July 26, 1927. 1,637,265

F. MASSON

SUCTION HEAD

Filed May 24, 1926

Fig. 1

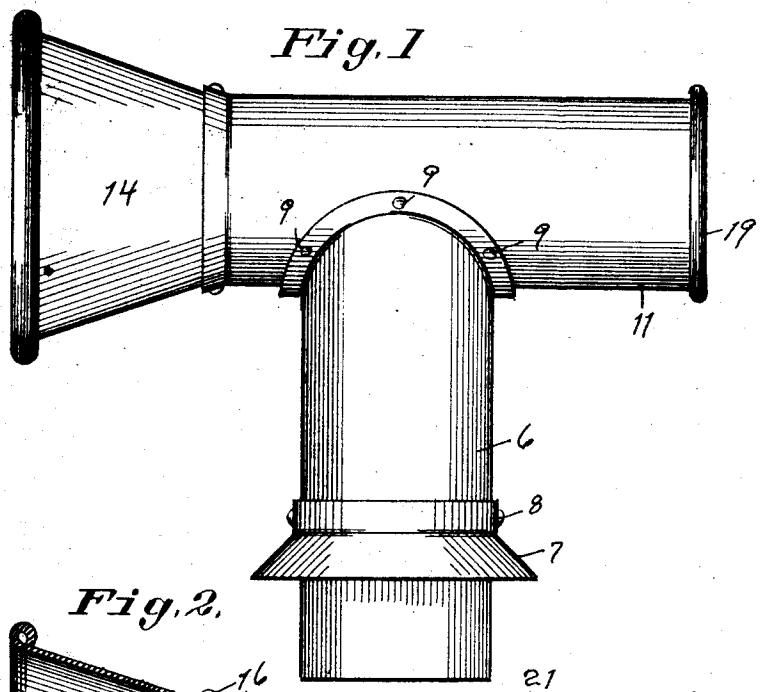
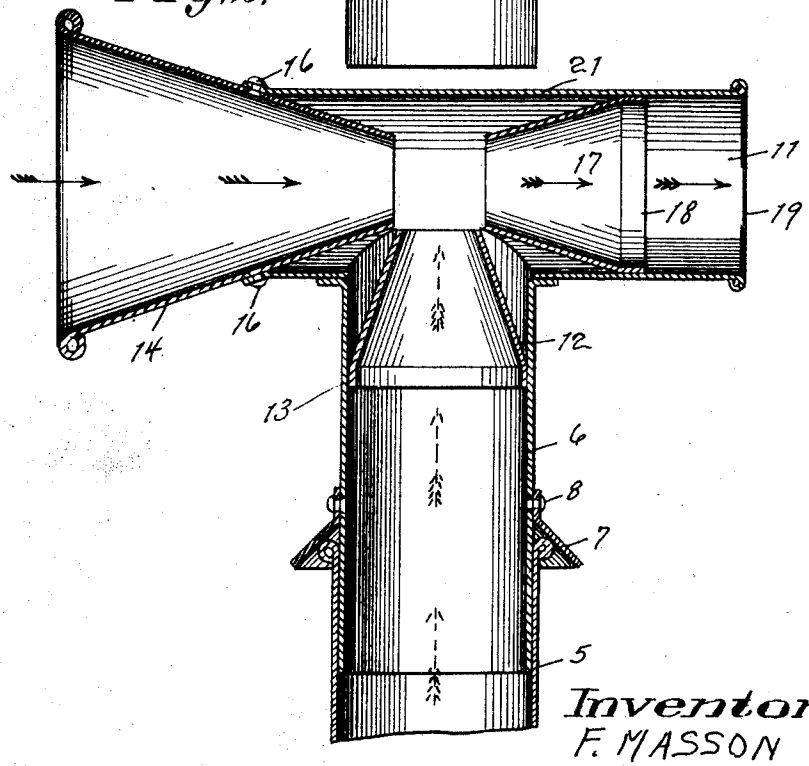


Fig. 2.



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UNITED STATES PATENT OFFICE.

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SUCTION HEAD.

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This invention relates to improvements in suction heads for ventilator pipes and the like.

The principal object of this invention is to provide means whereby a suction will be transmitted to a vertical stack adapted to draw air or smoke from a remote point.

Another object is to produce a device of this character which may be attached to the top of any pipe such as a ventilating pipe or the top of a chimney, for the purpose of increasing the draught in the pipe or chimney.

An additional object is to produce a device of this character which will be neat in appearance and, therefore, one which will not detract from the appearance of the average building.

A still further object is to produce a device which is cheap to manufacture, and therefore, economical to install.

Other objects and advantages will be apparent during the course of the following description.

In the accompanying drawings forming a part of this specification, and in which like numerals are employed to designate like parts throughout the same,

Figure 1 is a side elevation of my improved device, and

Figure 2 is a vertical cross section of Figure 1, showing the interior thereof.

In congested areas such as in cities or where one building is adjacent the other, it often occurs that a down draught will be created in a chimney or vertical pipe, due to the eddy currents produced adjacent the upper extremity of the chimney. These down draughts often prevent the proper ventilation of a building or the proper withdrawal of the smoke from the furnace or other heating plant.

I have, therefore, devised a simple mechanism which may be attached to the top of any ventilator pipe or chimney and one which will increase the draught therethrough.

In the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention, the numeral 5 designates a ventilating pipe which is adapted to extend into a building. This pipe might represent the top of a chimney, as the operation is the same in either case.

At 6, I have shown a vertically disposed pipe having a hood 7 secured thereto, as by rivets 8. This hood 7 is adapted to abut the top of the pipe 5 as shown in Figure 2. The upper end of the vertically disposed pipe 6 is riveted as at 9 to a horizontal pipe 11, with which it communicates.

A funnel-shaped member 12 is positioned within the pipe 6 and has its smaller end extended into the bore of the pipe 11, while its larger end is secured to the pipe 6 as shown at 13. An inlet funnel 14 is shown, which funnel is attached to the pipe 11 as by rivets 16. The inner end of this funnel 14 is adjacent the end of the funnel 12.

A funnel 17 is positioned within the pipe 11 so that its larger end 18 contacts the interior of the pipe 11, while its smaller end lies in a position adjacent the end of the funnel 13. The funnels 14 and 17 are in axial alignment one with the other.

The result of this construction is that air flowing through the funnel 14 is condensed and caused to blow across the end of the funnel 12, after which it passes out through the funnel 17 and expands due to the increased area of the pipe 11 with respect to the funnel 17 and also due to the fact that the wind in passing over the entire device will create a slight vacuum adjacent the outlet end 19 of the pipe 11.

This passing of the air through the funnel 17 as indicated by the solid arrows of Figure 2, causes an injector action which sets up a draught in the vertically disposed pipe 6, as indicated by the dotted arrows. The air or gas passing upwardly through pipe 6 is free to circulate in the chamber 21 and to mingle with the current of air passing therethrough and between the adjacent ends of the funnels 14 and 17.

It will thus be seen that I have produced a device which will accomplish all of the objects above set forth.

It is to be understood that the form of my invention herewith shown and described is to be taken as a preferred example of the same, and that various changes in the shape, size and arangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claim.

Having thus described my invention, I claim:—

In a device of the character described, a

vertically disposed pipe, a horizontally disposed pipe secured thereto and communicating therewith, a funnel shaped member secured to one end of said horizontal pipe, the large end of said funnel being of a greater diameter than the diameter of said horizontal pipe, and having its small end of less diameter than the diameter of the horizontal pipe, a funnel shaped member disposed within said horizontal pipe, the small end of second said mentioned funnel member being of the same diameter as the small end of said first mentioned funnel and in axial alignment therewith, and a third funnel positioned within said vertically disposed pipe and having its small end positioned adjacent the small ends of said first mentioned funnel and in such a manner that gases passing therethrough will pass between the small ends of said first mentioned funnel.

In testimony whereof I affix my signature.

FRANK MASSON.