

(No Model.)

2 Sheets—Sheet 1.

W. E. FITCH.
PORTABLE FIREPLACE.

No. 551,539.

Patented Dec. 17, 1895.

Fig. 1

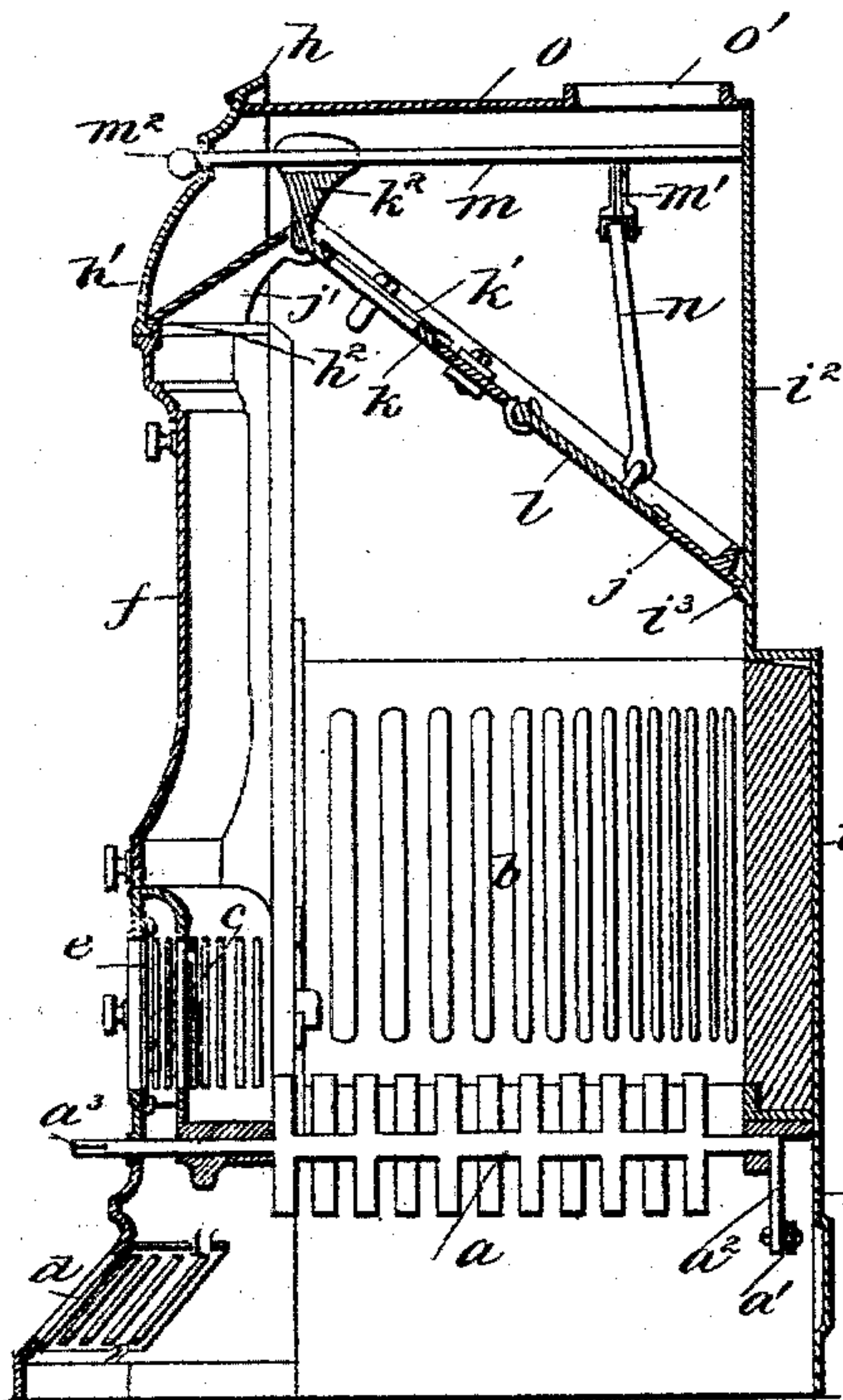


Fig. 3

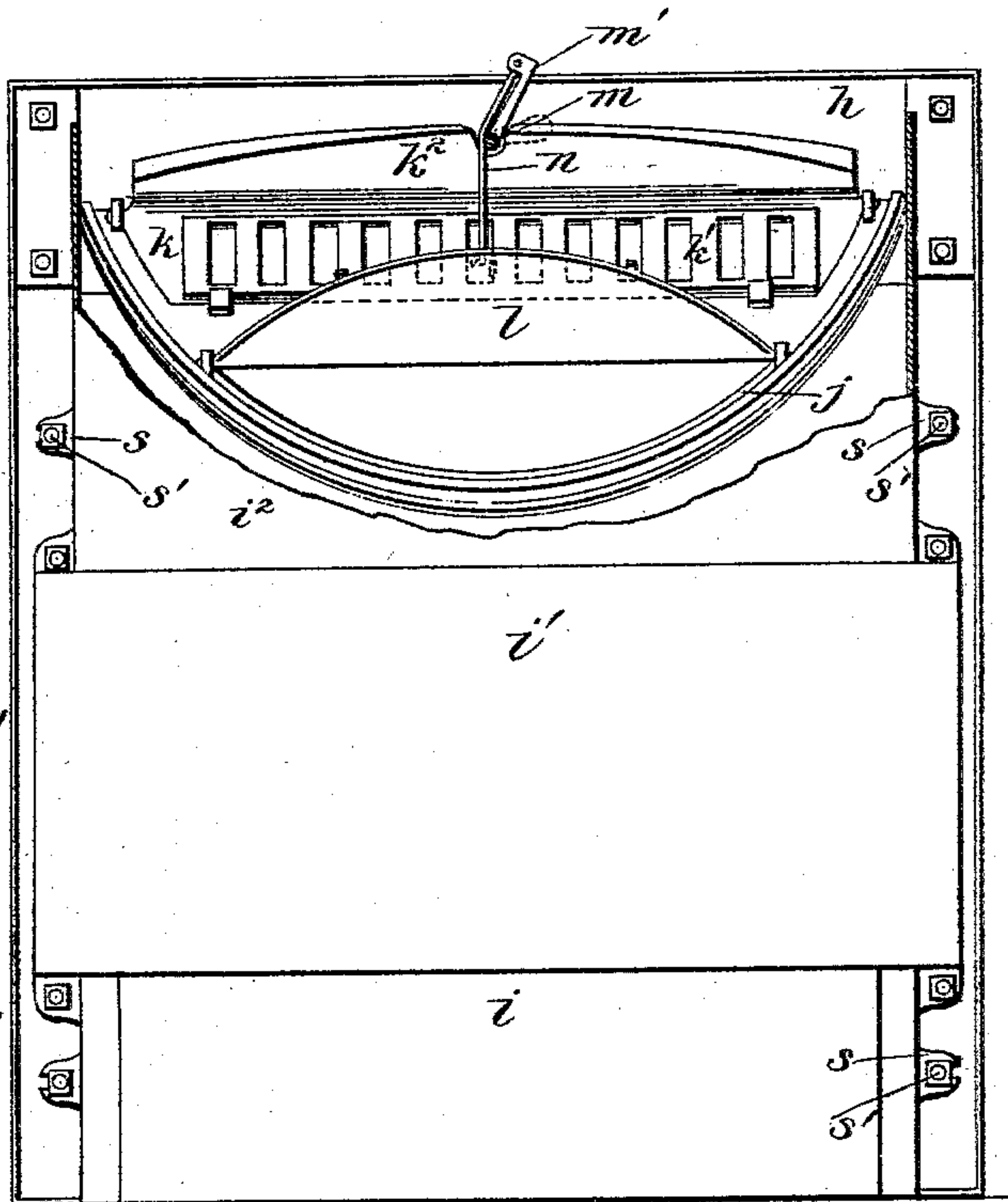
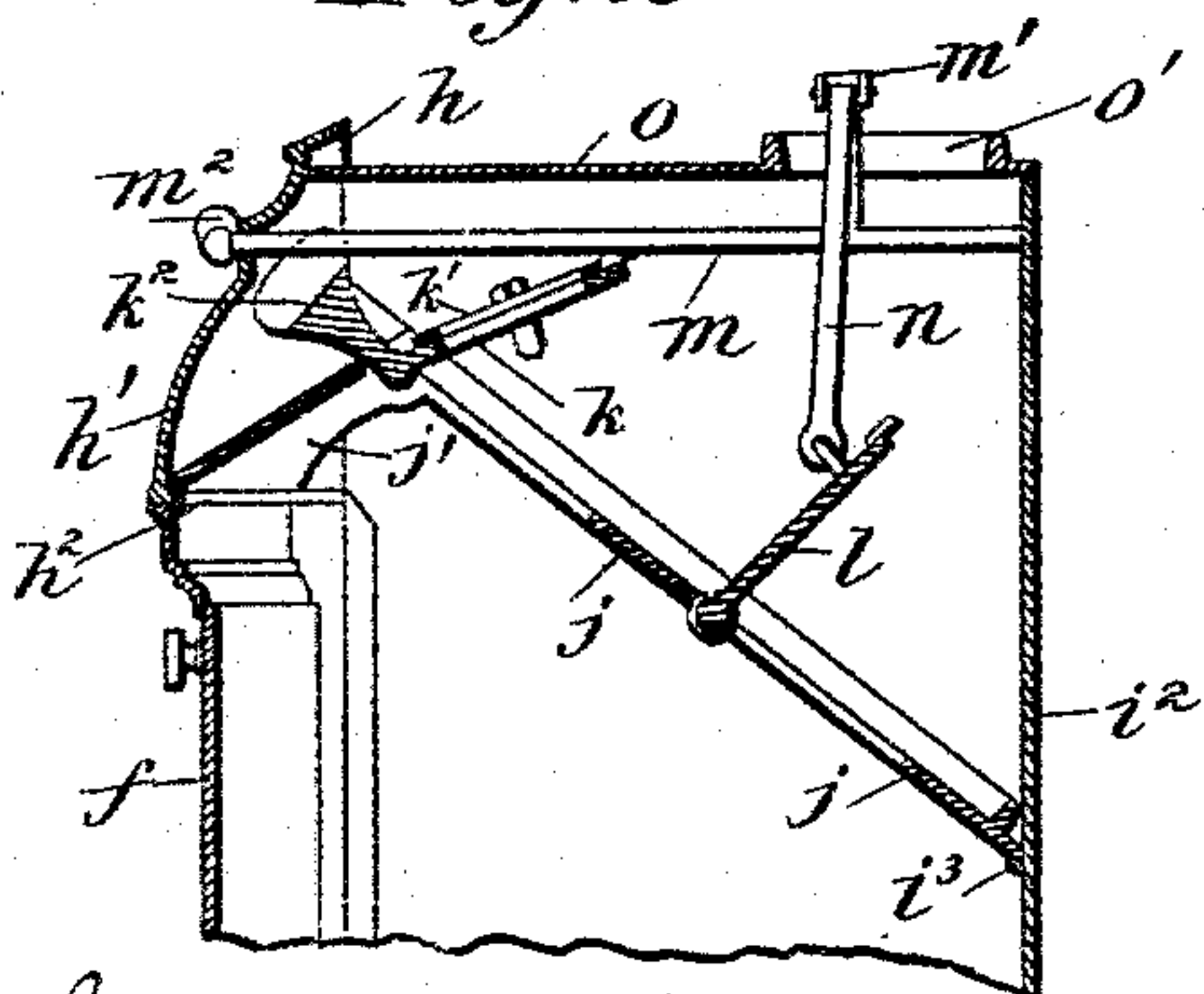


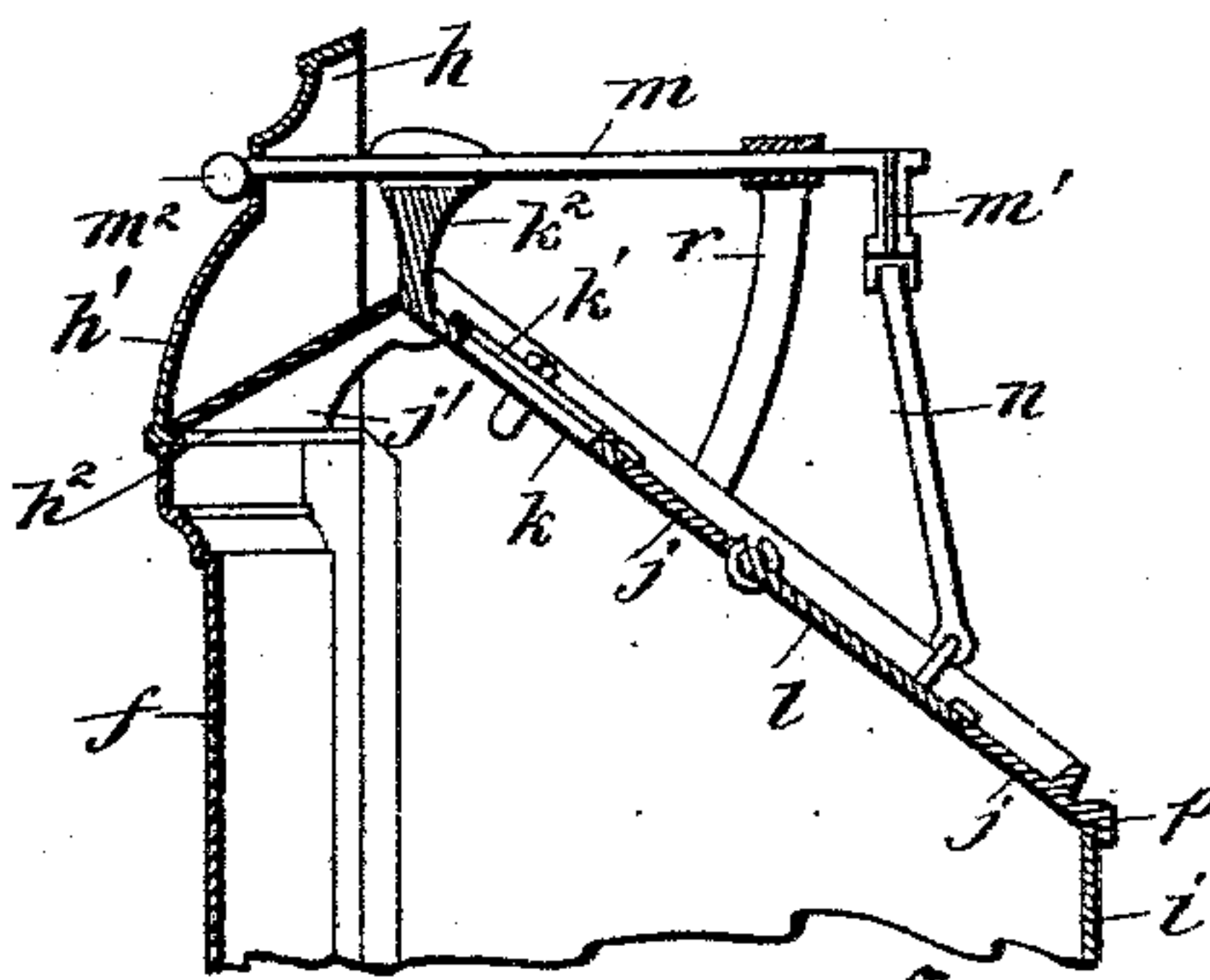
Fig. 2



Witnesses,

J. F. Coleman
C. A. Simms

Fig. 4



Inventor

William E. Fitch
by W. H. Fitch

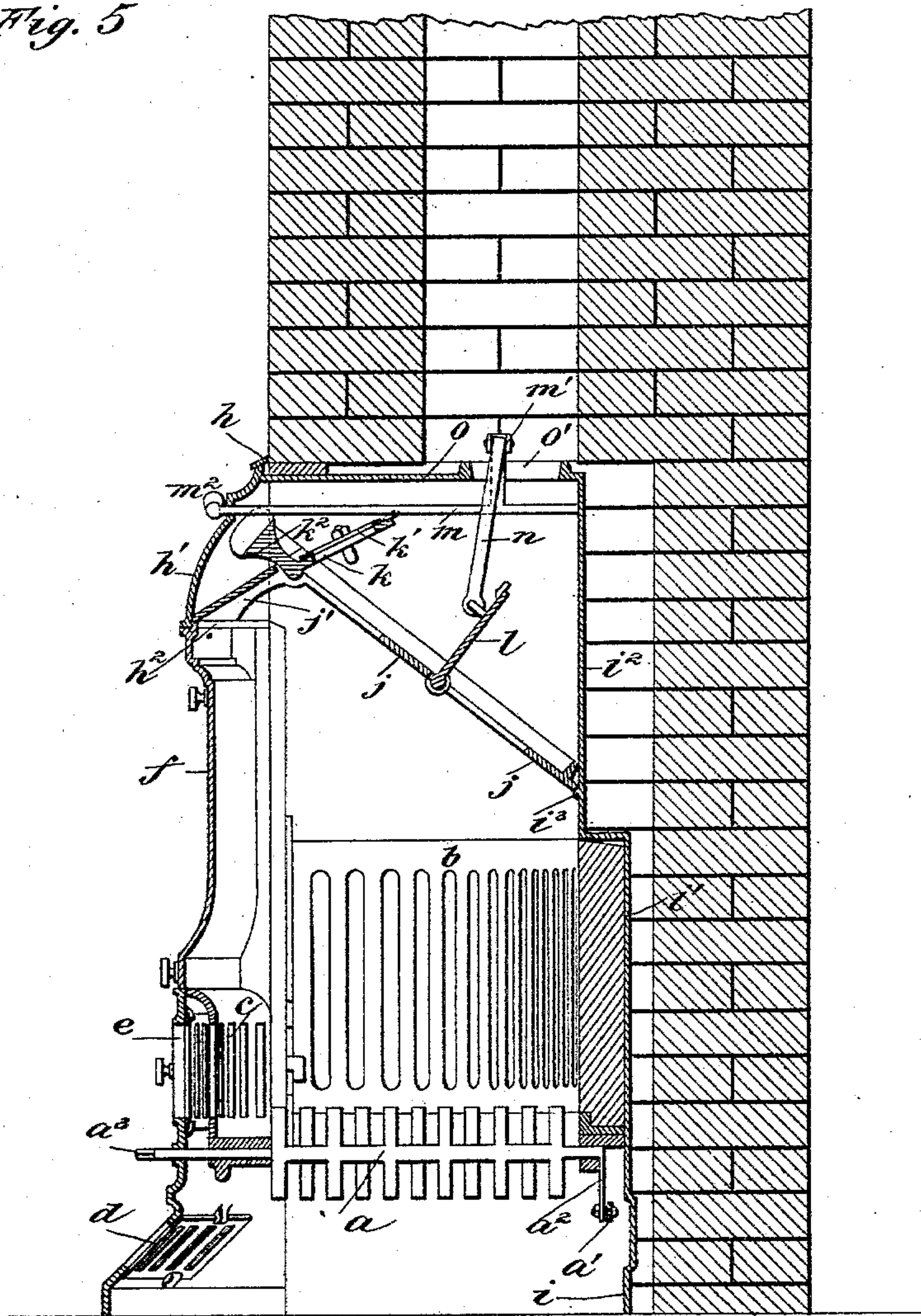
att'y.

2 Sheets—Sheet 2.

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Patented Dec. 17, 1895.

Fig. 5



Sirs,
 J. J. Gorman
 C. A. Finckel.

Inventor
William E. Fitch.
by Wm. H. Finnerel
Att'y.

UNITED STATES PATENT OFFICE.

WILLIAM E. FITCH, OF LOUISVILLE, KENTUCKY.

PORTABLE FIREPLACE.

SPECIFICATION forming part of Letters Patent No. 551,539, dated December 17, 1895.

Application filed October 8, 1894. Serial No. 525,245. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM E. FITCH, a citizen of the United States, residing at Louisville, in the county of Jefferson and State of Kentucky, have invented a certain new and useful Improvement in Portable Fireplaces, of which the following is a full, clear, and exact description.

In portable fireplaces, or, as they are termed sometimes in the trade, "fireplace-grates," composed essentially of a basket-grate, a front, a back or lining, fire-brick and flue-dampers, two objections are inherent in the ordinary constructions—namely: first, the flue-dampers have opened into the chimney-space or fireplace proper, and until the surrounding space is heated and maintained hot, so as to insure a proper uptake or draft, the products of combustion are pocketed in such space, with the result of an imperfect draft and causing the heater to smoke, and, second, the flue-dampers have opened toward the outlet or flue and impeded the uptake or draft, also producing smoking and measurably retarding combustion. These evils are specially prominent in the ordinary construction unless the fireplace is built up to the heater, and it is the object of my invention to overcome, or, at least, to minimize them; and to this end I make the heater with a high back, within which the flue-dampers are arranged, and provide such high back with a top plate in which is a flue-hole in the rear for the escape of the products of combustion, said flue-hole being designed to be set directly in line with or beneath the chimney-flue, so as to insure a straight or direct draft up the chimney. The dampers are pivoted to the damper-frame so as to open away from the flue or outlet. In some cases the high back may be omitted and the dampers be pivoted to open away from the outlet.

Having thus stated the principle of my invention, I will proceed now to describe the best mode in which I have contemplated applying that principle, and then will particularly point out and distinctly claim the part, improvement, or combination which I claim as my invention.

In the accompanying drawings, illustrating my invention, in the several figures of which like parts are similarly designated, Figure 1 is

a sectional elevation of the high-back heater, showing the dampers closed. Fig. 2 is a similar view of the upper portion, showing both dampers opened. Fig. 3 is a rear elevation of the high-back heater with the back broken out and the lower damper opened, and Fig. 4 is a sectional elevation of the upper portion of a low-back heater with the dampers closed. Fig. 5 is a sectional elevation showing the manner of setting my portable fireplace in a brick fireplace.

The grate *a* is shown in Fig. 1 with its bars in dumping position, the several bars being connected to move together by a rod *a'*, fastened to fingers *a²*, depending from the grate-bars, and one of the grate-bars having the shaker-arbor *a³*. *b* is the fire-brick or tile, which may be made in sections. *c* is the basket front, made as a grid. *d* is the ash-screen. *e* is the dampered double basket front. *f* is the summer front. *h* is the heater front or frame, which is provided with the hood *h'*, having the inwardly-projecting ledge or flange *h²*, all these parts being, by preference, substantially as in my prior invention.

In my present invention the back or lining *i* is, in its preferred form, made as a thin single casting with a pocket *i'* for the reception of the tile or fire-brick *b*, and extending above such tile substantially to a level with the upper portion of the hood to form the high back *i²*, hereinbefore referred to. This lining *i*, instead of being angular, as hitherto, is made semicircular to economize space, facilitate setting, and increase the size of the fire-pot and the radiating-surface. This back or lining is constructed with a short ledge *i³* above the fire-brick. Within the back or lining and above the fire-brick or tile is arranged a damper-frame *j*, the rear end of which rests upon the ledge *i³* and the front end of which is made with a forwardly and downwardly projecting flange *j'*, which enters the hood and rests upon and is supported by the flange *h²* therein. The damper-frame is provided with the indirect damper *k*, which is pivoted in the frame at its upper or front edge, so as to open away from the flue and thereby cause and maintain an unimpeded draft or uptake. This damper is provided with the grid-like slide *k'*, as usual, to regulate or shut off the draft when the damper is closed. *k²* is a counterweight applied

to (it may be cast with) the damper k , which counterweight is adapted to turn into the hood h' , as indicated in Fig. 2, for the purpose of holding open the said damper, its open position being normal when the fire is burning freely.

The damper k may be opened and closed through the front of the heater by using a poker, or, instead, a separate operating device, such as a sliding or jointed rod, may be applied to it, the actuator of which may appear on the face of the front, or a rotary crank may be used for this purpose, one end of which may be exposed at the front and the other be arranged to act against the counterweight.

The direct damper l is also pivoted in the damper-frame j , the pivots being arranged at the upper end of the damper, so that the damper opens upwardly and forwardly. This damper may be operated in any approved manner, and one simple means consists of a rod m , having bearings in the front and back and provided with an arm m' , projecting radially or tangentially therefrom, to which arm a bent connector n is jointed at one end, its other end being jointed to the damper. The rod m is provided with a handle or grip m^2 , outside the front, by means of which it may be rocked. A partial revolution of rod m will open the damper fully and the arm m' will be thrown to the other side of the center of gravity, and the bent connector n then coming in contact with the rod further rotation will be arrested and the damper l will be held open against accidental closing.

The high back is covered in by means of a top plate o , fitted to the back or lining, and having a flue-outlet o' designed to align with the chimney-flue, and which, if desired, may be connected with the chimney-flue by means of a joint or section of pipe. The arm m' works within this outlet o' , as indicated in Fig. 2.

A heater constructed with the high back of this invention, supplied with the internal dampers opening away from the outlet, will, upon the starting of the fire, create or induce and maintain a clear strong draft or uptake without liability of pocketing the air or emitting or returning smoke. The high back forms an air-warming chamber, which acts effectively to prevent the pocketing of the air. Moreover, since the dampers are inclosed the incidental advantage accrues of protecting them from inoperativeness through accumulation of dust and soot; but my invention in dampers is not limited to their use in a high-back heater, and, as shown in Fig. 4, the dampers may be used with a low back, the damper-frame being perimetricaly flanged to fit the top edges of the back, said flange being indicated by the letter p . In order to support the direct damper-operating rod at the rear, a yoke or stand r may rise from or be erected upon the damper-frame. The frame may be secured to the back in any suitable

manner. The front and back may be bolted together in ordinary way. As shown in Fig. 3, the back is provided with ears s , which receive bolts s' on the front, and nuts, as shown, are applied to these bolts to bind them to the ears.

The counterweight is shown as extending parallel with and equal to the length of the indirect damper, but it may be otherwise disposed. It is also shown as notched so as to play about the rod m . These and other details of construction may be modified at pleasure without departing from my invention.

The damper-frame and its dampers when arranged at or substantially at the angle shown serve the additional purpose of a deflector to throw the heat out into the room. The flange j' also serves the additional purpose of directing the draft or products of combustion through the damper k when the latter is opened. Said flange also partitions off the space in the hood for the reception of the counterweight, and also avoids the possibility of smoke puffing into the room.

A fireplace-heater provided with the high back and its top plate or cover, as described, possesses many advantages in addition to those already mentioned. For example, a very important advantage is that the heater being designed to fill up the fireplace (see Fig. 5) it may be set by unskilled workmen without the necessity for building up the adjacent walls to it. Its top plate may take the place of an arch-bar in constructing fireplaces, and in any event said plate so covers in the combustion-chamber that leakage of smoke is impossible, and a direct escape of the products of combustion to the chimney flue is insured.

The heater is supplied intact and ready to be set in the masonry fireplace as an integer by simply shoving it in, as indicated in Fig. 5, and as already described.

What I claim is—

1. A portable fireplace heating apparatus comprising a front, a combustion chamber, a back or lining applied to such combustion chamber and extended up above such combustion chamber substantially to a level with the top of the front, a top or cover therefor having a flue outlet, a damper frame arranged obliquely between the combustion chamber and top or cover, and dampers arranged in such frame and adapted to open within the chamber formed behind the damper frame, by such high back, substantially as described.

2. A fireplace heating apparatus comprising a front provided with a hood, a back or lining, and a damper frame supported on such back or lining at its rear and having a depending front flange fitted to and resting within the hood, and supplied with direct and indirect dampers opening away from the outlet, said indirect or uptake damper having a counter-balancing device to hold it normally open, substantially as described.

3. A fireplace heating apparatus comprising a front provided with a hood, a back or lining, and a damper frame supported on such back or lining at its rear and having a depending front flange fitted to and resting within the hood, and supplied with direct and indirect dampers opening away from the outlet, said indirect or uptake damper having a counter-balancing weight normally opening the said damper and at such time concealed within the hood, substantially as described.

4. A portable fireplace heating apparatus comprising a back or lining extended up above the combustion chamber substantially to a level with the top of the front, a top or cover plate arranged on top of said back or lining and having a flue outlet designed to

be aligned with the chimney flue when the apparatus is set in a fireplace, and a damper frame arranged obliquely above the combustion chamber from rear to front, and dampers arranged in said frame and opening within the chamber formed by such damper frame and high back, the said apparatus being made as an integer and adapted to be set without bricking out the fireplace, substantially as described.

In testimony whereof I have hereunto set my hand this 28th day of September, A. D. 1894.

WILLIAM E. FITCH.

Witnesses:

E. C. NEWBOLD,
EAGAN M. BIGLEY.