

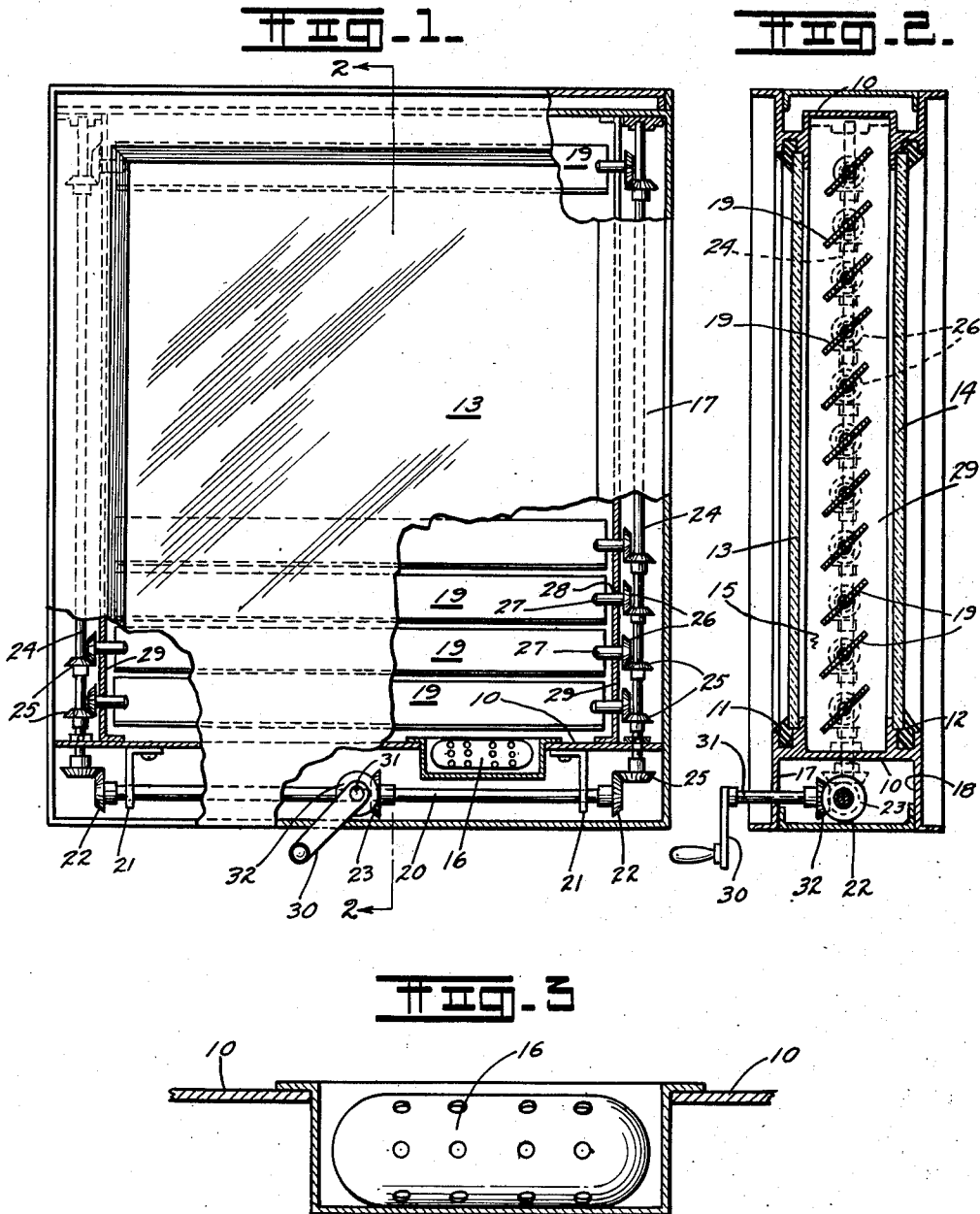
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COMBINATION WINDOW AND BLIND

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COMBINATION WINDOW AND BLIND

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This invention relates to windows and more particularly to double pane insulating windows combined with a Venetian blind structure.

The principal object of the invention is the provision of a double paned insulating window having a Venetian blind structure positioned between the double panes of the window.

A further object of the invention is the provision of a sealed insulating window construction incorporating adjustable light controlling means.

A still further object of the invention is the provision of an insulating window and frame unit incorporating a Venetian blind structure therein, the slat portions of which are operated from end pivots.

The combination insulating window and blind disclosed herein comprises an improvement in the art of windows and particularly those formed as units for the dual purpose of admitting light and forming an insulating closure.

The window disclosed herein is formed as a unitary structure including a frame which may be mounted directly in a window opening, the frame receiving a pair of spaced window panes which are sealed and positioned therein and a plurality of light control slats disposed between the double panes and separated by a simple and inexpensive mechanical arrangement with a remote control.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being the intention to cover all changes and modifications of the example of the invention herein chosen for purposes of the disclosure, which do not constitute departures from the spirit and scope of the invention.

The invention is illustrated in the accompanying drawing, wherein:

Figure 1 is a plan view of the combination window and blind with parts broken away and parts in cross section.

Figure 2 is a vertical section taken on line 2-2 of Figure 1.

Figure 3 is an enlarged detail of a portion of the device shown in Figures 1 and 2 and illustrating a dehydrating cartridge positioned therein.

By referring to the drawings and Figures 1 and 2 in particular it will be seen that a combination insulating window and light controlling blind structure has been disclosed and which

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structure comprises a frame 10 having a pair of spaced, oppositely disposed glass receiving channels 11 and 12 formed therein and defining spaced rectangular openings in which spaced panes of glass 13 and 14 are positioned. The panes of glass 13 and 14 are sealed at their edges to the frame 10 by means known in the art and thus form an insulating air chamber 15 therebetween which is closed with respect to the atmosphere and thereby capable of maintaining a clean, dry air condition therein and particularly with respect to a silica gel cartridge 16 or other dehydrating medium.

The frame 10 includes spaced, outwardly extending flanges 17 and 18, the faces of which form the finished interior and exterior surfaces of the frame portion of the combination window and blind. The flanges 17 and 18 extend around the four sides of the rectangular frame 10 and form an enclosure for a mechanism used to operate a plurality of light controlling blind slats 19. The mechanism includes a horizontal shaft 20 journaled at its ends in mounting brackets 21 which are attached to the frame 10. The shaft 20 has a pair of beveled gears 22-22 on its opposite ends and a third beveled gear 23 intermediate thereof.

The housing formed by the frame 10 and the flanges 17 and 18 thereof also serves to conceal a pair of vertically extending shafts 24-24, each of which is provided with a plurality of beveled gears 25 which are adapted to engage a plurality of beveled gears 26-26 each of which is positioned on a stub shaft 27 which in turn are engaged upon the ends of the respective slats 19. The stub shafts 27-27 extend through openings 28 in vertical panels 29-29 which are positioned in the frame 10 and serve to support the blind slats 19.

A crank 30 positioned on a shaft 31 carries a beveled gear 32 engaged with the beveled gear 23 heretofore referred to and positioned through the flange 17 and provides means for rotating the shaft 20 which in turn imparts rotating movement to the shafts 24-24 by way of the beveled gears 22 and 25 which are engaged in the lower corners of the device. Such rotating motion imparted the shafts 24-24 causes the rotation of the slats 19-19 on their longitudinal axes and it will thus be seen that in addition to forming an insulated window, the invention provides a suitable light controlling means positioned therein and capable of operation from the exterior of the window.

Those skilled in the art will understand that

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the openings in the frame 10 through which the shafts 24 pass are preferably closed with a suitable resilient closure such as a disc 33 of rubber-like material engaged upon the shafts and positioned against the frame 10 to close the opening.

It will thus be observed that the entire blind structure and operating mechanism is enclosed within the enclosure formed by the frame 10 so that the entry of moisture and dust into the enclosure is prevented and, therefore, the settling of dust or moisture on the blind construction as well as on the inner surfaces of the glass panes 13 and 14 is prevented.

It will thus be seen that the several objects of the invention have been met by the combination window and blind disclosed herein.

Having thus described my invention, what I claim is:

1. In an insulating window having a rectangular frame with spaced glass receiving channels and panes of glass positioned therein, apertured vertically positioned members in said frame adjacent the sides thereof, a plurality of slats arranged in spaced parallel relation to one another, each of said slats having stub shafts on their ends extending through opposite pairs of said apertures in said vertical members, gears on said

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stub shafts on the opposite side of said vertical members with respect to said slats, shafts positioned vertically in said frame adjacent said gears and secondary gears on said shafts engaging said gears on said stub shafts, a horizontal shaft carried by said frame in a part thereof remote from said slats, and a crank on said frame, interengaging gears on said horizontal shaft and said crank for simultaneously rotating said vertical shafts.

2. The improvement in an insulating window set forth in claim 1 and including a false bottom member in said frame separating said slats and vertical shaft from said horizontal shaft and crank, said vertical shaft extending through said false bottom member and air sealing glands about said vertical shaft in said false bottom member.

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