Sept. 6, 1927. 1,641,391

C. A. LEWIS

WINDOW AND STILE

Filed Sept. 7, 1926

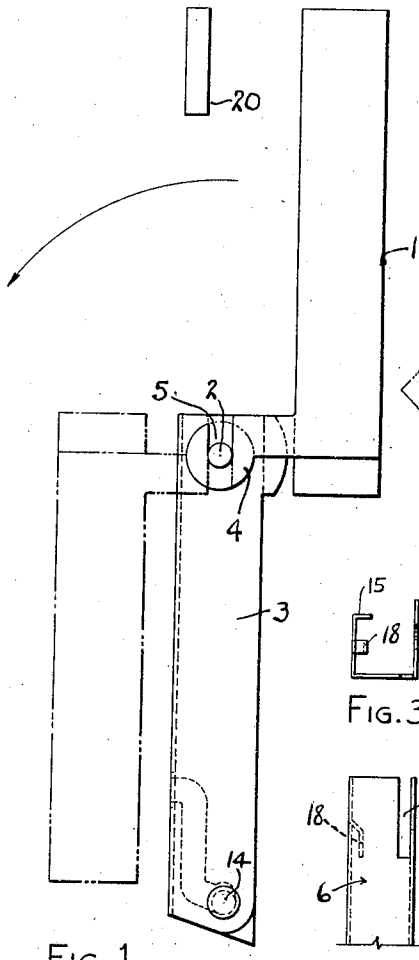


FIG. 1.

FIG. 3.

FIG. 2.

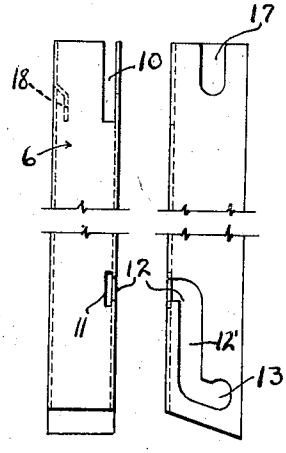


FIG. 4. FIG. 5.

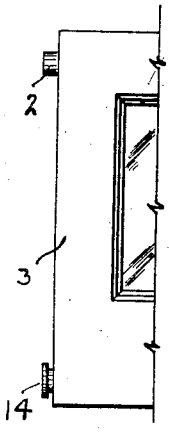


FIG. 6.

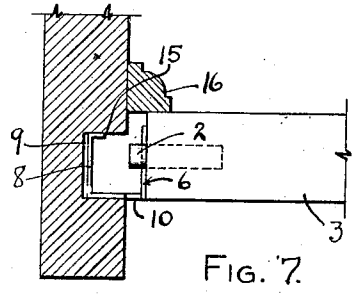


FIG. 7.

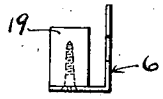


FIG. 8.

INVENTOR.
Claude A. Lewis.
BY
Jesse R. Stone
ATTORNEY.

Patented Sept. 6, 1927. 1,641,391

UNITED STATES PATENT OFFICE.

CLAUDE A. LEWIS, OF HOUSTON, TEXAS, ASSIGNOR TO AMERICAN WINDOW COMPANY, A CORPORATION OF DELAWARE.

WINDOW AND STILE.

Application filed September 7, 1926. Serial No. 133,927.

My invention relates to windows and pertains particularly to the construction of the window sash and the stile, or rider, upon which it is mounted for pivotal adjustment or removal.

In my copending application for patent No. 115,141, filed June 10, 1926, a window of this type is shown. The improvement forming the subject matter of the present invention has for its object the forming of a stile of metal, or part metal construction, and the provision upon the window sash of a pivotal pin engaging with said stile to limit lateral movement of the window relative to the stile, and thus also prevent accidental removal of the window from the stile.

It is desired to form a connection between the window and its rider, or stile, which will prevent play, or lost motion, when the window is moved to any desired position, but which will still allow removal of the window sash from the rider.

In the drawing the arrangement of the sash relative to its rider is shown, all non-pertinent parts being omitted. Fig. 1 is a side elevation showing the upper and lower sash, the rider being shown in dotted lines. Fig. 2 is a similar side elevation, the sash being in different position from the position shown in Fig. 1. Fig. 3 is a top plan view of one of the metal riders. Figs. 4 and 5 are front and side elevations respectively of the metal rider. Fig. 6 is a broken front view of the window sash. Fig. 7 is a broken top view of the lower sash, the window casing being in section. Fig. 8 shows a modified form of rider. Like numerals of references are applied to like parts in all the views.

In the drawing Figs. 1 and 2 show the sash in operative position removed from the casing. The upper sash 1 is not formed to slide in its channels, but may swing inwardly at its upper end on a pivot about pins 2 on opposite sides of the lower sash 3. A forwardly extending plate or bracket 4 on the lower end of the upper sash has an upwardly-opening slot 5 therein, to fit about the lower side of the pin.

The lower sash is adapted to be raised and lowered. It is connected for that purpose to riders at each side. These riders 6 are shown as being made of sheet metal bent into a somewhat rectangular tubular construction. These riders are of the same length as the sash, and, as shown in Figs. 3 and 7, have a side 7 presented toward the sash, which side is slightly wider than the opposite side 8 which moves in the channel 9 of the casing. The forward or inner side of the rider is shown in Fig. 4. It has, adjacent the upper end, a slot 10 to allow movement therethrough of the plate 4 of the upper sash, when said sash is swinging forwardly. At a point spaced upwardly a suitable distance from the lower end is a lateral opening 11 having a lateral slot 12 in the side 7 connecting therewith. Said slot is of narrower width than the opening 11. Its shape is shown in Fig. 5. It has a vertical portion 12′; to allow the sliding of the lower sash pin 14 therein, and an inclined portion at the lower end connecting with a rounded opening 13.

The side of the rider opposite the forward side 6 is open except for a narrow recurved edge 15 upon the outer side 8. This leaves access to the inner side of the stile and also provides a dead space in which rain or moisture may be trapped to prevent its passing through into the room, from the outside. An outer stop member 16 is secured upon the casing on the outer side of the lower sash.

The lower sash has the upper and lower pins 2 and 14 fitting within slots in the rider. The upper pin 2 fits within a short slot 17 opening to the upper end, as seen in Fig. 5. The lower pin 14 has a head thereon of greater width than slot 12, said head being adapted to enter beyond the metal of the slot through the forward opening 11.

When the sash is mounted upon the riders, the pins 14 are first inserted through openings 11 into the slots 12′ and the upper end of the sash is then swung inwardly to bring the upper pins 2 over the slots 17 and the sash is then lowered to bring the pins to the lower ends of the slots. The lower pin 14 will then move into the opening 13 so that, if the sash is then raised the lower pin will engage in the upper curved recess of the opening 13 thus raising the rider with the sash.

It is contemplated that the riders will be equipped with sash cord, or chains, and balance weights, and a strip of the sheet metal

on each of the riders is cut out and bent inwardly as shown at 18 to provide attachment for the chain.

If desired the rider may be made partly of wood, and in Fig. 8 such a rider is shown. The wood portion 19 is secured by wood screws to the forward side of the rider as shown, and serves to fit the channel 9 of the casing to guide the sash and rider.

When the sash is to be moved inwardly relative to the rider, said sash is raised to bring the rider against a stop block 20. The further upward movement will raise the sash relative to the rider. The lower end is swung inwardly slightly to bring the pin 14 into the vertical slot. The sash is then raised sufficiently to bring the pin 2 clear of the upper slot 17, after which the upper end of the sash may be swung inwardly, and the lower pin again dropped to the lower end of the slot 12′, and the sash will be pivoted to swing freely on the pins 14. If it is desired to remove the sash the sash may be lifted to move the pins 14 upwardly and out of their slots in an obvious manner.

The advantages of this improvement lie in the construction of the rider which is exceedingly simple to construct. The lower pins 14, upon which the window sash is largely supported have a head which allows no lateral play between sash and rider. When the pin is within the lower opening 13, the raising of the sash brings the pin into immediate contact with the rider to raise said rider without any apprecible amount of vertical play. The forming of the rider of hollow sheet metal leaves a pocket at the side of the sash assisting in preventing rain and wind from entering past the window sash.

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

1. In a window having a casing with vertical channels therein the combination of a window sash, and riders on said sash at each side thereof slidable in said channels, the said riders being made of sheet metal with side and front walls, said side walls adjacent the sash having upwardly opening slots therein and lower slots opening forwardly, the lower ends of said lower slots having a rounded enlargement, pins on said sash engaging said upwardly opening slots, and lower pins on said sash engaging within said lower slots, said lower pins having heads thereon for the purpose described.

2. In a window, a sash, a pair of riders thereon, each of said riders having upper and lower pin-receiving slots, said upper slots opening upwardly, said lower slots opening forwardly, pins on said sash engaging said slots, said lower slots having pin-receiving recesses to limit the normal upward movement of said pins, the lower pin having a head thereon engaging said rider to prevent lateral play of the sash in said rider.

3. In a window, a sash, a pair of riders thereon, each of said riders having upper and lower pin-receiving slots, said upper slots opening upwardly, said lower slots opening forwardly, pins on said sash engaging said slots, the lower pin having a head thereon engaging said rider to prevent lateral play of the sash in said rider, and there being an outwardly offset opening in said lower slot to receive the pin and normally cause the rider to move with said sash.

4. In a window, a sash, a pair of riders thereon, said riders being of sheet metal, stationary means to limit the upward movement of said riders, pins at the upper and lower ends of said sash engaging in slots in said riders the lower pins having heads thereon engaging said riders to prevent lateral relative movement of said riders and said sash, said sash being releasable from said riders by the forward and upward movement of the lower end of said sash.

5. In a window, a sash, a pair of riders thereon, said riders being of hollow sheet metal with upper and lower slots therein, pins on said sash engaging in said slots, the said lower slots having offset openings at the lower ends thereof to be engaged by the lower pins and cause the vertical movement of said riders with said sash.

6. In a window, a sash, a pair of riders thereon, upper and lower projections on said sash engaging within slots in said riders, the upper projections being releasable from said slots to allow said sash to swing on said lower projections, the lower projections engaging said slots to normally prevent vertical or lateral movement of said riders relative to said sash.

7. In a window, sash, a pair of riders thereon, said riders being of semi-tubular sheet metal construction, pins on said sash engaging slots in said riders, said riders having their outer sides open to form a moisture receiving pocket for the purpose described.

In testimony whereof I hereunto affix my signature this 30 day of August, A. D. 1926.

CLAUDE A. LEWIS.