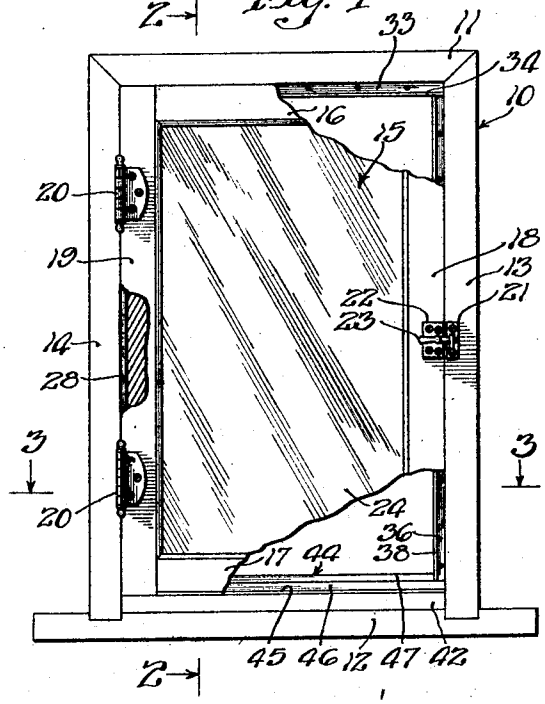
March 24, 1931. J. N. SPRUNG 1,797,845

WINDOW CONSTRUCTION

Filed Nov. 9, 1929 2 Sheets-Sheet 1

Fig. 1



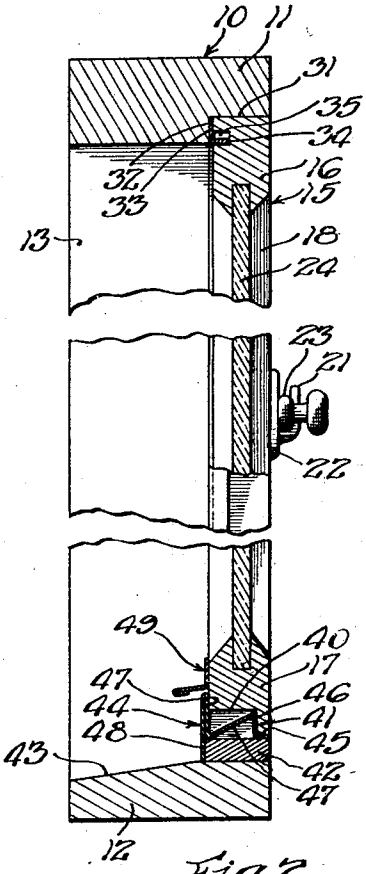


Fig. 2

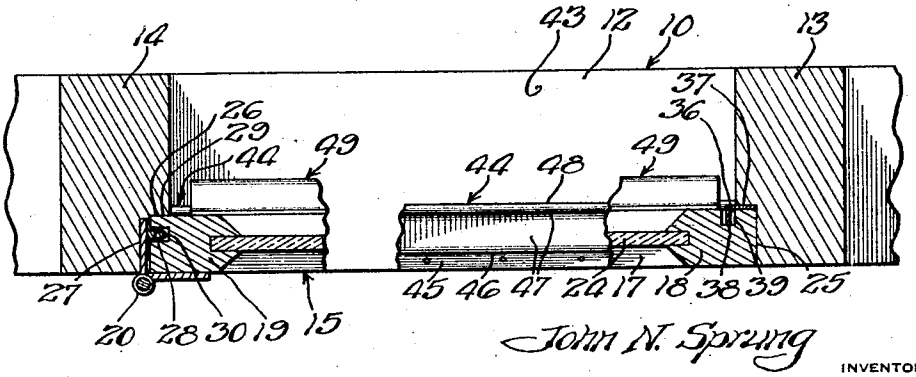


Fig. 3

John N. Sprung
INVENTOR:

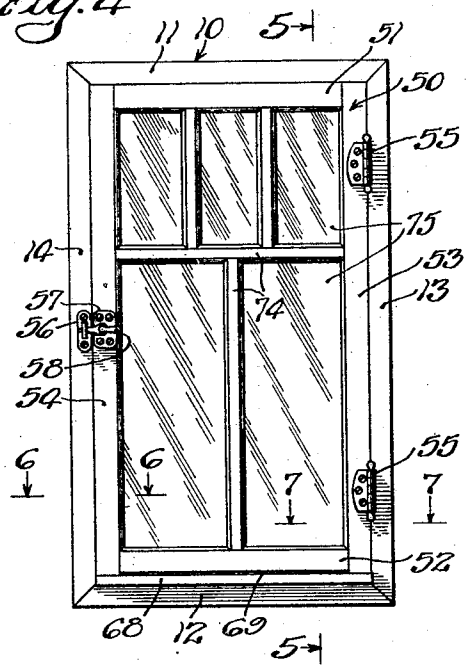
BY Victor J. Evans
HIS ATTORNEY.

March 24, 1931. J. N. SPRUNG 1,797,845

WINDOW CONSTRUCTION

Filed Nov. 9, 1929 2 Sheets-Sheet 2

Fig. 4



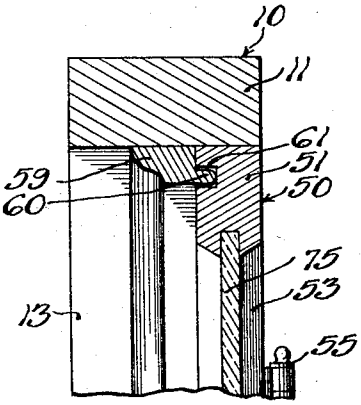


Fig. 5

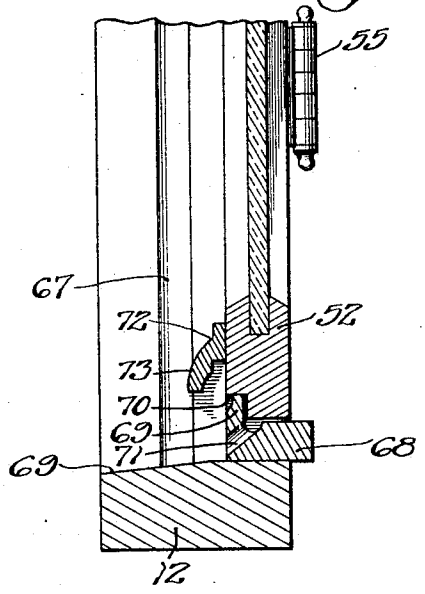
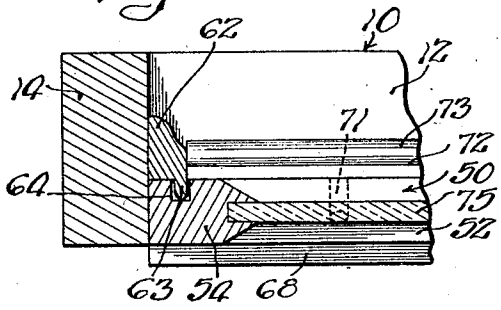


Fig. 6



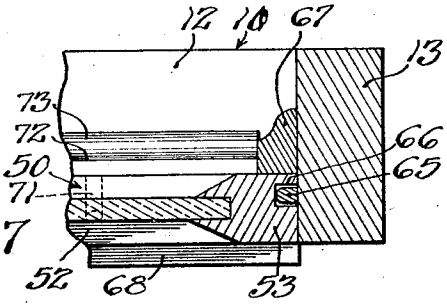


Fig. 7

John N. Sprung INVENTOR:

BY Victor J. Evans

HIS ATTORNEY.

Patented Mar. 24, 1931 1,797,845

UNITED STATES PATENT OFFICE

JOHN N. SPRUNG, OF CHICAGO, ILLINOIS

WINDOW CONSTRUCTION

Application filed November 9, 1929. Serial No. 406,016.

This invention relates to certain novel improvements in window constructions and has for its principal object the provision of an improved construction of this character which will be highly efficient in use and economical in manufacture.

The particular embodiment of this invention, as illustrated and described, is adapted for use in connection with hinged windows which are known in the art as "French windows" and the invention contemplates providing an arrangement whereby the edges of the window may be very effectively sealed to prevent leakage thereby.

Another object of the invention is to provide a window construction of the above described character which will embody an arrangement that will very effectively deflect condensation on the windows in order that this condensation will not collect on the sills.

Another object of the invention is to provide a device of the above described character which will be susceptible to a number of different modes of construction, as for example an arrangement may be provided wherein metal may be employed and which will also be susceptible to a wood construction.

Other objects will appear hereinafter.

The invention consists in the novel combination and arrangement of parts to be hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings, showing the preferred form of construction and in which:

Fig. 1 is an interior elevational view, in which certain portions are broken away, depicting one form of construction for my invention;

Fig. 2 is a sectional view taken substantially on the line 2—2 on Fig. 1;

Fig. 3 is a sectional view taken substantially on the line 3—3 on Fig. 1;

Fig. 4 is an interior elevational view depicting another form of construction for my invention;

Fig. 5 is a sectional view taken substantially on the line 5—5 on Fig. 4;

Fig. 6 is a sectional view taken substantially on the line 6—6 on Fig. 4; and

Fig. 7 is a sectional view taken substantially on the line 7—7 on Fig. 4.

In the accompanying drawings wherein the preferred forms of construction for my invention are depicted, 10 generically indicates a window frame construction that is arranged in the manner well understood in the art. This window frame construction comprises, in the present instance, a top rail 11, a bottom rail or sill 12, and side members 13 and 14. The window is generically indicated by 15 and includes a top rail 16, a lower rail 17 and side rails 18 and 19.

In the embodiment of the invention illustrated in Figs. 1 to 3 inclusive the side rail 19 of the window 15 is hingedly connected to the side rail 14 of the frame construction 10 by hinges 20. The side rail 18 is detachably connected to the side rail 13 by the latch construction comprising the keeper 21 mounted on the side rail 13 and the latch member proper indicated by 22, which includes a pivotally mounted member 23 and which latch member proper is mounted on the side rail 18. Mounted in grooves in the rails of the window construction 15 is a plane of glass or other analogous material indicated by 24. The side rail 13 is recessed on the inwardly disposed edge thereof adjacent one face as indicated at 25 and the rail 14 is similarly recessed as indicated at 26. The window construction 15 is disposed in these recesses 25 and 26.

On the wall 27 of the recess 26, to which wall one of the leaves of the hinges 20 is secured, a strip 28 is fixed, which strip 28 extends outwardly parallel to the wall 29 of the recess 26 but in spaced relation with said wall. When the window 15 is in closed position the strip 28 is disposed in the recess 30 provided in the adjacent edge of the rail 19 of the window construction 15.

A recess 31 is provided in the top rail 11 into which recess the rail 16 of the window construction 15 is fitted. The recess 31 communicates at its ends with the recesses 25 and 26. On the inwardly disposed wall 32 of the recess 31 a substantially L-shaped strip 33 is provided which includes a limb portion 34 that projects into the slot 35 provided in the

adjacent face of the rail 16. An L-shaped strip 36 is mounted on the inwardly disposed wall 37 of the recess 25 and includes a limb portion 38 that extends at right angles to the wall 37 and this limb portion 38 fits into the recess 39 provided in the adjacent face of the rail 18. By reason of the extension of the limb portions 34 and 38 into the recesses 35 and 39 respectively and the extension of the strip 28 into the recess 30 it is apparent that when the window is in closing position in the frame 10 that passage past the top and side rails thereof is rendered difficult by reason of the sealing action of the above named strips in the recesses. A somewhat different construction is provided for bringing about the sealing of the rail 17 with the sill of the window construction and this arrangement is as follows.

The outwardly disposed face of the rail 17 is recessed as indicated at 40 and thus a downwardly depending portion 41 is defined. A sill strip 42 is mounted on the upper face of the sill 12 and the upper face of the sill is tapered away from this sill strip outwardly of the frame construction as indicated at 43. A sealing plate generically indicated by 44 is provided which is mounted on the upper surface of the sill strip 42. This sealing strip 44 includes a portion 45 that is mounted on the sill strip below the lower end of the projection 41. An upstanding portion 46 is provided at the inner end of the portion 45 which projects upwardly over the inner face of the projection 41 into the recess 40. A portion 47 projects from the upper end of the portion 46 diagonally across the recess 40 at which point a portion 47 is provided that extends upwardly across the opposite face of the recess 40 and across a portion of the outwardly disposed face of the rail 17 above the recess 40 and a portion 48 is bent upon this portion 47 which extends downwardly thereover over the outwardly disposed face of the sill strip 42. It is manifest that the disposition of this sealing strip 44 in the recess 40 and the extension of a portion thereof over the outwardly disposed face of the rail 17 brings about a very effective sealing to prevent passage between the rail 17 and the sill strip 42.

The foregoing arrangement, therefore, very effectively accomplishes one object of my invention. However, an additional object of my invention is to provide a construction for deflecting condensation away from the sill and especially away from the juncture between the sill and the lower rail of the window construction. The device for accomplishing this includes the substantially L-shaped strip generically indicated by 49. One portion of this strip 49 is secured to the outwardly disposed face of the rail 17 above the upper end of the portion 47 of the strip 44. The other limb portion thereof extends outwardly and slightly downwardly from this face of the rail 17 and the outer end thereof is bent back upon itself as clearly illustrated in Fig. 2. It is manifest that this strip 49 will very effectively deflect any condensation passing down from the pane 24 of the window 15.

The above set forth construction is one in which I employ members preferably formed from metal. In Figs. 4, 5, 6, and 7 I depict an arrangement in which wood or analogous material is employed rather than metal and I have found it advantageous to employ a somewhat different construction. In this arrangement a window generically indicated by 50 is employed and this window 50 comprises a top rail 51, a bottom or sill rail 52, and side rails 53 and 54. In this instance the hinges 55 are employed for hingedly interconnecting the side rail 53 of the window 50 to the side rail 13 of the frame 10. A keeper 56 is mounted on the side rail 14 and a latch member 57 is mounted on the rail 54. On the latch member 57 a pivotally mounted member 58 is provided which detachably engages the keeper 56 and in this manner the window 50 is held in closing position with respect to the area defined by the frame 10.

On the top rail 11 of the frame construction 10 I mount a strip or moulding 59 which includes an outwardly projecting bead 60. A recess 61 is provided in the adjacent face of the top rail 51 of the window 50 into which the bead 60 fits when the window 50 is in closing position. A strip or moulding 62 is mounted on the side rail 14 of the frame 10 and has an outwardly extended bead 63 which fits into the recess 64 provided in the adjacent face of the rail 54 of the window 50. The mouldings 59 and 62 are spaced from the inner edge of the frame 10 a distance sufficient to permit the window 50 to be fitted into the frame 10 with the inwardly disposed face of the window 50 substantially flush with the inwardly disposed face of the frame 10. A strip 65 substantially similar to the strip 28 fits into a recess 66 in the rail 53 of the window construction 50. This strip 65 serves the same purpose of the strip 28. A strip or moulding 67 is aligned with the strips or mouldings 59 and 62 and the inwardly disposed face of the moulding 67 abuts the outwardly disposed face of the rail 53. These mouldings together with the beads thereon fitted into the grooves and adjacent faces or rails of the window in co-operation with the strip 65 very effectively seal against leakage past the top and side rails of the window.

In order to prevent against leakage past the juncture of the lower rail of the window and the sill the following arrangement is provided. A sill strip 68 is mounted on the upper surface of the sill 12, which sill 12 embodies a downwardly extending taper 69 similar to the taper 43. The sill strip 68 includes at the inwardly disposed edge thereof an upstanding lip 69 that fits in a recess 70 pro-

vided in the outwardly disposed face of the rail 52. It is manifest therefore that the sill strip 68 is substantially L-shaped in cross section. Extending diagonally through the sill strip 68 are openings 71, the utility of which will be set forth presently. The sill strip 68 extends beyond the inner face of the rail 52. On the outer face of the rail 52 above the upper end of the recess 70 I mount a strip or moulding 72 which includes a downwardly deflected curved portion 73 that has the lower end thereof spaced from the face of the rail 72 as clearly illustrated in Fig. 5.

In the present instance I depict a plurality of strips 74 which extend vertically and horizontally between the rails of the window 50 and these strips co-operate with the rails to retain the panes of glass or the like 75 in the window. It is manifest that the strips 74 might be omitted and a single pane of glass might be mounted in the rails of the window 50 without departing from the purview of my invention.

The above construction very effectively prevents accumulation of condensation on the sills. Condensation forming on the inner surfaces of the panes 75 travels downwardly over the inwardly disposed face of the rail 52 onto the upwardly disposed projecting portion of the sill strip 68. This upper surface of the sill strip 68 preferably embodies a slight outwardly directed inclination and clearance is provided between the lower edge of the rail 52 and the upper edge of this sill strip 68. Therefore condensation entrapped on the upper surface of the sill strip 68 will flow outwardly thereover and will pass out through the openings 71. Condensation collecting on the outer surface of the panes 75 will flow downwardly and will be deflected onto the inclination 69 by the moulding 72.

It is manifest that this latter construction will very effectively dispose of condensation and will also very effectively seal against leakage past the window.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification, without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. In a device of the character stated, a window frame, a window hingedly mounted in said frame, said window having a groove in the outwardly disposed faces of the top rail thereof and the rail opposite the hinged rail, members mounted on adjacent portions of the frame for extension into said grooves, a strip mounted on the rail of said frame to which said window is hinged, said window having a groove in the hinged rail thereof into which said last named strip is projected, said window having an outwardly opening groove in the lower rail thereof, and means carried by the sill of said window construction disposed for arrangement in said last named groove when said window is in closed position with respect to said frame.

2. In a device of the character stated, a window frame, a window, means for hinging one rail of said window to one rail of said frame, mouldings mounted on the top rail of said frame and the rail of said frame opposite that to which said window is hingedly connected, said window having grooves in the top rail thereof and the rail opposite that hingedly connected to said frame, said mouldings having projecting beads thereon disposed for arrangement in said grooves when said window is in closing position, a strip mounted on the edge of said frame to which said window is connected, the rail of said window hingedly connected to said frame having a groove in the face thereof disposed toward said edge of said frame whereby said strip may extend thereinto when said member is in closed position, the lower rail of said window construction having an outwardly opening recess therein, a sill plate mounted on the sill of said frame below said window having portions thereon adapted for disposition in said last named recess, and means on the outer surface of said lower rail providing a deflecting surface extended away from said lower rail.

In testimony whereof I affix my signature.

JOHN N. SPRUNG.