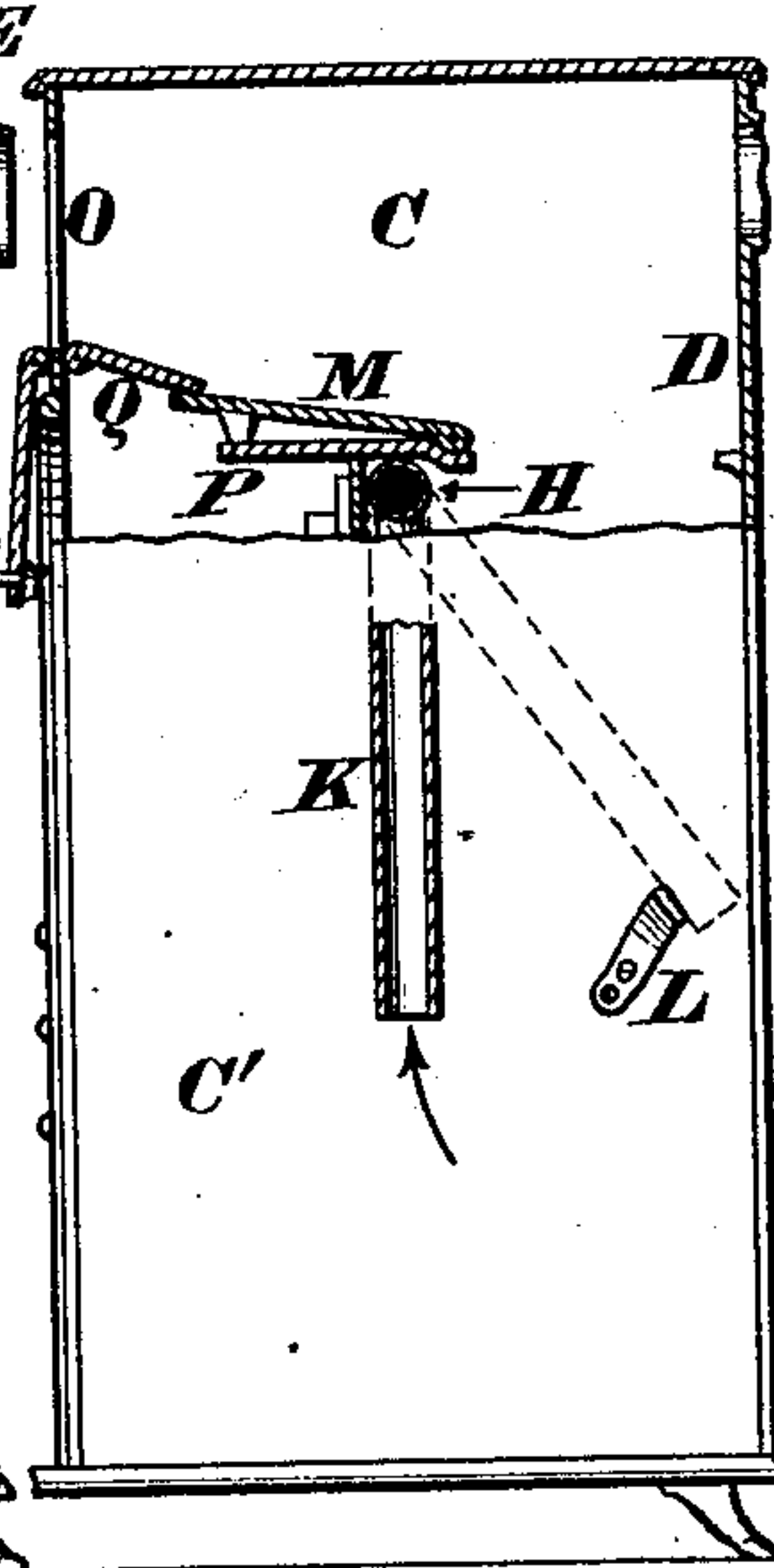


FIG. 4.

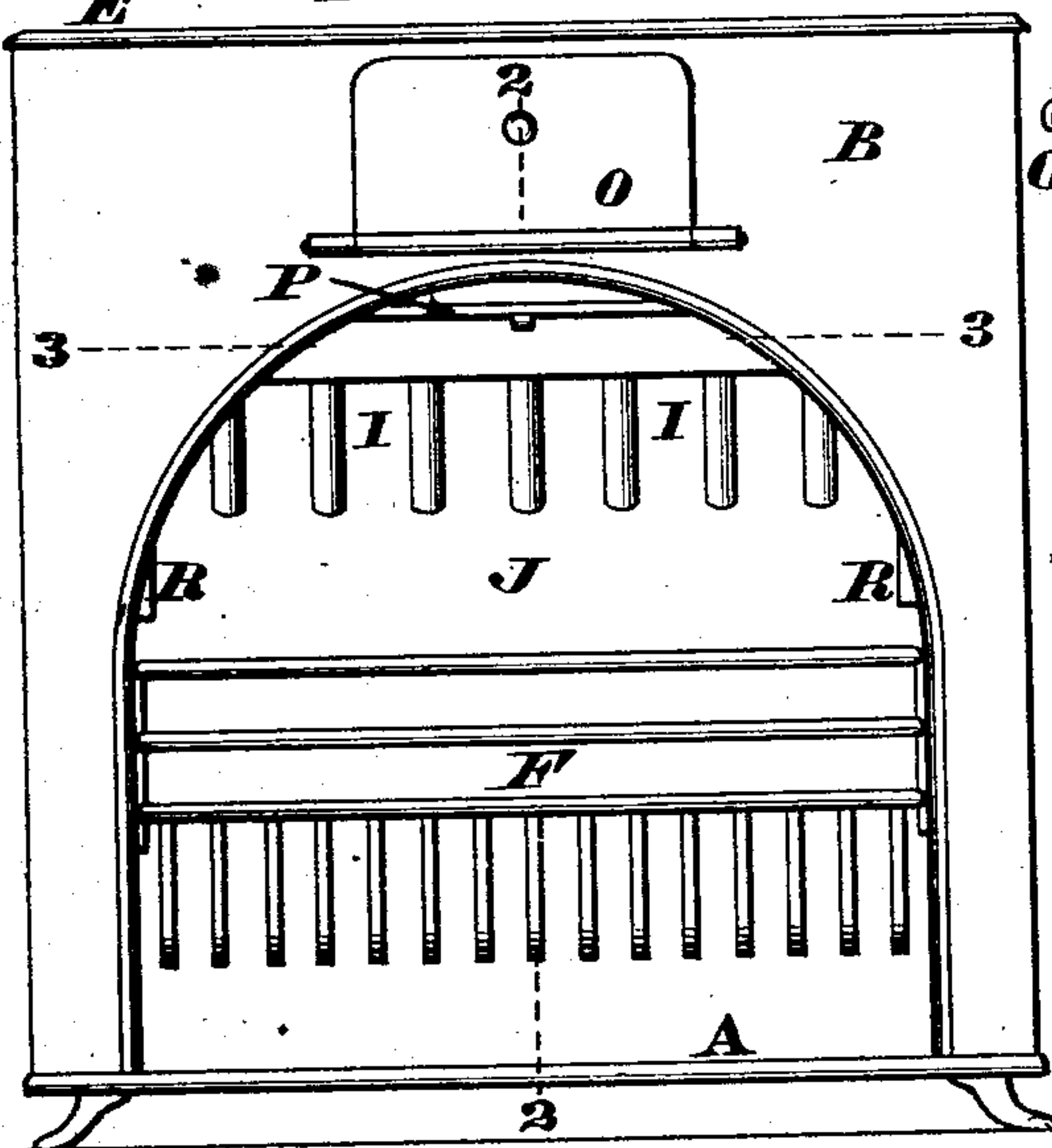


FIG. 5.

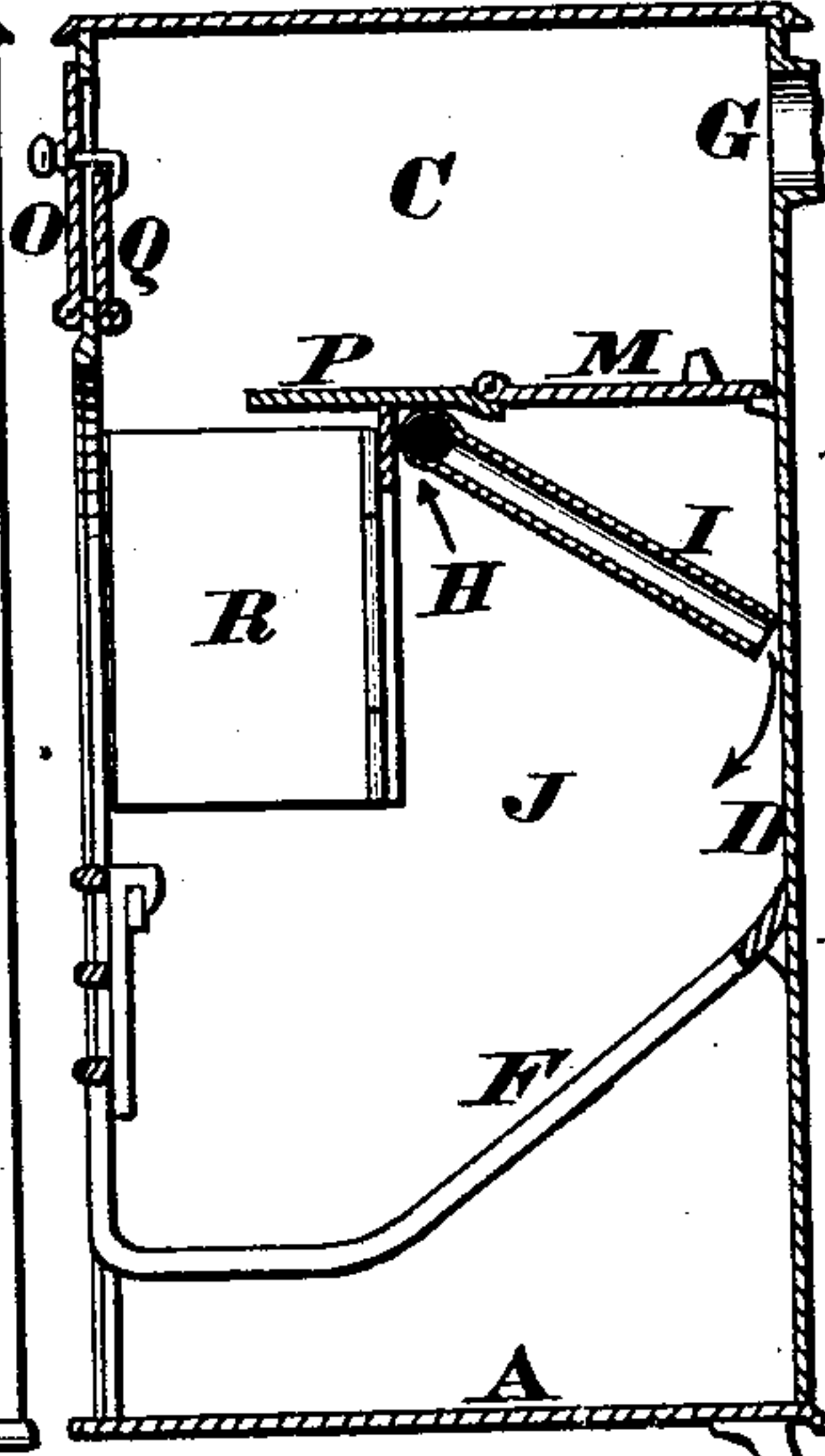


FIG. 6.

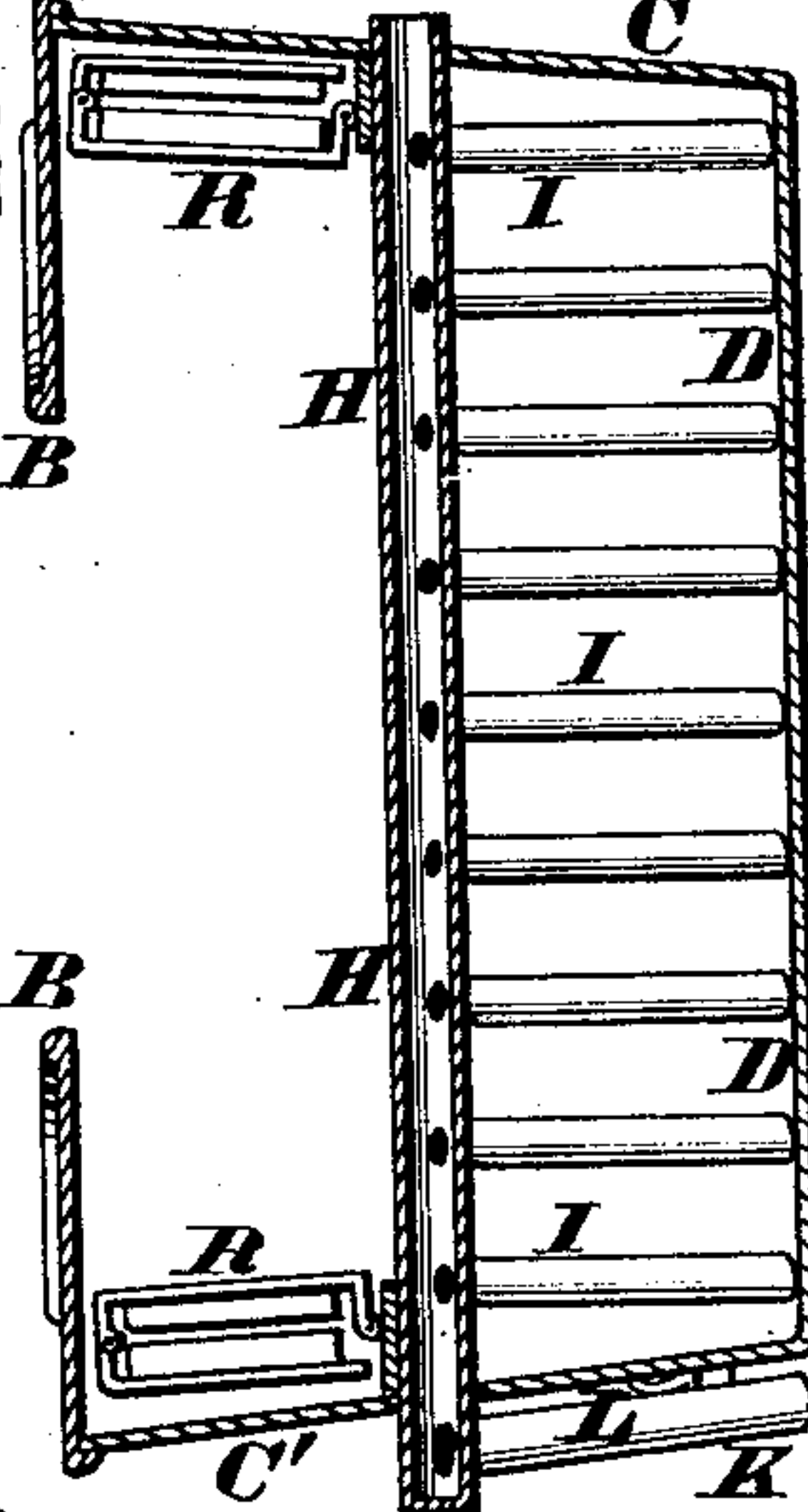


FIG. 7.

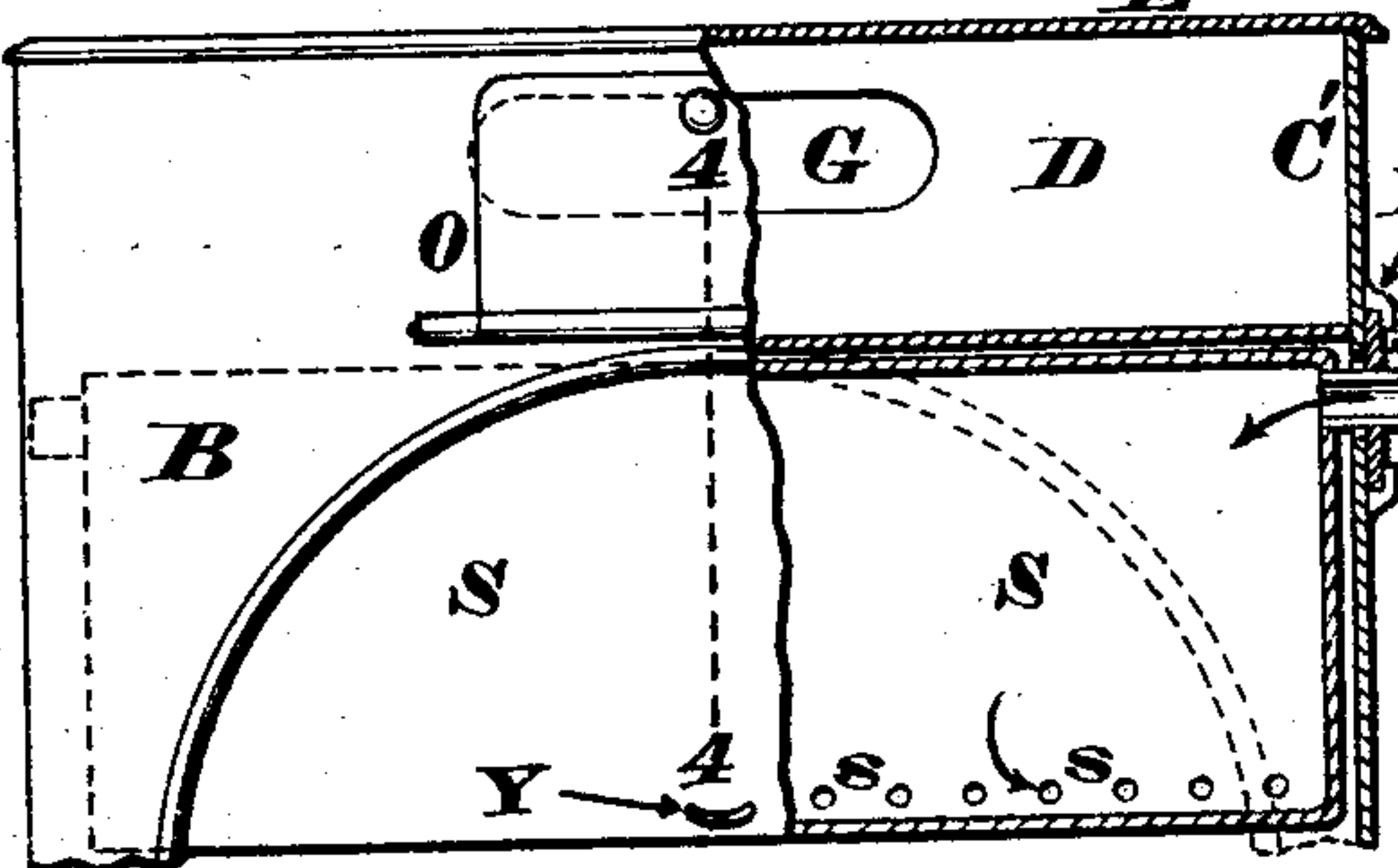


FIG. 8.

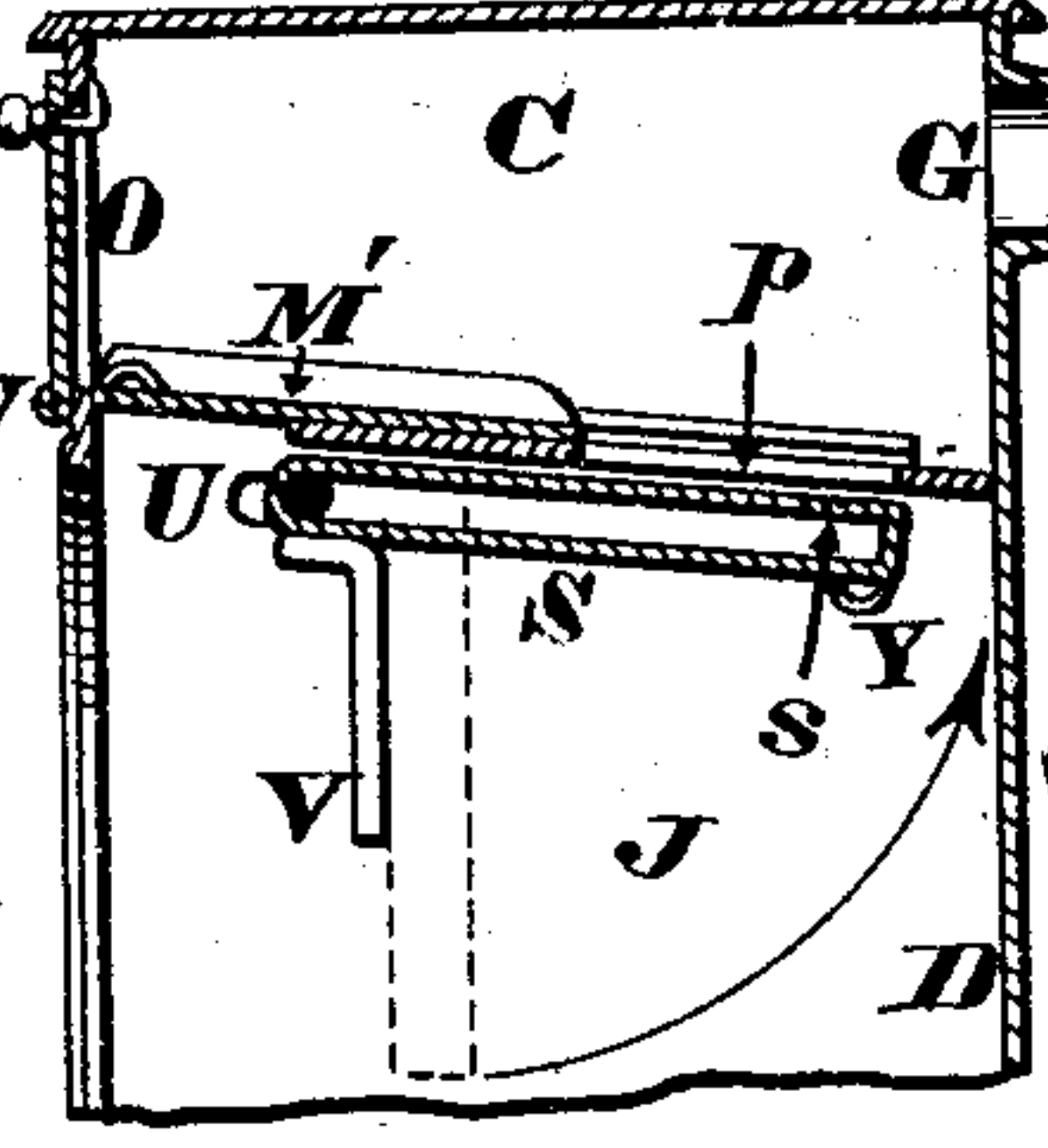
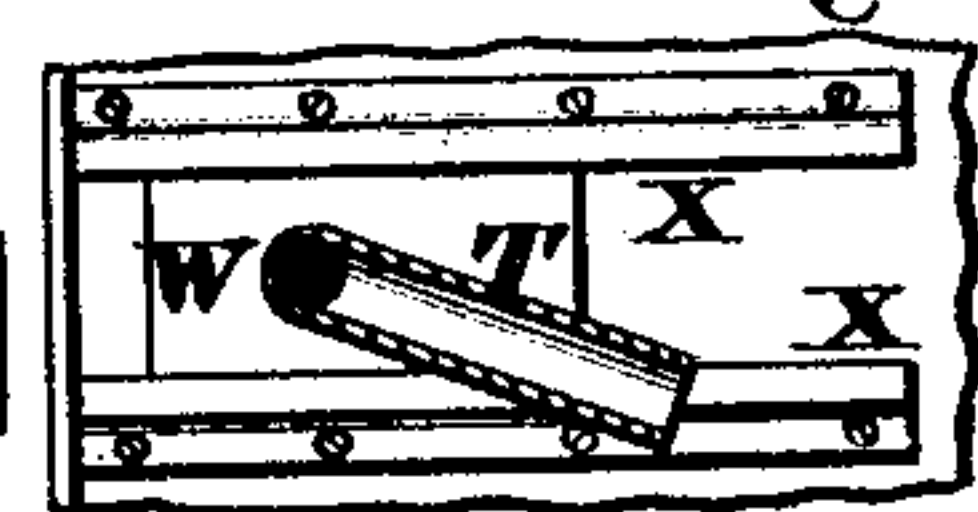


FIG. 9.



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UNITED STATES PATENT OFFICE.

JOHN F. MERRILL, OF CINCINNATI, OHIO.

IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **163,678**, dated May 25, 1875; application filed April 10, 1875.

To all whom it may concern:

Be it known that I, JOHN F. MERRILL, of Cincinnati, Hamilton county, Ohio, have invented a new and useful Improvement in Fire-Places, of which the following is a specification:

My invention relates to an improved form of those open-front stoves and fire-places which have a magazine or hopper in their rear part for the supply of fuel; and consists, primarily, in so hinging or attaching the front or inclosing plate of the magazine as to enable it to be shifted or folded back, so as to enable the conversion of the device into a simple open fire-place, at the will of the user.

My invention, in its most complete form, comprises arrangements whereby said magazine may be converted either into an additional or supplementary grate, or be temporarily suppressed by the folding back of the said grate, after the folding back of the hinged front, as aforesaid. The grated or other front of my magazine is preferably hollow, so as to admit draft-air, which is thus made to serve the double purpose of promoting combustion, and of preventing the overheating of said magazine-front.

In the accompanying drawing, Figure 1 is a front elevation of the apparatus in its form as a magazine-stove or fire-place, the front doors or shutters of the magazine being closed. Fig. 2 is a section at the line 1 1. Fig. 3 is an end elevation, with the upper part in section, the feed-doors being open. Fig. 4 is a front elevation of the apparatus reduced to a simple open-front stove. Fig. 5 is a section at the line 2 2. Fig. 6 is a section at the line 3 3. Fig. 7 is a partially-sectionized front elevation of a modification of the stove. Fig. 8 is a section at the line 4 4; Fig. 9, an end elevation of the sliding pivot-bearings used in the modified form.

A, B, C, C', D, E, F, and G may represent, respectively, the hearth or bottom plate, the front plate or mantel, the end plates or jambs, the back, the top plate or mantel-shelf, the grate, and the neck or smoke-flue of an ordinary open-front stove or fire-place. Journaled horizontally athwart the fire-place, parallel with, and about equidistant from, the front and back thereof, is a pipe or tube, H, from whose portion within the fire-place there pro-

ject a series of tubular branches, I, which, communicating above with said tube H, and at their lower ends with the fire-space, constitute the front wall of my magazine J, and also constitute, when desired, an auxiliary or supplemental fire-grate, as hereinafter explained. That portion of said tube outside of the stove is bent so as to form a hollow handle, K, which, engaging, when desired, upon a catch or detent, L, enables the user to place the said auxiliary grate in its rearward or non-effective position, and which, in the forward or effective position of the said auxiliary grate, becomes an inlet for draft-air through said grate and into the fire. Except while being charged, the magazine is closed at top by means of a flap or cover, M, having a handle, N, outside of the stove. The magazine is charged through a doorway, O, in the front of the stove, or by other convenient channel. Two plates, of which one, P, is fixed, and the other one, Q, is movable, prevent the coal dropping directly into the fire in the operation of charging the magazine. At other times the flaps O and Q are vertical in position, and the interval between the plate P and the stove-front affords a throat or passage for the escape of smoke from the fire to the neck or chimney. Folding doors R, hinged to the jambs, enable the closing or shutting in of the auxiliary grate whenever the space behind it is to be utilized as a magazine. These doors may be protected by suitable fire-brick.

From the above-described preferred embodiment of my invention, I may vary in non-essential particulars. For example, the folding doors R may be omitted, and, instead of the tubular grate I, there may be a hollow plate, S, having interior orifices s, communicating with the fire-space, and a hollow pivot and handle, T, similar to the pivot and handle H K, above described, but which, in addition to a vibratory motion, may be capable of being slid horizontally in slots U in the jambs, so as to either permit said plate to hang vertically, as in Fig. 7, or to be brought to an elevated and nearly horizontal position, as in Fig. 8. Flanges V, that project interiorly from the jambs, assist in maintaining the plate S to whichever position it is placed. The plate S may have an eye or staple, Y, to enable a per-

son in front of the fire to manipulate it by means of a hooked poker. The plate P may extend rearwardly entirely over the magazine, except an opening, *p*, closable by a slide, M', which, when drawn forward, as in Fig. 8, opens the aperture *p*, and at the same time closes so much of the throat as to permit the charging of the magazine without disturbing the fire, thus dispensing with the necessity of a flap, Q. In this form the tubular pivots of the hollow plate S occupy plates W, which are capable of sliding forward and backward in horizontal ways X in the outside of the jambs. These plates and ways coact with the flanges V, to maintain the plate in the elevated position shown in Fig. 8. The air-inlet may commence at the outer extremity of the grate-pivot, and the handle be solid, if preferred.

If desired, the hollow plate S may be made to slide rearward instead of forward, and may be operated wholly from the front or inside, and it may be of fire tile or brick, without any communication with the outside.

I claim as new and of my invention—

1. A stove or fire-place provided in its rear upper portion with a magazine or hopper whose front wall is capable of being folded or shifted, as specified, to produce at will either a magazine-stove or a simple open-front stove or fire-place, substantially as set forth.

2. The combination of swinging tubular front H I and open-front stove or fire-place, forming the magazine J, as and for the purpose set forth.

3. In combination with the grated front H I of magazine J, the folding doors R.

4. The combination, in an open stove or fire-place, of the auxiliary grate H I, forming the magazine J, the hinged doors R, and cover M, as set forth.

In testimony of which invention I hereunto set my hand.

JOHN F. MERRILL.

Attest:

GEO. H. KNIGHT,
JAMES H. LAYMAN.