(No Model.)

C. F. HALL.

FIRE PROOF DOUBLE VENTILATED FLUE.

No. 440,475. Patented Nov. 11, 1890.

Fig. 1.

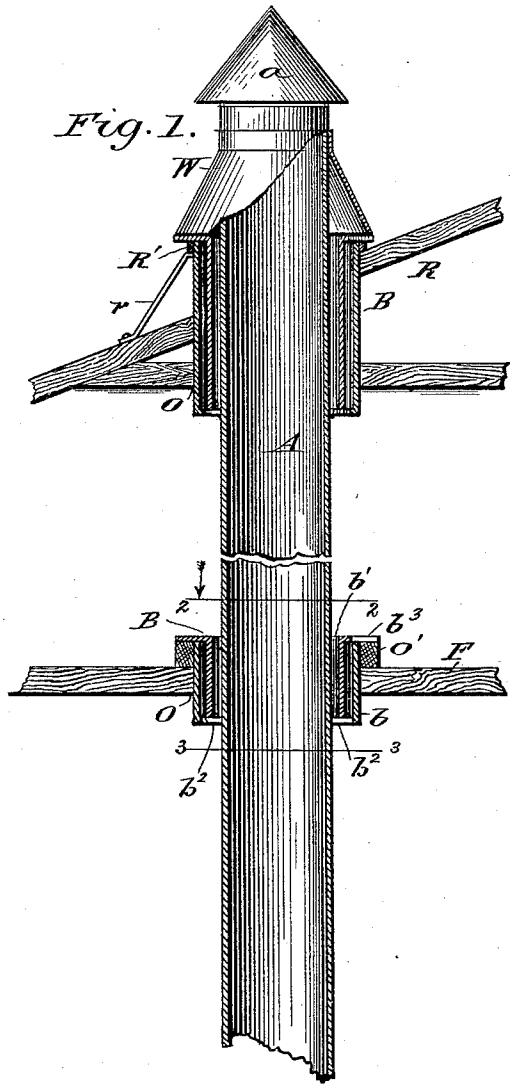


Fig. 2

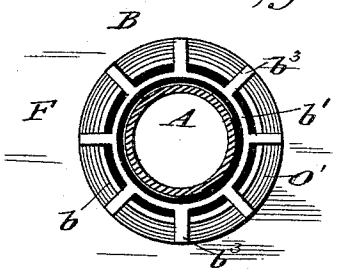
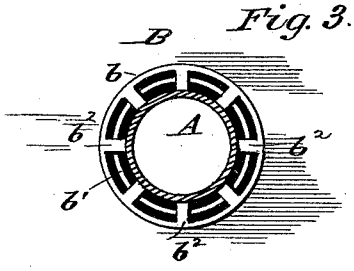


Fig. 3.



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CAREY F. HALL, OF DUNKINSVILLE, OHIO.

FIRE-PROOF DOUBLE-VENTILATED FLUE.

SPECIFICATION forming part of Letters Patent No. 440,475, dated November 11, 1890.

Application filed May 26, 1888. Serial No. 275,263. (No model.)

To all whom it may concern:

Be it known that I, CAREY F. HALL, a citizen of the United States, residing at Dunkinsville, in the county of Adams and State of Ohio, have invented an Improved Ventilator, of which the following is a specification.

My invention relates generally to ventilators, and in particular to a ventilating collar or register surrounding a metallic flue where it passes through a floor, roof, or attic partition.

The object of my invention is to provide a means for ventilating one or more rooms, and also to render a flue as near fire-proof as possible.

With these objects in view my invention consists in the peculiar construction and novel combination of the various parts, as will be hereinafter explained.

In the drawings forming a part of this specification, Figure 1 is a vertical section of a flue provided with my improvement, and Fig. 2 is a horizontal section through the flue and ventilator. Fig. 3 is a similar view on line 3 3.

In the drawings, A indicates the flue, which may be of sheet-iron, galvanized iron, or other suitable material. This flue extends from the basement or lower story, where it is connected with the stove or furnace, out through the roof of the building, and at its upper end is provided with a cowl *a*. Where the flue passes through the floor F or roof R an opening O is made, sufficiently large to permit the flue A and the insertion of the double ventilator or register B, which encircles the flue where it passes through the floor or roof.

The double ventilator or register B consists of two concentric metallic sleeves or collars *b* and *b'*. The outer sleeve *b* encircles the flue and is about four inches larger in diameter than said flue, and at its lower end is provided with inwardly-projecting lugs or legs b^2, the free or inner ends of which are soldered or otherwise secured to the outer side of the flue a suitable distance from the same; and as there are a limited number of said legs, there is sufficient space for the air to pass from one room to another above. The inner sleeve *b'* fits within the sleeve *b* and is about two inches less in diameter than said sleeve. The lower end of said sleeve *b'* rests upon the legs b^2, and the upper end of said sleeve is provided with a series of outwardly-projecting lugs or legs b^3, which are long enough to reach to the edges of the opening O, where they rest upon a rung O' of fire-clay or other incombustible non-conducting material, which is placed upon the floor around said opening. By this construction two concentric air-passages are formed around the flue, and it is almost impossible to fire the floor or roof where the flue is surrounded by a ventilator or register similar to that described.

A double ventilator B is placed around the flue at each floor, and also where it passes through the roof, and to form a support for the legs b^3 of the sleeve *b'* that passes through the roof I provide a horizontal ring R' or section thereof, which is held in place by means of the brace-rods *r* secured to the roof.

A water shed or hood W is secured upon the portion of the flue projecting above the roof directly above the upper end of the ventilator, the purpose of which is to protect the said ventilator from rain, wind, &c. This water shed or hood is essentially conical in shape, being secured at its upper end to the flue, its lower end being expanded to fit over the ventilator, as shown. Ordinary stove-pipes P may be connected with the flue at any point below or above the ventilators.

From the above description it will be seen that I have produced a flue that is cheaper and simpler than a brick or tile flue, and one that always maintains a draft and is always safe against fire.

Having thus described my invention, what I desire to secure by Letters Patent is—

1. The combination, with a flue, of an outer sleeve surrounding the flue and the inwardly-projecting legs connecting the lower end of said outer sleeve with the flue, and an inner sleeve surrounding the flue and resting within the outer sleeve and upon the inwardly-projecting legs, the upper end of said inner sleeve

being provided with outwardly-projecting legs projecting beyond the outer sleeve, substantially as shown and described.

2. The combination, with the flue of the outer sleeve having inwardly-projecting legs at its lower end, the inner sleeve having outwardly-projecting legs at its upper end, and the incombustible non-conducting ring, all arranged and adapted to operate substantially as described.

To which I subscribe my name this 22d day of May, 1888.

CAREY F. HALL.

Attest:
M. A. ROTROFF,
J. F. ELLISON.