

(No Model.)

3 Sheets—Sheet 1.

J. KEITH.
DAMPER FOR CHIMNEY FLUES.

No. 440,229.

Patented Nov. 11, 1890.

Fig. 1.

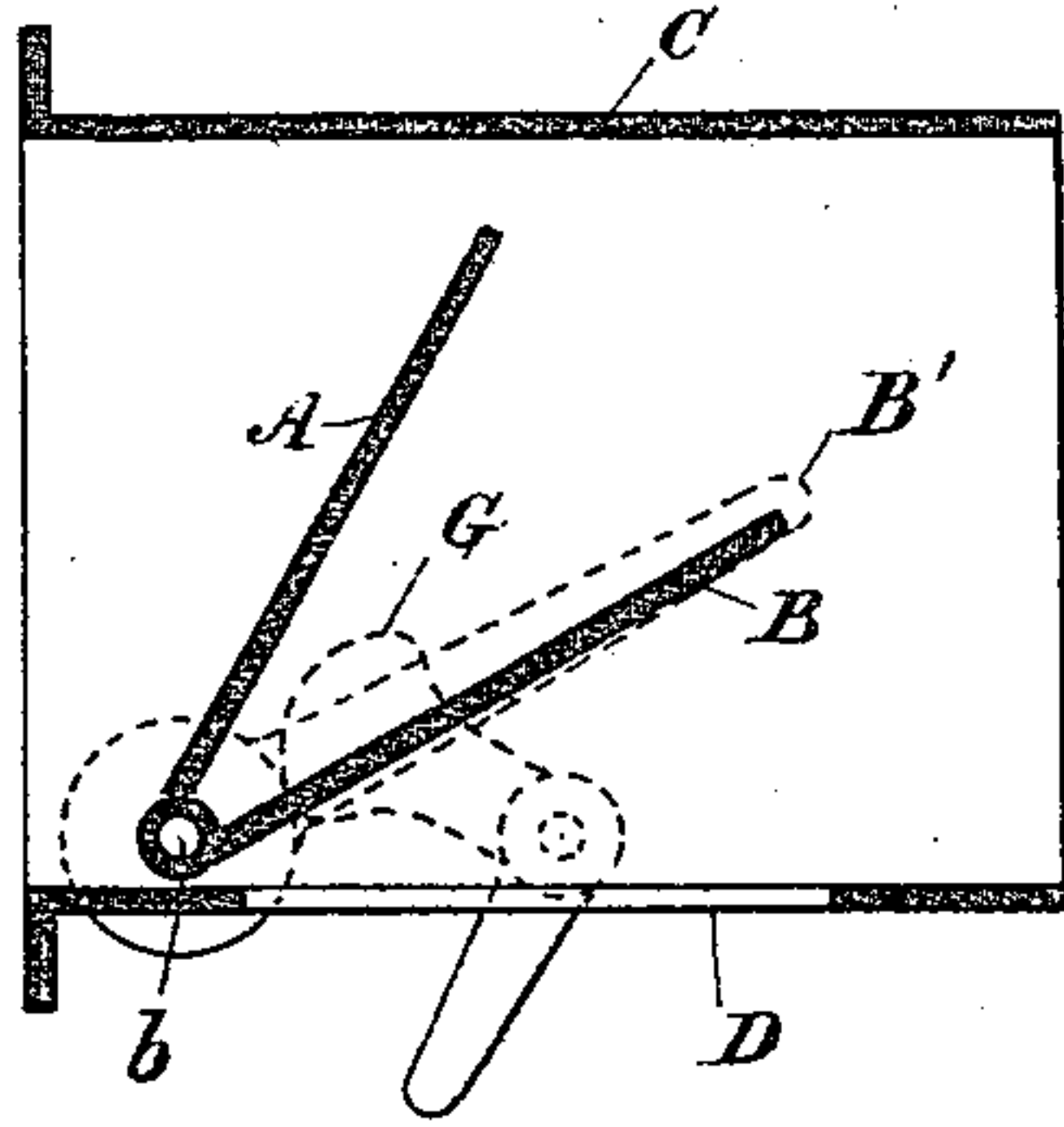


Fig. 2.

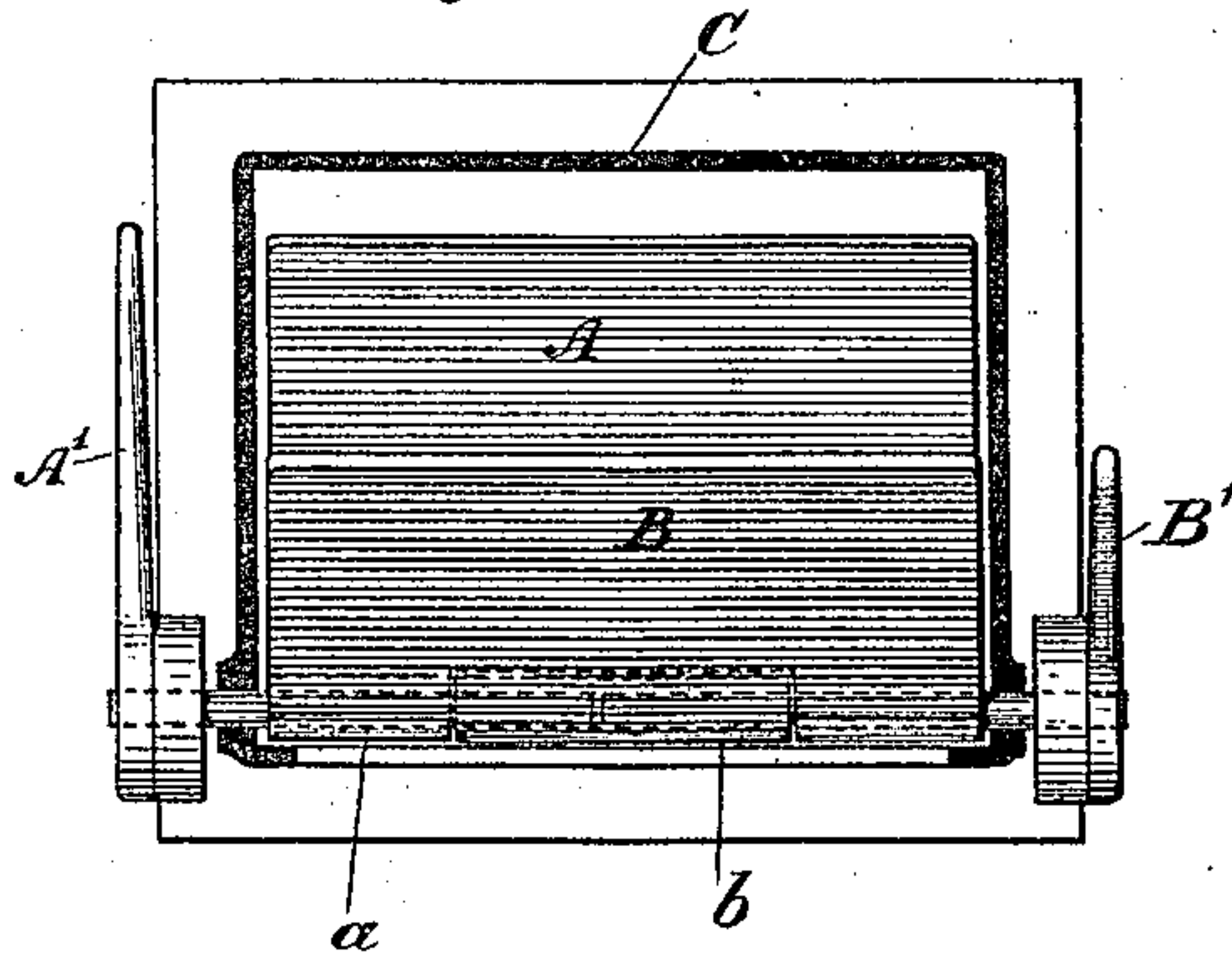


Fig. 4.

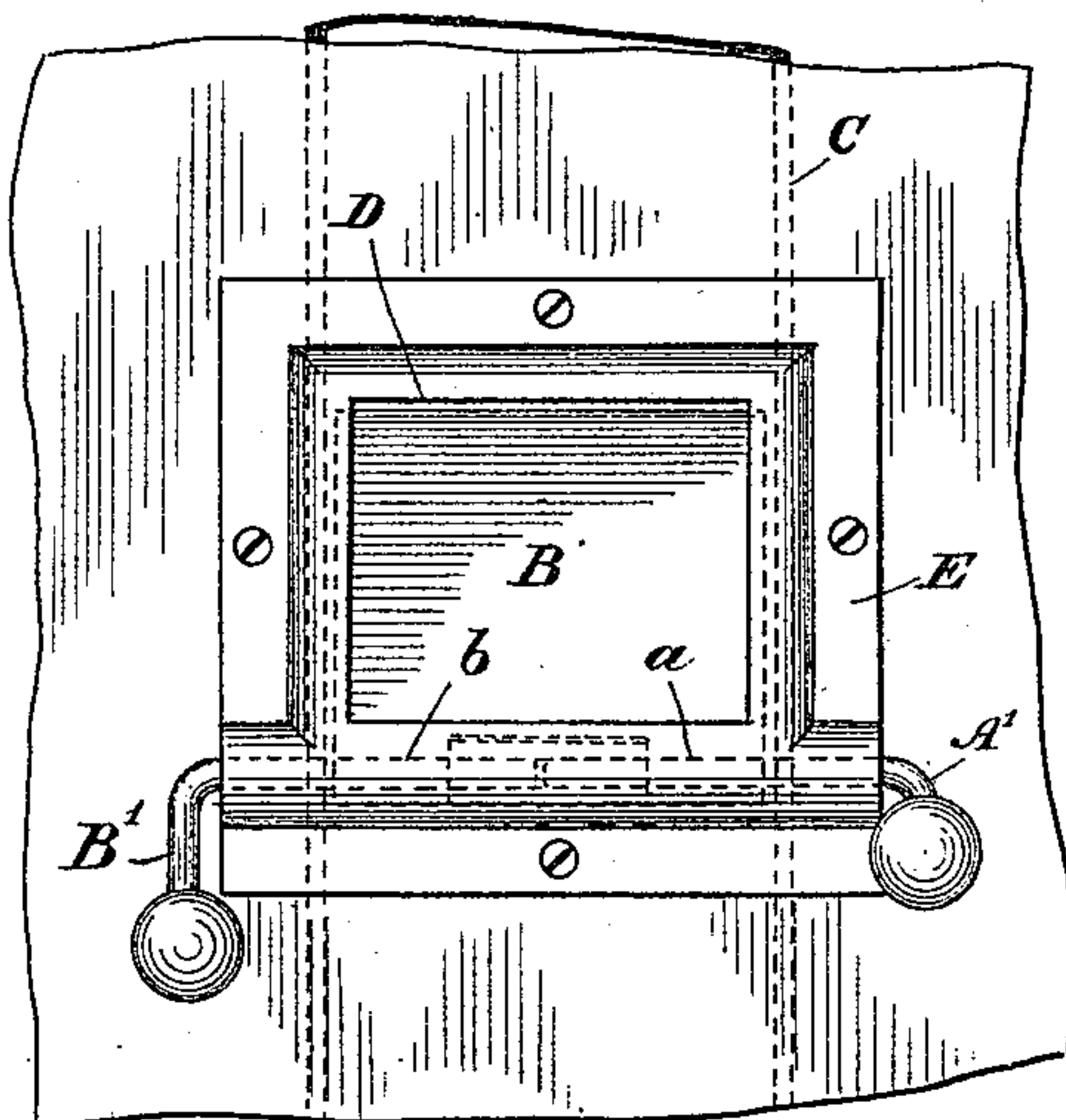
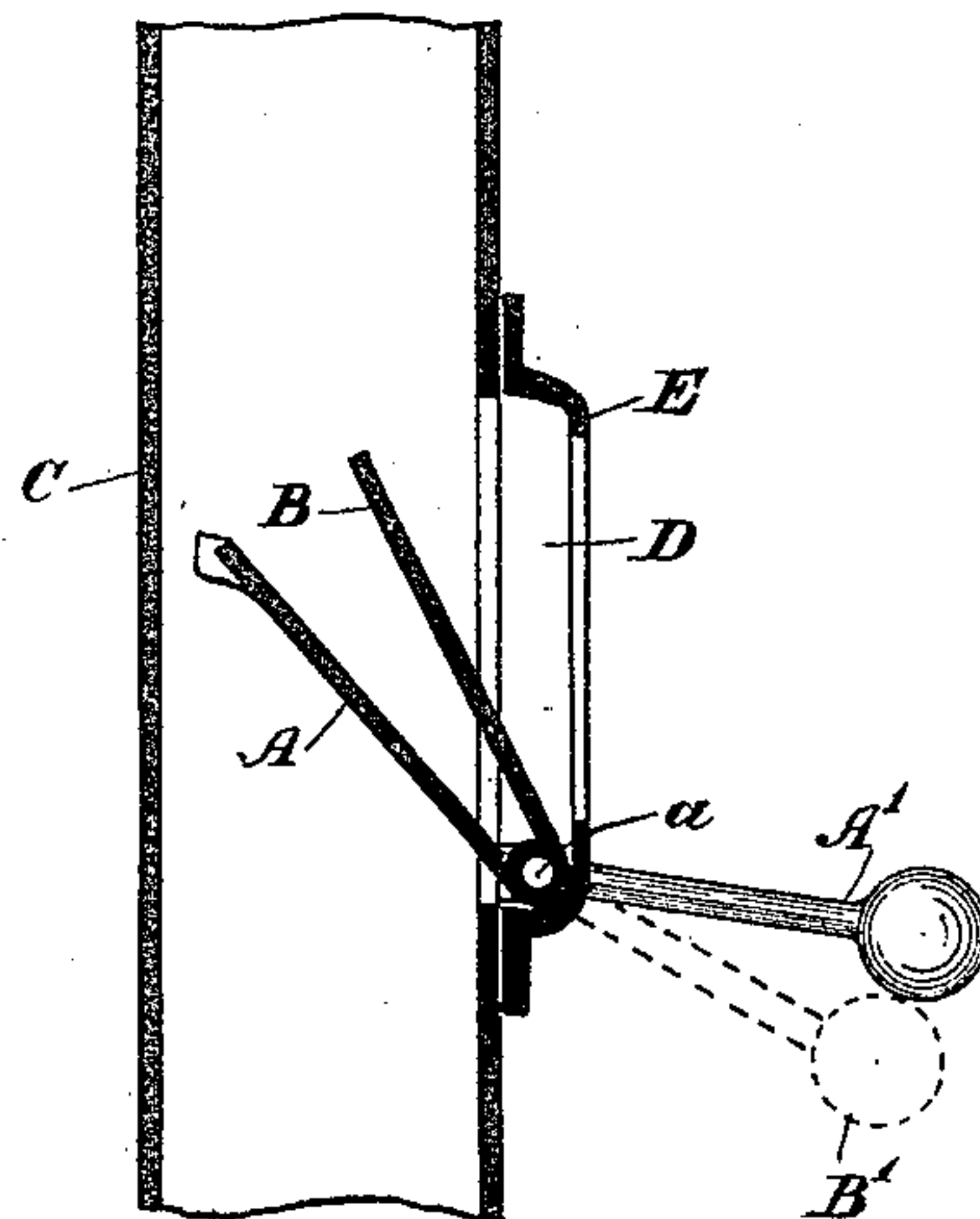


Fig. 3.



Witnesses:
M. W. Richards
E. L. Richards

Inventor:
James Keith.
By *Richards & Co.*
Attorneys.

(No Model.)

3 Sheets—Sheet 2.

J. KEITH.
DAMPER FOR CHIMNEY FLUES.

No. 440,229.

Patented Nov. 11, 1890.

Fig. 6.

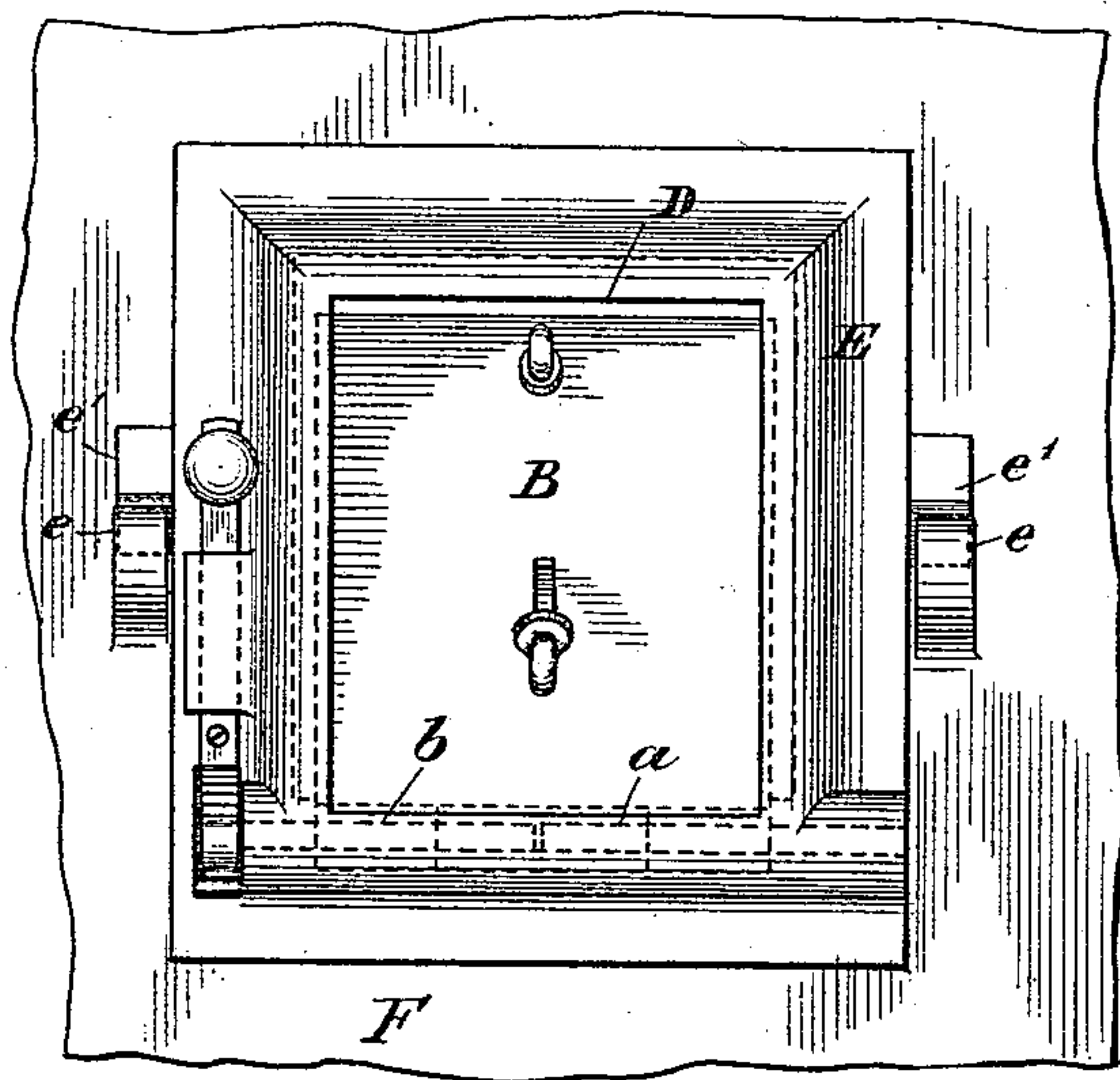


Fig. 5.

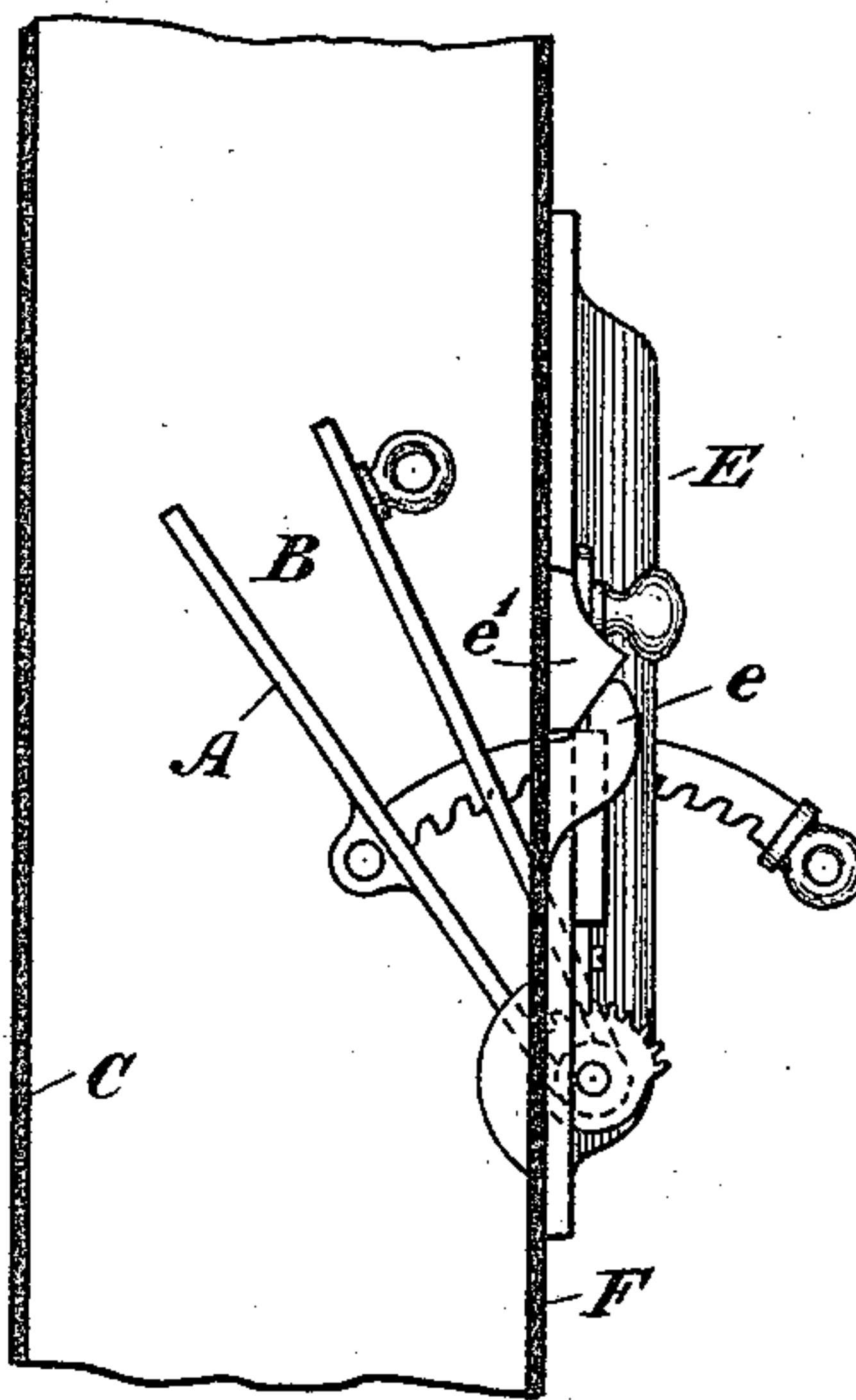


Fig. 8.

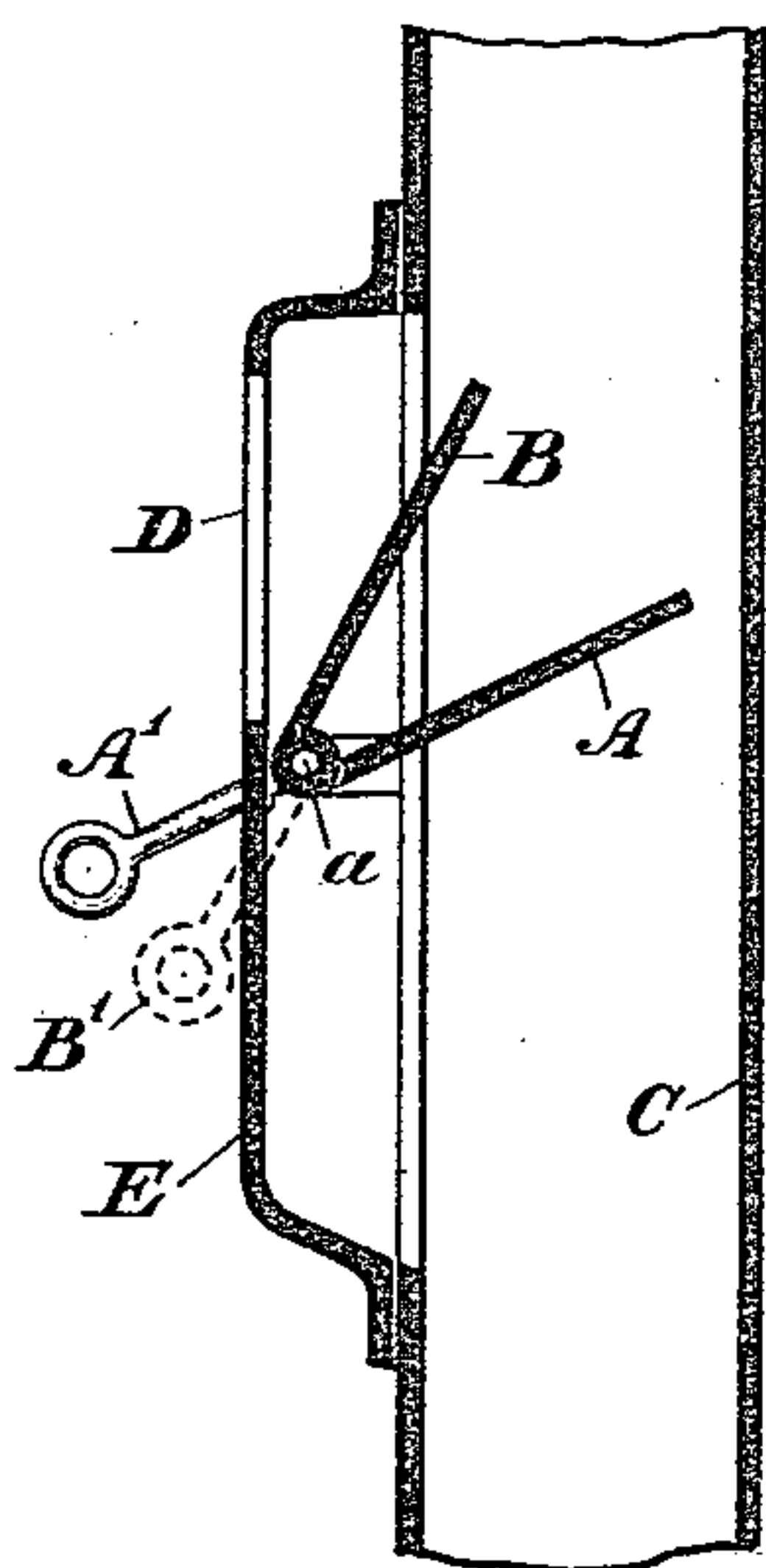
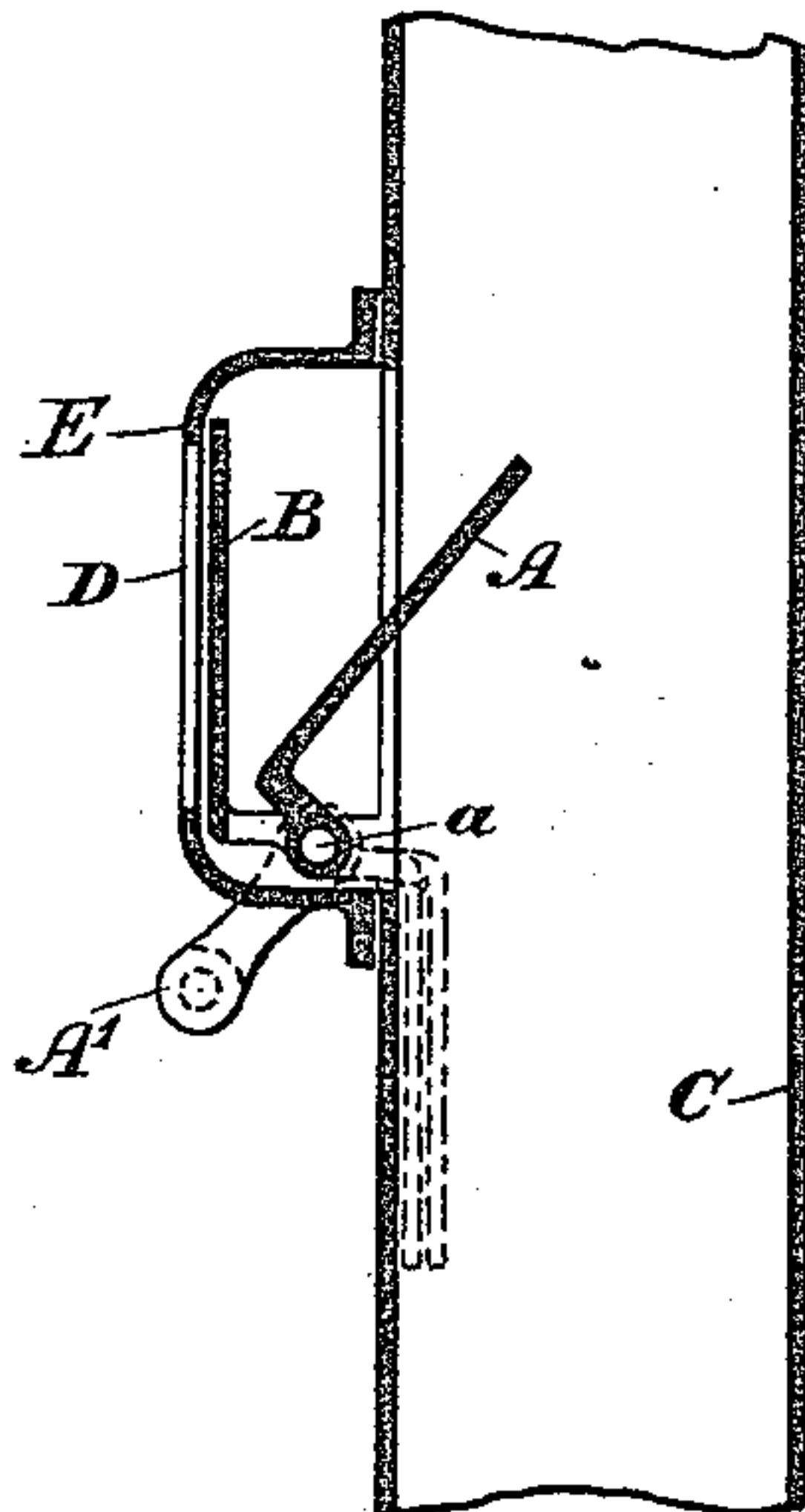


Fig. 7.



Witnesses:
M. W. Richards
C. L. Richards

Inventor:
James Keith,
By *Richardson*
Attorneys.

(No Model.)

3 Sheets—Sheet 3.

J. KEITH.
DAMPER FOR CHIMNEY FLUES.

No. 440,229.

Patented Nov. 11, 1890.

Fig. 9.

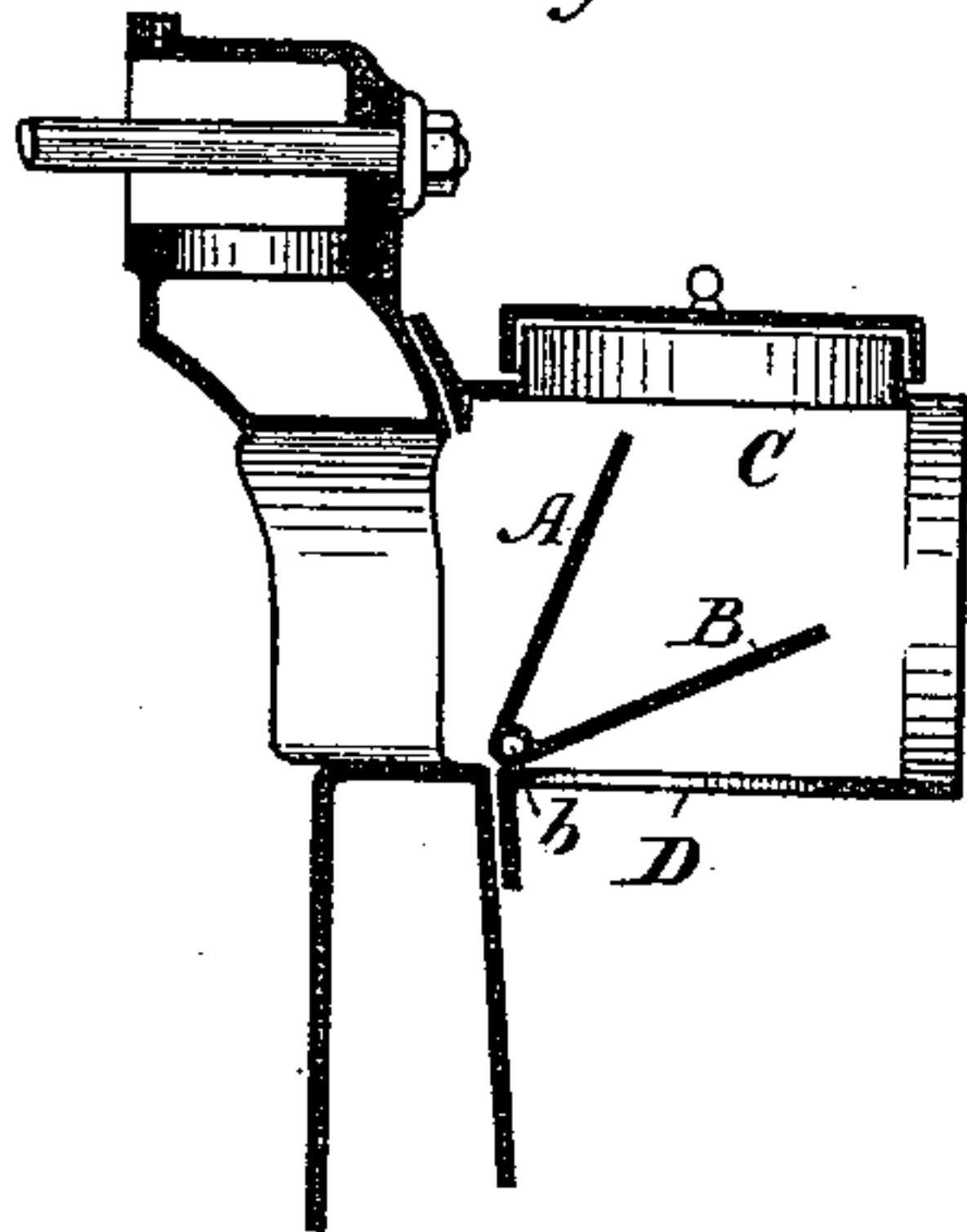


Fig. 11.

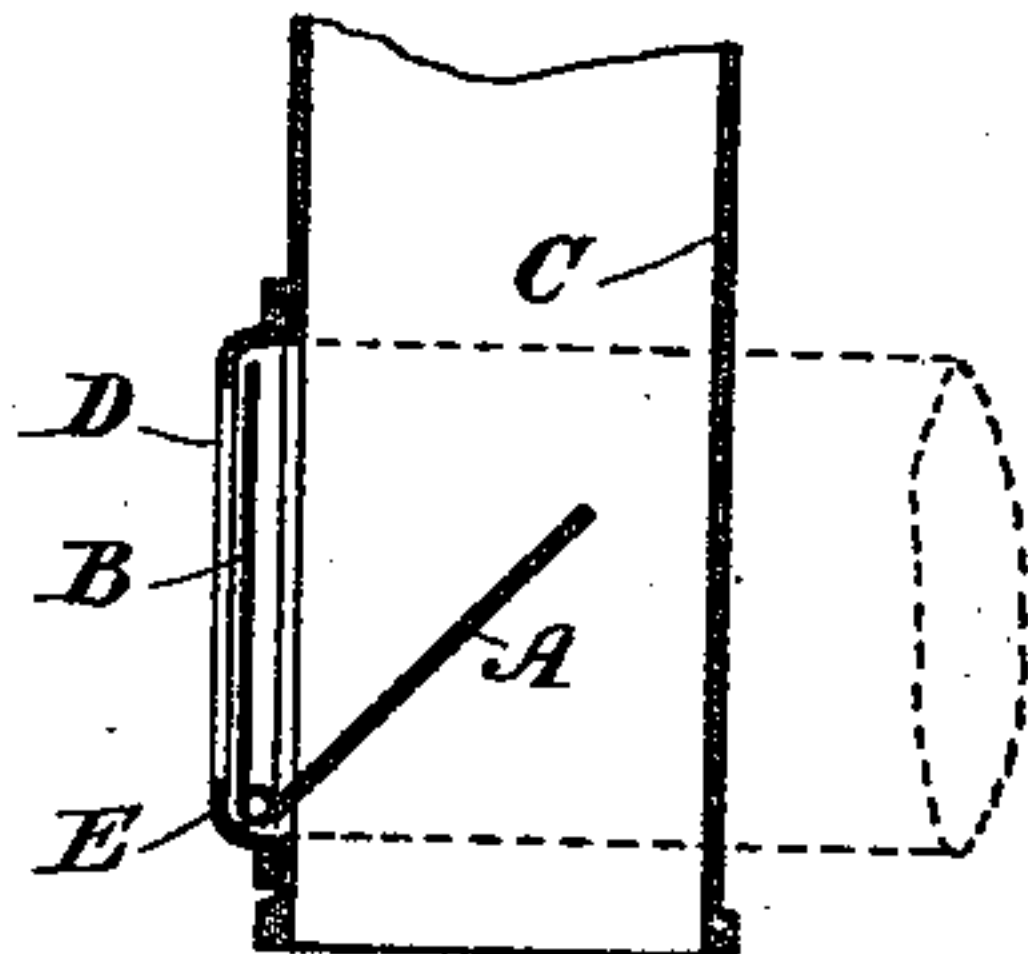


Fig. 12.

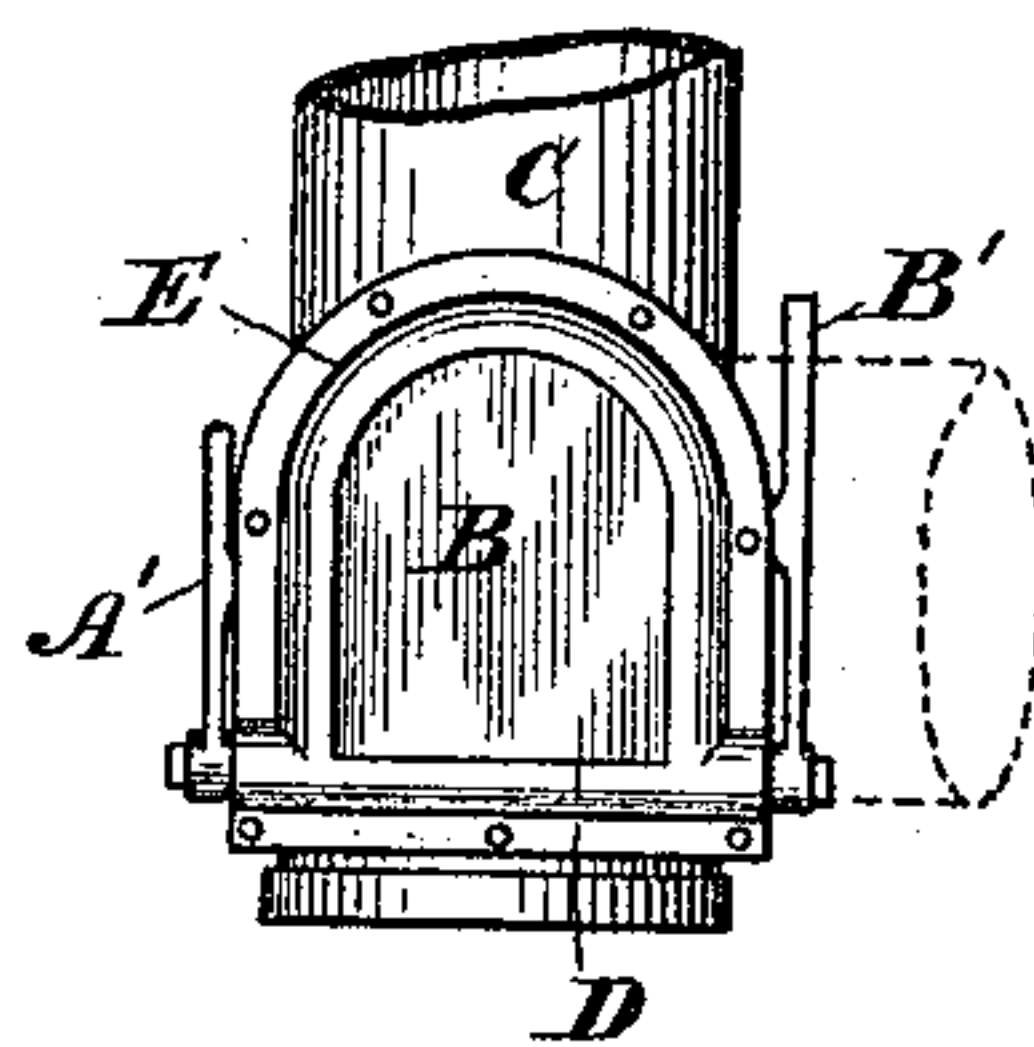


Fig. 10.

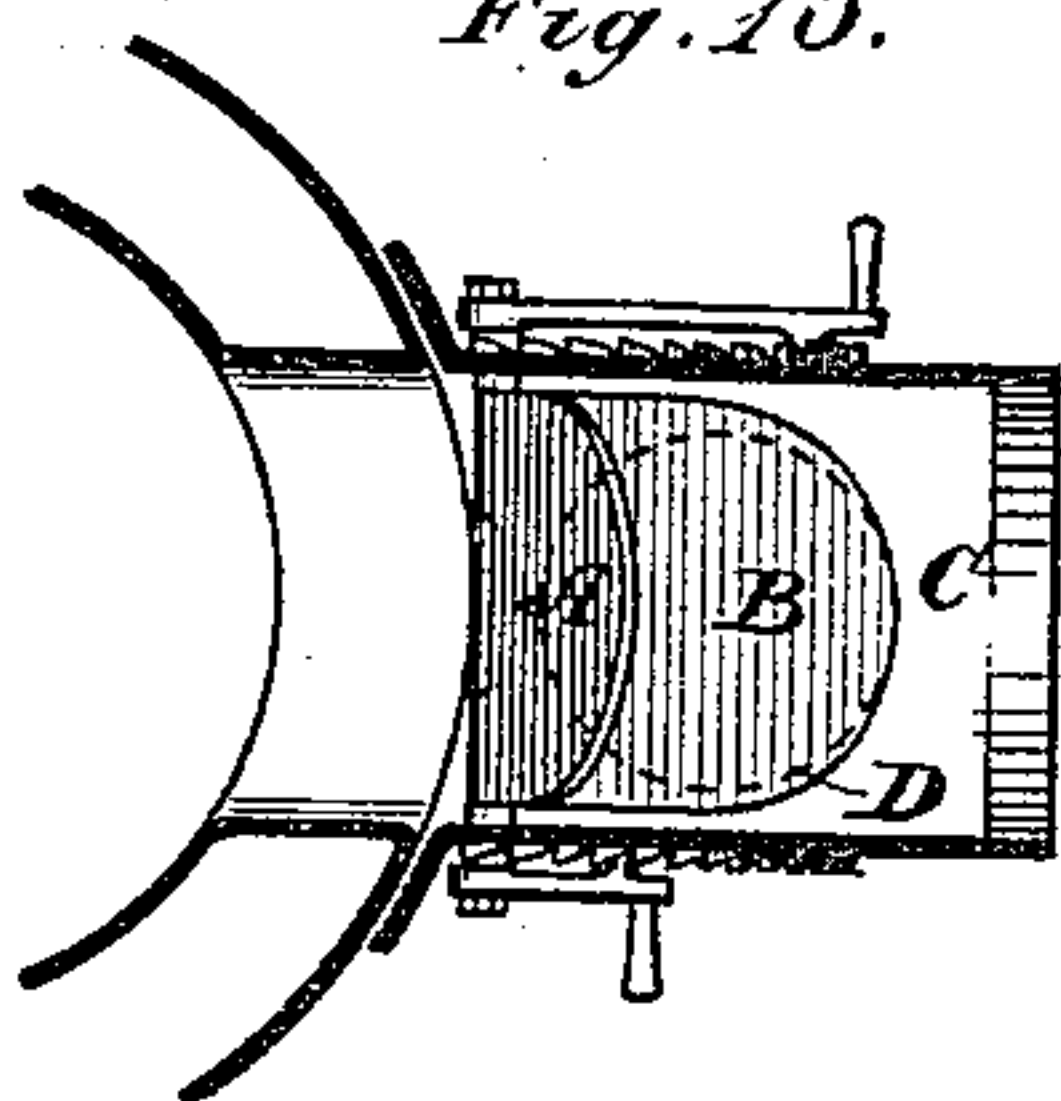


Fig. 13.

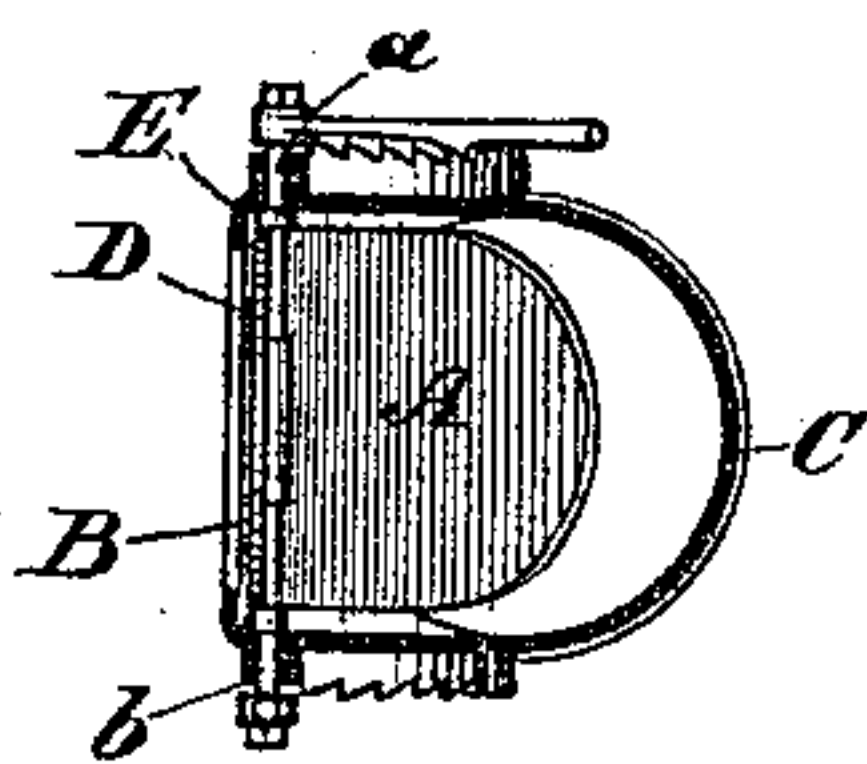


Fig. 14.

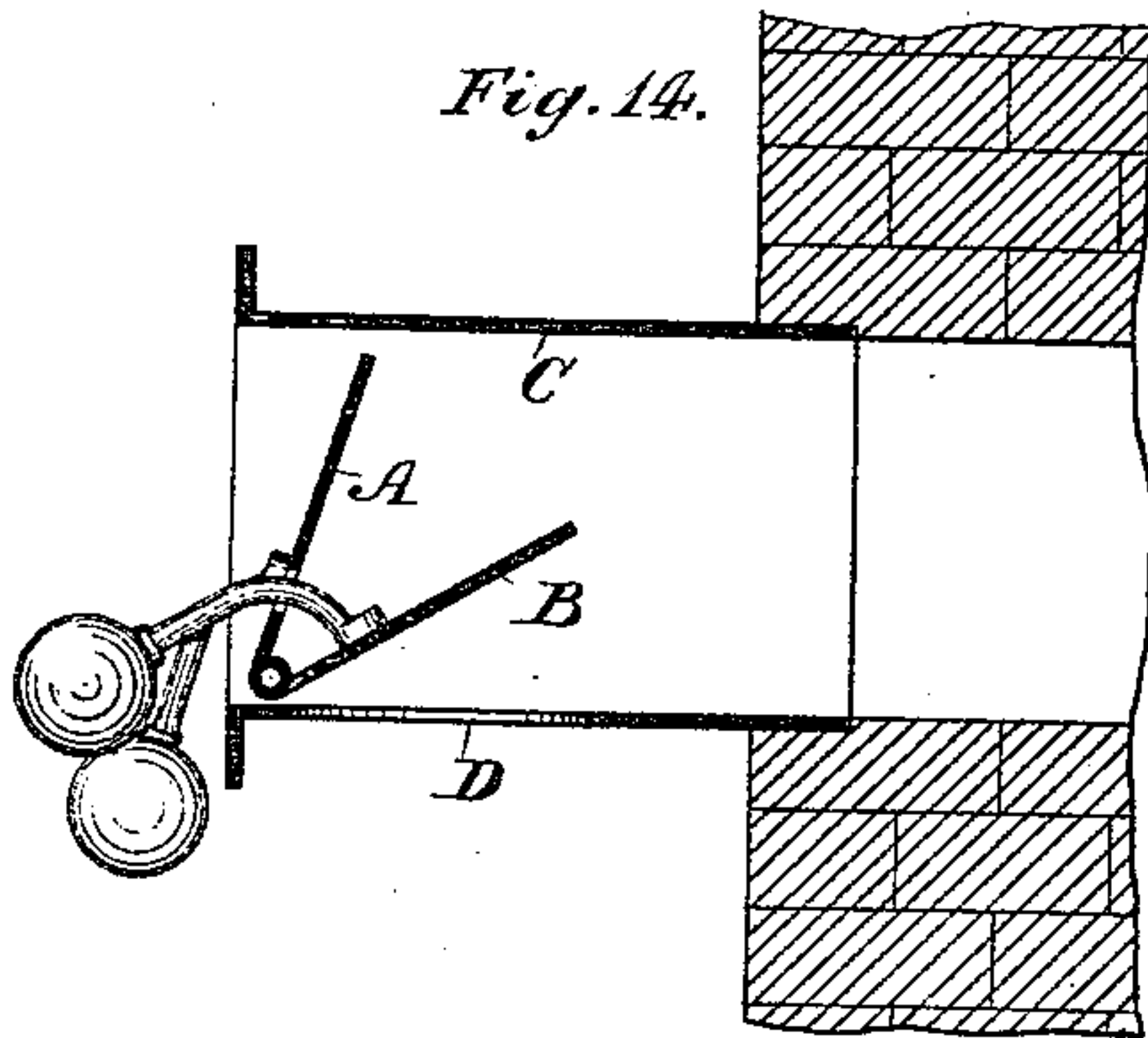
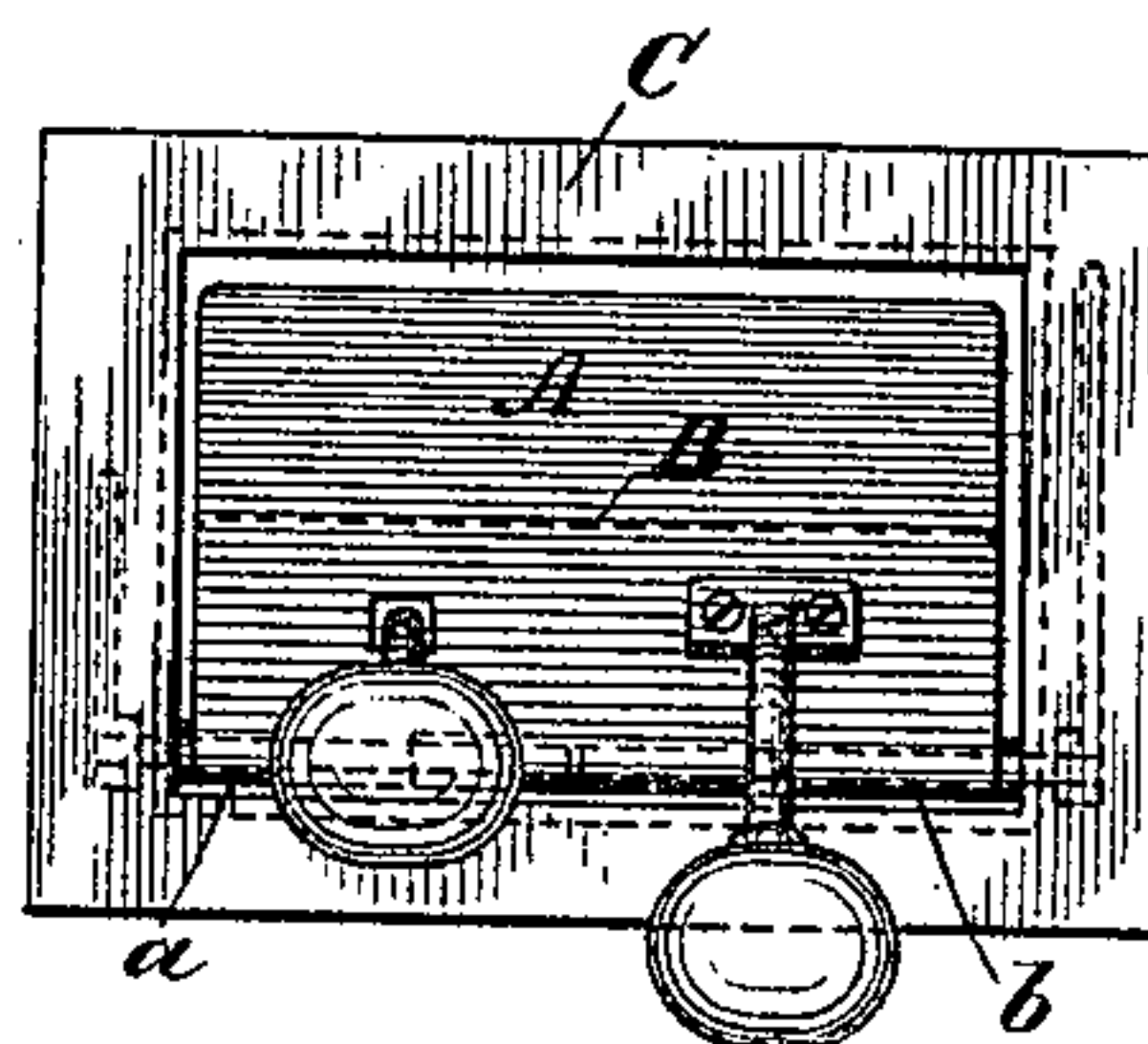


Fig. 15.



Witnesses:
M. W. Richards
E. L. Richards

Inventor:
James Keith
By *Richardson*
Attorneys.

UNITED STATES PATENT OFFICE.

JAMES KEITH, OF LONDON, ENGLAND.

DAMPER FOR CHIMNEY-FLUES.

SPECIFICATION forming part of Letters Patent No. 440,229, dated November 11, 1890.

Application filed June 17, 1890. Serial No. 355,749. (No model.) Patented in England March 11, 1890, No. 3,809.

To all whom it may concern:

Be it known that I, JAMES KEITH, associate member Institution of Civil Engineers, a citizen of the United Kingdom of Great Britain and Ireland, residing at 57 Holborn Viaduct, in the city of London, England, have invented new and useful Improvements in Dampers for Chimney-Flues, (which have not been patented in any country except Great Britain and Ireland by Letters Patent dated the 11th day of March, 1890, No. 3,809;) and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art or manufacture to which it relates to make and use the same.

This invention relates to dampers or draft-regulators of the kind referred to and shown applied to a boiler-flue in the specification of Letters Patent of the United States No. 412,098 granted to me; and it has for its object in cases where several flues—as, for example, in ranges—communicate with one chimney to provide for closing simultaneously both the outlet for smoke or heated gases and the ingress of air to any of the flues, so as not to interfere with the draft through other flues of the range. To that end the hinged or pivoted flap, which, as described in the specification above referred to, serves when tilted to close or partially close the outlet-flue for gases, or the orifice for indraft of air is under the present invention duplicated, two such flaps or plates being fitted on the same hinge or pivot-pin.

In the accompanying drawings, Figures 1 and 2 are respectively side and front views showing the device applied to a horizontal flue, and Figs. 3 and 4 like views showing it applied to a vertical flue, such as that of a cooking-range. Figs. 5 and 6 show the device fitted to the back plate of a range, so as to be capable of being bodily removed, and Figs. 7 and 8 show a modified form of the device applied to a vertical flue. Figs. 9 and 10 are respectively a vertical and a horizontal section of the device as applied to a hot-water or other boiler or furnace flue. Figs. 11, 12, and 13 are respectively a vertical section, an end view, and a horizontal section showing the device applied to a vertical boiler or other

flue. Figs. 14 and 15 show it applied to a horizontal wall-flue.

The device in its various forms is composed of two flaps or plates A and B, pivoted within the flue-piece C in proximity to an air-inlet orifice D and adapted to be turned on their pivotal axis, so that either or both may close or partially close the flue-opening or the air-inlet or both. One of the flaps A is made fast on one length *a* of the pivot-pin and the other B on a separate length *b* of said pin, and both are independently operated by weighted hand-levers A' B'. The air-inlet orifice is, when convenient, covered by a framing E, between which and the flue-piece journal-bearings are formed for the pivot-pins. This framing may be secured to the flue-piece by screws, as in Figs. 3 and 4, or, as shown at Figs. 5 and 6, it may be fitted to slip into its place and be held by snugs *e* on the flue-plate F, engaging projections *e'* on the framing E, thus permitting of the framing and damper device being bodily removed and access to the flue obtained for cleaning, either upward or downward.

The levers, spindles, or flaps may be held in any position by the binding down of the outside journals of the spindles by set-screws or nuts and bolts on the loose cover or flange piece E, forming one-half of the said journals, as indicated at Figs. 3 and 4, or by clamps G, as shown at Figs. 1 and 2, or by segmental ratchets, as shown at Figs. 5 and 6 and Figs. 9 to 13, or by weighted arms, as indicated at Figs. 14 and 15, or by any frictional devices. By fitting the flaps in a recessed frame E in front of the flue, as shown at Figs. 7 and 8, they may be tilted to close or partially close the flue, or still further tilted, as indicated by dotted lines in Fig. 7, to leave the flue open and enable a brush to be pushed, either upward or downward, through the air-inlet to clean the flue.

By the arrangements described both flaps may, in ordinary circumstances, be operated in unison, in which case they lie close together like a single plate, and when the draft of an adjoining flue might be affected by the opening of the air-inlet orifice on closing or partially closing the flaps the rear flap alone is used to serve as a damper, and the front flap can be drawn or moved forward by hand

to close the air-inlet opening more or less, as the case may require, the rear flap A thus forming a damper, while the front flap B forms an air-register.

5 The improved device serves not only as a damper and air register or ventilator, but also as a cleaning-door for giving access to the flue, and is applicable to ranges, stove-pipes, and other flues.

10 Having now described the invention, what I desire to secure by Letters Patent is—

15 1. A combined damper, air-register, and cleaning-door for flues, composed of two plates or flaps pivoted on the same axis within a flue-piece and adapted to close or partially close either the flue or air-inlet or both, substantially as described.

2. The combination, with a stove-pipe or other flue, of a duplex damper composed of

two plates or flaps pivoted on the same axis 20 in close proximity to an air-inlet in the flue, substantially as and for the purpose set forth.

3. The combination of a flue-piece having an air-inlet orifice, two flaps pivoted on the same axis therein and at the edge of said in- 25 let, and handles or like means for operating said flaps together or separately, substantially as described.

In witness whereof I have hereunto set my hand and seal this 10th day of April, 1890.

JAMES KEITH. [L. S.]

Witnesses:

WALLACE FAIRWEATHER, C. E.,
Fel. Inst. Patent Agents, 62 St. Vincent Street,
Glasgow.

GEORGE ALLAN KEITH,
Manager High St. Foundry, Arbroath.