No. 732,698. PATENTED JULY 7, 1903.

G. BEDDOW.

COMBINED HEATING AND VENTILATING APPARATUS.

APPLICATION FILED DEC. 13, 1901.

NO MODEL.

Fig. 2.

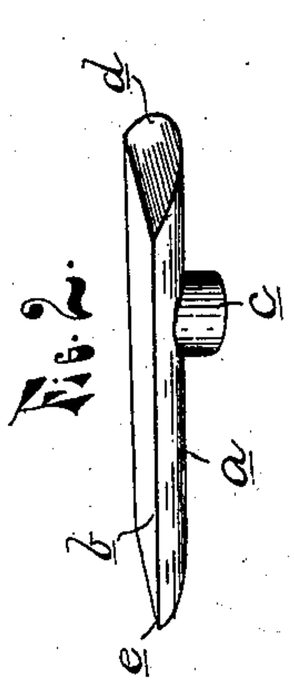
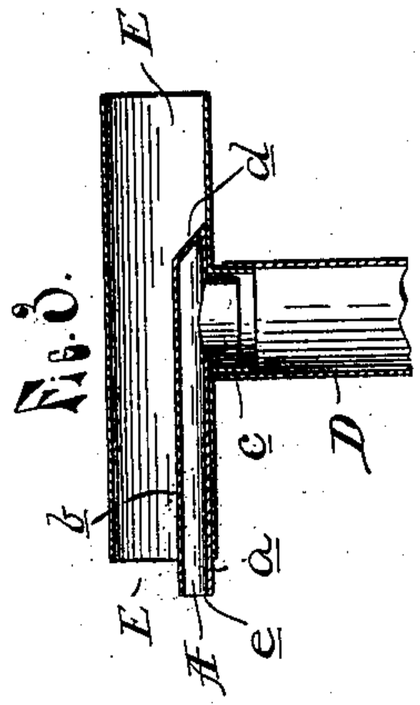


Fig. 3.



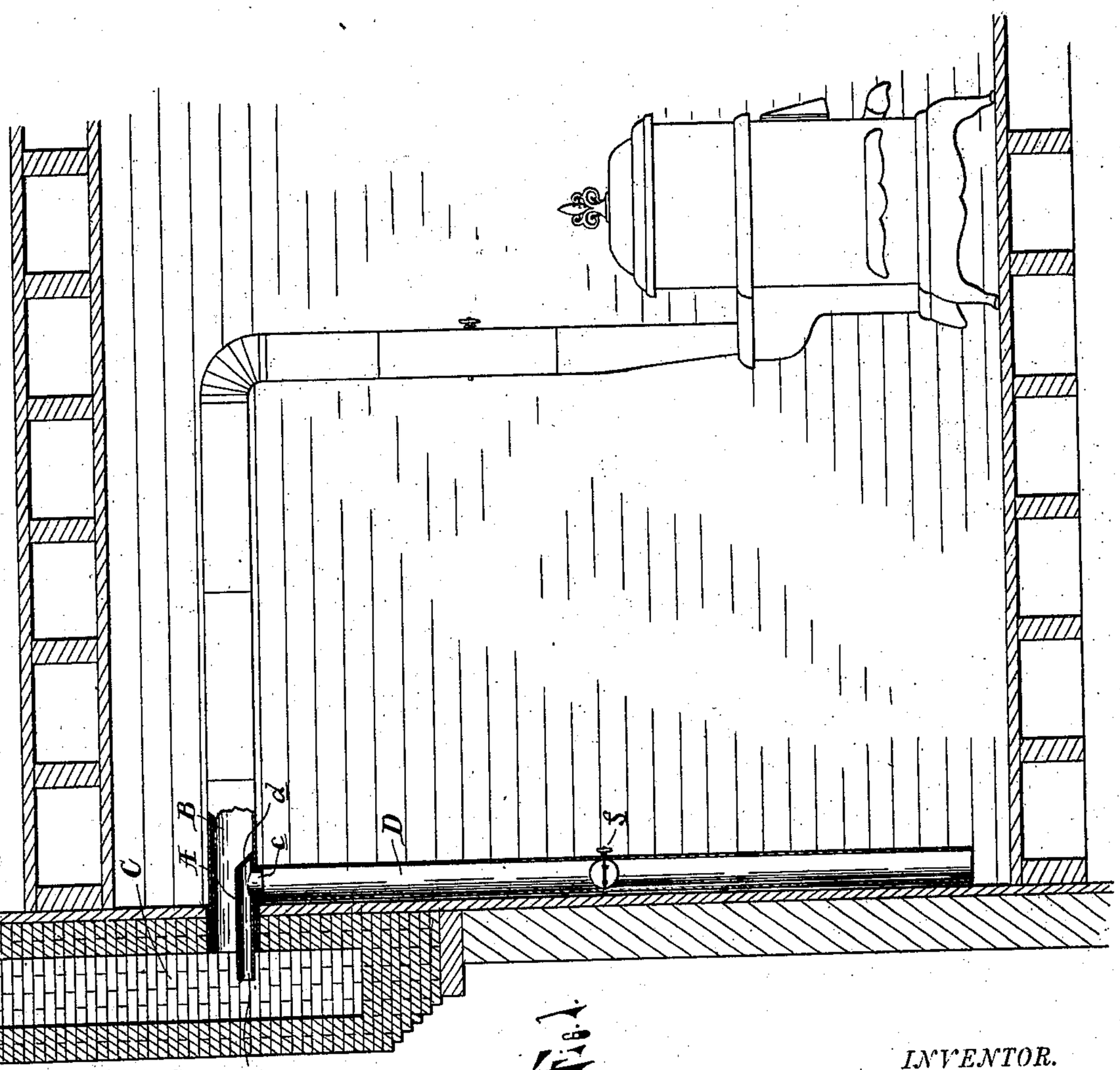


Fig. 1.

WITNESSES.

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No. 732,698. Patented July 7, 1903.

UNITED STATES PATENT OFFICE.

GEORGE BEDDOW, OF DETROIT, MICHIGAN, ASSIGNOR OF ONE-HALF TO JAMES H. BEDDOW, OF DETROIT, MICHIGAN.

COMBINED HEATING AND VENTILATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 732,698, dated July 7, 1903.

Application filed December 13, 1901. Serial No. 85,725. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BEDDOW, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in a Combined Heating and Ventilating Apparatus, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to an apparatus for drawing the cold vitiated air from a room and bringing the hot air down from the ceiling; and to this end it has for its object to provide a device for this purpose which is adapted for use in connection with a smoke-pipe leading from a stove or other heater into a chimney or other flue, which is easily applied to the pipe, requiring no change in the ordinary chimney, and which will not retard the draft of the stove, and through which the soot and smoke will not escape into the room when the air backs up into the chimney. To this end a conduit formed to fit within the lower side of the horizontal portion of the stovepipe is provided, having one end open and the other closed and provided with a branch adapted to project through an opening provided therefor in the bottom of the pipe, to which branch is connected a pipe extending to near the floor to conduct the air upward therefrom. The conduit is usually placed in the length of pipe which enters the chimney and its open end allowed to project a short distance beyond the end of the pipe into the chimney-flue to conduct the current of air issuing from said conduit to the farther side of the flue and to prevent the smoke and soot from being driven into the conduit by any temporary downdraft in the chimney; and its object is also to provide the device with certain details of construction, all as hereinafter more fully described, and particularly pointed out in the claim, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical section of a room and chimney-flue, showing a stove in position for use and also showing in section a device embodying my invention in position in the stovepipe. Fig. 2 is a perspective view of the conduit within the pipe, and Fig. 3 is a vertical section showing the conduit applied to an ordinary T-pipe.

A is a conduit formed with a semicircular bottom *a* to fit the curvature of the stovepipe B and provided with a flat top *b* and a branch *c*, which extends downward from the curved bottom *a*. One end *d* of the conduit is closed and the opposite end *e* is left open, said end *e* being extended beyond the branch *c*, so that when the conduit is in place within the length B of pipe, with the branch *c* engaging an opening provided therefor near the middle of said pipe, the end *e* will extend beyond the end of the pipe, and when both are inserted in the chimney-hole, as shown, said end *e* will project into the chimney-flue C some distance. The branch *c* is adapted to receive the end of a pipe D, which extends downward therefrom to near the floor to draw the cold and vitiated air therefrom and bring the hot air down from the ceiling, said pipe being provided with a damper *f*, so that it may be closed, if desired.

Instead of cutting a hole into the pipe B to receive the branch *c* an ordinary T-pipe E may be used, as shown in Fig. 3, and the ordinary lengths of stovepipe used instead of the pipe D. (Shown in Fig. 1.) By this construction the draft is not in the least impaired, as the conduit enters the chimney as a separate and distinct flue, having no communication whatever with the stovepipe, and projects therein some distance to deliver its air-currents near the side of the flue opposite the chimney-hole, so that they will not join the air and gases issuing from the stovepipe immediately at the entrance to the chimney-flue or within the stovepipe, and thus check their flow. The conduit A takes up but a small portion of the diameter of the stovepipe at its lower side, and so does not clog the same to retard the passage of the products of combustion, which being light follow the top of the pipe, and the open end of the conduit being narrow and projecting into the chimney-flue tends to prevent the soot from lodging therein and also prevents the soot and smoke from being driven downward into

the room through the ventilating-pipe when from some cause there is a momentary downdraft in the chimney.

This construction of ventilating apparatus may be used in connection with any pipe leading from a stove or other heater into a chimney or other flue without the necessity of changing the flue or the chimney-hole for the pipe, the only deviation from the ordinary construction being the cutting of a hole in the pipe length that enters the chimney or substituting a T length therefor. This length of pipe B or T length E with the conduit A therein may be substituted for any length of pipe in the line and the pipe D extended from there to near the floor; but I prefer for obvious reasons to substitute it for the length entering the chimney and extend the pipe D downward adjacent to the wall.

What I claim as my invention is—

A ventilating apparatus comprising a horizontal stovepipe communicating with an opening in the chimney-flue, a vertical open ventilator connected therewith and extending to a point near the floor, a damper in said pipe, and a conduit removably inserted in the horizontal pipe and having a curved bottom to fit the contour of the horizontal pipe, a flat top, a depending branch fitting loosely into the depending collar of the horizontal pipe which fits into the vertical pipe, and a closed inner end within the horizontal pipe extended beyond the vertical pipe and having a bearing on the adjacent portion of the horizontal pipe, said end being inclined, and the opposite end of said conduit being open and extended into the chimney-flue beyond the end of the horizontal pipe, said conduit being comparatively shallow whereby it occupies but a small portion of the lower part of the horizontal pipe, substantially as and for the purpose specified.

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

GEORGE BEDDOW.

Witnesses:

OTTO F. BARTHEL,

JAMES H. BEDDOW.