

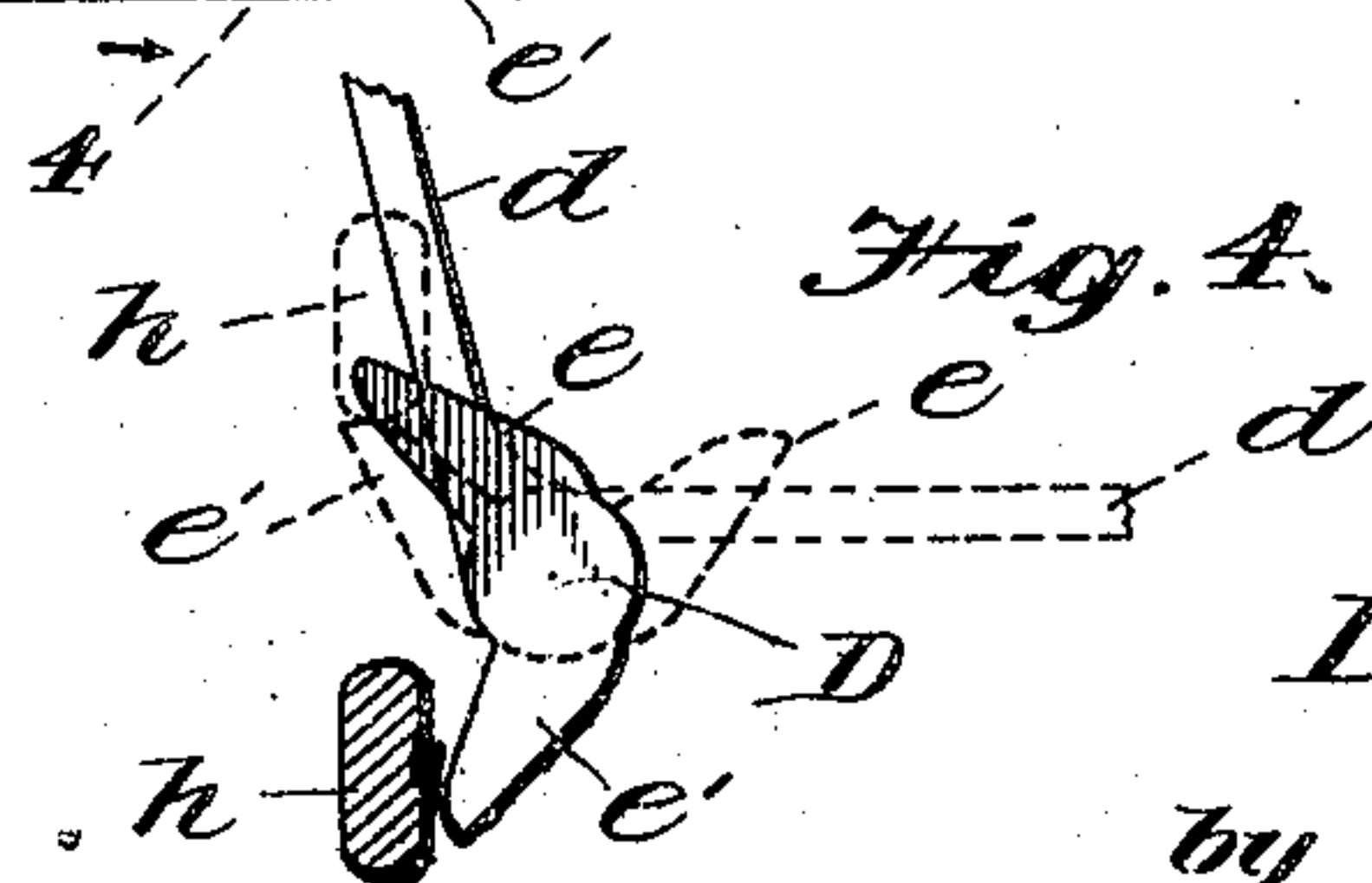
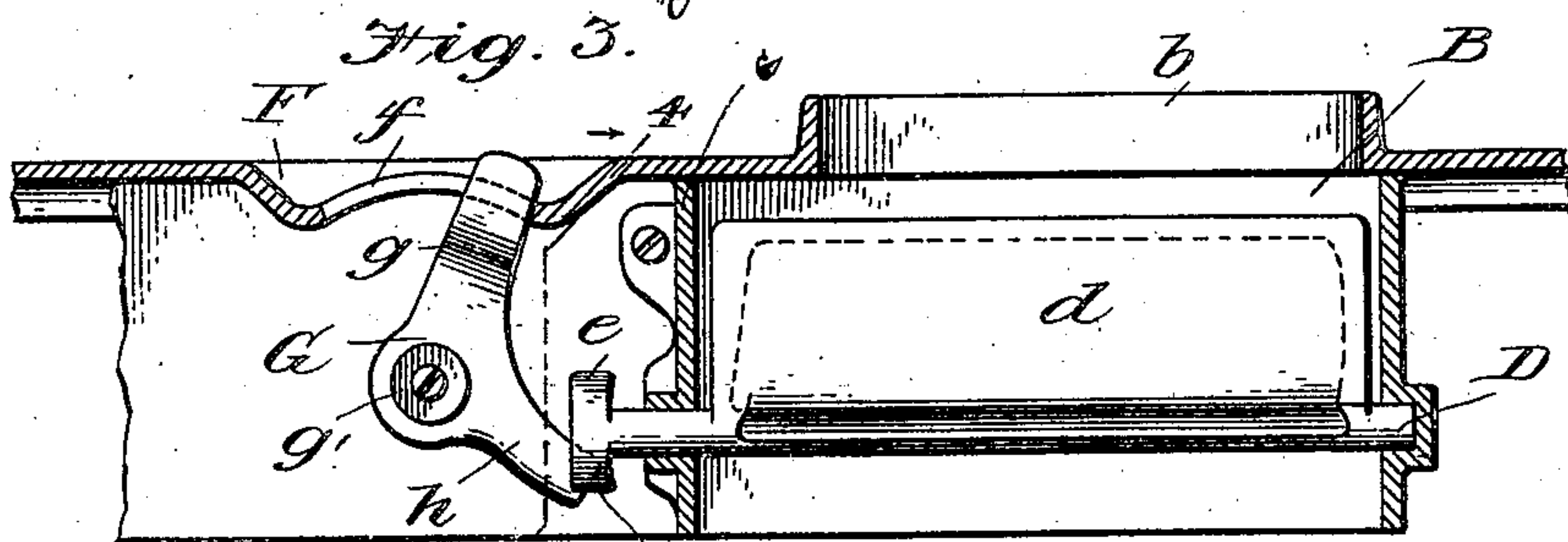
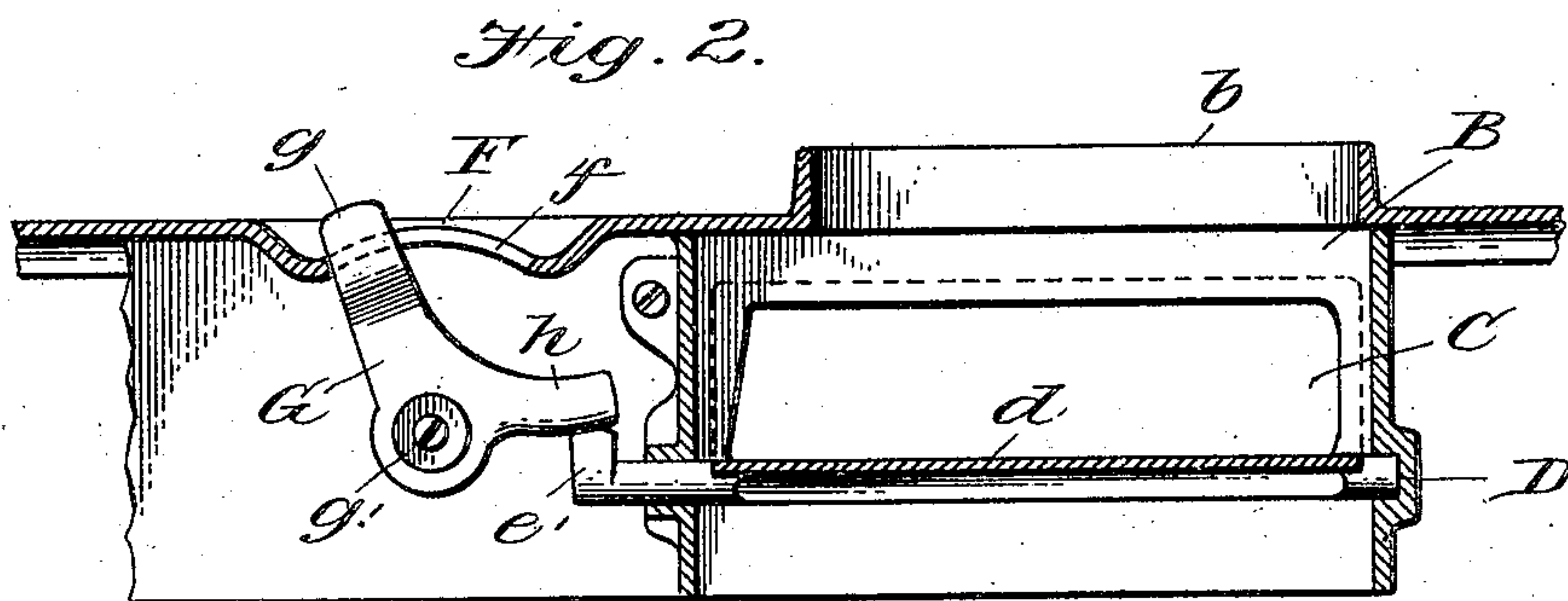
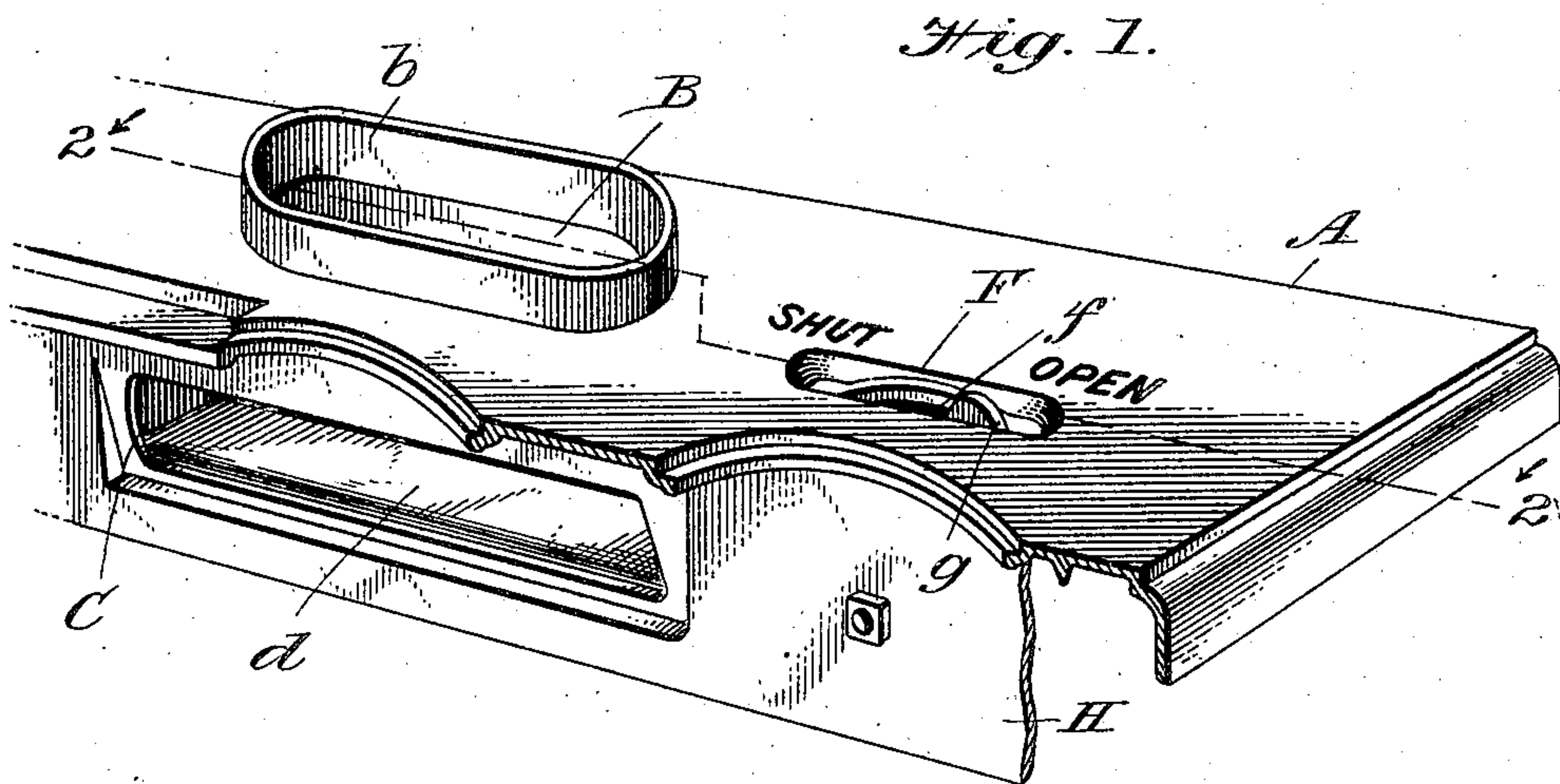
No. 846,821.

PATENTED MAR. 12, 1907.

I. BROOKE.

DAMPER ACTUATING DEVICE FOR RANGES, &c.

APPLICATION FILED JULY 28, 1899.



Witnesses.
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UNITED STATES PATENT OFFICE.

ISAAC BROOKE, OF POTTSTOWN, PENNSYLVANIA.

DAMPER-ACTUATING DEVICE FOR RANGES, &c.

No. 846,821.

Specification of Letters Patent.

Patented March 12, 1907.

Application filed July 28, 1899. Serial No. 725,393.

To all whom it may concern:

Be it known that I, ISAAC BROOKE, of Pottstown, State of Pennsylvania, have invented certain new and useful Improve-
5 ments in Damper-Actuating Devices for Ranges, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 My invention relates to an improved form of damper-actuating device for use in stoves, ranges, &c., and consists in the construction substantially as hereinafter fully set forth.

The object of my invention is to provide a
15 simple and inexpensive device of this character which can be operated from the top of the stove.

In the accompanying drawings, which form a part of this specification, and in which
20 similar letters of reference are used to indicate similar parts, Figure 1 is a perspective view of the rear portion of a stove having my invention applied thereto. Fig. 2 is a sectional elevation of the same, taken about
25 on the line 2 2 of Fig. 1 looking in the direction of the arrows, the damper being shown in an open position. Fig. 3 is a view similar to Fig. 2 with the exception that the damper is shown in a closed position. Fig. 4 is a detail
30 sectional elevation taken about on the line 4 4 of Fig. 3 looking in the direction of the arrows.

In the said drawings, A designates the top of the stove or range, and B the flue-chamber,
35 provided in its top with an opening *b*, which connects with the smoke-pipe.

C designates the flue-opening, which connects with the combustion-chamber of the
40 stove.

45 Journaled in the side walls of the chamber B is the damper-rod D, having formed integral therewith the damper-plate *d*, which is adapted to close the flue-opening C. One end of this damper-rod D extends through
50 the side wall *c* of the flue-chamber C and has formed on its end a pair of arms *e e'*, extending outwardly at an angle to each other, as illustrated most clearly in Fig. 4 of the drawings, each of the said arms adapted to be
acted upon by the regulating device, which will be described hereinafter.

In the top of the stove I form a depression
F, having therein a curved slotted opening *f*,
55 through which extends the arm *g* of a bell-crank lever G, the said slotted opening serv-

ing to limit the movement of the said arm *g*. The lever G is pivoted at *g'* to the rear wall H of the stove by means of a screw or other suitable pivot. The arm *h* of the bell-crank G extends outwardly at about right angles to
60 the arm *g* and travels in the path of the arms *e e'* on the inner end of the damper-rod D.

When the flue-opening C is closed, as illustrated in Fig. 3 of the drawings, the weight of the damper-plate is at the left of the axis of
65 the damper-rod D, and the arms *e e'* assume a position with their ends substantially in a vertical line, as illustrated in full lines in Fig. 4 of the drawings, and arm *h* of the bell-crank lever is thrown down, as also illustrated in
70 Fig. 3. When it is desired to open the flue, the projecting arm *g* is thrown back to the opposite side of the slot *f*, which causes the arms *h* to engage the arm *e* on the damper-rod D and turn the said rod, which throws the damper
75 past the vertical or neutral point and allows it to fall down to the position illustrated in dotted lines in Fig. 4, which opens the draft. The parts will then have assumed the position illustrated in Fig. 2 of the drawings, and
80 the arm *h* of the bell-crank G will rest above the arm *e'* of the damper-rod, as shown in dotted lines in Fig. 4, so that when the lever *g* is again operated the arm *h* will engage the arm *e'* and throw the same down, which
85 turns the damper-rod and closes the flue-opening, as illustrated in Fig. 3.

It will be seen that the arms *e e'* project only a short distance into the path of the
90 arms *h* of the bell-crank lever and that no positive connection is required between said arms and the lower arm of the bell-crank lever, the contact between the same being only for a portion of the oscillation of the
95 arms and for a distance sufficient to bring the damper-plate *d* past the natural point or dead-center in either direction. By arranging the arms in the manner shown in Fig. 4 of the drawings one of the arms is always in the
100 path of the arm *h*, and there being no pivot or other similar bearing-surface between these parts they are less liable to become stiff in their action owing to the corrosive
action of the flue-gases. Moreover, as is clearly illustrated in Fig. 4, when the arm *h* is
105 moved to the position which will throw the damper-plate upward to close the flue-opening the arm *h* passes beyond the end of the lever *e'* and prevents the damper from falling
to its horizontal position. Thus it is that
110

the arm *h* forms a locking device which will prevent any back draft from throwing the damper from its horizontal position.

At each end of the depression *F* formed in the top of the stove *I* provide the words "Shut" and "Open," respectively, so that the position of the damper will be indicated by the position of the arm *g*.

From the above description it will be seen that I have provided a very simple and inexpensive device which is positive and efficient in its operation and which can be operated from the top of the stove with very little trouble.

I do not wish to be limited to the exact construction described and illustrated, as various modifications might be made without departing from the spirit and scope of my invention.

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

1. The combination with a stove provided with a flue-opening of a damper journaled in said stove and adapted to control said flue-opening, said damper being provided with projecting arms, and an operating member pivoted to the stove and provided with a projection adapted to engage with said arms for rotating said damper in opposite directions and adapted to move one of said arms out of the path of movement of said projection, said projection at that time occupying a position in the path of movement of said arm thereby locking the damper.

2. The combination with a stove provided with a flue-opening, of a damper journaled in the said opening and provided with projecting arms, an operating member pivoted to

said stove with the axis of the pivot at right angles to the axis of the said damper and also provided with a projection adapted to engage said arms to rotate the said damper in opposite directions and to move one of said arms out of the path of the movement of said projection and the projection into the path of movement of said arm.

3. The combination with a stove provided with a flue-opening and a damper journaled in said flue-opening, of a pair of arms disposed substantially at right angles to each other and mounted on said damper, a bell-crank lever pivoted to said stove, one of the arms of the said bell-crank lever normally occupying a position between said angularly-disposed arms, but adapted to be moved beyond the end of one of said angularly-disposed arms to lock the damper.

4. The combination with a stove provided with a flue-opening, of a damper, journals for said damper, a pair of arms disposed at an angle to each other and mounted upon one of said journals, a bell-crank lever pivoted to said stove with its axis of movement at right angles to the axis of said journals, one of the projections of said bell-crank lever being adapted to move one of said arms out of the path of movement of said projection, said projection at that time occupying a position in the path of movement of said arms, thereby locking the damper.

In witness whereof I have hereunto set my hand this 18th day of July, A. D. 1899.

ISAAC BROOKE.

Witnesses:

A. J. BERNHART,
GEO. T. ARMS.