July 4, 1939. M. J. GRIFFITH 2,164,814

LOUVER TYPE WINDOW

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Fig. 1.

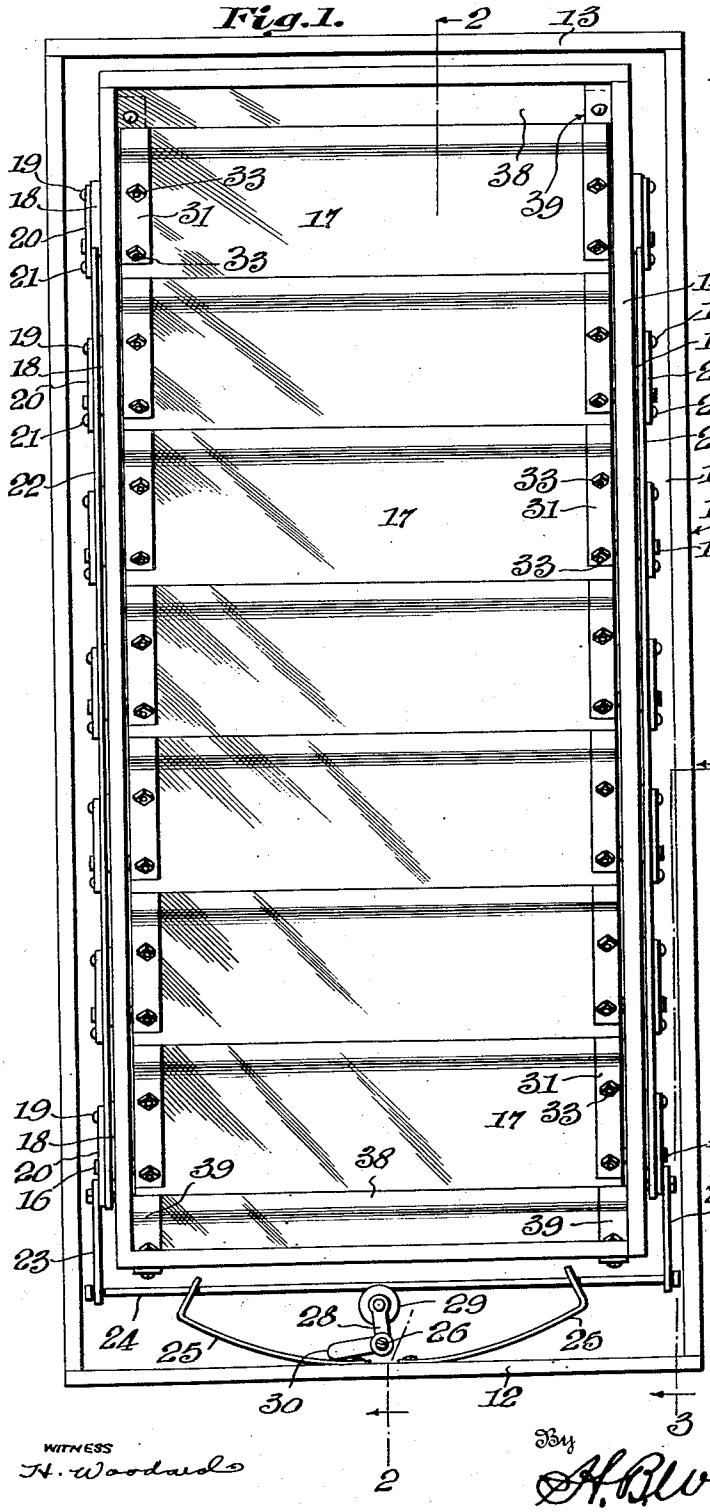
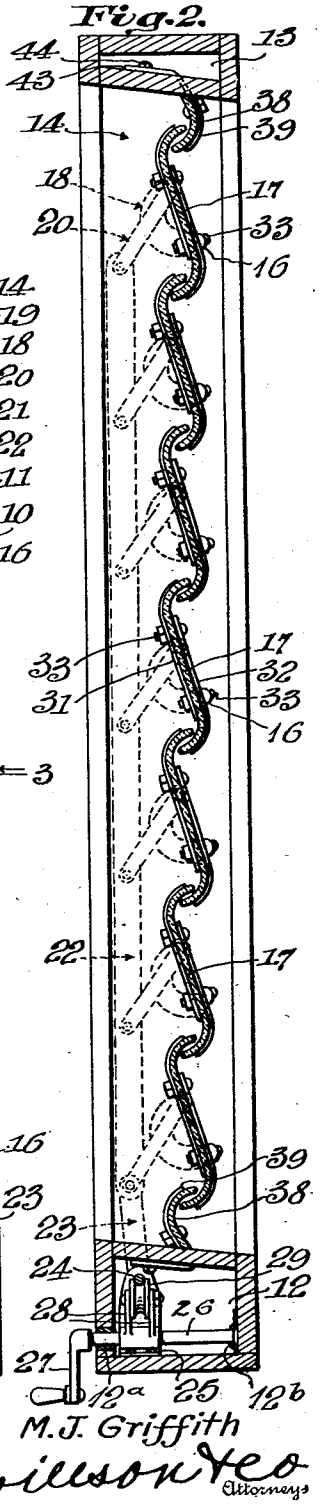


Fig. 2.



WITNESS
H. Woodard

By M. J. Griffith
H. B. Williamson & Co
Attorneys

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Fig. 3.

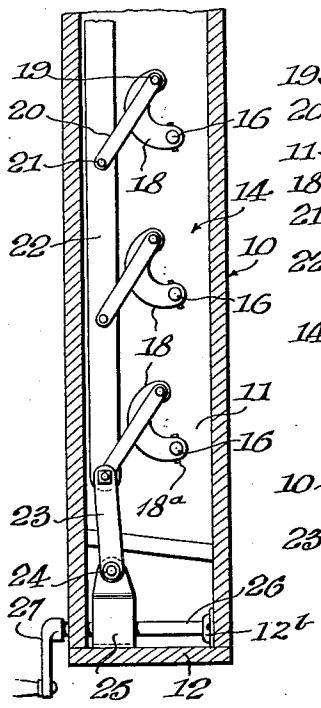


Fig. 4.

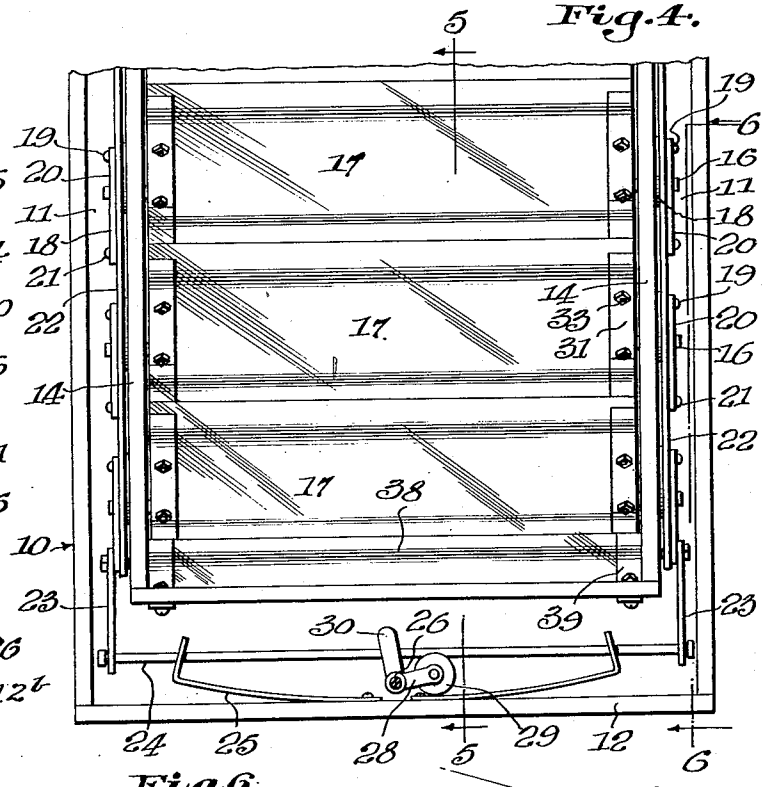


Fig. 5.

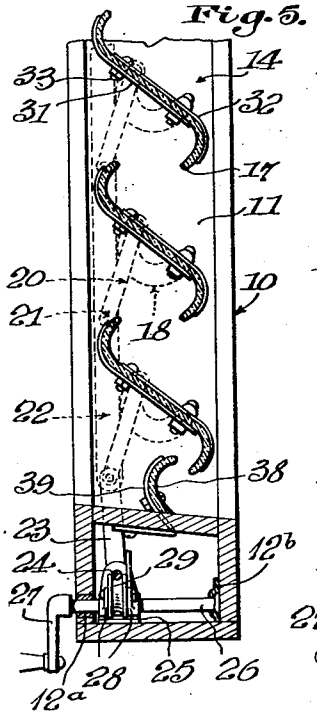


Fig. 6.

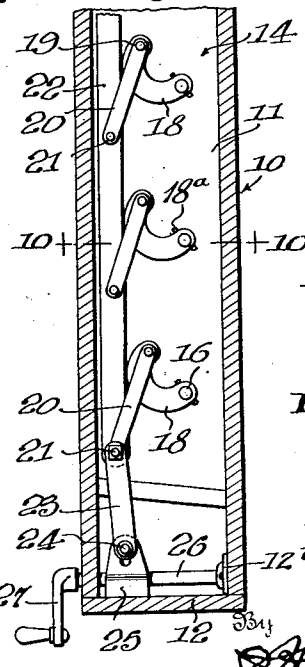


Fig. 7.

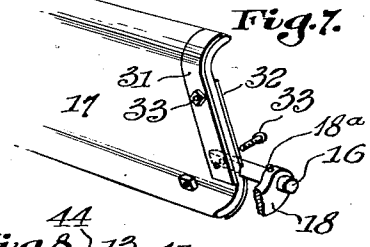


Fig. 8.

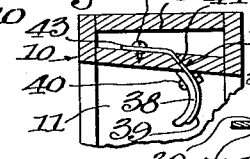


Fig. 10.

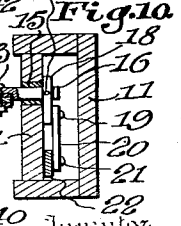
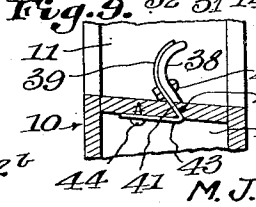


Fig. 9.



Inventor

M. J. Griffith

By H. B. Wilson & Co

Attorneys

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LOUVER TYPE WINDOW

Melvin J. Griffith, Miami, Fla.

Application December 28, 1938, Serial No. 248,130

5 Claims. (Cl. 189—69)

The invention relates to windows and the like of the type having a plurality of pivoted louvers which may be opened for ventilation, said louvers being preferably of S-shape in transverse section to exclude rain, to direct incoming air upwardly into the room, and to downwardly direct the outgoing air.

The principal object of the invention is to provide a simple and inexpensive, yet an efficient and desirable construction which permits easy and rapid opening and closing of the louvers and permits any which may become damaged to be easily replaced with a new one.

With the foregoing and minor objects in view, the invention resides in the novel subject matter hereinafter described and claimed, description being accomplished by reference to the accompanying drawings.

Fig. 1 is an inner side elevation with the louvers closed.

Fig. 2 is a vertical section on line 2—2 of Fig. 1.

Fig. 3 is a detail vertical section on line 3—3 of Fig. 1.

Fig. 4 is a fragmentary view similar to Fig. 1 but showing the louvers open.

Fig. 5 is a vertical section on line 5—5 of Fig. 4.

Fig. 6 is a vertical section on line 6—6 of Fig. 4.

Fig. 7 is a disassembled fragmentary perspective view of one of the louvers and its mounting means.

Figs. 8 and 9 are detail vertical sections through the upper and lower fixed louvers and their mounting means.

Fig. 10 is a detail horizontal section on line 10—10 of Fig. 6.

While only one form of construction has been illustrated and will be specifically described, it is to be understood that numerous variations may be made within the scope of the invention as claimed.

A frame 10 is provided, formed from wood or metal as desired, said frame having hollow stiles 11, a hollow lower end member 12, and a hollow upper end member 13. The inner side wall 14 of each stile 11 is provided with a plurality of vertically spaced bearings 15 in which the pintles 16 of the pivotally mounted louvers 17 are rockably mounted. Secured by pins 18a or otherwise secured to the outer ends of the pintles 16, are C-shaped crank arms 18 disposed within the hollow stiles 11, one end of each crank arm being connected with the adjacent pintle. The other ends of the various crank arms 18 are pivoted at 19 to inclined links 20, and the lower ends of these links are pivoted at 21 to vertical bars 22 which are slidably mounted within the stiles 11. The lower ends of the bars 22 are operatively connected by means of pivoted links 23 to a horizontal rod 24 located within the hollow lower end member 12 of the frame 10. Suitable springs 25 are anchored in this end member and are connected with the rod 24 to pull downwardly upon the latter, thus moving the links 23 and the bars 22 downwardly and causing the latter to so pull upon the links 20 and crank arms 18 as to swing the louvers 17 toward open position. The crank arms 18, links 20 and bars 22 are so related that when the louvers occupy fully open positions (Figs. 4, 5 and 6), the convex edges of said crank arms 18 will abut said bars 22, limiting the louver movement.

A transverse operating shaft 26 extends into the lower end member 12 under the rod 24 and is mounted in suitable bearings 12a and 12b, said shaft being provided with a hand crank or the like 27 by means of which it may be turned. This shaft 26 carries two arms 28 which are fixed thereon, and a peripherally grooved roller 29 is mounted between said arms in engagement with the lower side of the rod 24. By turning the crank or the like 27 in the proper direction, the roller 29 forces upwardly upon the rod 24, thereby effecting closing of the louvers 17. When the roller is moved slightly past a dead-center position, it obviously will lock the rod 24 raised, and the louvers closed. To limit movement of the roller to such a position, the shaft 26 may well be provided with a stop arm 30 to strike one of the springs 25 or the bottom of the end member 12.

Each louver 17 may be of glass or other transparent or translucent material, of wood, metal or other preferred material. The ends of each louver are clamped between metal clamping strips 31 and 32 by means of bolts 33 passing through said strips and louver. To attach the louver to the pintles 16, each of these pintles is preferably soldered, brazed, welded or otherwise made integral with the strip 31, and one of the bolts 33 may well pass through the inner portion of said pintle, as shown. By connecting the louvers and pintles in this or an equivalent manner, it will be readily seen that any damaged louver may be quickly and easily removed and replaced with another.

Two fixed louvers 38 are provided to coact with the endmost of the pivoted louvers 17, said louvers 38 being secured to brackets 39 by bolts or the

like 40. These brackets are preferably provided with portions 41 passing through slots 42 in the opposed walls of the end members 12 and 13, said portions 41 having angular ends 43 within said end members and secured thereto by screws or the like 44.

By providing the novel construction shown and described, or a substantial equivalent thereof, it will be seen that the objects of the invention may be expeditiously attained.

I claim:

1. A window comprising a frame having hollow stiles and a hollow lower end member in communication with said stiles, louvers extending between said hollow stiles and having pintles extending into the same, said hollow stiles having inner walls through which said pintles extend rotatably, two vertical bars disposed in said hollow stiles respectively, means in said hollow stiles operatively connecting said bars with said pintles to operate said louvers when said bars are moved vertically, a horizontal rod within said lower end member and so connected at its ends with the lower ends of said vertical bars that said bars and rod are vertically movable in unison, and means extending into said hollow lower end member and operatively associated with said rod to raise and lower the latter and said bars to operate said louvers.

2. A window comprising a frame, louvers extending between the frame stiles and having pintles supported thereby, two vertical bars extending longitudinally of said stiles, means operatively connecting said bars with said pintles to operate said louvers when said bars are moved vertically, a horizontal rod at the lower end of said frame and operatively connected at its ends with the lower ends of said vertical bars for moving the latter vertically when said rod is moved vertically, spring means connected with said rod for vertically moving the latter and said bars in one direction, a manually operable rock shaft having a crank arm near said rod, and a roller on said crank arm engaging said rod for vertically moving the latter and said bars in the other direction.

3. In a window or the like having a plurality of louvers provided with pintles, and bearings in which said pintles are mounted; C-shaped crank arms secured at one end to said pintles, links pivoted to the other ends of said C-shaped crank arms, and an operating bar pivoted to said links and mounted for longitudinal movement, said bar being so related with said C-shaped crank arms and links as to strike the convex edges of said C-shaped crank arms when the louvers occupy one extreme position.

4. A window comprising a frame, louvers extending between the frame stiles and having pintles supported thereby, two vertical bars extending longitudinally of said stiles, means operatively connecting said bars with said pintles to operate said louvers when said bars are moved vertically, a horizontal rod at the lower end of said frame and so connected at its ends with the lower ends of said vertical bars that said bars and rod are vertically movable in unison, and means operatively associated with said rod for moving the latter and said bars vertically.

5. A window comprising a frame, louvers extending between the frame stiles and having pintles supported thereby, two vertical bars extending longitudinally of said stiles, means operatively connecting said bars with said pintles to operate said louvers when said bars are moved vertically, a horizontal rod at the lower end of said frame and operatively connected at its ends with the lower ends of said vertical bars for moving the latter vertically when said rod is moved vertically, a support under said rod and fixedly carried by the frame, two elongated spring arms secured upon said support and inclined upwardly toward opposite ends of said rod, the outer ends of said spring arms having upstanding portions through which said rod passes to mount the latter for vertical movement, and means for vertically moving said rod against the action of said springs.

MELVIN J. GRIFFITH.