

(No Model.)

L. H. SMITH.
FIRE PLACE GRATE.

No. 254,062.

Patented Feb. 21, 1882.

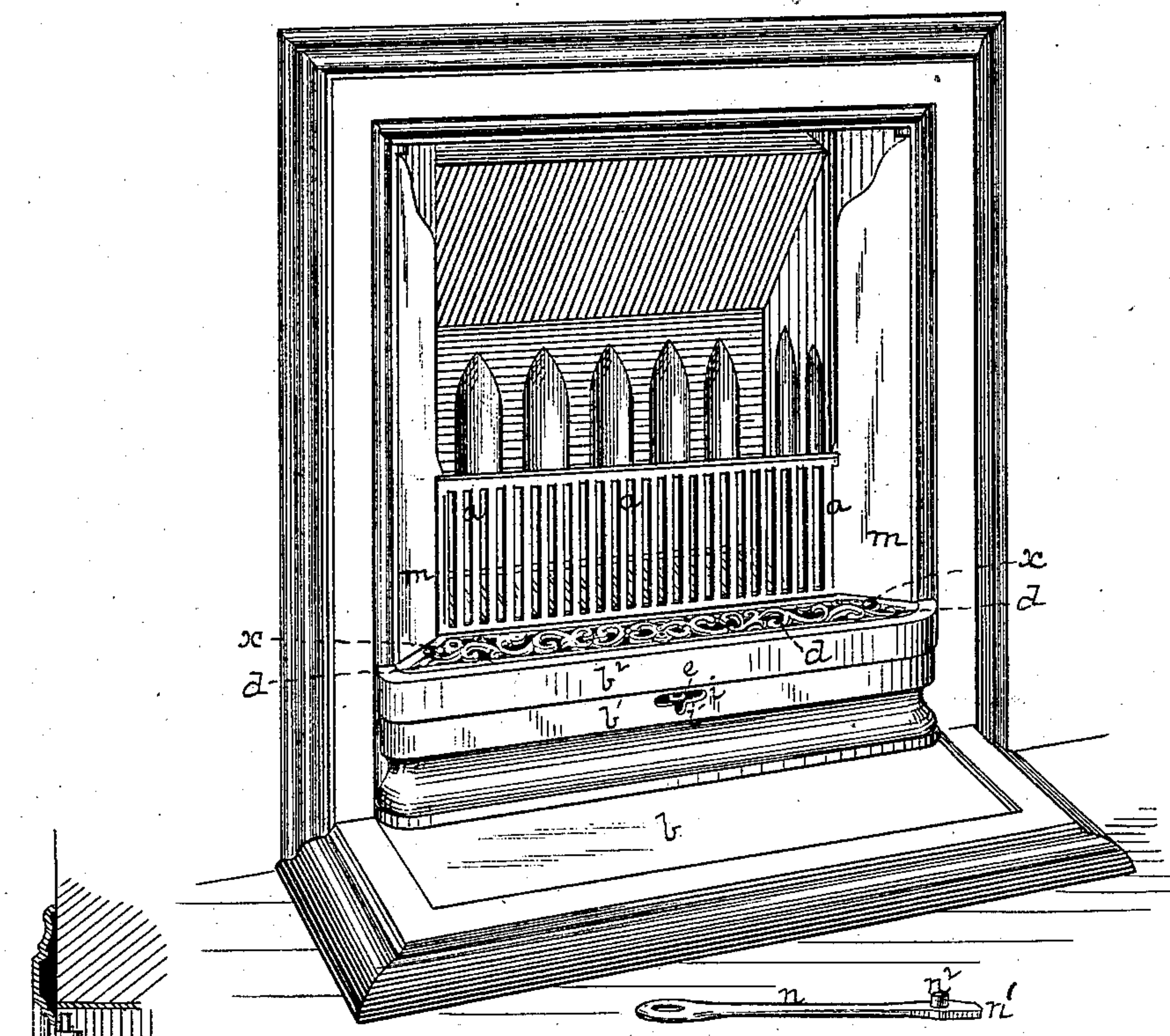


Fig. 1.

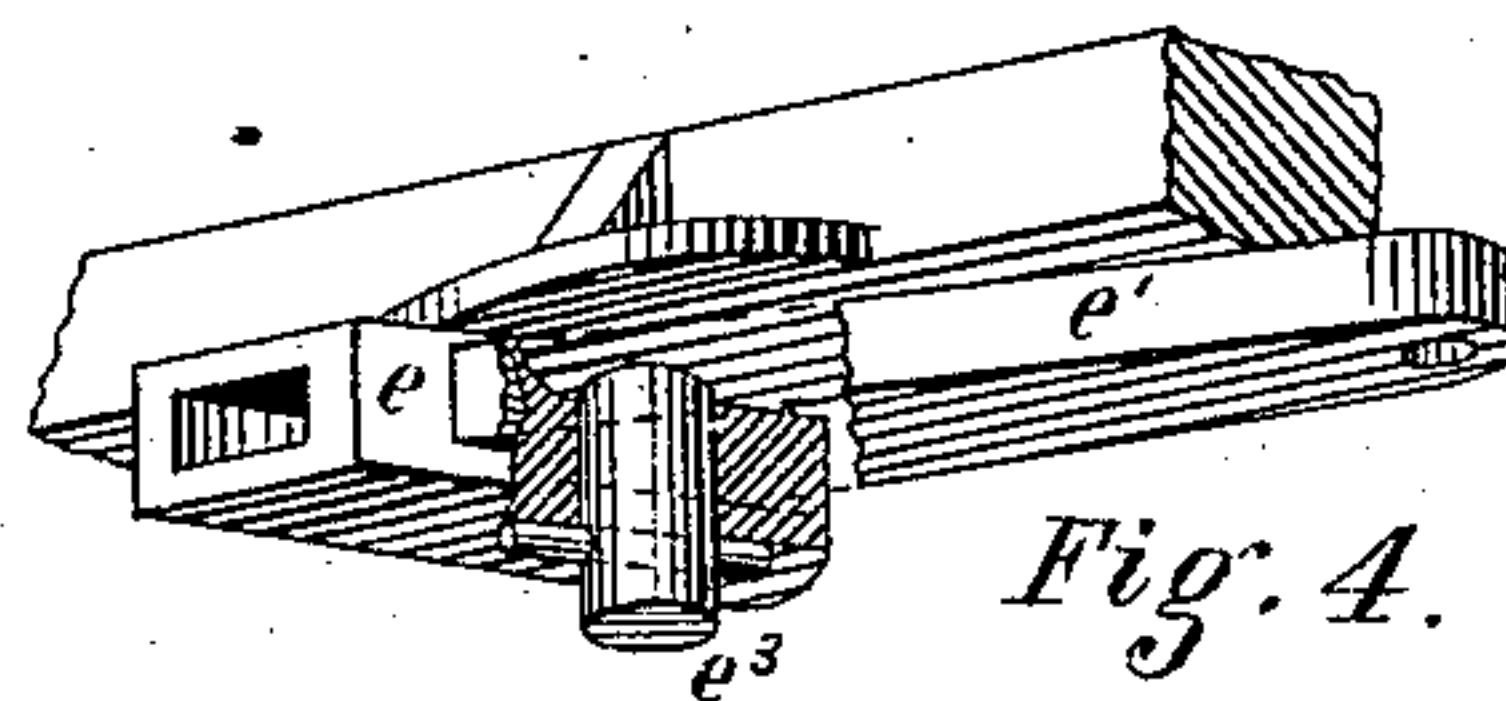


Fig. 4.

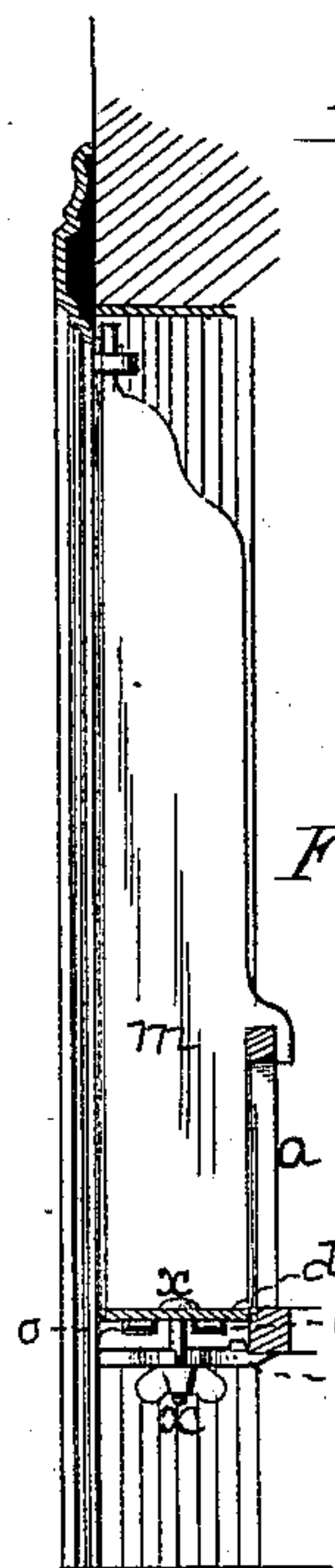


Fig. 3.

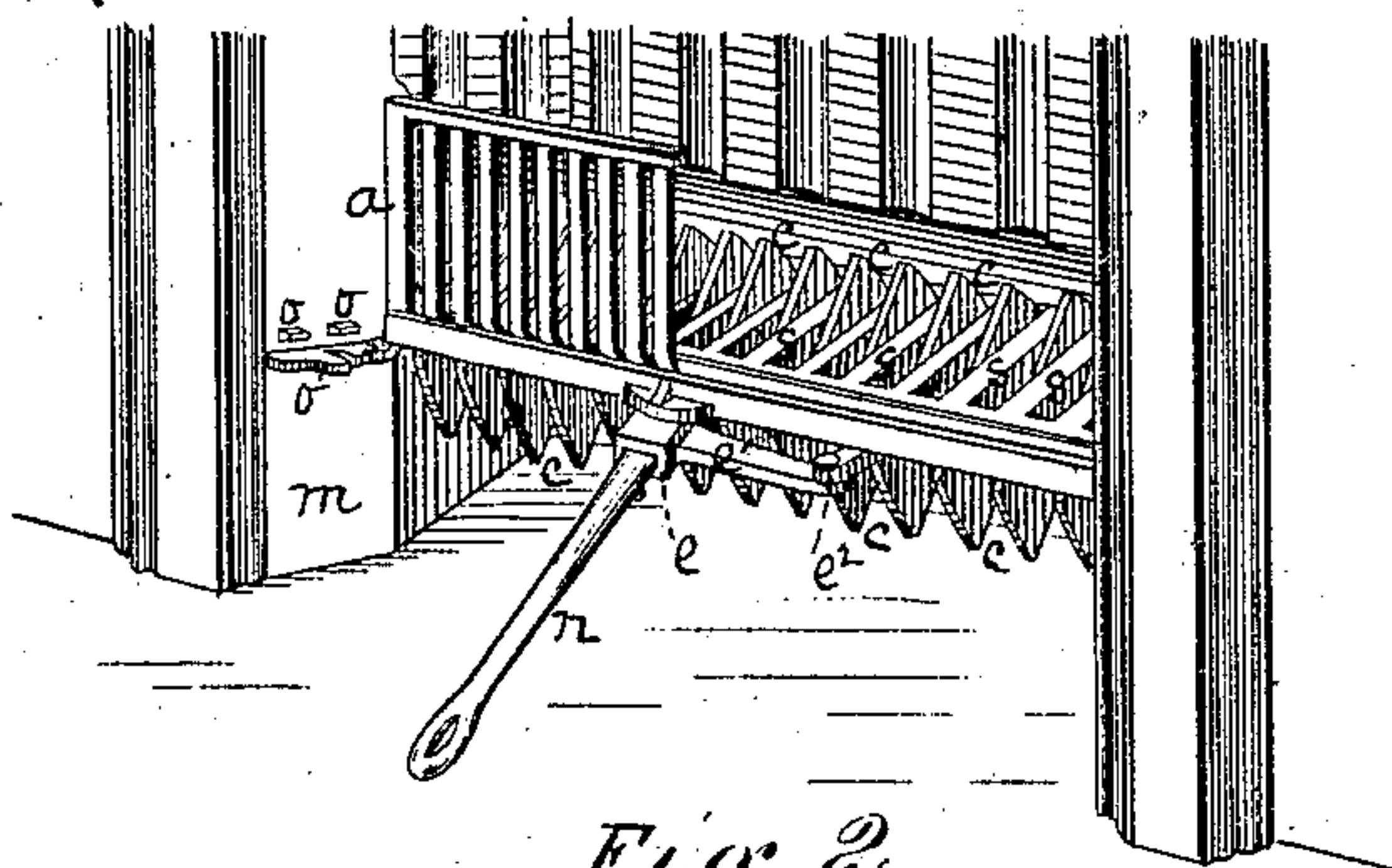


Fig. 2.

Witnessed,
R. H. Whittlessey
C. L. Parker

Inventor Luther H. Smith
By Attorney George H. Christy

UNITED STATES PATENT OFFICE.

LUTHER H. SMITH, OF PITTSBURG, PENNSYLVANIA.

FIRE-PLACE GRATE.

SPECIFICATION forming part of Letters Patent No. 254,062, dated February 21, 1882.

Application filed June 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, LUTHER H. SMITH, of Pittsburgh, county of Allegheny, State of Pennsylvania, have invented or discovered a new and useful Improvement in Fire-Place Grates; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—like letters indicating like parts—

Figure 1 is a view in perspective of a fire-place grate containing my present improvements. Fig. 2 is a view in perspective of certain detached parts thereof. Fig. 3 is a vertical sectional view of the front casing, illustrative of the attachments; and Fig. 4 is a detached view, to an enlarged scale, of a portion of the shaking mechanism.

The present invention relates to certain improvements in fire-place grates having a shaker and a close fender or ash-pit front, whereby the agitators are always brought to a horizontal position after the shaking is done. An air-supply is provided to insure a good combustion, and the removable parts are conveniently, easily, and cheaply secured in place.

For convenience of illustration I have shown my improvements as applied to what is sometimes known as the "Wellman" grate; but I do not intend thereby to limit myself thereto, but include the use of the features claimed in their application to all fire-place grates or stove-grates for which they are suitable.

The fire-basket as represented consists, in connection with suitable back and end tile, of horizontal grate-bars *s s*, cast either separately or together in a common frame, and front bars, *a*, made in like manner. Between the bars *s s*, and properly secured on a rotary shaft, as is usual in the art, I arrange the shaker leaves or blades *c c*, and provide for operating the same by a socketed stem, *e*, pivoted at its inner end, as at *e³*, and by the usual connections *e' e²* to an arm on the shaker-shaft. In order to secure a highly ornamental appearance and exclude ashes most effectually from the room, I make the lower front close, as indicated by fender *b* and plates *b' b²*.

In the plate *b'*, at a point directly in front of the socketed stem *e*, and of a length equal to the lateral motion of the stem, in doing the shaking, I make a slot, *i*, through which to pass the end of the shaker-handle *n*, a pin, *n'*, on the end of the handle entering the socket in the stem *e*. In order, now, that when the handle is removed the stem *e* may always occupy a middle position, so that the upper edges of the shaker-blades *c* shall be horizontal or on or near the same level as the grate-bars *s*, I make a notch, *i'*, at the middle point of the slit of suitable size for the passing through of a short projection or teat, *n²*, made on the shaker-handle at such distance from the end that when the handle is inserted the teat *n²* may be moved laterally to and fro behind the plate *b'*, as a consequence of which the handle cannot be removed until the teat *n²* comes opposite the notch *i'*, and then the blades *c* will be in the position described. Hence they cannot be left tilted up, as illustrated in Fig. 2, in which position they are liable to be burned out more rapidly than is necessary.

In applying my present improvements to a Wellman grate, in which the fire-basket is set back, it is usual to insert an enameled horizontal plate directly in front of and on a level with the horizontal grate-bars; but I make this plate, as shown at *d*, of ornamental open-work, somewhat as is common in hot-air-register coverings. The openings in this plate may be of any desired number, size, or arrangement, but should be such as to supply the necessary air to the fire-basket from beneath. Hence, as the draft from these openings must necessarily be downward, and as the front is close, I prevent effectually the escape of ashes and dust into the room.

As one convenient way of supporting the plate *d* and keeping it in place, I make the vertical side plates, *m*, each with rest-lugs *o* and a slotted clamping-lug, *o'*. The ends of the plate *d* are then rested on the lugs *o* and clamped in place by bolts and nuts *x*, which pass through the plates and into the slots of the lugs *o'*, as illustrated in Fig. 3.

I claim herein as my invention—

1. The fore plate, *b'*, having slit *i* and notch

i', in combination with socketed shaker-stem *e* and handle *n*, having pin *n'* and teat *n*², substantially as set forth.

2. In combination with a grate set back from the fire-front, a horizontal fore plate, *d*, having a register therein, front plates, *b'* *b*², and fender *b*, making a close front, substantially as set forth.

3. The vertical plates *m m*, having lugs *o o'*,

in combination, by bolt and nut *x*, with fore plate, *d*, substantially as set forth.

In testimony whereof I have hereunto set my hand.

LUTHER H. SMITH.

Witnesses:

R. H. WHITTLESEY,

GEORGE H. CHRISTY.