Dec. 13, 1938. U. S. APPLEGATE 2,139,651

SASH HINGE FIXTURE

Filed June 27, 1936

Fig. 1.

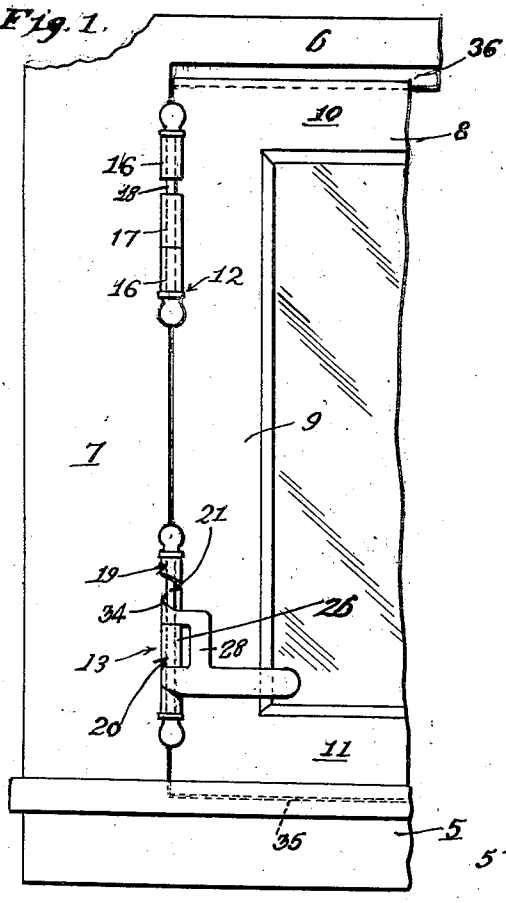

Fig. 2.

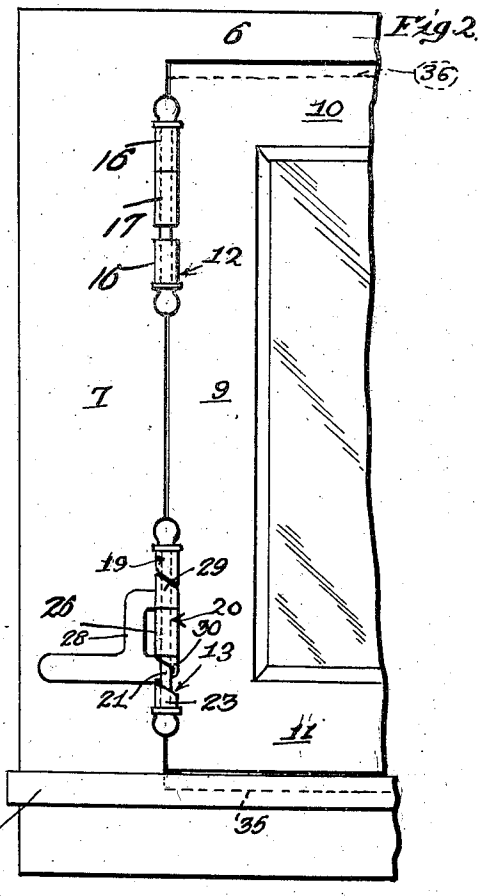

Fig. 3.

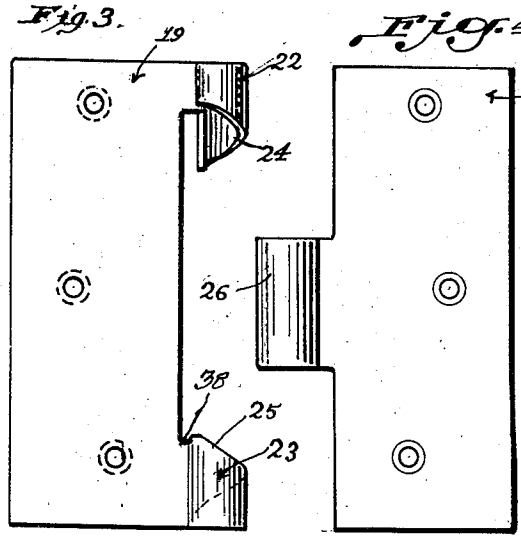

Fig. 4.

Fig. 5.

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SASH HINGE FIXTURE

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1 Claim. (Cl. 16—160)

This invention resides in that class of hinge-fixtures for windows having sashes mounted in frames to move vertically and to swing horizontally when raised by manipulation of the hinge fixture; and the invention has reference more particularly to a novel and simply constructed hinge fixture comprising a pair of pivotally and slidably connected hinge leaves, one of which is secured to the window sash and the other to window frame, and the hinged or pivoted leaf being provided with a cam operating lever co-operating with cam surfaces formed on the pivotal portion of the hinged leaf to raise the window sash in order that it may be swung horizontally on the hinge pivot pin.

The present invention has for its principal object to provide a novel and simply constructed hinge-fixture of the general character hereinafter set forth, the parts of which are readily secured in their operative relations with respect to the window sash and the frame in which the sash swings; and, the invention has for its further object to greatly simplify the hinge fixture construction, so that the sash may be readily raised and lowered, and when in its lowered relation to the window frame providing a weather-tight joint between the sash and the frame.

A further object is to provide a sash hinge construction which consists of few parts, that may be simply and quickly operated, and when the sashes are swung to an open position will effectually maintain the same against accidental closure.

A still further object is to provide a hinge fixture in which the sash may be maintained in its raised position when desired so that the sash may be freely swung to and from the window frame without the necessity of operating the hinge fixture mechanism.

Further objects and advantages will be apparent from the following description reference being had to the accompanying drawing, in which—

Fig. 1 is a partial front elevation of a window sash mounted therein in a closed and locked position.

Fig. 2 is a view similar to the above showing the sash raised preparatory to being swung to an open position.

Fig. 3 is an enlarged face view of the companion leaf of the lifting hinge member that is secured to the side jamb of the window frame.

Fig. 4 is an enlarged face view of the companion leaf of the lifting hinge that is secured to the window sash.

Fig. 5 is an enlarged side view of the hinge leaf lifting lever.

Referring now more specifically to the drawing, 5 designates the lower horizontal sill, 6 an upper horizontal jamb or head, and 7 the vertical side jambs of a window frame. In Figs. 1 and 2 only a partial view of a window frame and sash are shown, it being understood that a similar frame and sash are oppositely disposed. The swinging sash frame 8 consists of vertical side rails or stiles 9, top rail 10, and a bottom rail 11, all of usual construction.

The swinging sashes 8 are mounted in the window frame on hinges 12 and 13, the upper hinges 12 consisting of hinge leaves having knuckles 16 secured to the sash jamb 7 of the window frame and a leaf having a knuckle secured to the vertical side rail of the swing sash frame, the knuckles 16 being spaced apart in order that the knuckle 17 may move upwardly and downwardly on its pintle 18 when the sash frame is moved to its open or closed position, as shown in Figs. 1 and 2 of the drawing.

The lower lifting hinges 13, consist of a pair of leaves 19 and 20, hinge leaf 19 being fixedly secured to the side jamb or stile 7, and leaf 20 to the window sash, the leaves being pivotally secured together by pintles 21.

Hinge leaf 19 is provided on its outer side edge with a pair of short knuckles 22, 23, oppositely disposed and in alinement, their inwardly facing ends being formed into cam surfaces 24, 25. Hinge leaf 20 along its vertical outer edge is provided with a centrally disposed square headed knuckle 26 that engages the pintle 21 when the hinge leaves are pivotally secured together. Disposed on the pintle 21 of the sash lifting hinge 13, and between the oppositely disposed ends of knuckles 22, 23, 26 is a cam operating lifting lever 27, having a vertical arm 28 extending from its upper horizontal edge and carrying on its outturned end a short knuckle 29, the inner end of the lifting lever 27 having a similar knuckle 30. Knuckle 29 has a cam 34 formed on its upper end, while knuckle 30 has a similar cam 31 formed on its lower end. It will be understood that the knuckle 26 of hinge leaf 20 is of such length as to provide sufficient space between the cam surfaces 24 and 25 of knuckles 22 and 23, of hinge plate 19 to permit of an upward movement of the sash frame when the cam lifting lever 27 is shifted from one position to another as illustrated in Figs. 1 and 2 of the drawing.

The operation of hinge construction will be clear from the foregoing description. When the

swinging sash 8 is in a closed position, as shown in Fig. 1, the bottom rail 11 of the sash will rest in the groove 35 of the frame sill 5, and its upper horizontal edge of the top rail 10 below the top of horizontal groove 36 of upper jamb 6 of the window frame, the cam lifting lever 27 being in the position shown in Fig. 1. When it is desired to open the swinging sash the cam lifting lever 26 is swung on the pintle 21, the cams 34 and 31 of said lever riding on the cam surfaces 24 and 25 of the knuckles 22 and 23 of the hinge leaf 19 to raise the sash 8 to the position shown in Fig. 2 when the sash may be swung horizontally on its hinges. In order to maintain the sash 8 in a raised position so that it may be freely swung to an open or closed position without a manipulation of the cam lifting lever, I have provided knuckle 23 of the hinge leaf 19 with a notch 38 that may be engaged by the arm 27 of the cam lever to hold the sash in a raised position.

I am fully aware, that various changes may be made in the general arrangements and combinations of the several devices and parts, as well as in the details of the description of said parts, without departing from the scope of the present invention as set forth in the foregoing specification, and as defined in the clauses of the claim which are appended thereto. Hence, I do not limit my present invention to the exact arrangements and combinations of the various devices and parts as described in the said specification, nor do I confine myself to the exact details of the construction of the said parts, as illustrated in the accompanying drawing.

I claim:

A fixture for windows having a sash which is mounted in the frame to move vertically and also swing horizontally comprising a hinge having a leaf adapted to be secured to the frame and a leaf adapted to be secured to the sash, one of said hinge leaves having a pair of knuckles, the hinge leaf secured to the sash having a single knuckle, the inwardly facing ends of the knuckles of the frame leaf having cam surfaces, a pivot pin passing through said knuckles of said leaves to pivotally connect the same, and an operating lever having a pair of upper and lower cam operating knuckles engaging the pivot pin between the knuckles of the hinge leaves, whereby when the operating lever is swung on the pivot pin the movable leaf will be raised to permit the same to swing horizontally.

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