

(No Model.)

2 Sheets—Sheet 1.

A. L. GOODENOW.

DAMPER

No. 336,228.

Patented Feb. 16, 1886.

Fig. 1.

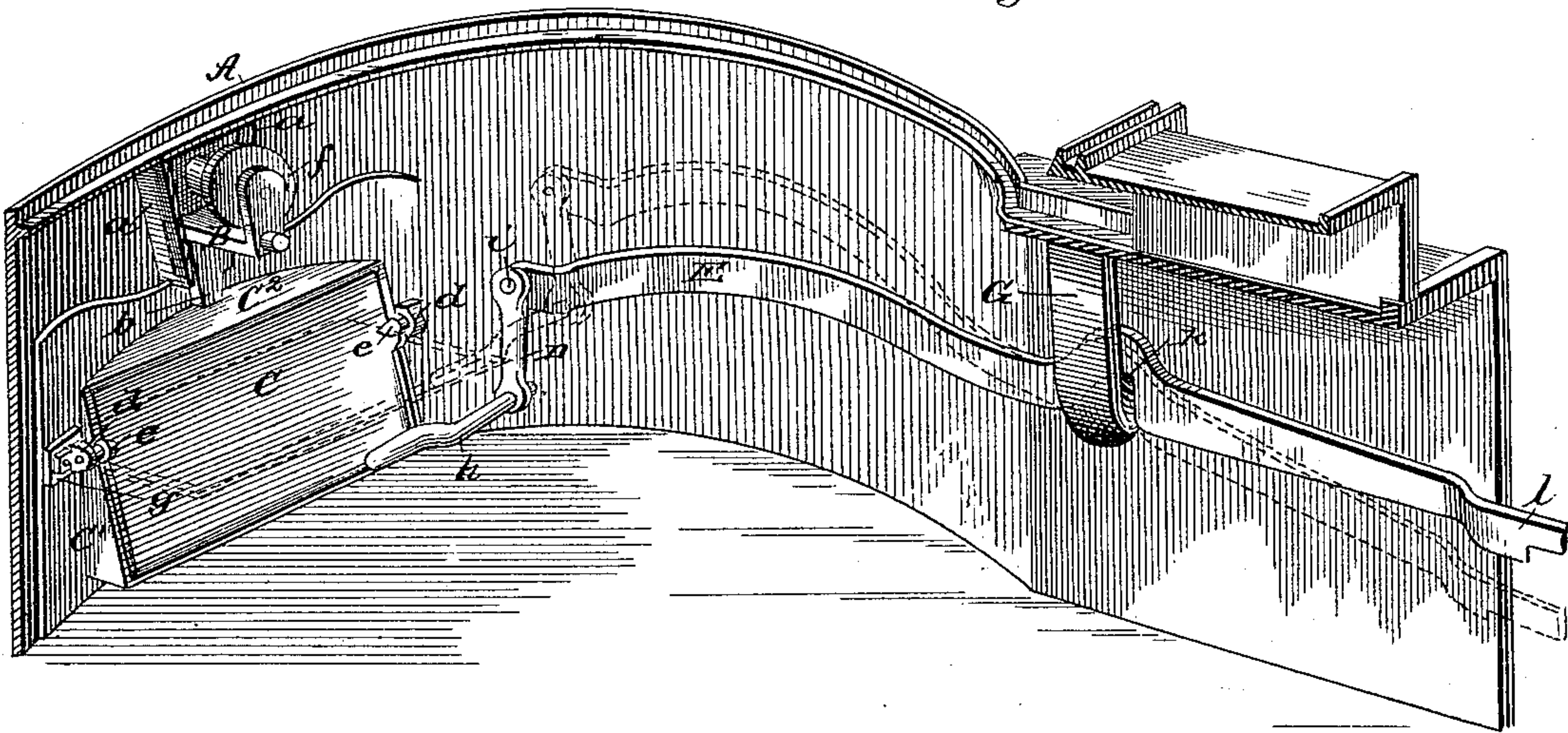
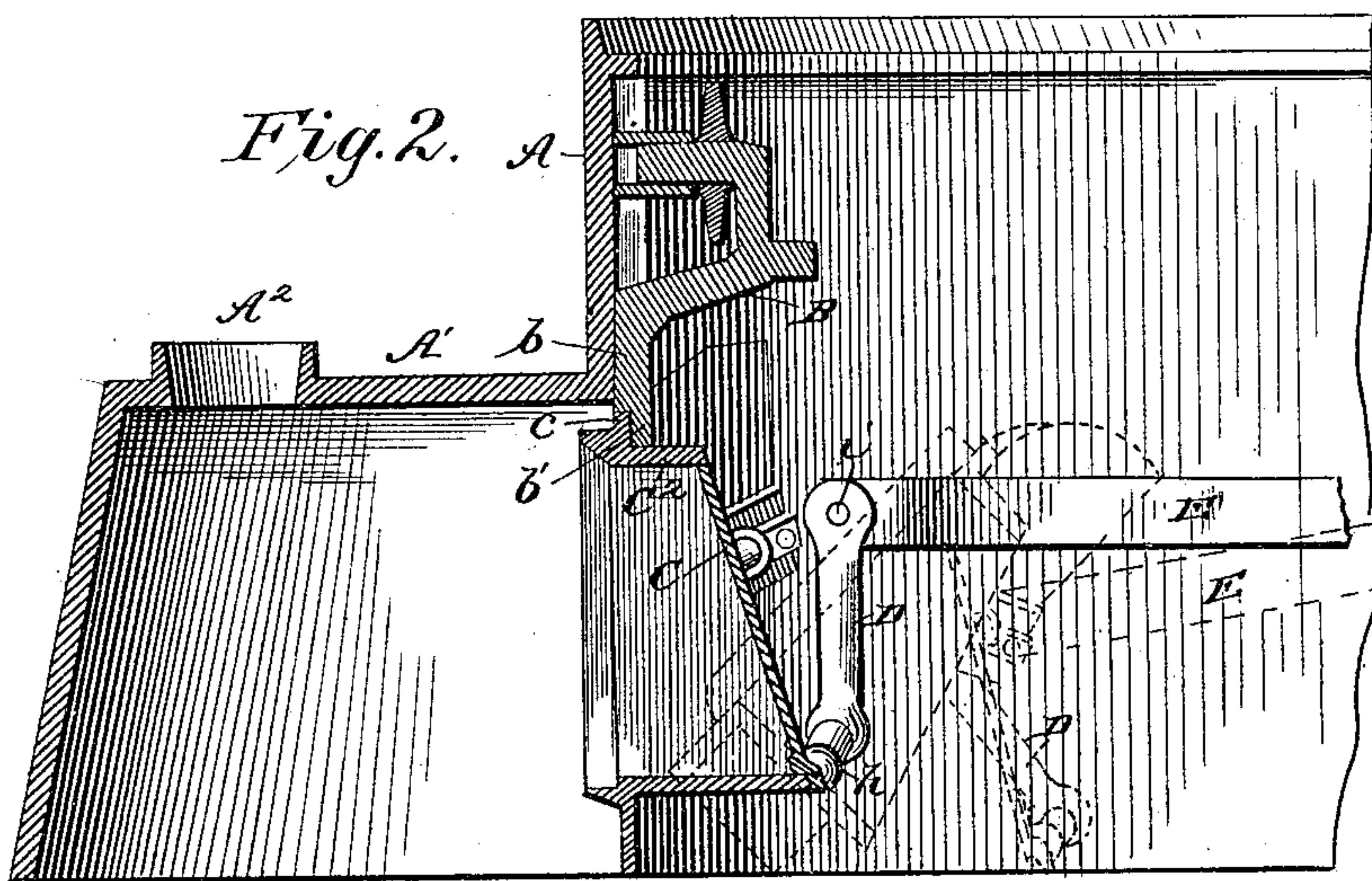


Fig. 2.



WITNESSES:

Med. L. Dietrich
Newton Lovejoy

INVENTOR.

Albert L. Goodenow
by W. Johnston
ATTORNEYS.

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Fig. 3.

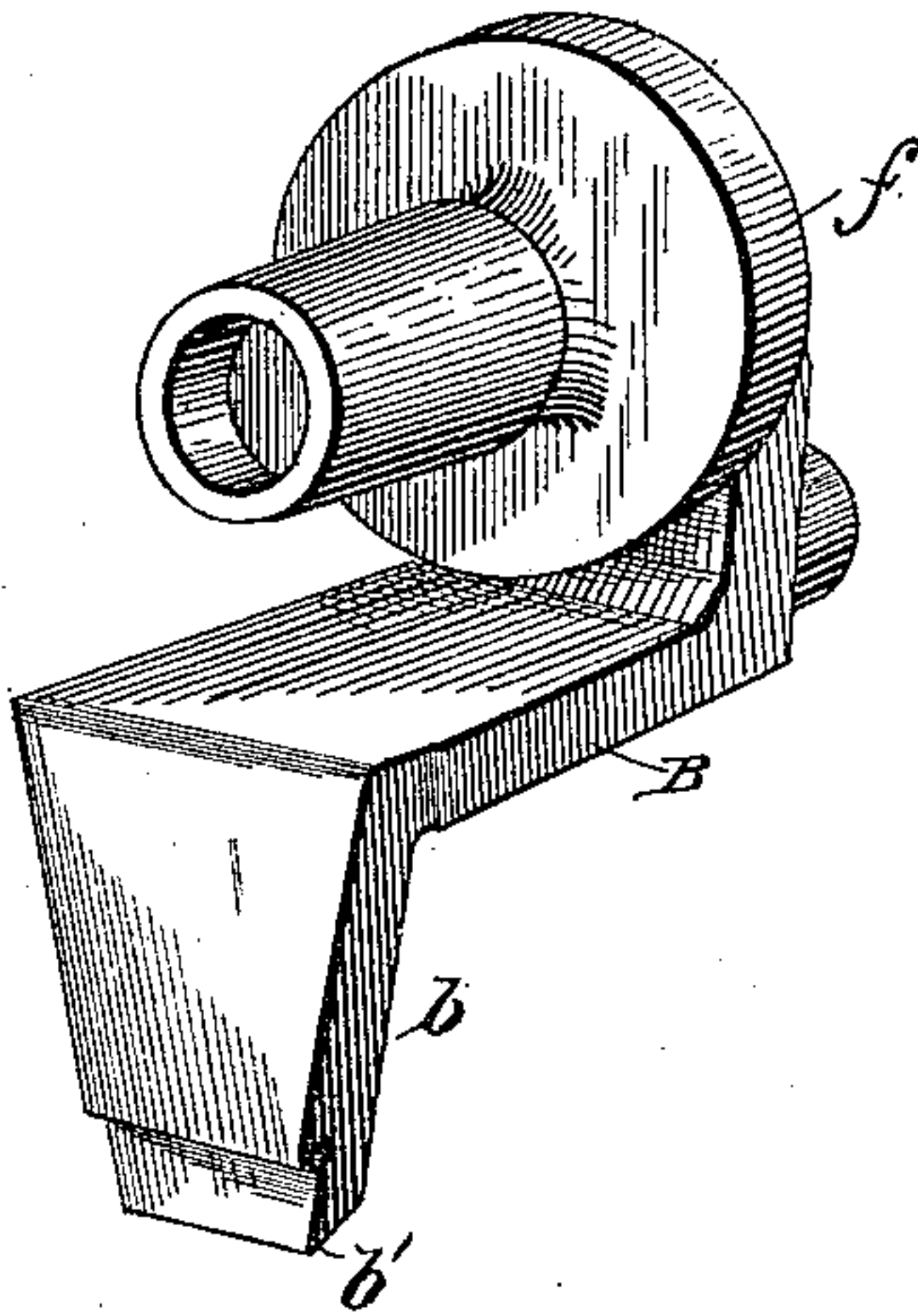


Fig. 4.

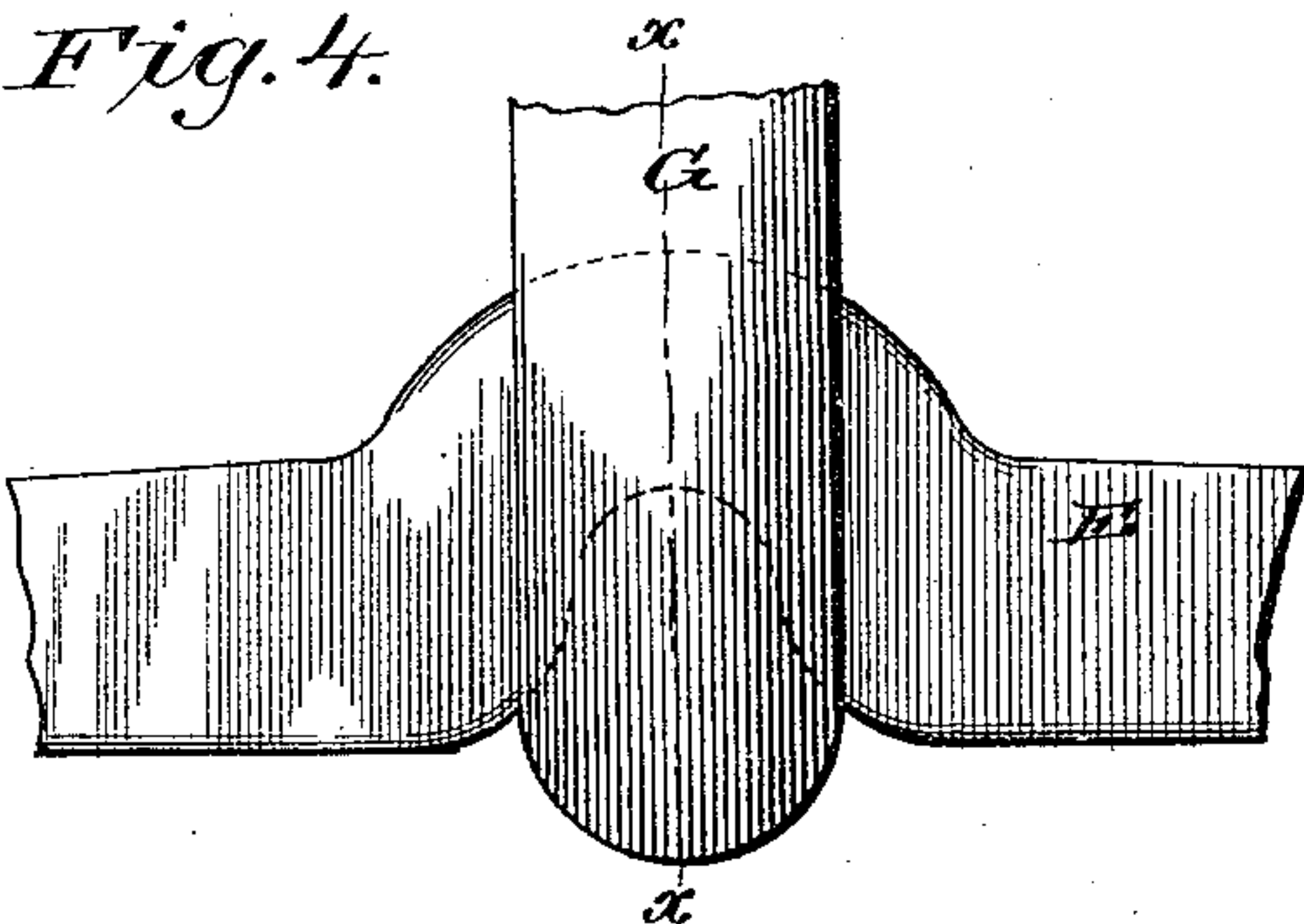


Fig. 5.

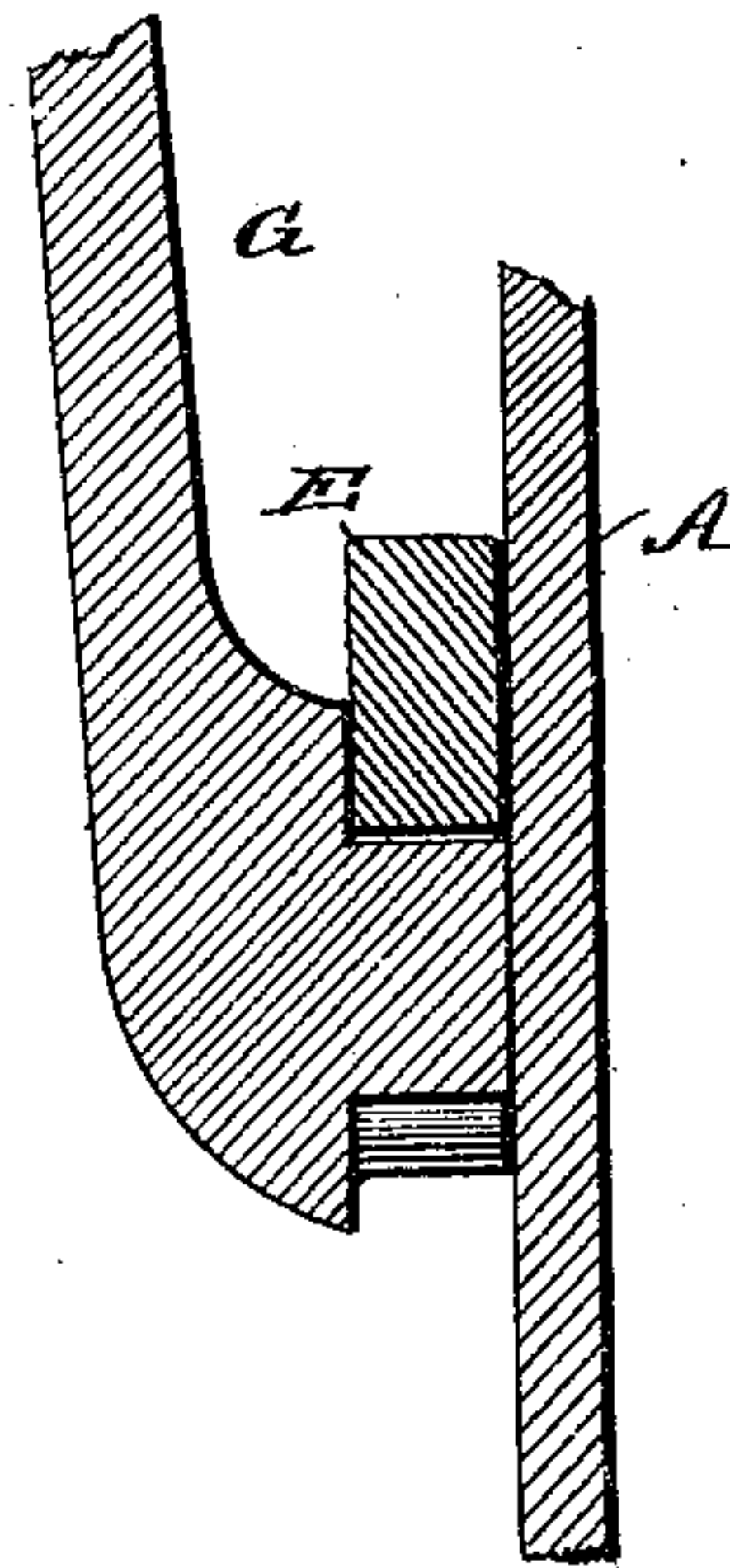
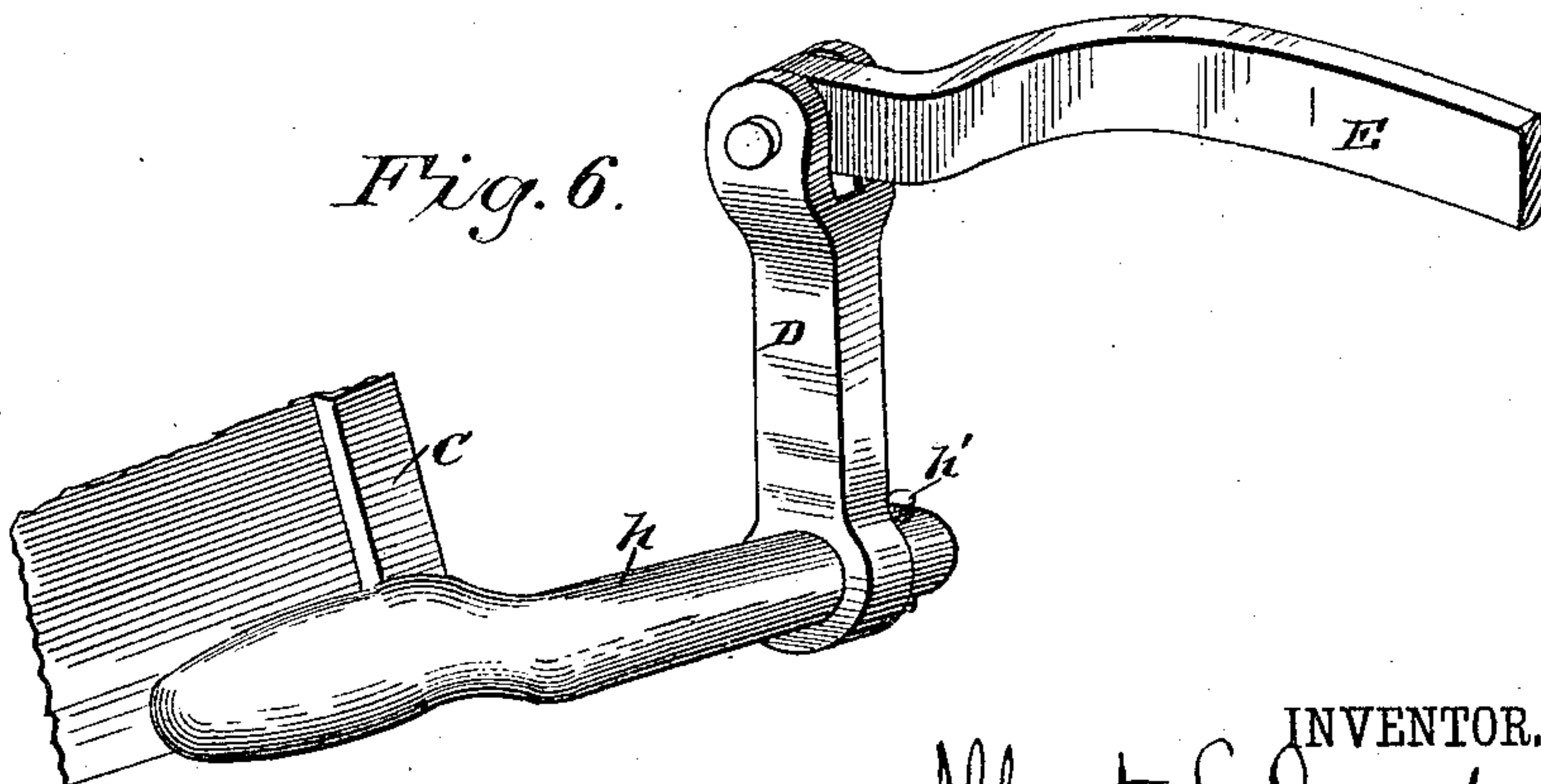


Fig. 6.



WITNESSES:

Fred. H. Dieterich
Newton Lovejoy

INVENTOR.

Albert L. Goodenow
by *W. Johnston*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALBERT L. GOODENOW, OF UTICA, NEW YORK.

DAMPER.

SPECIFICATION forming part of Letters Patent No. 336,228, dated February 16, 1886.

Application filed August 6, 1885. Serial No. 173,882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT L. GOODENOW, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Dampers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in dampers for furnaces; and it consists in a furnace-base provided at the rear with an opening leading to the radiator-flue and a removable damper for opening and closing said opening.

It further consists in novel means for operating said damper; and finally consists in novel means for retaining the damper in position.

The construction of these several parts is illustrated in the accompanying drawings, and their operation will be fully set forth in the specification.

In the drawings, Figure 1 is a perspective view, partly in section, of a portion of the furnace-base, showing the damper and means for operating it. Fig. 2 is a vertical section of same; Fig. 3, a detail perspective view of the base-bracket which holds the damper in position; Fig. 4, a plan view of the actuating-lever and its support; Fig. 5, a section on the line *x x*, Fig. 4, and Fig. 6 a detail perspective view of a portion of the actuating-lever and its attachment to the damper.

In the drawings, the furnace-base A has an opening leading to the rear part, A', which communicates with the flue to the dome or radiators. This opening is closed by a damper, C, operated from the front of the furnace. The damper, seated in a casing, is removably attached to the furnace, the lower edge of said casing resting on the bottom of the base-piece A. This base-piece is provided with two flanges, *a*, located above the center of the damper-opening, and do not differ materially from those shown and claimed in another application filed simultaneously with this application.

The damper-casing consists, essentially, of the inclined sides C', the top C², and a bottom projecting outwardly, as shown in Fig. 1; and the casing is provided with a flange projecting from one or more sides of the casing, as desired.

On each side C' there is a bearing or seat, *d*, attached to a plate, *g*, which is here shown as attached to and forming a part of the casing; but it may be made integral with the interior surface of the furnace. In these seats the damper-pivots *e* are inserted and the same permitted to turn therein.

The damper-casing is held in its erect position as follows: A grate-bracket, B, having an arm, *b*, is slipped into the guides *a*, and at its lower end is provided with a shoulder, *b'*, which engages with the projecting flange *c* on the top and rear of the top portion, C², and thus prevents the damper falling forward. At the lower end of the damper C is a bar or rod, *h*, which extends outwardly to one side. To this rod I attach the actuating mechanism. This mechanism consists of a long horizontal lever, E, bent or curved at its inner end to correspond with the curvature of the furnace-base. This lever is pivoted at *i* to a vertical arm, D, whose lower end engages with the rod *h*. In order to support and permit a lifting movement of the lever, it is recessed at a point, *k*, on its straight portion, which recess rests upon an arm, *s*, of a bracket, G, secured to the side of the furnace, the outer end, *l*, of the lever E passing into the ash-pit to a point near the door, so as to be easily accessible when desired for use. The rollers or wheels *f* support the grate, as in my other application before referred to. It will thus be seen that the damper and operating mechanism are below the grate, and not affected in any way by the rotary movement or dumping of said grate into the ash-pit, as the actuating mechanism is near one side of the furnace. The main object of the damper, located as shown, is to provide a passage-way to the flues for the ashes, dust, smoke, &c., when the furnace-grate is being rotated, and the dust and ashes thus prevented from finding an exit in the front of the furnace.

To place the several parts in position, the casing is first put in place in front of the opening leading to the part A'. The bracket B is then placed within the guides *a* and lowered into position, so as to hold the casing up. The lever E is then inserted between the side of the furnace and bracket G, until the recess *k* comes over the seats, when it is dropped into place thereon. The arm D is then pivoted to the le-

ver and slipped on the end of rod *h*, and keyed in place by a suitable key or pin, *h'*. The outer end of the lever can now be depressed, and this raises the inner end and swings forward the arm *D* and the damper *C*, thus opening it, as shown in dotted lines, Figs. 1 and 2.

While open the grate can be cleared of ashes, and the dust, by means of the draft created, find an exit into the smoke-flue.

10 Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a furnace having a flue-opening in a wall thereof, of a damper-casing fitting such opening and having a projecting flange, and a bracket removably connected to said wall and extending over the said flange, as and for the purpose set forth.

2. The combination, with a furnace having a flue-opening in a wall thereof, of a damper-casing having a top, bottom, and two inclined sides and a projecting flange, and a bracket removably attached to said wall and extending over said flange, substantially as and for the purpose set forth.

25 3. The combination, with a furnace having a flue-opening in a wall thereof, of a damper-casing having a top, bottom, and two inclined sides, a damper pivoted in said casing, and a

bracket removably attached to said wall and engaging said casing, substantially as and for the purpose described. 30

4. The combination, with a damper in the ash-pit of a furnace, of a pivoted actuating-lever, the inner end of which is bent to conform to the curvature of the furnace-base and pivotally attached to an arm secured to a rod on the damper-door, substantially as and for the purpose set forth. 35

5. The combination, with a furnace-damper, of an actuating-lever pivotally secured thereto, said lever having a recess adapted to engage with a support secured to one side of the interior of the wall of the fire-box, substantially as and for the purpose set forth. 40

6. The combination, with a furnace-base, the smoke-exit chamber, a damper in the ash-pit, and an actuating-lever therefor, of a bracket, *G*, secured to said base and having a pivot-seat for said lever, substantially as and for the purpose set forth. 45

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT L. GOODENOW.

Witnesses:

E. J. UNDERWOOD,
NEWTON LOVEJOY.