

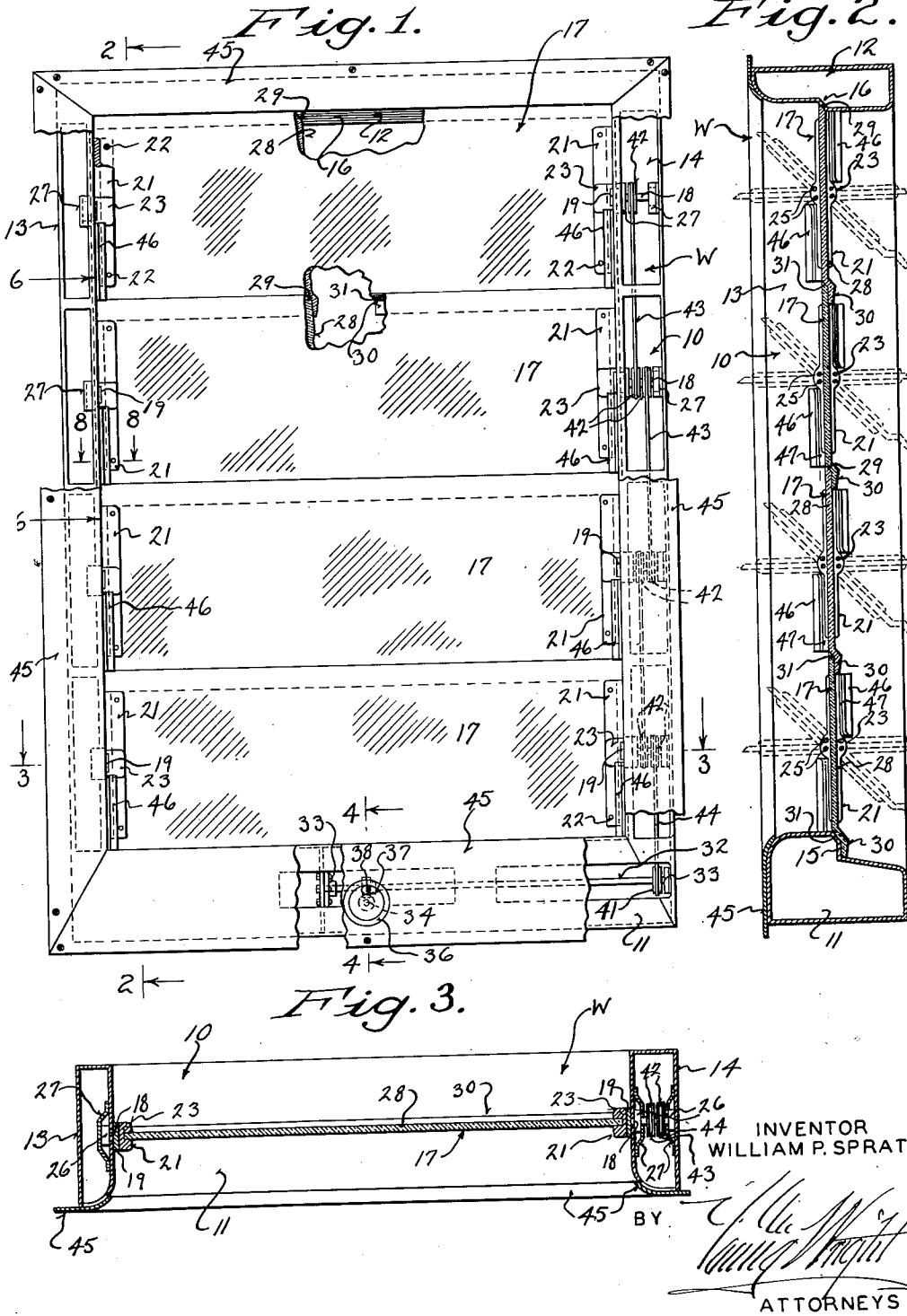
March 7, 1950

W. P. SPRATT
VENETIAN STYLE WINDOW

2,499,692

Filed May 16, 1946

2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 4.

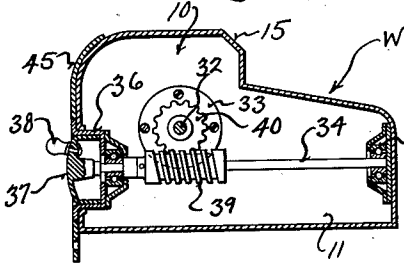


Fig. 5.

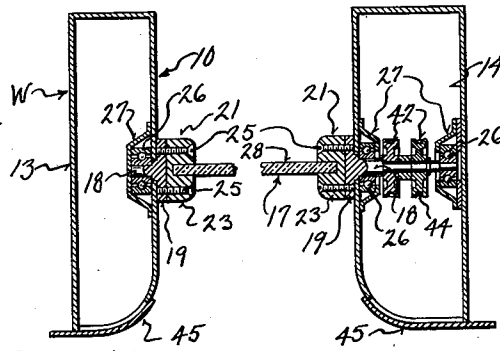


Fig. 6.

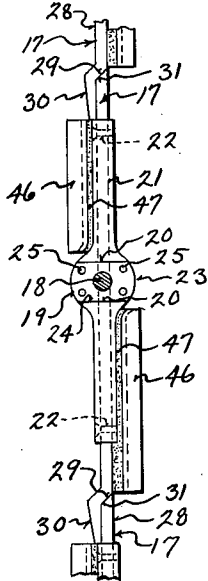


Fig. 7.

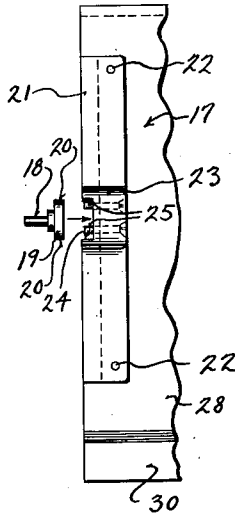


Fig. 9.

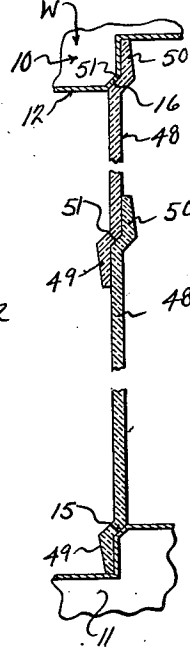
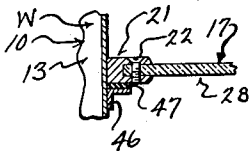


Fig. 8.



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UNITED STATES PATENT OFFICE

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VENETIAN STYLE WINDOW

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1 Claim. (Cl. 20—53)

1

This invention appertains to windows and more particularly to a novel louver type of window having pivoted transparent vanes or panels moveable on horizontal axes.

One of the primary objects of my invention is to provide a window embodying a plurality of pivoted vanes moveable to any desired adjusted angular open position, whereby a desired ventilation can be had without objectionable drafts and without danger of an intruder gaining access to a building through the window, and whereby both sides of the vanes can be conveniently washed from the inside of the window.

Another salient object of this invention is to provide a novel vane for the louver window of such a form that a weathertight connection will be had when the window is in its closed position and whereby a strong rugged structure will be had for a relatively long length of vane or panel without the necessity of using extraneous braces and the like.

A further object of the invention is to provide novel arranged formation strips or stops on the window casing for the vanes or panels to further insure a weathertight window.

A further important object of my invention is to provide a novel and simple mechanism for synchronously actuating all of the vanes or panels, whereby adjustments of the panels can be readily had.

A still further object of this invention is to provide a novel frame for the window, whereby the vanes and the operating mechanism therefor can be easily incorporated with the frame and whereby broken or worn parts can be easily replaced.

A still further important object of my invention is to provide a window construction which will be simple and economical to install and one which will possess a pleasing and attractive appearance and which tone in with modern design.

With these and other objects in view the invention consists in the novel construction, arrangement and formation of parts, as will be hereinafter more specifically described, claimed, and illustrated in the accompanying drawings, in which drawings:

Figure 1 is a front elevational view of my novel window with parts thereof broken away and in section to illustrate structural detail.

Figure 2 is a vertical sectional view taken on the line 2—2 of Figure 1 looking in the direction of the arrows, the view showing the novel flash strips or stops for the pivoted vanes.

Figure 3 is a horizontal sectional view taken on

2

the line 3—3 of Figure 1 looking in the direction of the arrows.

Figure 4 is a detail transverse sectional view through the window sill, the section being taken substantially on the line 4—4 of Figure 1 looking in the direction of the arrows, the view illustrating a part of the operating mechanism for the vanes.

Figure 5 is a view similar to Figure 3 and illustrating the novel mounting of the vanes and a part of the operating mechanism therefor, the view being on a larger scale than Figure 3.

Figure 6 is an enlarged fragmentary detail vertical sectional view taken on the line 6—6 of Figure 1 looking in the direction of the arrows and illustrating the novel vane construction.

Figure 7 is a fragmentary detail front elevational view showing one end of one of the vanes with the pivot support therefor separated therefrom.

Figure 8 is an enlarged fragmentary detail horizontal sectional view taken on the line 8—8 of Figure 1 looking in the direction of the arrows and illustrating one of the novel flash strips or stops.

Figure 9 is a vertical sectional view similar to Figure 2 but showing a modified form of the vanes or panels.

Referring to the drawings in detail, wherein similar reference characters designate corresponding parts throughout the several views the letter W generally indicates my novel window and the same includes a casing 10 for association with the building.

The casing 10 has been shown to be of a metal construction, but obviously the same can be fabricated from wood without departing from the spirit or scope of this invention. The frame includes a hollow sill 11, a hollow lintel 12 and hollow side pieces or styles 13 and 14. The meeting terminals of these pieces can be welded or otherwise fastened together to provide a rigid frame construction.

Particular attention is invited to the sill 11 and the lintel 12 and it is to be noted (see Figures 2 and 4) that the sill 11 is provided with a longitudinally extending shoulder 15 disposed intermediate its front and rear faces. The lintel 12 is provided with a similar stop shoulder 16 and the shoulder preferably has an angular stop face, the purpose of which will later appear.

Mounted within the frame or window casing 10 for rocking movement are a plurality of vanes or panels 17. These vanes or panels are preferably formed from transparent material such as glass

or a clear plastic. It is to be understood, however, that the vanes or panels can be tinted without departing from my invention. These vanes are mounted one above the other and each extend transversely across the window casing. The terminals of each vane carry pivot pins 18, and the pivot pins are arranged intermediate the upper and lower edges of the vanes and preferably at the longitudinal axes of the vanes. The pivot pins rockably support the vanes in the frame and are associated with the vanes in a novel manner, as will now be described.

The inner ends of the pivot pins carry attaching heads 19 and the heads are flattened at their upper and lower surfaces as at 20. The ends of the vanes themselves carry attaching strips 21 of a U shape in cross section and these attaching strips are slipped over the end edges of the vanes and are secured in place by fastening elements 22. The center portions of the attaching strips 21 are bowed outwardly to provide hubs 23, and the outer faces of the hubs are provided with guide ways 24 for receiving the heads 19 of the pivot pins and these heads are secured in the guideways by fastening elements 25. It is to be noted that the guideways 24 correspond in shape to the heads so that turning movement of the heads in the guideways is prevented. Antifriction bearings 26 are carried by the styles 13 and 14 and are held in place by fastening strips 27.

In placing the vanes in the window casing, the pivot pins are inserted in the bearings 26 after which the vanes with the attached U-shaped strips 21 are slid into the casing over the heads 19 of the pivot pins. The fastening elements 25 are now threaded through hubs 23 of the strips 21 and into the heads 19. By removing the fastening elements 25 the vanes can be easily removed from the window casing.

The vanes themselves are of a novel construction and each include a straight body portion 28. The upper longitudinal edge of each vane is beveled as at 29, and the lower edge of each vane carries an offset sealing lip 30.

At the point of juncture of the sealing lip 30 with the body portion 28 of the vane, an inclined shoulder 31 is defined and when the vanes are in their closed vertical position the sealing lip 30 engages over the outer face of the next adjacent vane. The beveled upper edge of this adjacent vane abuts and intimately contacts with the beveled or inclined shoulder 31. The lip of the lowermost vane abuts the shoulder 15 on the sill 11 and forms a seal therewith. The upper beveled edge 31 of the uppermost vane abuts and has sealing contact with the inclined shoulder 16 on the lintel 12.

Not only does this form a weathertight window, but the offset lips 30 form a reinforcement or rib for each panel or vane and materially strengthens each panel or vane. This permits a relatively long vane to be used without sagging or breaking intermediate its ends.

Means is provided for operating all of the vanes or panels together and this means may consist of a main shaft 32. This shaft is located within the casing sill 11 and suitable bearings 33 are provided for rotatably supporting the shaft. Extending at right angles to the shaft 32 is the operating shaft 34 and this shaft is likewise rotatably mounted in suitable bearings 35 carried by the sill. The front face of the sill is provided with an opening and fitted within the opening is a cup 36 and this cup rotatably receives the operating disc 37 which is keyed or otherwise secured to

the shaft 34. This disc is substantially flush with the outer face of the sill so as to give a streamline appearance and the disc can be provided with an operating handle 38 to facilitate the turning thereof by an operator. Also keyed or otherwise secured to the shaft 34 is a worm 39 and this worm meshes with a worm wheel 40 keyed or otherwise secured to the main shaft 32. Obviously upon the turning of the shaft 34 rotary movement will be transmitted to the main shaft 32. Secured to the shaft 32 for movement therewith is a driving wheel 41 and this pulley wheel is disposed in alignment with the style 14 and under the pivot pins 18 carried by the style. It is to be noted at this point that the pivot pins 18 carried by the style 14 are relatively long and extend entirely across the style. These elongated pivoted pins have secured thereto one or more pulley wheels 42 and the pulley wheels of the various pivot pins are operatively connected together by pulley belts 43. The lowermost pivot pin is operatively connected to the shaft 32 by a pulley belt 44 which is trained over the pulley wheel 41. Consequently turning movement of the shaft 32 will result in turning movement of all of the panels. As all of the pulley wheels are of the same diameter all of the panels will be turned equal distances.

The outer portion of the sill 11 and the styles 13 and 14 can be left partially open so that free access to the interior thereof can be had.

Finishing and ornamental frame pieces 45 can be secured around the window frame and these pieces 45 can be of any desirable shape.

While I have shown one specific means for operating the vanes it is to be understood that other operating means can be employed.

The styles 13 and 14 have rigidly secured thereto stop strips 46 and these stop strips are so arranged as to engage the vanes or panels 17 above and below the hubs thereof. It is to be noted that certain of these stop strips are so disposed as to engage the outer faces of the vanes while others are disposed for engaging the inner faces of the vanes and the vanes abut these strips or stops when the same are in their vertical position. The stops are preferably formed from angle bars and the inner faces thereof can be provided with a felt or like weather strip 47.

In Figure 9 I have shown a slightly modified form of vane and these vanes are generally indicated by the reference character 48. The vanes 48 follow closely the configuration of the vane 17, but the vanes 48, however are provided at both their upper and lower edges with offset lips 49 and 50. The lips at their points of juncture with the body portion of the vanes define inclined sealing seats or shoulders 51. The lips are adapted to overlap one another in adjacent vanes and the lower lip of the lowermost vane is adapted to engage and snugly contact with the sill of the window casing. The top lip of the uppermost vane also snugly engages and contacts with the lintel of the casing. This forms a weathertight connection when the vanes are in their closed position.

While I have shown the vanes occupying the entire length of a window casing it is to be understood that the vanes can be used either at the top or bottom of a conventional window, if such should be desired.

Changes in details may be made without departing from the spirit or scope of my invention but what I claim as new is:

A window comprising a frame including side

5

hollow styles, louver panels extending across said frame, pivot pins rockably mounted in the styles, means for removably connecting the louvers to the pivot pins including U-shaped reinforcing strips receiving the ends of the panels and secured thereto, said strips being provided with hubs, said hubs having their outer faces provided with diametrically extending grooves, heads formed on the outer ends of the pivot pins arranged exteriorly of the styles, the heads being provided with flat edges, the hubs receiving the heads with the flat edges snugly engaging the walls of the grooves, whereby the louvers and the strips can be slid into and out of the heads of the pivot pins, means detachably securing the hubs to the heads, and means within the styles for turning certain of the pivot pins.

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6

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