Aug. 6, 1940. F. A. WHEELER 2,210,516

ADJUSTABLE LOUVER

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Fig. 2.

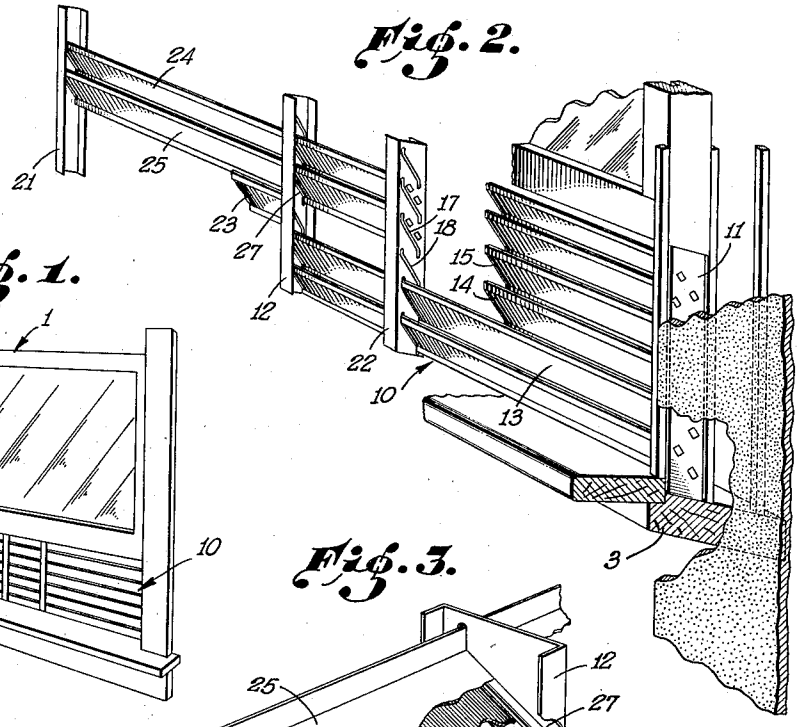


Fig. 1.

Fig. 3.

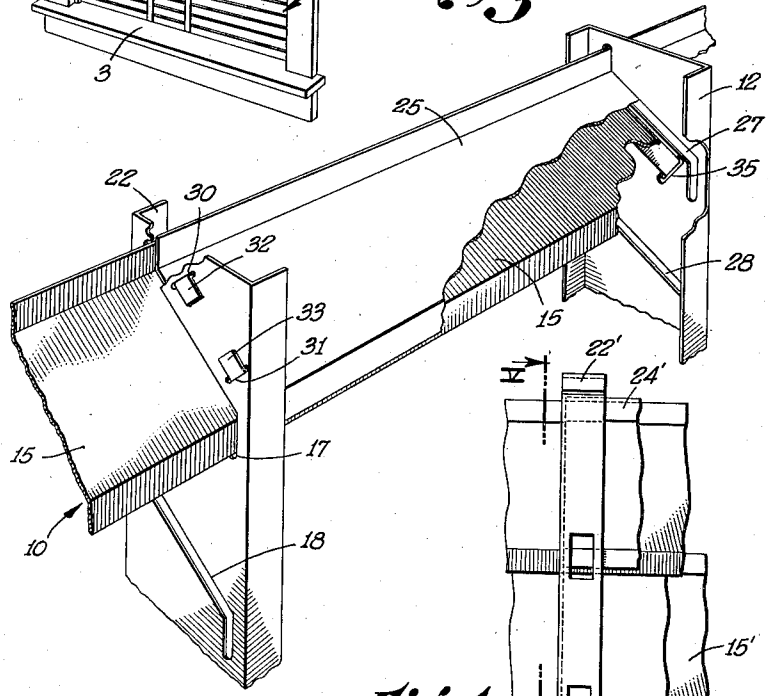
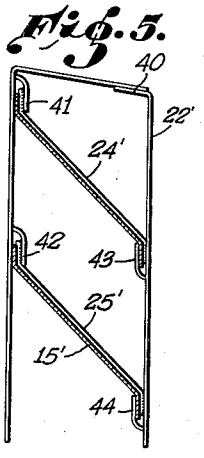


Fig. 4.

Fig. 5.



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ADJUSTABLE LOUVER

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2 Claims. (Cl. 98—121)

The present invention pertains to an adjustable louver adapted to be inserted into windows, such as windows of the double hung type, for the purpose of permitting ventilation and at the same time preventing rain, sleet, etc., from blowing into the room provided with such window.

Stationary louvers have been used previously as a means of permitting circulation of air without undesirable ingress of rain and the like. Such stationary louvers, however, are removed with difficulty and can only be employed in such structures as factory buildings, etc. The present device is of a portable, readily adjustable character so that it may be used in openings or windows differing materially in width and moreover the device of the invention may be readily removed when desired without changing or modifying the window frames, sash, or other fixtures.

Generally stated, the adjustable louver of this invention comprises a pair of louver sections, each carrying a plurality of spaced parallel louvers, each section having an inner and an outer upright or support to which the set of louvers is firmly attached. The louvers of one section are slidable through an inner upright of the other section so that the two louver sections are telescopically and inseparably coupled, although they are movable with respect to one another so as to permit the entire device to be readily inserted or withdrawn from a given or desired location.

An object of the present invention, therefore, is to provide an improved type of removable and adjustable ventilating louver.

A further object is to disclose and provide an adjustable ventilating louver of simple construction.

These and other objects, uses, advantages and modifications of the invention will become apparent to those skilled in the art from the following detailed description. For purposes of facilitating understanding, reference will be had to exemplary forms of the invention shown in the appended drawing.

In the drawing:

Fig. 1 is a perspective view of a window equipped with a louver of this invention.

Fig. 2 is a perspective view, partly broken away, showing the arrangement of the elements of the adjustable louver.

Fig. 3 is an enlarged view of a portion only of the louver.

Fig. 4 is a front view of an intermediate portion of a modified form of louver construction.

Fig. 5 is a transverse section along the plane V—V of Fig. 4.

As shown in Fig. 1, a double hung window sash is indicated at 1, a window frame at 2 and the sill at 3. The window 1 is shown in a partially raised position and an adjustable louver of this invention is generally indicated at 10. The louver 10 may be of different heights.

By referring to Fig. 2 it will be seen that the louver 10 comprises two sections which are telescopically interlocked. One section, for example, includes an outer upright 11 and an inner upright 12, these two uprights being connected together by means of the inclined, substantially parallel, vertically spaced louvers 13, 14, 15, etc. The other section of the device comprises the outer upright 21 and the inner upright 22, these being connected together by means of the parallel, horizontally disposed, vertically spaced louvers 23, 24, 25, etc. It will be noted that the louvers 13, 14, 15, etc., of one section pass through suitable openings in the inner upright 22 of the other section. Similarly, the various louvers 23, 24 and 25 are slidable through the inner upright 12. It will be evident, therefore, that the width of the louver may be readily changed by simply moving the outer uprights 11 and 21 respectively either toward or away from each other, the device being thus capable of variation in total width without change in height.

Details of construction may be observed in Fig. 3, which shows the two inner uprights 12 and 22 as comprising channel shapes provided with a plurality of similar openings such as 27, 28, etc. The louver 25 may be provided with an upstanding rear edge and a downwardly extending front edge, the body of the louver being inclined downwardly and toward the front. The angle of the body of the louver is not critical and may be varied, although angles of approximately 40 to 60 degrees are normally employed.

The inner upright 22 is similarly provided with inclined openings 17, 18, etc., these openings being similar in contour and in location to the openings 27 and 28 of the inner upright 12. It is to be noted that these openings 17, 18, 27, 28, etc., are slightly larger than the cross section of a louver, such as the louver 15 or 25, and of similar contour.

The louver 25 is connected to the outer upright 21 and then extends through the opening 27 in the intermediate or inner upright 12 and is then fastened to the inner upright 22 of the opposing section of the device. The upright 22 may be provided with a plurality of slits or openings, such

as the openings 30 and 31 and the end of the louver 25 may be provided with an upstanding flange having tips 32 and 33 which pass through the openings 30 and 31 respectively and are then bent back so as to firmly fasten the louver to the upright 22. The louver 25 therefore assumes a position immediately above the opening 17 in the inner upright 22 and the louver 15 (having one end attached to the outer upright 11) now passes through the opening 17 and beneath the louver 25 and the end of the louver 15 is connected to the inner upright 12, the mode of connection being substantially identical to that described for the inner end of louver 25. It has been found desirable, however, that the ports, such as 30 and 31 through which the tips 32 and 33 extend, are positioned above an opening in one of the inner uprights and corresponding openings, such as the opening 35, are preferably positioned below the opening 27 of the other inner upright, such as the upright 12.

Since the lower edge of a window sash is generally inclined to the horizontal so as to make such edge conform to the inclination of the sill 3, the upper and lower edges of all of the uprights 11, 12, 21 and 22 are also cut at an angle to the horizontal so as to permit the entire device to rest firmly on the sill and to permit the upper edges of the various uprights to rest firmly against the inclined edges of the window sash. Moreover, the uprights 11, 12, 21 and 22 should preferably be of a width not exceeding the width of the window sash 1 so as to permit the outer uprights 11 and 21 to nest within the runways formed in the window frame 2 for guiding the window sash 1. When installed, as illustrated in Fig. 1, the device of this invention is firmly in position and the sash 1 may be raised above the device without permitting the device 10 to fall out.

Although the various uprights of the device described heretofore and shown in the drawing have been of channel section, and the inner uprights have been provided with ports or openings through which certain of the louver bars slidably extend (such openings acting as guides for the louver bars), it is to be understood that numerous changes and modifications can be made in the materials of construction as well as in the precise design of these elements. For example, the uprights (as well as the louver bars) can be made of wood, metal or of thermoplastic materials and the manner of connecting louver bars to these uprights can be varied with the materials used. In Figures 4 and 5 a modified form of inner upright construction is shown wherein 22' represents an inner upright formed of a band of metal having its ends suitably connected as by welding at the overlap 40. The inner or room side of the upright is provided with inwardly and downwardly extending punched out tabs 41 and 42, whereas corresponding upwardly and inwardly extending tabs 43 and 44 are punched out of the band 22' on its outer side. The sides of louver bars 24' and 25' are then connected (as by welding) at their upper edges to the tabs 41 and 42, whereas the lower edges of such louver bars are connected to the band 22' opposite the tabs 43 and 44. The louver bars of the other section of the unit, such as the bar 15' are slidable beneath the louver bars 24' and 25' and, as shown, the tab 44 may guidingly support the lower edge of the movable louver bar 15' while its upper edge portion is slidably received between the band 22' and the bar 25' attached to tab 42. In this form of construction the inner uprights do not have openings, such as 17 and 18, but guiding and supporting means for the movable louver bars are provided by the tabs.

I claim:

1. An adjustable louver unit of the character described comprising: a pair of telescopically locked louver sections, each section including an outer upright and an inner upright, the inner upright comprising a hollow frame having inwardly extending tabs, the tabs on one side of said frame being oppositely directed to the tabs on the other side of the frame, and a plurality of horizontally extending, vertically spaced, inclined louvers, connected to the outer upright and connected to the tabs on one side of said inner upright; the louvers of one of said sections being slidable through and guidingly supported upon tabs of the inner upright of the other of said louver sections.

2. An adjustable louver unit of the character described, comprising: a pair of telescopically locked louver sections, each section including an inner upright and an outer upright, the inner upright comprising a frame with a room side and an exterior side, each of said sides having inwardly extending tabs, the tabs on the room side of said frame being oppositely directed to the tabs on the exterior side; and a plurality of horizontally extending vertically spaced louvers having an inclined body portion and vertically extending flanges, connected to the outer upright; the louvers of one of said sections being fastened to the tabs on the room side of its inner upright and fastened to the frame on the exterior side of its inner upright, the louvers of the other of said sections being fastened to the tabs on the exterior side of its inner upright and fastened to the frame on the room side of its inner upright, whereby the louvers of one section are adapted to fit in nesting relation to the louvers of the other section.

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