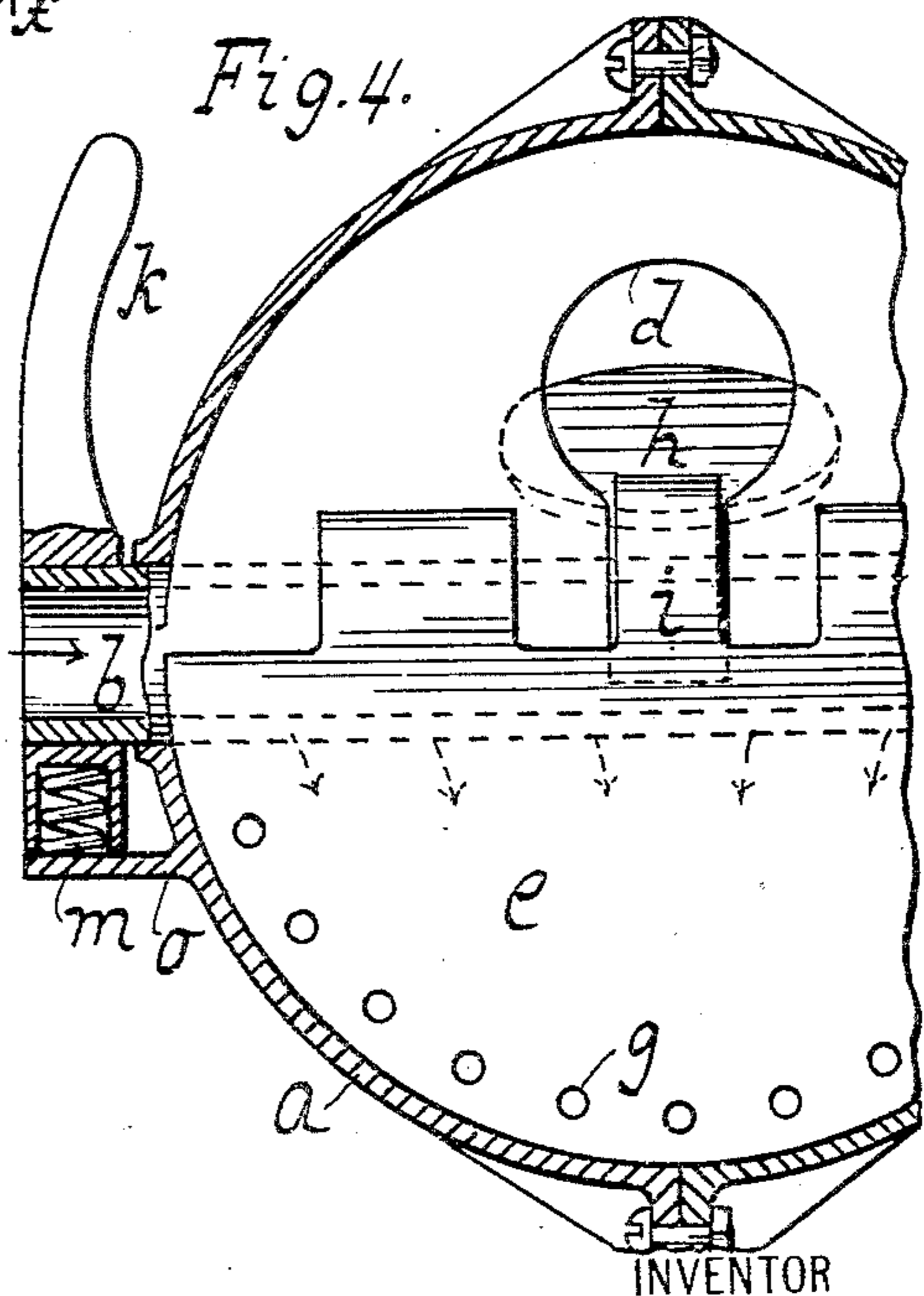
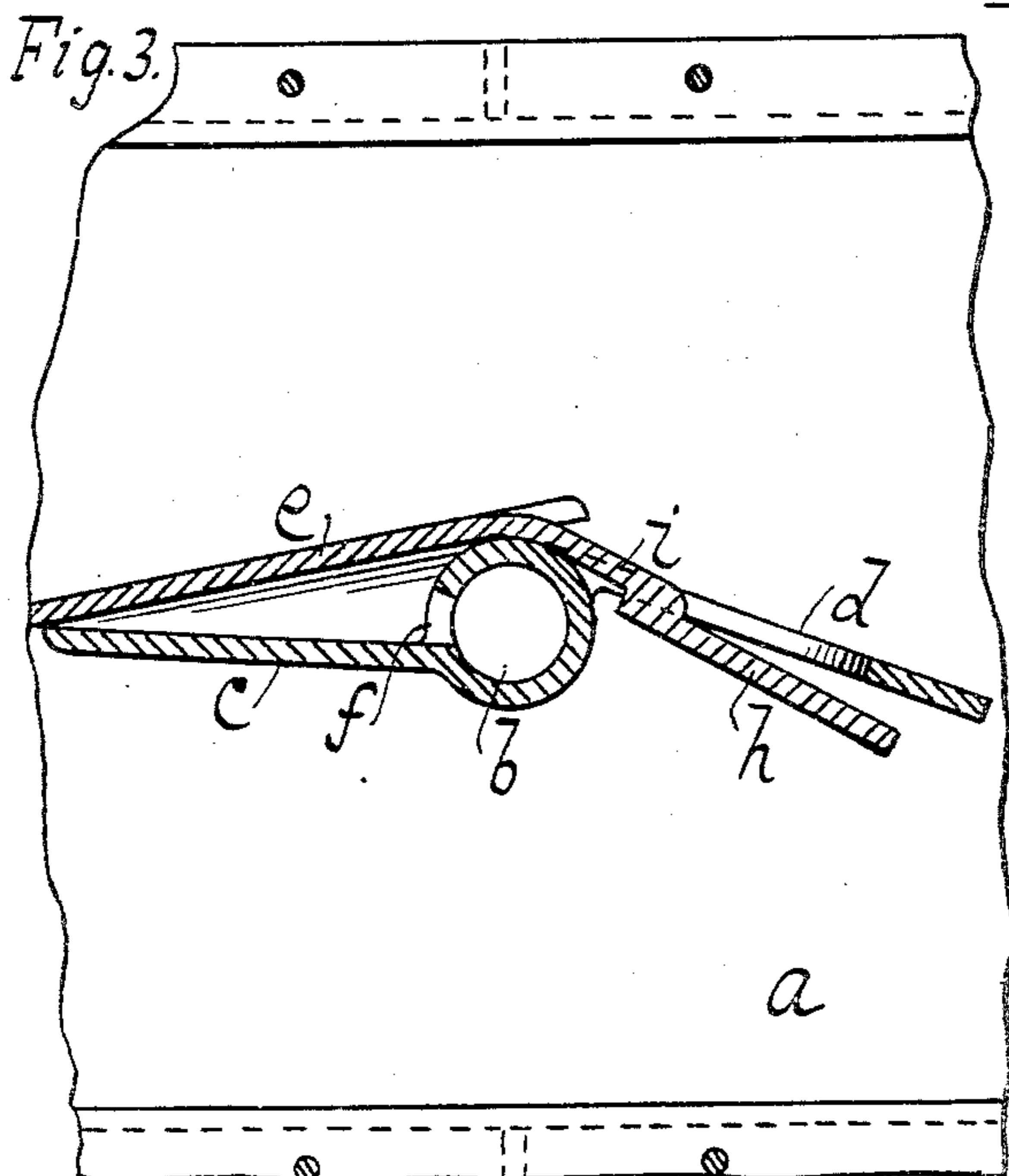
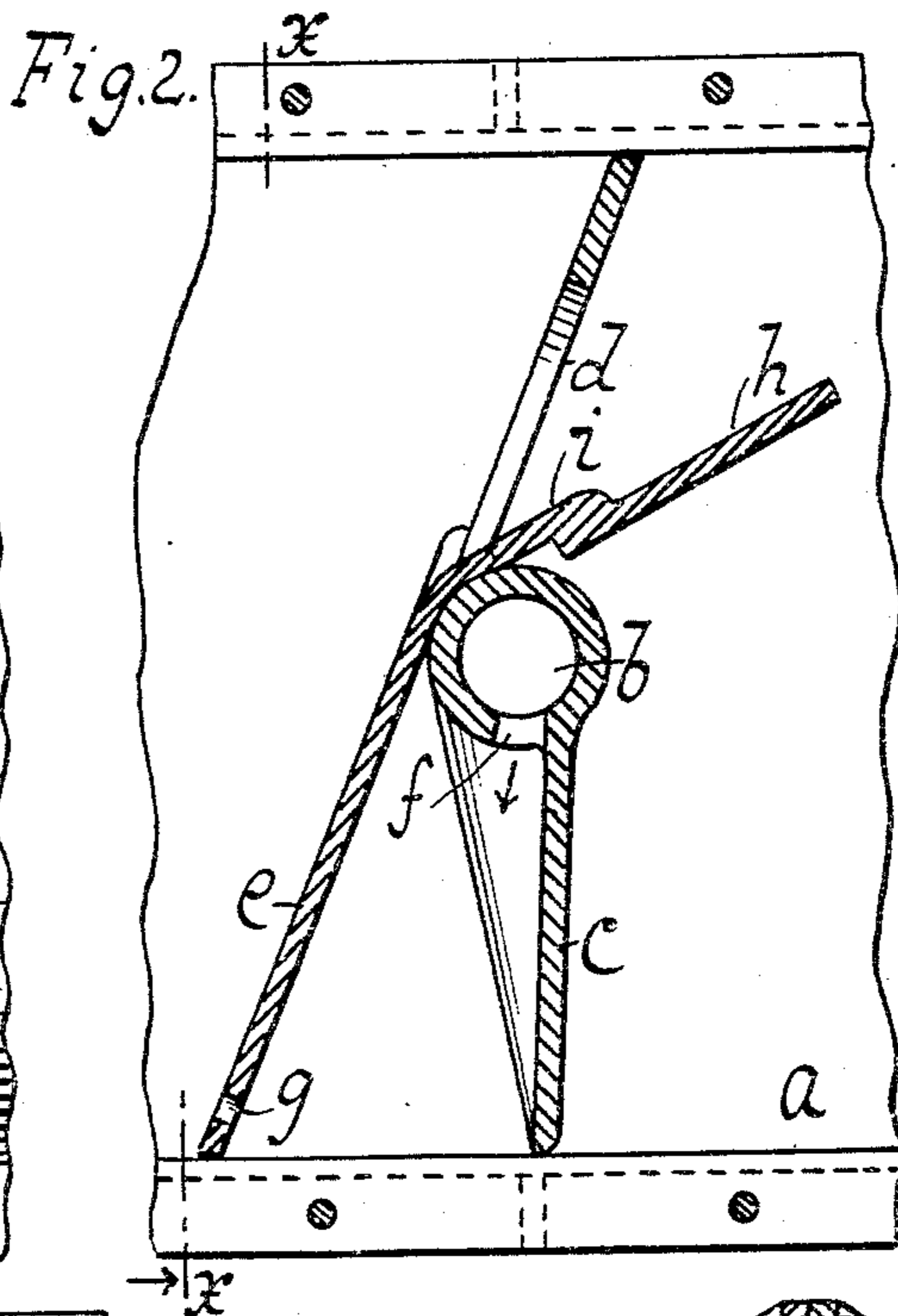
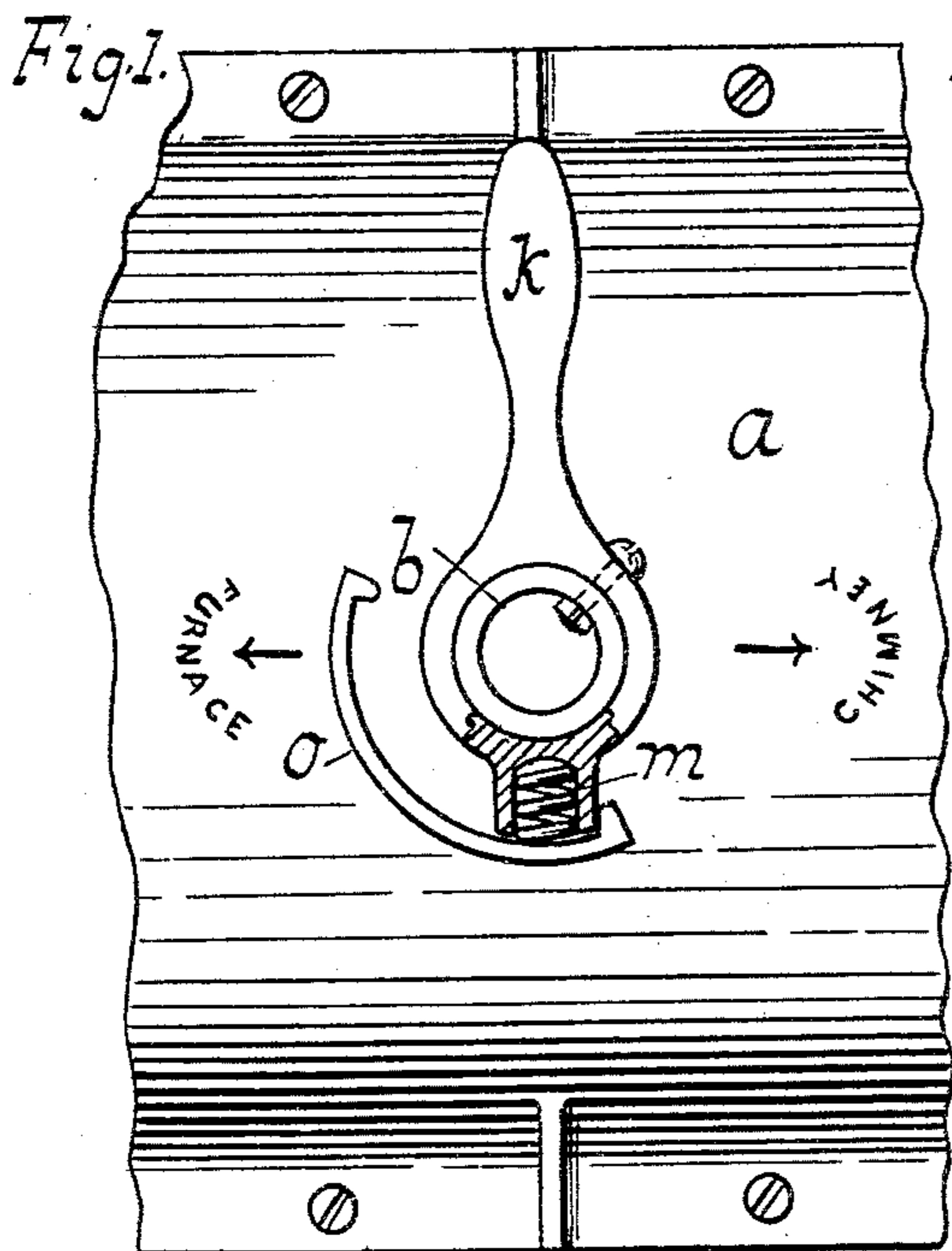


R. H. BURNS.  
SMOKE PREVENTING APPARATUS.  
APPLICATION FILED APR. 27, 1909.

936,088.

Patented Oct. 5, 1909.



WITNESSES:

*William Miller*  
*Christian Almstaedt*

INVENTOR

*Robert H. Burns*

BY

*Hanff & Warland*

ATTORNEYS

# UNITED STATES PATENT OFFICE.

ROBERT H. BURNS, OF WOODHAVEN, NEW YORK.

## SMOKE-PREVENTING APPARATUS.

936,088.

Specification of Letters Patent.

Patented Oct. 5, 1909.

Application filed April 27, 1909. Serial No. 492,465.

*To all whom it may concern:*

Be it known that I, ROBERT H. BURNS, a citizen of the United States, residing at Woodhaven, in the county of Queens and State of New York, have invented new and useful Improvements in Smoke-Preventing Apparatus, of which the following is a specification.

In my application for U. S. Letters Patent No. 617,805, issued 17 January 1899 I described smoke preventing apparatus. This invention relates to apparatus for accomplishing a like result and the invention resides in the novel features of construction set forth in the following specification and claims and illustrated in the annexed drawing in which:—

Figure 1 shows a side elevation of a flue or smoke passage made to contain this invention. Fig. 2 is a vertical central section along the flue of Fig. 1. Fig. 3 is a view like Fig. 2 showing parts in a different position. Fig. 4 is a section along the line  $xx$  of Fig. 2.

In the drawing is shown a flue  $a$  which has a portion adapted to receive or form a bearing for a journal  $b$  which carries a damper  $c$ . The journal is hollow and adapted to allow entry of air from outside the flue. The air entering by way of the journal  $b$  can pass through outlet or passage  $f$  as presently explained. The damper  $c$  has a portion provided with a passage or hole  $d$ . When the damper is swung to position as indicated in Fig. 2 the damper closes the flue except for the passage  $d$ .

An auxiliary damper  $e$  is made to swing on the main damper  $c$ . When the main damper is in the position shown in Fig. 2 the auxiliary damper stands off somewhat from the main damper. Air entering through the journal  $b$  and opening  $f$  can pass through perforations  $g$  at the edge portion of the auxiliary damper. When the main damper  $c$  is swung toward the auxiliary damper  $e$  the two dampers co-act to form a chamber. As the perforations  $g$  are beyond the periphery of the main damper  $c$  the chamber formed by the contacting or superposed dampers  $c e$  is closed and the entry of air through opening  $f$  is arrested.

The auxiliary damper  $e$  has a portion  $h$  carried by or cast on arm  $i$  from auxiliary damper  $e$ . When the main damper  $c$  starts toward the position from Fig. 2 to Fig. 3 said main damper will come to position to have the passage  $d$  closed by the portion  $h$ . The main damper has by that time swung somewhat out of contact with the flue to allow passage therethrough. When the dampers are swung to the position shown in Fig. 3 the passage through the flue both below and above the dampers is free. This will allow full passage for products of combustion through the flue. In the position shown in Fig. 3 current or draft through passage  $f$  is cut off. The chamber formed by the co-acting dampers  $c e$  being closed entry of air from  $f$  is prevented. As the dampers swing to the position shown in Fig. 2 for the auxiliary damper  $e$  as it is held back to free or uncover the damper  $c$  air from entry  $f$  can pass through perforations  $g$  in a counter direction or direction opposite to that taken by fumes or smoke traveling through the flue or to a chimney.

A handle  $k$  is suitably applied so that the damper  $c$  can be suitably swung or manipulated. The handle  $k$  has a seat for a spring  $m$ . This spring can cause suitable friction against a rim  $o$ . The dampers set by the handle are held by the friction appliance  $m$  against accidental movement and will remain in the position required. As the dampers are set to various angles or positions from Fig. 2 to Fig. 3 the draft of the flue can be modified. Such regulation enables the combustion to be controlled so as to avoid or prevent the production of smoke.

I claim:—

1. In a device of the kind described a damper adapted to form a chamber wall and an auxiliary damper made to swing on the first damper and adapted to form a second wall of the chamber said main damper having a passage therethrough, and said auxiliary damper having a closing portion adapted to co-act with the main damper to close the passage.

2. In a device of the kind described a damper adapted to fit a flue and having a passage therethrough, an auxiliary damper

made to swing on the main damper to form a chamber and having a portion adapted to close the passage through the main damper, said auxiliary damper being made to hold  
5) the closing portion clear of the main damper when the latter engages the flue wall.

In testimony whereof I have hereunto set

my hand in the presence of two subscribing witnesses.

ROBERT H. BURNS.

Witnesses:

W. C. HAUFF,

CHRISTIAN ALMSTALDT.