

No. 835,966.

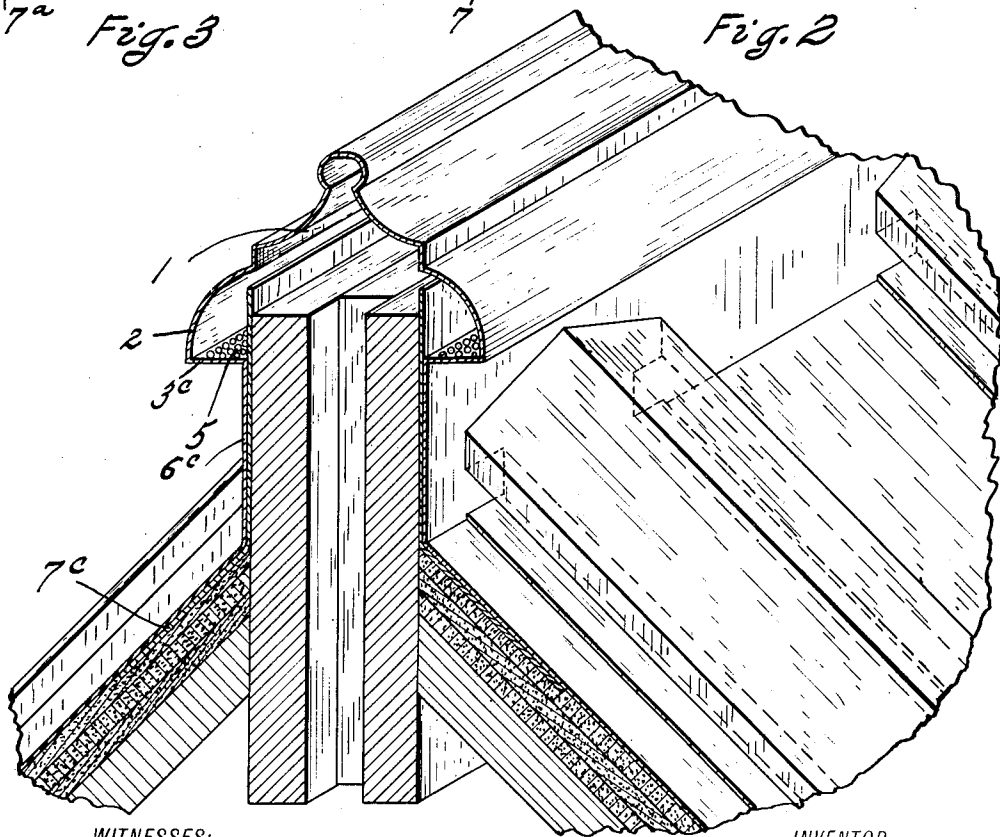
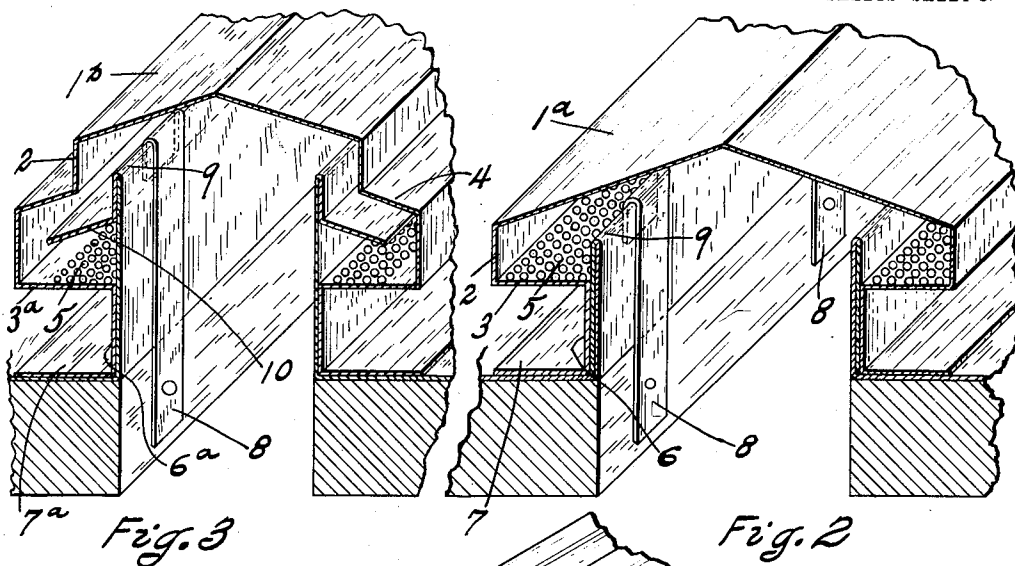
PATENTED NOV. 13, 1906.

F. LYSTER.

TRAP DOOR, SKYLIGHT, AND ROOF VENTILATOR.

APPLICATION FILED MAR. 3, 1905.

2 SHEETS—SHEET 1.



WITNESSES:

Robert H. Perkins
Louis von Haave

Fig. 1

INVENTOR

Frank Lyster
BY
Warren E. Willis
ATTORNEY

No. 835,966.

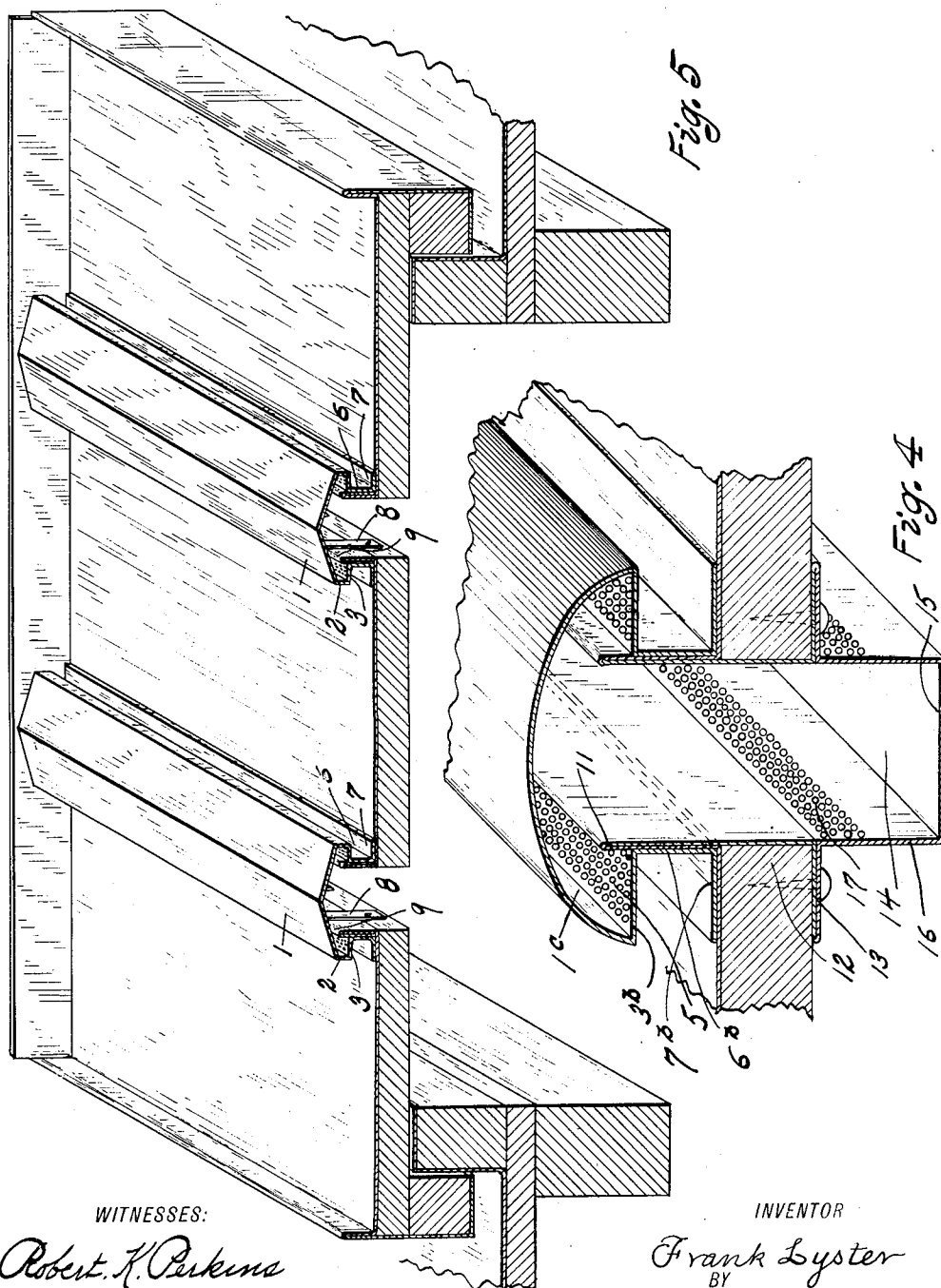
PATENTED NOV. 13, 1906.

F. LYSTER.

TRAP DOOR, SKYLIGHT, AND ROOF VENTILATOR.

APPLICATION FILED MAR. 3, 1905.

2 SHEETS—SHEET 2.



WITNESSES:

Robert K. Perkins
Louis von Graue

INVENTOR

Frank Lyster
BY
Warren E. Willis
ATTORNEY

UNITED STATES PATENT OFFICE.

FRANK LYSTER, OF PHILADELPHIA, PENNSYLVANIA.

TRAP-DOOR, SKYLIGHT, AND ROOF-VENTILATOR.

No. 835,966.

Specification of Letters Patent.

Patented Nov. 13, 1906.

Application filed March 3, 1905. Serial No. 248,210.

To all whom it may concern:

Be it known that I, FRANK LYSTER, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Trap-Door, Skylight, and Roof-Ventilator, of which the following is a specification.

This invention relates to improvements in means for securing ventilation in trap-doors, skylights, roofs, and similar constructions. Its objects are to effect improvements in means for ventilation whereby the ventilators may be constructed of sheet metal or other material effectually braced to provide for ample strength, yet of light weight and economical construction.

Another object is to afford a construction which shall effectually prevent the entrance of rain or snow to the interior of the ventilator, the joints between it and the parts to which it is attached, and to the building below.

Further objects are to provide such improvements as will allow for free ventilation and in the provision for condensation of moisture.

I attain these objects by the combination, construction, and arrangements of parts hereinafter fully described, and shown in the accompanying drawings, in which—

Figure 1 is a perspective view, partially in section, of roofs having my improvement in ridge-ventilators thereon. Fig. 2 is a sectional view, partially in perspective, of one form of ventilator. Fig. 3 is an alternative form of construction of the same, showing the deflecting-plates and angular inner storm-guard. Fig. 4 is an arched form of ventilator with interior gutter, providing for the condensation of moisture and leakage. Fig. 5 shows my invention as applied to trap-doors.

Similar characters refer to similar parts throughout the several views.

These ventilators are preferably constructed of non-oxidizable thin sheet metal bent into any approved shape, as indicated by the character 1, which refers to a fanciful form thereof, or as at 1^a and 1^b, which is a common form thereof, or as at 1^c, which indicates an arched or dome-shaped covering.

2 refers to the downwardly-extending members, which may be further turned laterally inward, as at 3 in Fig. 2, or extended farther out, as at 4 in Fig. 3, thence verti-

cally downward and then laterally inward, as at 3^a in Fig. 3, or at 3^b in Fig. 4, or again at 3^c in Fig. 1. These members or webs 3, 3^a, 3^b, and 3^c are provided with perforations 5 to allow for the free exit of air from the inside of the building. From these said webs are vertical members 6 6^a 6^b 6^c, thence bent laterally outward at 7 7^a 7^b 7^c, overlapping and connecting with the roof-surface.

In Figs. 1, 2, 3, and 4 the metallic covering of the roof is brought underneath the overlying flange members 7 of the ventilator and bent vertically upward to a point beyond the perforated flange members 3 3^a 3^b 3^c, forming a deflecting-plate to prevent the admission of moisture-laden air-currents, snow, or rain from entering into the building. The said flanged members 6 and 7 are preferably "sweated" or otherwise united to the metal roofing, forming means of support for the ventilator.

Further means of securing and bracing the ventilator are provided for by the plates 8, secured at their lower ends to the roof-supports and having their upper ends lapped to form the "ditched" edge 9.

In some cases I make use of an auxiliary moisture-deflecting plate 10 to check the air-currents of moisture and effectually carry off the same, as shown particularly in Fig. 3.

In Fig. 4 the material of the roof is carried vertically upward to form a deflecting-plate, bent double upon itself, with a ditched edge, as at 11, carried downward past the wood-work at 12 of the roof, bent outwardly in register with it, doubled upon itself and secured to the inner side of the roof, as at 13. From thence it is turned downwardly, forming the sides 16 and 16^a of a trough or gutter 14, having an imperforate bottom 15.

The upper portion of the gutter sides 16 and 16^a have perforations 17 and 17^a to allow for the free egress of air from the building. By this form of construction should any moisture have entered the ventilator it will be caught in the gutter and carried out of the building, the said gutter being connected with the exterior of the roof.

The view, Fig. 1, shows a special form of angular roof construction, in which the material of the ventilator is extended from one roof to another and underlaid with slate or other roofing material.

It will be understood from the description hereof that I may vary the mode of construction and application thereof, but without

departing from the general spirit of the invention, as will be well understood by those familiar with the art.

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

1. In a ventilator, the combination with a non-oxidizable top covering, flanges depending therefrom and inwardly-extending perforate members, vertical members therefrom having outwardly-turned flanges adapted to be attached to the roof-covering; of outwardly-turned angular deflecting-plates within the said ventilator and of reinforcing-strips uniting the ventilator to the roof, all substantially as shown and described.

2. In a ventilator, the combination with a non-oxidizable top covering, of depending flanges therefrom, inwardly-extending members thereto provided with perforations, vertical members therefrom and outwardly-

turned flanges attached to the roof-covering, deflecting-plates within the said ventilator, auxiliary deflecting-plates extending outwardly from the main deflecting-plates, and strengthening members further uniting the roof with the said ventilator, all substantially as shown and described.

3. In a trap-door for roofs, the combination with a flooring, having open spaces at intervals therein, of a non-oxidizable, metallic covering for the said openings, having means of ventilation and moisture-excluding plates arranged interiorly, all substantially as shown and described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK LYSTER.

Witnesses:

LOUIS VON GRAEVE,
ROBERT K. PERKINS.