H. D. HOPE.

CASEMENT WINDOW.

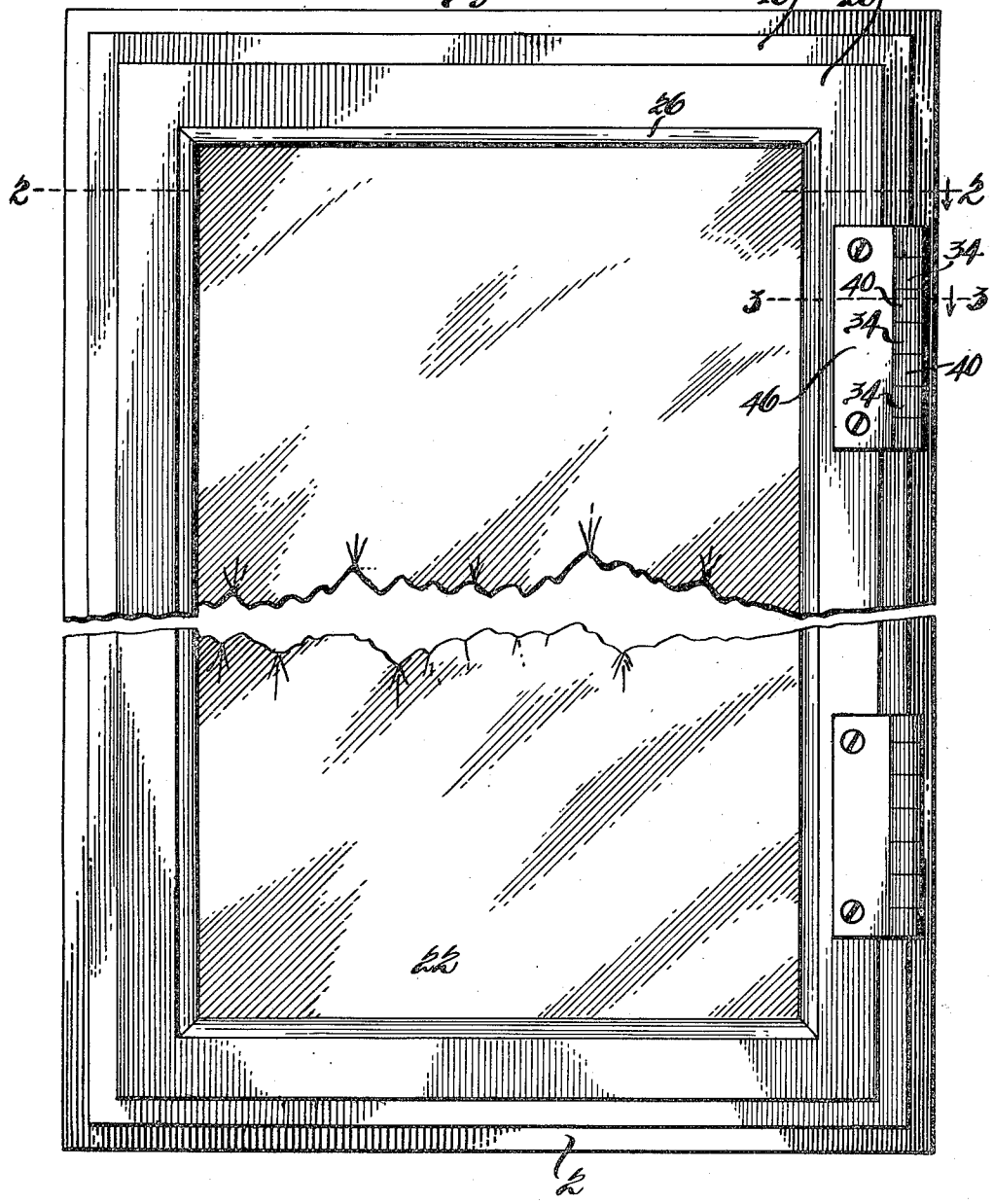
APPLICATION FILED MAR. 23, 1917.

1,263,248.

Patented Apr. 16, 1918.

2 SHEETS—SHEET 1.

FIG. 1.



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2 SHEETS—SHEET 2.

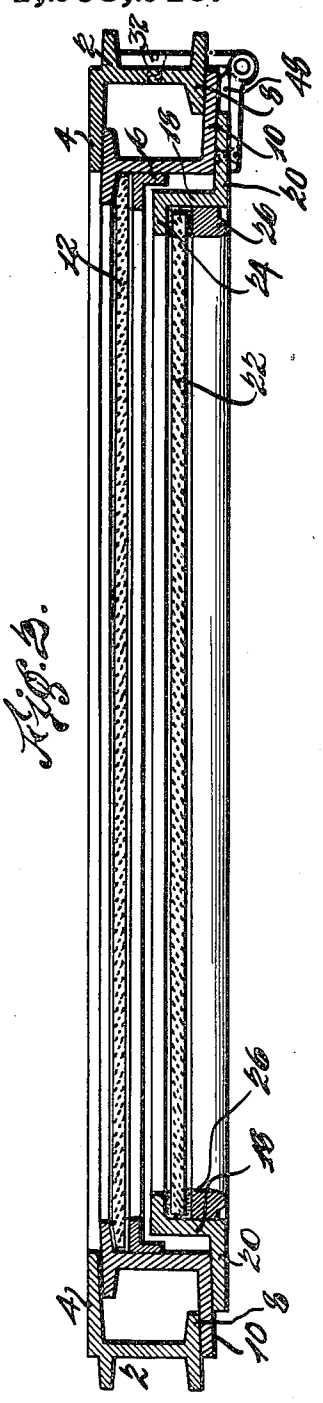


Fig. 2.

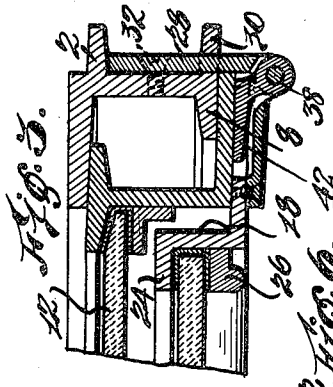


Fig. 3.

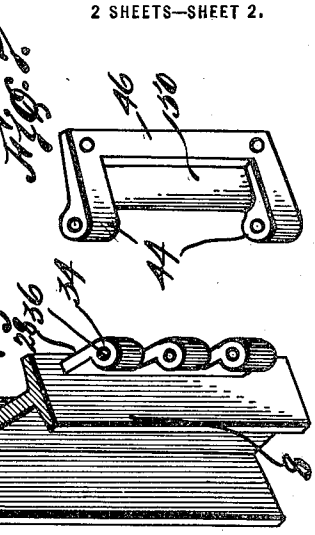


Fig. 7.

Fig. 6.

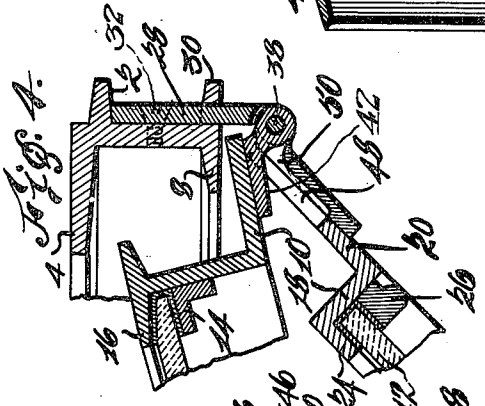


Fig. 4.

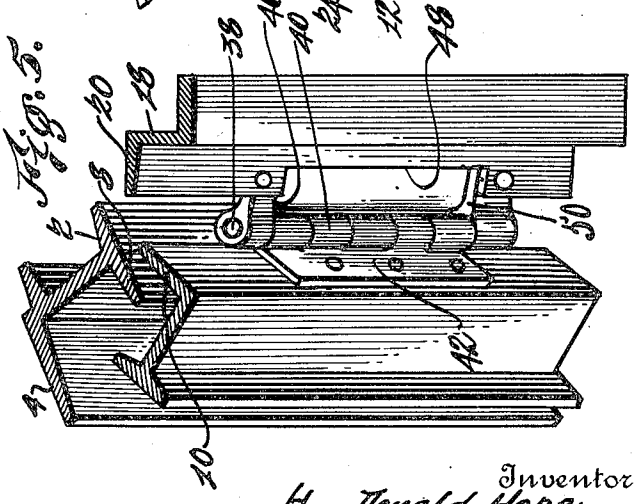


Fig. 5.

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UNITED STATES PATENT OFFICE.

HENRY DONALD HOPE, OF BIRMINGHAM, ENGLAND.

CASEMENT-WINDOW.

1,263,248. Specification of Letters Patent. Patented Apr. 16, 1918.

Application filed March 23, 1917. Serial No. 157,053.

To all whom it may concern:

Be it known that I, HENRY DONALD HOPE, a subject of the King of Great Britain and Ireland, residing at Birmingham, England, have invented certain new and useful Improvements in Casement-Windows, of which the following is a clear, full, and exact description.

This invention relates to casement windows, and an object of the invention is to provide a tight, strong, compact and neat appearing double casement window having independently swinging sashes.

More particularly the invention aims to provide a double casement window in which the parts are so nested, or otherwise arranged, that the structure will require little, if any, more space than the ordinary single casement structure.

An important feature of the invention is the novel hinge construction by which each sash of the double casement window is supported to swing independently about a common pintle, and which nevertheless gives the appearance of an ordinary hinge when the window is in its closed position.

A further important feature of the invention is the novel construction involving the simple and compact attachment of the aforementioned hinge to the abutting flanges of metal casements.

Other objects and important features of the invention will appear from the following description and claims when considered in connection with the accompanying drawings, in which—

Figure 1 is a front elevation of a double casement window embodying the present invention;

Fig. 2 is a section on the line 2—2 of Fig. 1;

Fig. 3 is a section on the line 3—3 of Fig. 1;

Fig. 4 is a section similar to Fig. 3, showing the parts in a partly opened condition;

Fig. 5 is a perspective detail also showing the parts in a partly opened position;

Fig. 6 is a perspective detail showing the part of the hinge attached to the window frame; and

Fig. 7 is a perspective detail showing the inner face of the outer hinge leaf.

In the illustrated construction, the window frame 2 is preferably formed of a metal channel of the section shown in Fig. 2, this channel having upon one side a flange 4 which serves as a stop for the casement sash 6, and having upon its other side a shorter flange 8 against which the casement flange 10 abuts, the casement sash 6 being of L-shaped section as shown. The glass 12 of the sash 6 is preferably mounted in the side of the sash adjacent to the flange 4 of the frame 2, being confined in said sash between metal angles strips or fillets 14 and an inwardly directed flange 16 upon said sash 6.

The strips or fillets 14 are preferably made in angular cross section to provide a larger recess in the sash 6 for the reception of the second sash 18, having a flange 20 overlapping and abutting the flange 10 of the sash 6, which flange 10 extends in the plane of said sash 6 on the outer edge of said sash. Said flange will thus overlap the sash 6 just outside the plane of said frame. The glass 22 of the sash 18 is shown as confined between an inwardly directed flange 24 upon the sash 18 and a strip or fillet 26.

From the foregoing description it will be seen that when the parts are in the position shown in Fig. 2, a closed air space is provided between the panes 12 and 22, which serves as insulation.

As hereinabove suggested, an important feature of the invention is the novel hinge construction by which the separate sashes are supported to swing about a common pintle. This hinge comprises a leaf 28 attached to the frame 2 in the manner shown in Figs. 2, 3 and 4 of the drawings, the leaf 28 passing through a slot in the stiffening flange 30 of the frame 2 and being connected by a screw 32 to the web of the frame channel. The leaf 28 is provided with three knuckles 34 having openings 36, in which is received the pintle 38 of the hinge, and these knuckles 34 are spaced to interlock with two knuckles 40 upon a second leaf 42 connected to the flange 10 of the sash 6, as shown in Figs. 3, 4 and 5. The knuckles 44 on the leaf 46, connected to the flange 20 of the sash 18, embrace the outer knuckles of the leaf 28 and thus, when the pintle 38 is passed through all of the knuckles, the said knuckles are maintained in their interlocked relation. It will be observed that the pintle 30 is located adjacent the edges of the flanges 10 and 20.

It will be noted that the leaf 42 of the hinge is attached to the outer face of the flange 10 of the sash 6, and since the inner face of the flange 20 of the sash 18 abuts

against the said outer face of the flange 10, a recess 48 is provided in the flange 20 to receive the leaf 42 of the hinge, and a recess 50 is also provided in the inner face of the leaf 46, the leaf 46 entirely covering the leaf 42 when the window is in the closed condition shown in Fig. 2 because both leaves swing in the same plane.

It will be obvious that the invention is equally applicable to outwardly opening casements and to inwardly opening casements, and from the drawings and the foregoing description it will be seen that the double casement structure of the present invention requires little if any more space than the ordinary single casement structure and that when in its closed condition, its appearance is substantially that of a single casement since the hinges have every appearance of an ordinary hinge.

What I claim as new is:—

1. In a casement window, the combination with a frame, of a window sash of a size adapted to nest in and to swing into said frame, said sash having a flange extending beyond its outer edge and abutting the sides of said frame, and said flange overlapping said frame just outside the plane of said frame, and a second window sash of a size adapted to nest in and to swing into said first sash, and having a flange overlapping and abutting the said first flange.

2. In a casement window, the combination with a frame, of a window sash adapted to swing into said frame and having a flange overlapping and abutting the sides of said frame, a second window sash of a size adapted to nest in and to swing into said first sash and having a flange overlapping and closely abuttting the said first flange, and a hinge having a leaf connected to said frame and separate leaves, one of them connected to the flange of each of said sashes, the flange of the second sash being provided with a recess to receive that leaf of said hinge which is attached to the first sash.

3. In a casement window, the combination with a frame and a plurality of sashes arranged to swing individually into nested relation in said frame, of a hinge having a leaf for each of said sashes, said leaves having interlocking knuckles and a common pintle, and the outermost leaf being arranged to swing in the same plane as that in which the intermediate leaf part of the hinge swings, so as to form a cover for said intermediate part.

4. In a casement window, the combination with a frame having an inwardly directed flange upon one side, of a window sash adapted to swing from the other side into said frame into abutting relation to said flange and having a flange extending beyond its outer edge, said flange abutting the other side of said frame and overlapping said frame just outside of its said other side, and a second window sash arranged to swing into said first sash and having a flange overlapping and abutting the said first flange.

5. In a casement window, the combination with a frame having an inwardly directed flange upon one side, of a window sash adapted to swing from the other side into said frame into abutting relation to said flange and having a flange extending beyond its outer edge, said flange abutting the other side of said frame and overlapping said frame just outside of its said other side, a second window sash arranged to swing into said first sash and having a flange extending beyond the outer edge of said second sash and overlapping and abutting the said first flange, and a hinge for said sashes having a common pintle and having a separate leaf for each sash and for the frame, said sash leaves being secured to the said flanges of said sashes and provided with interlocking knuckles mounted upon said pintle.

6. In a casement window, the combination with a frame, of a window sash adapted to swing into said frame and having a flange overlapping and abutting the sides of said frame, a second window sash arranged to swing into said first sash and having a flange overlapping and abutting the sides of said first sash, and a hinge for said sashes comprising a leaf for each sash and a leaf for the frame having a common pintle, said sash leaves being attached to the outer faces of the respective sash flanges, and the outer flange having a recess to receive the inner hinge leaf, and the outer hinge leaf being arranged to cover said recess and said inner hinge leaf.

7. In a casement window, the combination with a frame, of a window sash adapted to swing into said frame and having a flange overlapping and abutting the sides of said frame, a second window sash arranged to swing into said first sash and having a flange overlapping and abutting the sides of said first sash, and a hinge for said window having a leaf for each of said sashes and a leaf for said frame mounted upon a common pintle, said pintle being adjacent the edges of said flanges, and the leaf for the inner sash being mounted upon the outer surface of said sash flange and the leaf for the outer sash being mounted upon its said flange and arranged to cover said leaf for the inner sash.

8. In a casement window, the combination with a frame, a window sash adapted to swing into said frame and having a flange extending beyond the outer edge of said sash and overlapping and abutting the sides of said frame, a pane of glass mounted in

said sash near the side remote from said flange, a second window sash arranged to swing into said first sash and having a flange overlapping and abutting the sides of said first sash, and a pane of glass in said second sash mounted near the side thereof which is also remote from said first flange, to provide an air space between said windows when in closed condition.

Signed at Birmingham, England, this 28th day of February, 1917.

HENRY DONALD HOPE.

Witness:

ERNEST HARKER.