(No Model.)

P. J. SCHLICHT.

APPARATUS FOR PRODUCING COMBUSTION.

No. 556,283. Patented Mar. 10, 1896.

Fig. 1,

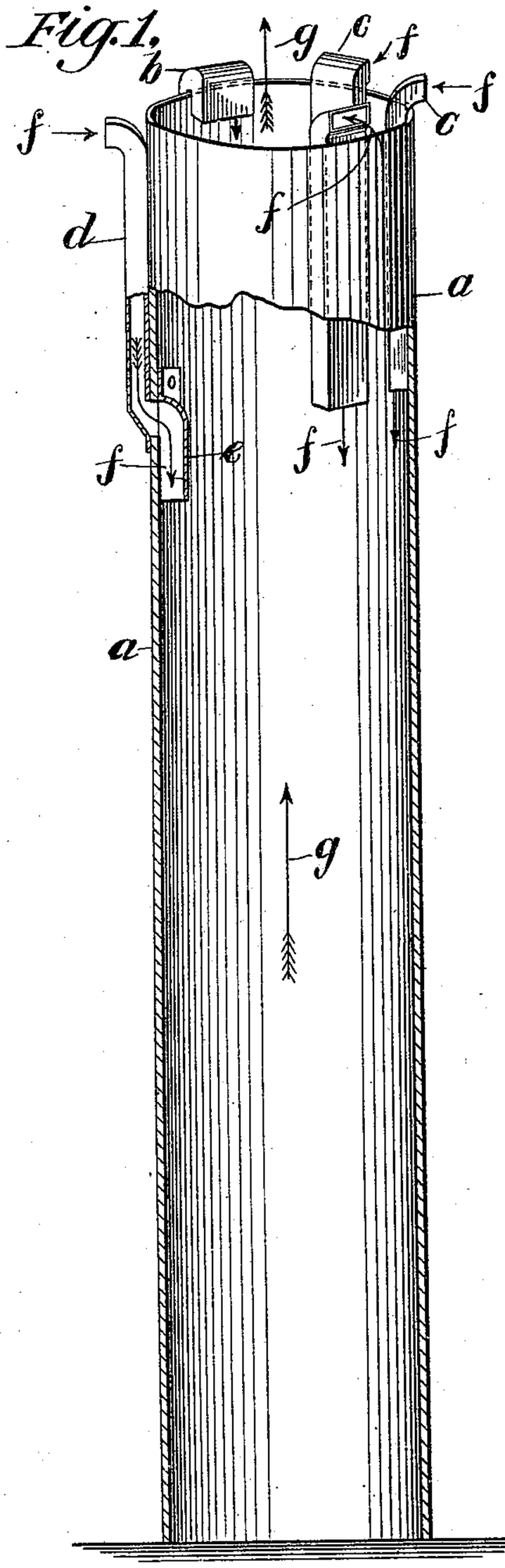


Fig. 2,

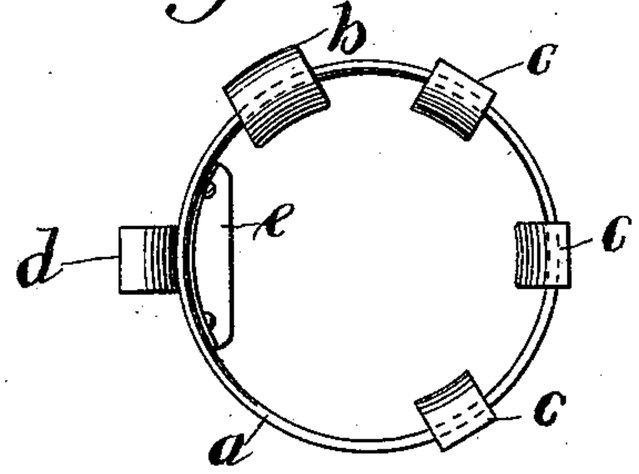
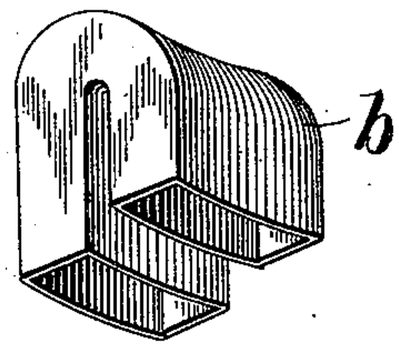


Fig. 3,



WITNESSES:

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APPARATUS FOR PRODUCING COMBUSTION.

SPECIFICATION forming part of Letters Patent No. 556,283, dated March 10, 1896.

Application filed January 14, 1896. Serial No. 575,487. (No model.)

To all whom it may concern:

Be it known that I, PAUL J. SCHLICHT, a citizen of the United States, residing at Summit, in the county of Union and State of New Jersey, have invented a new and useful Improvement in Apparatus for Producing Combustion, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, which form a part hereof.

My invention relates to means for carrying out the improved method of producing combustion described in my earlier application, Serial No. 523,782, and its object is to provide an efficient, convenient, and economical apparatus for introducing the air or other supporter of combustion into the chimney or stack and directing it toward the place of combustion, so as to cause it to flow thereto in contact with the hot products of combustion escaping therefrom.

My invention consists in the combination, with a chimney or stack or other flue through which the products of combustion escape, of an air-inlet pipe extending into the chimney or stack, through which pipe the air is introduced into the chimney or stack and by which the air is directed and caused to flow toward the place of combustion in contact with the hot products of combustion.

My invention also consists in so constructing or arranging the air-inlet pipe that it will be in contact with the wall of the chimney or stack for a substantial distance, whereby the air passing through said pipe will be heated by the heat imparted from said wall.

My invention also consists in the combination, with such a chimney or stack or flue, of an air-inlet pipe extending over the top edge of the same and down on the inside and on the outside thereof, whereby the air first ascends the outer leg or portion of the pipe and then descends the inner leg or portion thereof, being steadily raised in temperature during its passage through said pipe, and then flows to the place of combustion in contact with the hot products of combustion escaping therefrom.

My invention also consists in certain other features of construction and combinations of parts hereinafter described and claimed.

My invention is fully shown in the accompanying drawings, in which—

Figure 1 is a perspective view, partly in section, of a stack having several forms of air-inlet pipes applied thereto. Fig. 2 is a top or plan view of the same, and Fig. 3 is a perspective view of the preferred form of my improvement.

Similar letters indicate similar parts in the different figures.

a is the upper part of an ordinary metal stack. *b* is an air-inlet pipe constructed according to my preferred form. It consists of a bent pipe which is adapted to be hung upon the top of the stack, as shown in Figs. 1 and 3. If necessary, it can be fastened in position, any suitable means being employed for this purpose. The pipe has an outer leg and an inner leg adapted to rest against the wall of the stack. These legs can be made of any desired length. The air rises through the outer leg and descends through the inner leg and then flows to the place of combustion in contact with the hot products of combustion. The size of the pipe can be varied according to circumstances.

c c c are three air-inlet pipes of similar construction. They are formed at the top with horizontally-disposed ends adapted to catch the air. These pipes, as shown, extend a considerable distance within the stack, so that the air before escaping therefrom is heated to a greater or less extent indirectly by the rising products of combustion. The air enters the horizontally-disposed ends and passes down through the pipes and then flows to the place of combustion in contact with the hot products of combustion escaping therefrom. The size of these pipes can be varied according to circumstances.

d is an air-inlet pipe applied to the outside of the stack. It is made to enter or open into the latter at any desired point. Its upper end is also horizontally disposed. In this position the pipe is heated by conduction from the stack, and in return heats the air which passes through it. When the pipe enters or opens into the stack, a deflector *e* is used to give direction to the entering current of air. This deflector is in effect a continuation of the air-inlet pipe.

In the drawings, *f f* are arrows indicating the direction of the air-currents.

g g are arrows indicating the direction of the current of combustion products.

It is best to employ a number of such air-inlet pipes with a stack or chimney and to arrange them at different points, so as to supply air to every part of the combustion-chamber and secure the most extended and complete contact between the air and the combustion products. I prefer to distribute a number of such pipes at regular intervals around the wall or sides of the stack or chimney. Any suitable means may be employed for supporting the pipes in their proper positions.

Any suitable supporter of combustion may be used instead of air.

My improved apparatus is simple in construction and can be easily and economically made and applied. By using two or more pipes of suitable size the particular needs of each case can be readily supplied. The apparatus can thus be adjusted to fit any special conditions or requirements.

I do not in this application claim the deflector separately, as I have included such claims in another application, Serial No. 575,489.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with a chimney or stack of an air-inlet pipe extending into the chimney or stack and adapted to introduce a current of air and direct it toward the place of combustion, substantially as set forth.

2. The combination with a chimney or stack of an air-inlet pipe extending into the chimney or stack, and being in contact for a substantial distance with the wall of the chimney or stack and adapted to introduce a current of air and direct it toward the place of combustion, substantially as set forth.

3. The combination with a chimney or stack of an air-inlet pipe extending into the chimney or stack and over the edge of the same and adapted to introduce a current of air and direct it toward the place of combustion, substantially as set forth.

4. The combination with a chimney or stack of an air-inlet pipe passing over the top edge of the same and extending down on the inside and on the outside thereof, substantially as set forth.

5. The combination with a chimney or stack of an air-inlet pipe passing over the top edge of the same and extending down on the inside and on the outside thereof in contact with the wall of the chimney or stack, substantially as set forth.

6. The combination with a chimney or stack of two or more air-inlet pipes extending into the chimney or stack at different points and adapted to introduce currents of air and direct them toward the place of combustion, substantially as set forth.

7. The combination with a chimney or stack of the air-inlet pipe *b*, substantially as set forth.

PAUL J. SCHLICHT.

Witnesses:
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EDWIN SEGER.