No. 781,538. PATENTED JAN. 31, 1905.

F. LYSTER.

VENTILATING SASH BAR.

APPLICATION FILED FEB. 8, 1904.

2 SHEETS—SHEET 1.

Fig. 1.

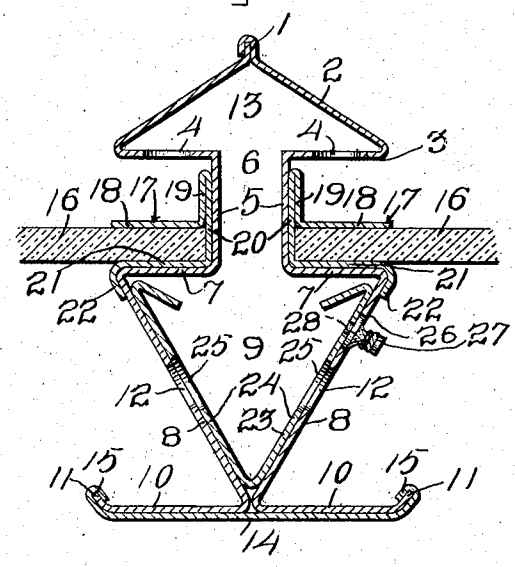


Fig. 3.

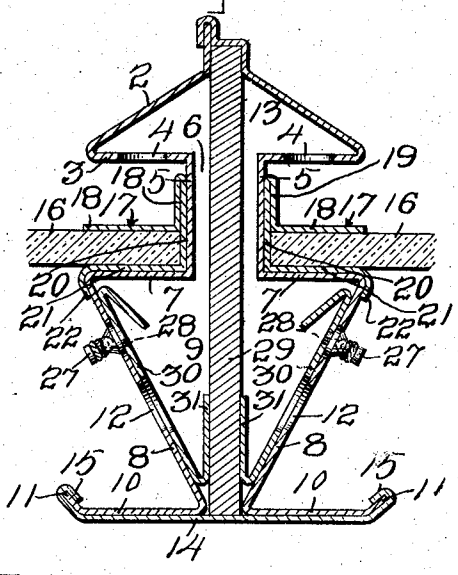
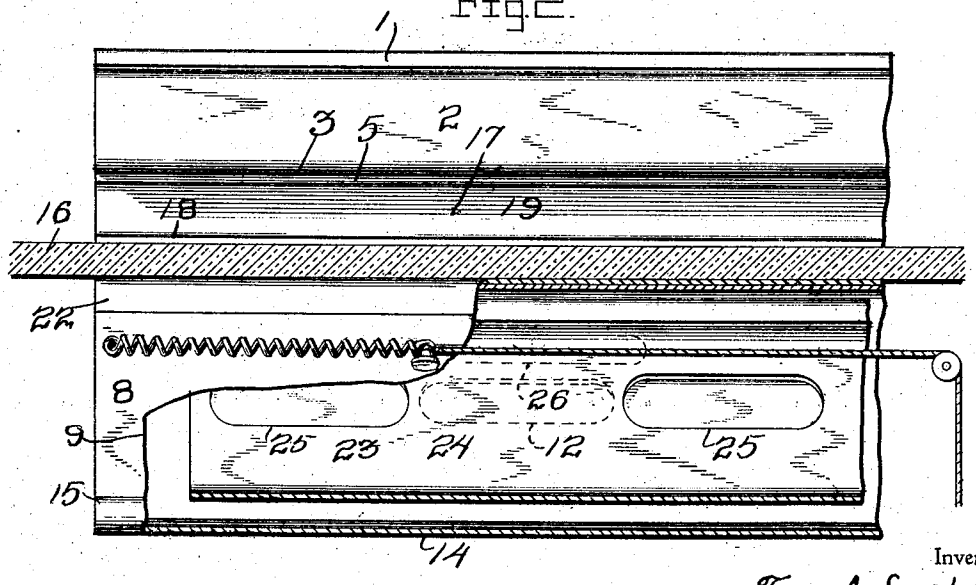


Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 4.

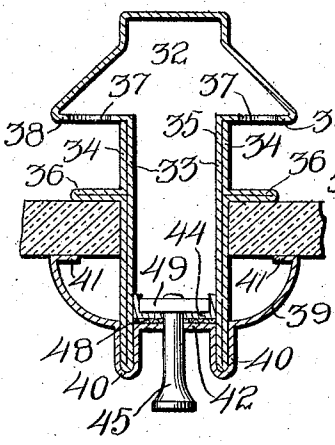


Fig. 6.

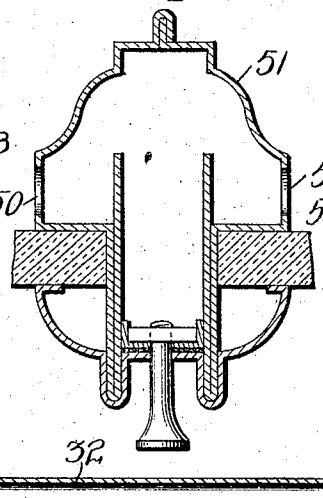
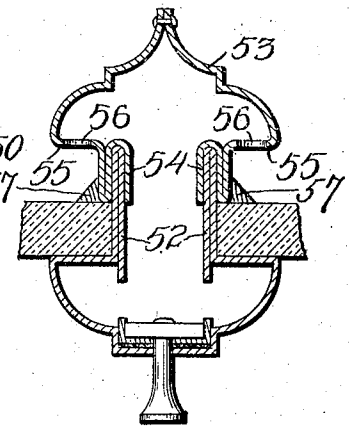


Fig. 7.



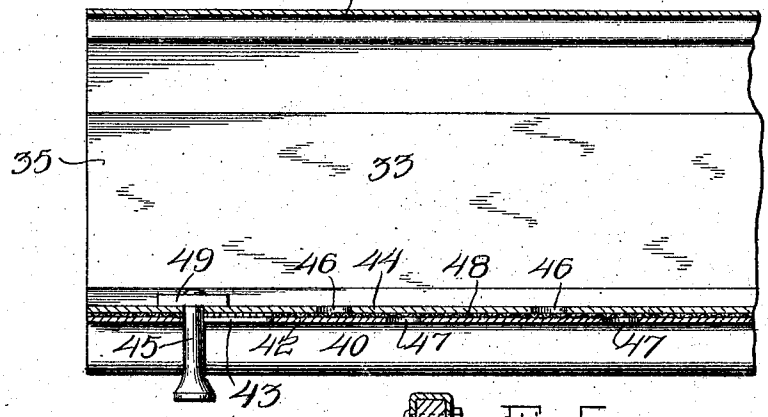
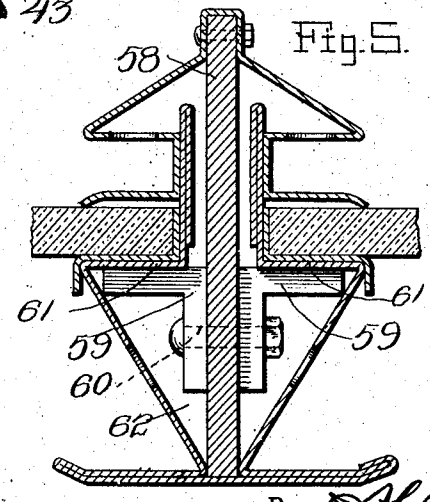


Fig. 8.

Fig. 5.



Witnesses

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No. 781,538. Patented January 31, 1905.

UNITED STATES PATENT OFFICE.

FRANK LYSTER, OF PHILADELPHIA, PENNSYLVANIA.

VENTILATING SASH-BAR.

SPECIFICATION forming part of Letters Patent No. 781,538, dated January 31, 1905.

Application filed February 8, 1904. Serial No. 192,612.

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 certain new and useful Improvements in Ventilating Sash-Bars; and I do 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.

My invention is an improved ventilating sash-bar adapted for use for skylight and other sashes; and it consists in the construction and arrangement of devices hereinafter described and claimed.

One object of my invention is to effect improvements in the construction of sash-bars, whereby the same may be made of sheet metal and so effectually braced as to render the same exceedingly strong, while being light and adapted to be manufactured very cheaply.

A further object of my invention is to provide a ventilating sash-bar made of a blank of sheet metal bent to form a cap, a hollow web depending therefrom and overhung thereby, and a chamber below the web, forming means for bracing the sash-bar and also forming a support for the glass.

A further object of my invention is to provide a ventilating sash-bar having ventilating-openings and means to uncover or close them at will.

A further object of my invention is to combine with the sash-bar a joint sheet to bear on the outer and inner sides of the glass and to bear against the web and supporting-shoulder of the sash-bar.

A further object of my invention is to combine with a sash-bar having a cap and hollow web communicating therewith and a chamber communicating with the web and forming a support for the glass a stiffening-bar in the cap, web, and chamber.

A further object of my invention is to provide a ventilating sash-bar with a shutter of novel construction for uncovering and closing the ventilating-openings in the sash-bar at will.

In the accompanying drawings, Figure 1 is a transverse sectional view of a ventilating sash-bar embodying my improvements. Fig. 2 is a detail elevation of the same with parts broken away to show interior constructions. Fig. 3 is a vertical transverse sectional view showing a modified form of my improved ventilating sash-bar. Fig. 4 is a transverse sectional view of another modified form of my invention. Fig. 5 is a longitudinal central sectional view of the same. Figs. 6, 7, and 8 are transverse sectional views of other modified forms of my invention.

My improved sash-bar is made of sheet metal, preferably zinc, galvanized iron, copper, or the like, which in the form shown in Figs. 1 and 2 is composed of a pair of sheet-blanks. These sheet-blanks are united by the joint 1, then bent or inclined outwardly or downwardly, as at 2, then bent inwardly to form the overhangs 3, having ventilating-openings 4, then bent downwardly at 5 to form the side walls of a hollow web 6, then bent outwardly to form supporting shoulders 7, then downwardly and inwardly to form the downwardly-converging sides 8 of a chamber 9, under and communicating with the hollow web, and then outwardly to form gutter-flanges 10, the outer ends of which are upwardly and outwardly inclined, as at 11. The inclined sides 8 of the chamber 9 are provided with ventilating-openings 12. The portions 2 3 form a hollow cap 13 above and communicating with the hollow web, which cap projects laterally from opposite sides of the web. A cover plate or sheet 14 is placed under the gutter-flanges 10 and connects them together and has its edges upturned and bent around the edges 11 of the gutter-flanges, as at 15. The sheets or plates 16 of glass or other material are supported on the shoulders 7 of the chamber 9 and against the sides of the web 6. A joint sheet of lead, zinc, or other suitable sheet metal (indicated at 17) bears on the glass, as at 18, is then bent upwardly or outwardly to extend therefrom, as at 19, is then reversely bent and doubled, as at 20, to bear against one side of the web and to extend past the edge of the glass, and is then bent outwardly at 21 to bear between the inner side of the glass and the supporting-shoulder 7 of chamber 9, the ex-

treme edge of the joint-sheet being bent, as at 22, to bear against the side of the chamber 9. It will be observed by reference to the drawings that the joint-sheet is overhung by the side portions of the cap 13, which serves to prevent rain from entering the joint between the joint-sheet and the web, and that such rain-water as it enters the joint-sheet and the glass is caught by the gutter-flanges 10.

To enable the ventilating-openings 12 in the downwardly-converging side walls of the chamber 9 to be covered or opened to any desired extent, I provide a shutter 23. In the form of my invention shown in Fig. 1 this shutter is made of sheet metal bent to form downwardly-converging sides 24 and is placed in the chamber 9 so that its downwardly-converging sides bear on and are supported by the downwardly-converging sides 8 of the said chamber. This shutter is provided with openings 25, adapted to register with the ventilating-openings in the chamber, and by moving the shutter endwise, said ventilating-openings may be uncovered or closed to any desired extent, as will be understood. The side or wall of the chamber is provided with a slot 26, in which operates a button 27, that is secured to and projects from the shutter, the said button coacting with the slot to limit the movement of the shutter. A spring 28, which is here shown as a coiled retractile spring, is attached to the shutter and to the wall of the chamber 9 at a suitable point, and its function is to normally move the shutter to the position required to close the ventilating-openings. Any suitable means, such as cord engaged by a direction-pulley, may be employed to move the shutter in the reverse direction to uncover the ventilating-openings. I do not limit myself in this particular. The shutter may be coextensive in length with the sash-bar or it may be formed of sections either independently movable or simultaneously movable, as may be preferred. I do not limit myself in this particular.

In the modified form of my invention shown in Fig. 3 I employ a stiffening-bar 29, which is placed in the sash-bar and extends through the cap, web, and supporting-chamber of the sash-bar and is disposed centrally therewith and spaced from the sides of the web. This stiffening-bar may be made of any suitable metal or other material, is removable from the sash-bar, and adds greatly to the strength thereof, as will be understood. In this form of my invention I employ a pair of ventilating-shutters 30, which are operable independently of each other, are placed in the ventilating-chamber on opposite sides of the stiffening-bar, and at their lower sides have upturned flanges 31, which bear against the stiffening-bar.

In Figs. 4 and 5 I show a modified form of the bar, especially adapted to be placed in an upright or vertical position and used in a window-sash, whether of metal or wood. In this form the cap 32 is formed integrally with the web 33, the walls of the latter being doubled, as at 34 35, and the outer walls 34 being bent to form flanges 36 to lie on the outer sides of the glass. Ventilating-openings 37 are made in the overhangs 38 of the cap. The inner cap 39 is formed separately, is bent from sheet metal, and provided with hollow flanges 40 and supporting-walls 41, which bear against the inner side of the glass. The inner portions of the walls of the web are secured in the hollow flanges, and the portion 42 of the inner cap between the hollow flanges is provided with longitudinal slots 43, one near each end of the bar, only one of said openings being here shown. The shutter 44 is substantially U-shaped in cross-section, lies against the inner side of the portion 42 of the inner cap, and is disposed between the walls of the web. The shutter is longitudinally movable by means of knobs 45, the stems of which operate in the slots 43, and is provided with ventilating-openings 46, which by the movement of the shutter may be moved into or out of register with similar openings 47 in the portion 42 of the inner cap. The openings 46 are covered by wire-gauze 48 or other suitable foraminous material soldered to the inner side of the shutter, and the stems of the knobs 45 are screwed to nuts 49, which are also soldered to the inner side of the shutter. The gauze prevents the passage of sparks through the bar, as will be understood.

In Fig. 6 I show another modified form of my invention, in which the vent-openings 50 are in the sides of the cap 51.

In Fig. 7 I show another modified form of my invention, in which the web 52 is formed with the inner cap and the cap or head 53 is formed with flanges or web-walls 54, which engage and are secured to the walls of the web. The cap or head 53 has lateral overhangs 55, provided with the vent-openings 56. In this form of the invention putty (indicated at 57) is employed for securing the glass in place.

In Fig. 8 I illustrate another modified form of my invention, in which the stiffening-bar 58 is provided at suitable intervals with right-angled lugs 59, secured thereto by bolts 60, which lugs bear under the shoulders 61 of the inner cap or chamber 62 and sustain the weight of the glass.

I do not desire to limit myself to either of the precise constructions herein shown and described, as it is evident that modifications may be made without departing from the spirit of my invention and within the scope of the appended claims.

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

1. A sash-bar made of sheet metal bent to form a hollow cap provided with laterally-ex-

tending overhangs, a hollow web depending from the cap and open at its upper and lower sides, the side walls of the web being spaced apart, and a chamber below and communicating with the web and having shoulders at its upper side at the base of the web, to support the glass, said cap, web and chamber having permanently-united common walls or sides, substantially as described.

2. A ventilating sash-bar having a hollow cap provided with laterally-extending overhangs having air-openings in their under sides, a hollow web communicating with and depending from the cap, a chamber below and communicating with the hollow web and having outwardly-projecting shoulders forming its upper side, and further provided with air-openings, said shoulders of said chamber forming supports for the glass, a stiffening-bar in said sash-bar and extending through said hollow cap, web and chamber, and angle-lugs in the latter, secured to the said shoulders and to the sides of the said stiffening-bar, substantially as described.

3. A sash-bar having a hollow cap provided with laterally-extending overhangs having air-openings, a hollow web having spaced walls which depend directly from and are permanently united to the overhangs of the cap, outwardly-projecting shoulders permanently united to and extending from the lower sides of the spaced walls of the web, and a chamber below and the walls of which are permanently united to the said shoulders, said walls having ventilating-openings, and said cap, hollow web and chamber communicating with one another, substantially as described.

4. A sash-bar having a hollow cap provided with laterally-extending overhangs having air-openings in their under sides, a hollow web having spaced walls which depend directly from and are permanently united to the overhangs of the cap, outwardly-projecting shoulders permanently united to and extending from the lower sides of the spaced walls of the web, and a chamber below, and the walls of which are, permanently united to and depend directly from the said shoulders, said walls having ventilating-openings, and said cap, hollow web and chamber communicating with one another, substantially as described.

5. A ventilating sash-bar having a hollow cap provided with laterally-extending overhangs having air-openings in their under sides, a hollow web depending from the cap, and having its side walls spaced apart, shoulders projecting outwardly from the side walls of the web, a chamber below said shoulders and having air-openings, said chamber, hollow web and hollow cap communicating with one another, and a stiffening-bar in said sash-bar, extending from the bottom of the chamber, through the web, the hollow cap and to the upper side of the latter, said stiffening-bar being spaced from the side walls of the web and the portion of the cap which connects with the web, substantially as described.

6. A hollow sash-bar having a hollow web, a chamber below the web, the upper side of which chamber forms shoulders projecting from the sides of the web to support the glass, a stiffening-bar in said hollow sash-bar, and lugs projecting from the sides of the stiffening-bar and bearing under the projecting, glass-supporting shoulders, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

FRANK LYSTER.

Witnesses:
J. WILLIAM ATKINSON,
BENJ. K. NUSBAUM.