

G. H. BABCOCK & S. WILCOX.
Fire-Door for Furnaces.

No. 224,626.

Patented Feb. 17, 1880.

FIG. 1

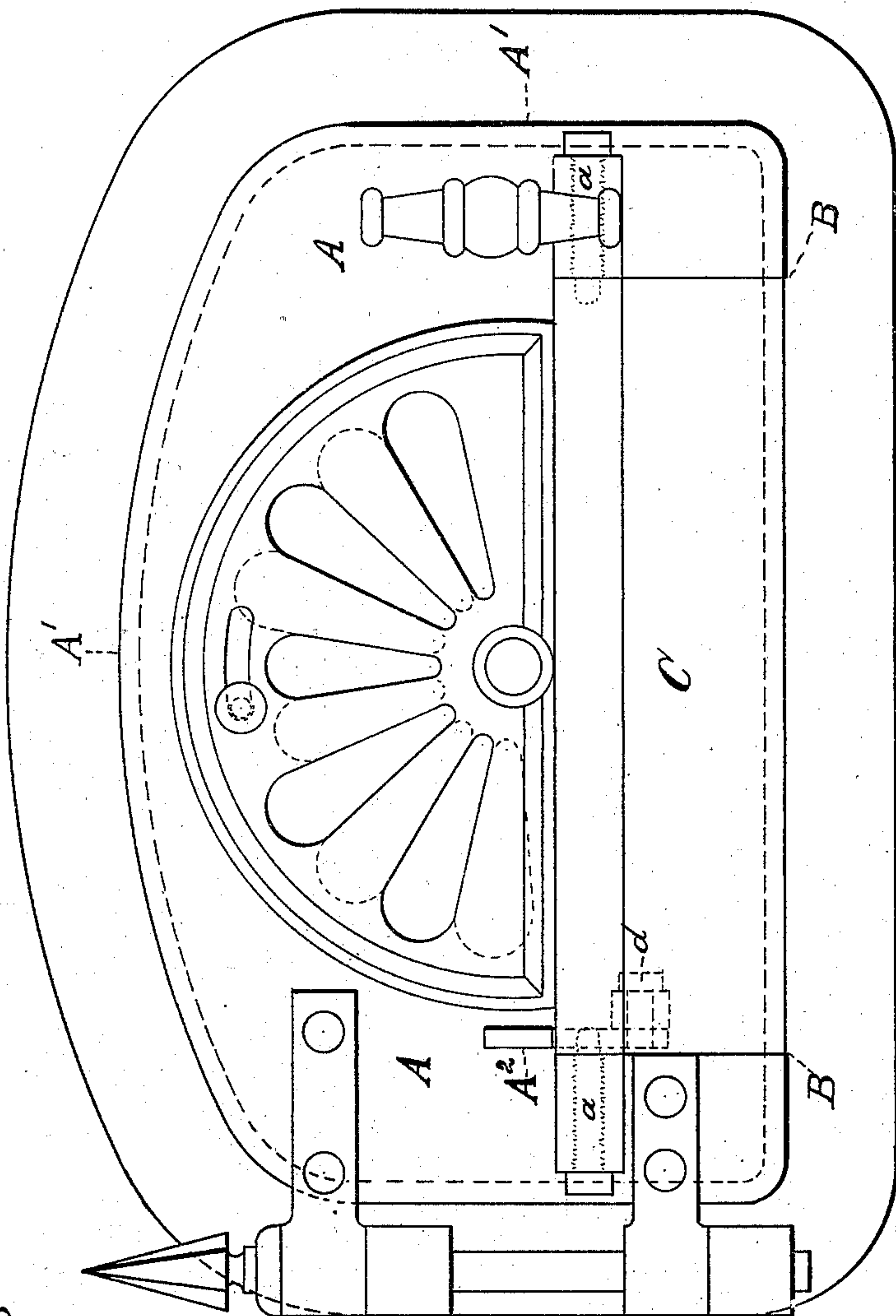


FIG. 3

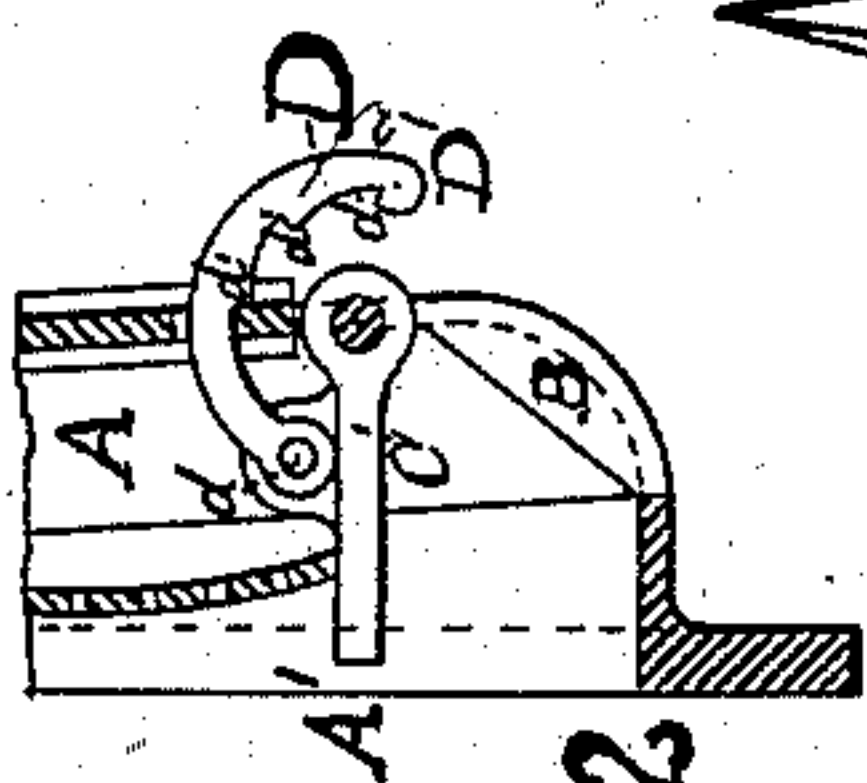
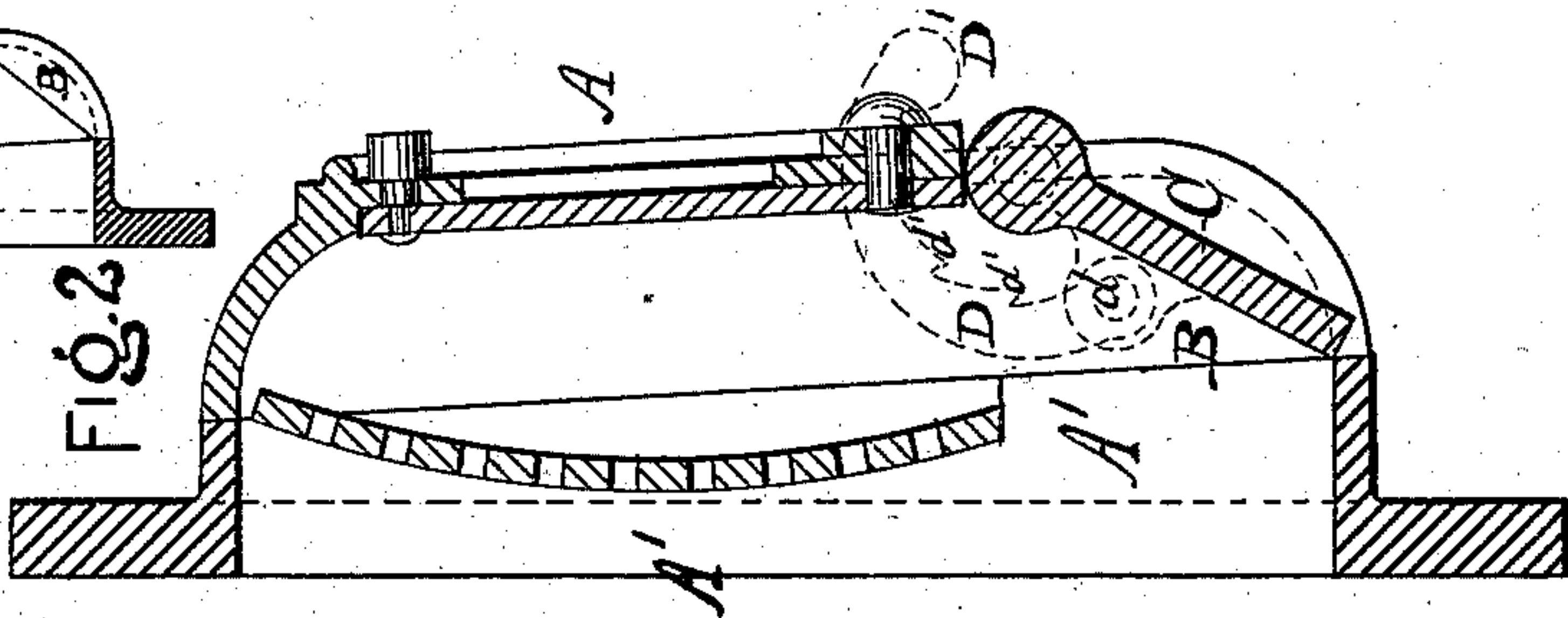


FIG. 2



WITNESSES:

W. C. Brooks

Chas. C. Stetson

INVENTOR:

George H. Babcock
Stephen Wilcox

John A. Stetson

UNITED STATES PATENT OFFICE.

GEORGE H. BABCOCK, OF PLAINFIELD, NEW JERSEY, AND STEPHEN WILCOX, OF BROOKLYN, NEW YORK.

FIRE-DOOR FOR FURNACES.

SPECIFICATION forming part of Letters Patent No. 224,626, dated February 17, 1880.

Application filed October 18, 1878.

To all whom it may concern:

Be it known that we, GEORGE H. BABCOCK, of Plainfield, in the county of Union and State of New Jersey, and STEPHEN WILCOX, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Fire-Doors for Furnaces; and we do hereby declare that the following is a full, clear, and exact description thereof.

According to our invention the furnace-door is provided at its lower part with an opening controlled by a pivoted flap capable of being turned on its axis by the slicing-instrument or other means, so as to raise the flap sufficiently to allow of the slicing-instrument being inserted into the furnace, and after the flap has been raised into the desired position it is retained out of the way by means of a curved rack hinged thereto and extended upward and outward through a slot in the furnace-door. It is of such length that, whether the slicing-flap is open or closed, the end of the rack shall always protrude through the front of the furnace-door. It engages by gravity, and is released by a lifting blow at will to allow the flap to close.

The following is a description of what we consider the best means of carrying out our invention.

The accompanying drawings form part of this specification.

Similar letters of reference are used to denote like parts wherever they occur.

Figure 1 represents a front view; Fig. 2, a vertical section of a furnace-door with our improvements applied thereto. Fig. 3 represents a detailed section of part of the same, showing the slicing-flap raised into the position it will assume when the fire is being sliced or raked.

A represents the furnace-door, and A' the furnace-door mouth.

B represents an opening in the furnace-door, which is covered or controlled, when desired, by means of a slicing-flap, C, which is pivoted to bearings *a* carried by the furnace-door A.

The pivoted slicing-flap C is capable of being raised, when desired, by the insertion of the slicing-instrument or poker, and when so raised it is held open by means of the segmental rack D, which at *d* is pivoted to the slicing-flap C, and on its under side is provided with a series of teeth, *d'*, arranged to operate with the under side of the slot A² in the furnace-door A in such manner that in whatever position the slicing-flap C is raised by the slicing-instrument or poker the slicing-flap will be retained in such position until the slicing or poking operation has been completed. After the slicing or poking operation has been completed it is simply necessary to knock up the end D' of the segmental rack D sufficiently to liberate the tooth *d'*, for the time engaged with the bottom of the slot A², when the slicing-flap C will fall of its own gravity into the position shown by Figs. 1 and 2, thereby closing the aperture B until the fire is again required to be sliced or poked.

The curved rack or catch D *d*, being set in the position shown, pivoted on the inner side of the flap C, and reaching up and catching in the slot A² above, is entirely out of the way of the slicing-instrument, and cannot be disturbed thereby in the ordinary working, but only when intentionally struck up after the slicing is completed.

We do not claim a door within the main fire-door; but

We claim as our invention—

The curved rack or catch D *d*, in combination with the slicing-flap C, and arranged in the main fire-door A, all operating together substantially as and for the purposes herein set forth.

In testimony whereof we have hereunto set our hands this 26th day of July, 1878, in the presence of two subscribing witnesses.

GEO. H. BABCOCK.
STEPHEN WILCOX.

Witnesses:

L. C. WARNER,
CHAS. C. STETSON.