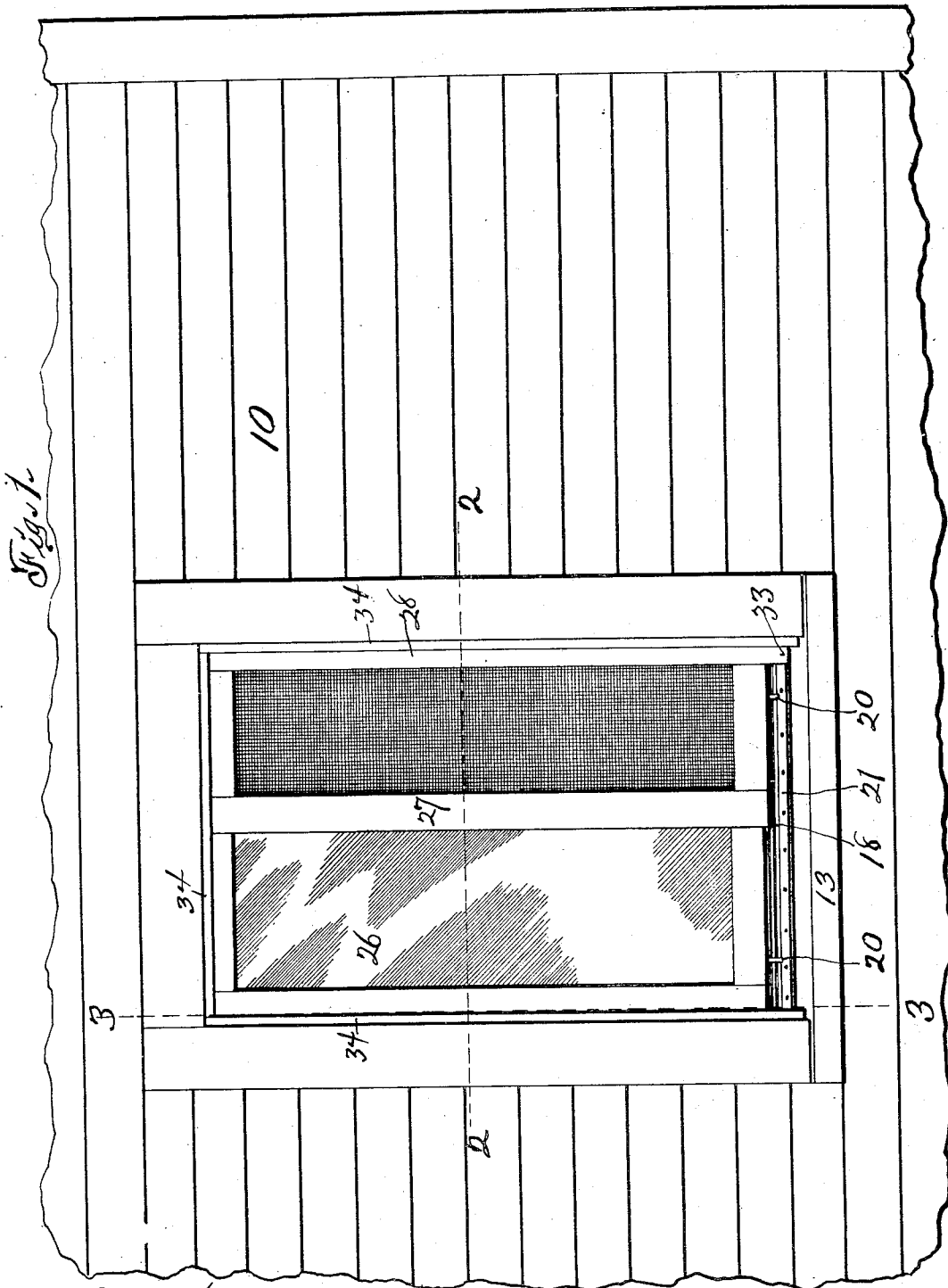


J. F. HANKAMMER.
 SCREEN AND WINDOW.
 APPLICATION FILED AUG. 7, 1916.

1,325,089.

Patented Dec. 16, 1919.

4 SHEETS—SHEET 1.



Attest.
 H. Sweet.
 N. W. Winters.

Inventor:
 John F. Hankammer.
 By Silas Sweet

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4 SHEETS—SHEET 2.



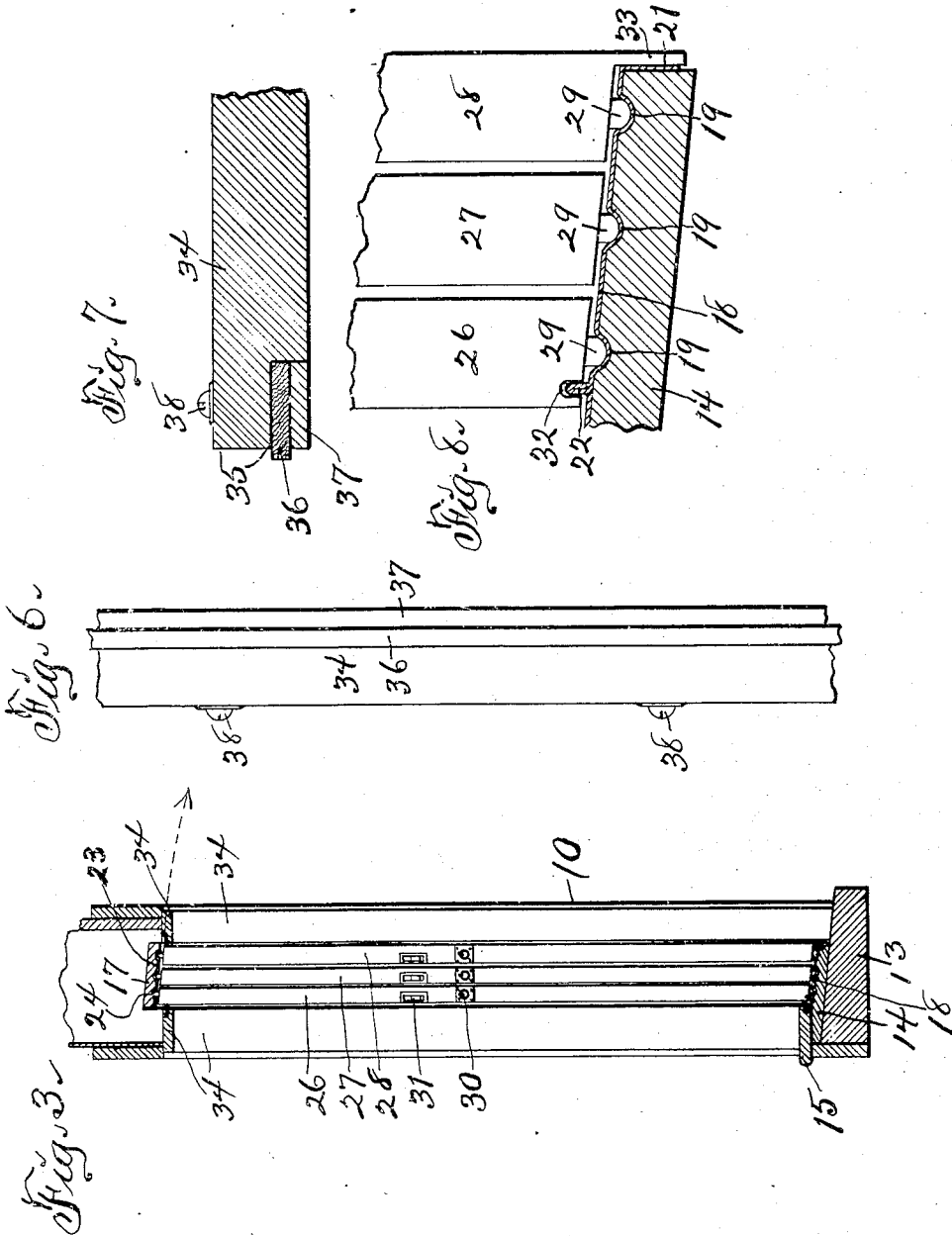
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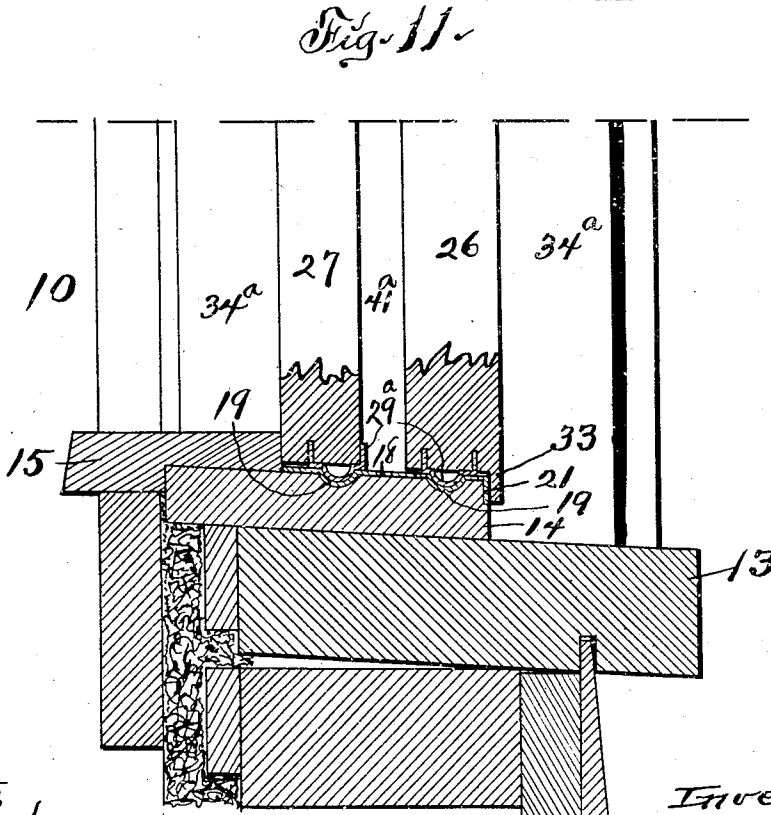
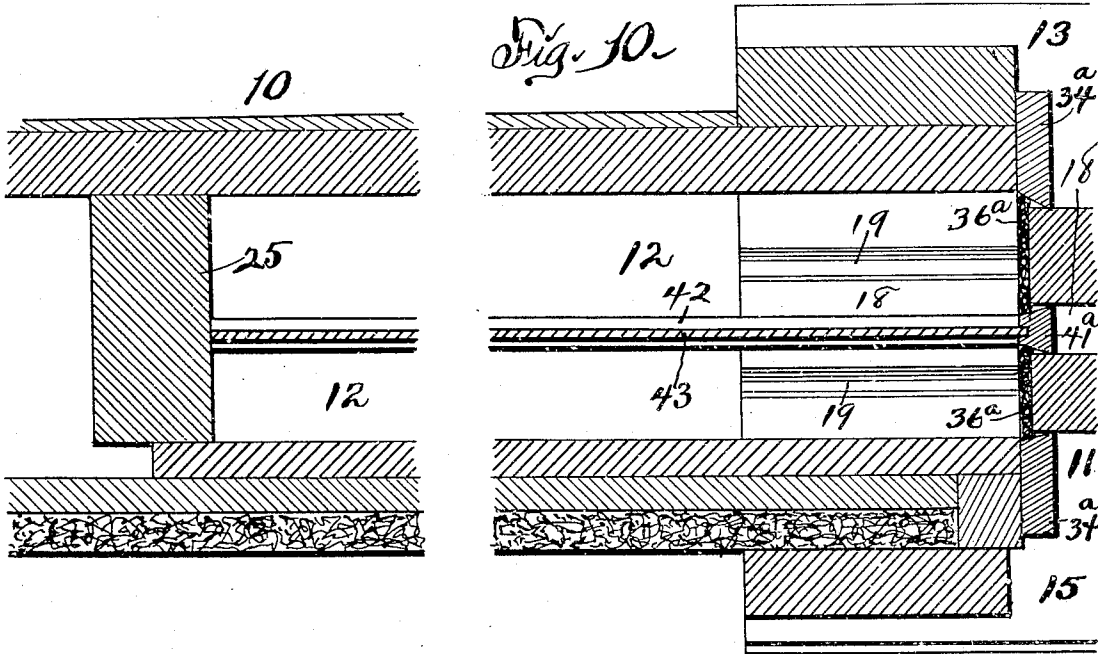
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UNITED STATES PATENT OFFICE.

JOHN F. HANKAMMER, OF DES MOINES, IOWA.

SCREEN AND WINDOW.

1,325,089.

Specification of Letters Patent.

Patented Dec. 16, 1919.

Application filed August 7, 1916. Serial No. 113,496.

To all whom it may concern:

Be it known that I, JOHN F. HANKAMMER, citizen of the United States of America, and resident of Des Moines, Polk county, Iowa, have invented new and useful Screens and Windows, of which the following is a specification.

An object of this invention is to provide means for supplying a window or door opening with three independent and yet associated and coacting elements, *i. e.*, a case-ment sash, a screen and a storm sash arranged for selective use in closing or obstructing said opening.

Another object of this invention is to provide means for supplying a window or door opening with two independent and yet associated and coacting elements, *i. e.*, a case-ment sash and a screen arranged for selective use in closing or obstructing an opening.

A further object of this invention is to provide improved means for slidably mounting doors, sashes, blinds or screens.

Another object of this invention is to provide improved means for associating sashes, doors, screens and shutters or blinds in horizontally-sliding relations.

Another object of this invention is to provide improved means for sealing the joints between doors and windows and the frames thereof.

A further object of this invention is to provide improved means for sealing the joints between contacting or adjacent faces of slidably arranged members in windows and doors.

Another object of this invention is to provide means for preventing leakage of and for discharging water adjacent to joints between members in a door and window equipment.

Another object of this invention is to provide an improved construction for sills and headers of door and window frames.

Another object of this invention is to provide an improved construction whereby, in door and window equipment, members may be slidably arranged, associated in parallel planes, sealed against leakage of air and water, locked in closed positions and equipped for convenient engagement manually for movement between open and closed positions.

My invention consists in the construction, arrangement and combination of elements hereinafter set forth, pointed out in my

claims and illustrated by the accompanying drawing, in which—

Figure 1 is an elevation of a wall showing my improvement applied to a window opening. Fig. 2 is a horizontal section on the indicated line 2—2 of Fig. 1, the screen being shown in open position. Fig. 3 is an elevation, partly in section, on the indicated line 3—3 of Fig. 1. Fig. 4 is a detail view showing a supporting and guiding means for either of the sliding members. Fig. 5 is a detail of a locking means for either of the sliding members. Fig. 6 is a detail elevation and Fig. 7 a detail cross-section of a weather strip employed to seal the joints of the sliding members. Fig. 8 is a detail elevation, partly in section, on an enlarged scale, showing the means employed slidably to connect and mount the several members in parallel planes. Fig. 9 is a detail elevation on an enlarged scale showing a hinged pull ring employed on each of the sliding members. Fig. 10 is a horizontal section showing two sliding members associated. Fig. 11 is an elevation, partly in section, of the elements shown in Fig. 10.

In the construction of the devices as shown the numeral 10 designates generally a portion of the wall of a building having a window opening 11 and a pocket 12 at one side of and communicating with said opening. The opening 11 may be adapted for doors, windows or any other purpose and is provided with any suitable frame, preferably having the characteristic elements of a sill 13, a sub-sill 14, an overlay 15, jambs 16 (one of which jambs is slotted to communicate with the pocket 12) and a header 17. Any suitable face casings may be applied to the jambs and header. A track plate 18 is mounted on the sub-sill 14 and is formed with longitudinal grooves or depressed beads 19 from end to end, in this instance three in number, and transverse grooves or depressed beads 20 within the opening 11. The track plate 18 is inclined outwardly relative to the wall 10 and the rain or melting snow drains outwardly thereon through the transverse grooves 20. The outer marginal portion of the track plate 18 is bent downwardly to form a flange 21 in contact with the outer face of the sub-sill 14. The track plate 18 also is formed with a longitudinal upwardly-extending bead 22. An upper track plate 23 is mounted on the lower face of the header 17 and said plate

is formed with longitudinal grooves 24 or upwardly-extending beads directly opposite to the grooves or beads 19 of the lower plate. The track plates preferably are made of sheet metal by rolling, pressing or bending. A stop 25 is mounted vertically at the innermost limit of the pocket 12. A casement sash 26, screen frame 27 and storm sash 28 are mounted in parallel planes and spaced relations in the opening 11 and are adapted to slide, selectively or collectively, into the pocket 12 through the slot in the rear jamb. The slotted jamb and pocket may be located at either side of the opening 11. The sash and screens may be assorted as desired with doors, shutters, blinds and other members for any desired closure. Each sliding member is provided with spring-pressed studs 29 in and projecting from their upper and lower faces into the grooves 24 and 19 respectively and provide means for slidably engaging said members with said grooves and the track plates containing them. The uppermost studs will yield into the member against the resilience of the springs thereof, to permit the member to be placed, removed or replaced by movement through arcs, as indicated by dotted lines in Fig. 3. Each sliding member is provided with a hinged pull-ring 30 countersunk in its outer margin and adapted to be engaged by a finger of the operator for the purpose of drawing said member into the opening from the pocket 12. Each sliding member also is provided with a countersunk latch or lock 31 in its outermost stile, adapted to be operated manually to latch or lock said member to the forward jamb 16. Each latch or lock 31 also provides means for manual engagement to move said member rearwardly to a sufficient distance to permit the hand of the operator to pass beyond it and grasp the stile to move the member into the pocket. The casement sash 26 is formed with a groove 32 in its lower margin adapted to receive the bead 22 and prevent passage of snow, rain or dust beneath said sash into a room. The storm sash 28 is formed with a lip 33 on its lower margin, which lip extends downwardly outside of and in close relation to or contact with the flange 21 to prevent passage of snow, rain or dust beneath said sash into a room. Stops 34 are mounted on the jambs 16 and header 17, and the overlay 15 follows the same general construction of the stops as follows: Each stop is formed with a rabbet 35 and a strip 36 of compressible material, such as felt or india-rubber, is mounted in the rabbet and projects therefrom (Fig. 7). A binding strip 37 overlies the strip 36 and bolts or screws 38 are mounted through the stop and strips to secure them together. The projecting portions of the weather strips 36 are adapted to engage rails and stiles of the

sashes, inside the casement sash and outside the storm sash. A strip 39, of suitable material such as felt or rubber, is mounted on the rear margin of the screen frame 27 and is adapted (when said frame is in closed position in the opening 11) to engage the adjacent stiles of the sashes and prevent the passage of dust, rain, snow and the like into the pocket 12. A vertical groove 40 is formed in the rear stile or the screen frames 27 in such position that, when said frame is in closed position, said groove will receive and carry downwardly any rain contacting therewith and prevent it passing into the pocket through the space between said stile and the forward stile of the storm sash 28. A parting bead 41 is mounted on the forward jamb 16 in such position that the forward stile of the screen frame will abut against it in closed position. The sashes pass, in closed positions, alongside of and in contact with the parting bead 41. The sashes may be glazed in any desired manner and I make no claim for the construction of any of the hardware used in the pulls, spring-studs or latches.

In the construction shown in Figs. 10 and 11 the spring-pressed studs 29 are omitted and concavo-convex studs 29^a, formed with angular marginal portions, are mounted in the lower rails of the sash and screen frames 26, 27. In the case of the sash 26, the studs 29^a have their margins driven into chisel-made slots in and longitudinally of the lower face of the sash, the concavo-convex body of said studs slidably engaging in the groove formed by a bead 19 of the plate 18. In the case of the screen 27, one marginal portion of the studs 29^a overlies the outer face of the bottom rail of said screen while the other marginal portion is driven into a chisel-made slot in the lower face of said rail. In each instance the studs 29^a are held in place by transverse brads driven through them and their seats. The lip 33 also is formed on the sash 26 in this instance since said sash is the outermost member in the arrangement here shown. Stops 34^a are substituted for the stops 34 and a parting bead 41^a is introduced between the slots in the rear jamb, each of said stops and parting bead being formed with beveled margins adjacent the sliding members 26, 27 and strips 36^a of compressible material, such as felt, are mounted on the rear margins of said sliding members and are adapted, when said members are in closed positions in the opening 11, to be drawn into contact and sealing relation with said beveled margins. Grooved strips 42 (one of which is shown in Fig. 10) are mounted above and below the upper and lower ends of the sliding members and connect the parting bead 41^a to the stop 25 and the rear face of the parting bead 41^a also is grooved vertically. A plate 43 (preferably

of wall-board) is mounted in the grooves of the strips 42 and parting bead 41^a and abuts the stop 25, thus preventing dust and other substances entering the pocket sections from each other.

I do not desire to be limited to the exact construction shown and described, as the same may be modified in various particulars without departing from my invention.

10 I claim as my invention—

1. In a window having a sill formed with parallel grooves in its upper surface, the combination with said sill of a metal plate formed with parallel beads adapted to be
15 received in said grooves and also formed with a flange adapted to inclose an edge of said sill.

2. In a window having a sill formed with parallel grooves and provided with a metal
20 plate formed with parallel beads adapted to be received in said grooves, said window also being provided with laterally movable members arranged parallel with each other and above and spaced from said sill, the combina-

tion with said plate of engaging members on
25 said movable members adapted to slide in said beads.

3. In a window having a sill formed with parallel grooves and provided with a metal plate formed with parallel beads adapted to
30 be received in said grooves, said window also being provided with laterally-movable members arranged parallel with each other and above and spaced from said sill, the combination with said plate of engaging mem-
35 bers on said movable members adapted to slide in said beads, one of the movable members being formed with a groove in its bottom and the metal plate being formed with a flange adapted to enter and have sliding
40 engagement with said groove.

Signed by me at Des Moines, Iowa, this
22nd day of February, 1916.

JOHN F. HANKAMMER.

Witnesses:

EARL M. SINCLAIR,
S. C. SWEET.