No. 843,413. PATENTED FEB. 5, 1907.

W. R. McKEEN, Jr.

VENTILATOR HOOD.

APPLICATION FILED MAY 15, 1905.

Fig. 2.

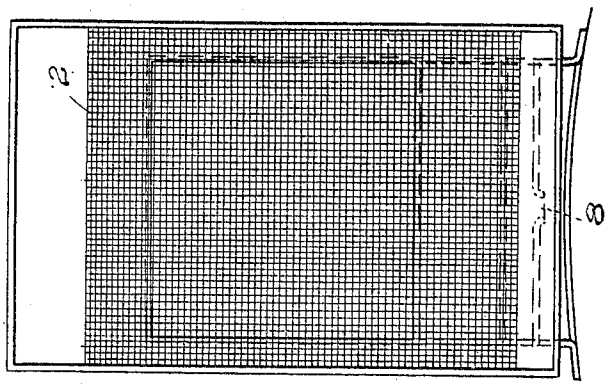
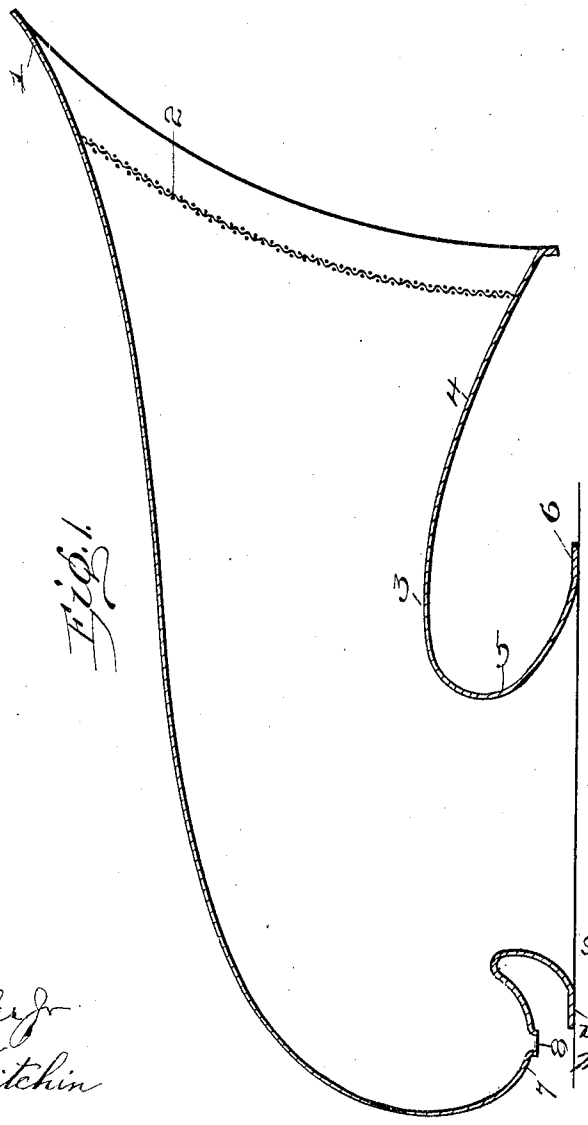


Fig. 1.



Witnesses
J. M. Fowler Jr.
Edgar M. Kitchin

Inventor
William R. McKeen, Jr.
By Mason, Fenwick & Lawrence
Attorneys.

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM R. McKEEN, JR., OF OMAHA, NEBRASKA.

VENTILATOR-HOOD.

No. 843,413. Specification of Letters Patent. Patented Feb. 5, 1907.

Application filed May 15, 1905. Serial No. 260,524.

To all whom it may concern:

Be it known that I, WILLIAM R. McKEEN, Jr., a citizen of the United States, residing at Omaha, in the county of Douglas and State of Nebraska, have invented certain new and useful Improvements in Ventilator-Hoods; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to ventilating systems, and is particularly directed to hoods for ventilators.

It has for one of its objects to provide a ventilator-hood characterized by increased simplicity and efficiency.

Another object is the provision of a hood such that the air is delivered to the ventilating system in a purer condition.

A further object is to so construct a hood for ventilating systems that moisture and foreign substances will be separated from the ingoing air before the same is delivered to the ventilating system.

Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangement of parts, which will be exemplified in the device hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings, wherein is illustrated one of the various possible embodiments of my invention, Figure 1 is a longitudinal vertical sectional view through a ventilating-hood constructed in accordance therewith. Fig. 2 is a view of the same in front elevation.

Similar reference characters refer to similar parts throughout both figures of the drawings.

Preliminary to a description of the specific features of my invention and in order to render clearer certain objects thereof, it may here be noted that in ventilating systems it is of prime importance that the air to be dispensed to the interior of the structure be delivered in as pure a condition as is possible. In attaining this end I have therefore found it desirable to construct a hood such that the ingoing air before its delivery through the discharge-opening is carried at an accelerated velocity past the zone of discharge, the moisture or foreign substances contained in the air being deposited in a receptacle located to the rear of the discharge-opening. To accomplish this result to the best advantage while insuring the delivery of air free from moisture, cinders, and other foreign substances, I construct the hood of a hollow casing formed with an intake-bell provided with an abrupt and decided flare at its end, as at 1. A screen 2 is preferably secured in the casing across the bell, just inside such abrupt flare, and the casing then tapers gradually to a comparatively restricted passage 3, the lower wall of said casing leading from said flare to said restricted passage, being curved upwardly, as at 4, against which an incoming current of air must impinge. Just beyond the restricted passage 3 the lower front wall of the casing curves downwardly, as at 5, and is flared to a suitable base 6, adapted to fit upon any suitable air-duct. The upper and rear wall of the casing beyond the restricted passage 3 curves downwardly and is formed into a roll or pocket 7 at its rear end. Beyond such pocket said wall is curved upwardly and bent upon itself and downwardly and flared to the base 6. As seen in Fig. 2 of the drawings, the side walls of the casing may be parallel and flat.

It will be observed, particularly from Fig. 1, that the upper and rear wall of the casing is struck on a continuous smooth line, curving first downwardly to a point in front of the line of the discharge-passage and thence upwardly into the form of a slight swell, increasing the area of the casing, and thence downwardly in the rear of the discharge-passage and upwardly again to the discharge-passage, forming a pocket in the rear of such discharge-passage.

Having thus described my invention, its operation should be largely obvious. It is to be observed that owing to the peculiar curves of the upper and lower walls of the casing the said casing is formed into the restricted passage 3, and beyond said passage, where the upper and lower walls become vertical walls, is again restricted, so that atmosphere entering the bell and passing through the screen 2 will be given increased velocity by the restriction of passage 3, and the heavier particles carried by such air will be driven against the rear wall of the casing and, following such wall, will drop into the pocket 7. The curve 4 of the lower wall of the casing is so shaped as to cause the par-

ticles to rebound and come under the influence of the increased velocity of the air, and thus be carried across the zone of the discharge of air downwardly through the second restriction of the casing. Of course as soon as the heavier particles have passed such zone of discharge the same will naturally follow the rear upper wall into the pocket 7. The pocket 7 is formed with a vent or discharge aperture 8 at its lowest point for disposing of moisture and foreign substances which may be deposited therein. Of course the vent may be of any required size for disposing of the particles collected in said pocket. Moisture in coming in contact with wall 4 and adhering thereto, so as to prevent its being carried past the zone of discharge into the pocket 7, will by the downward and outward flare of the wall be prevented from flowing into the discharge-opening, but will flow along the inclined surface of said wall to drip from the outer edge thereof. The screen prevents particles of foreign matter of relatively large size from entering the hood. It will accordingly be seen that I have provided a hood for ventilating systems well designed to achieve the objects of my invention. By reason of the peculiarly-shaped walls of the hood all foreign substances and moisture are separated from ingoing air, insuring its delivery in a pure condition to the ventilating system.

As many changes could be made in the above construction and many apparently widely-different embodiments of my invention could be made without departing from the scope thereof, I intend that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense. I desire it also to be understood that the language used in the following claims is intended to cover all of the generic and specific features of the invention herein described and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

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

1. A ventilator-hood, comprising a casing having an intake and a discharge passage, the casing being formed of side walls, an upper and rear wall and a lower and front wall, the upper and rear wall being curved in a continuous, smooth line downwardly from the intake-opening over and across the discharge-passage and downwardly in the rear of the discharge-passage, and upwardly forming a pocket at the rear of said discharge-passage, and thence downwardly forming a portion of the wall of the discharge-passage, the lower and front wall of the casing being curved in a continuous smooth line upwardly and rearwardly from the point of the intake-opening to a point at the beginning of the discharge-passage, and thence downwardly forming a portion of the wall of the discharge-passage, the discharge-passage being unobstructed.

2. A ventilator-hood, comprising a casing having an intake-opening and a discharge-passage, said casing being formed of vertical walls, and an upper and rear wall and a lower wall, the upper and rear wall curving from the point of the intake-opening downwardly and rearwardly to a point in front of the discharge-passage, then curving upwardly across the discharge-passage forming a swell or enlargement in the casing, and thence downwardly to the rear of the discharge-passage, and thence upwardly to the discharge-passage forming a pocket in the rear of the discharge-passage, the lower wall curving from the point of the intake-opening upwardly and rearwardly to the point of beginning of the discharge-passage, the discharge-passage being unobstructed.

3. A ventilator-hood, comprising a casing formed into an intake and discharge passage, the discharge-passage leading downwardly from the intake-passage at the rear end thereof, the intake-passage in front of the discharge-passage being relatively long and gradually restricted in transverse area from the front rearwardly to the point of discharge into the discharge-passage, the upper wall of the casing curving downwardly and rearwardly continuously of and into the rear wall, which rear wall curves continuously into the form of a pocket or receptacle in the rear of the discharge-passsage.

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

WILLIAM R. McKEEN, Jr.

Witnesses:

EDGAR M. KITCHIN,

CHARLES L. DUNDEY.