H. KRUG.

WINDOW VENTILATING DEVICE.

APPLICATION FILED DEC. 12, 1908.

911,660.

Patented Feb. 9, 1909.

Fig. 1

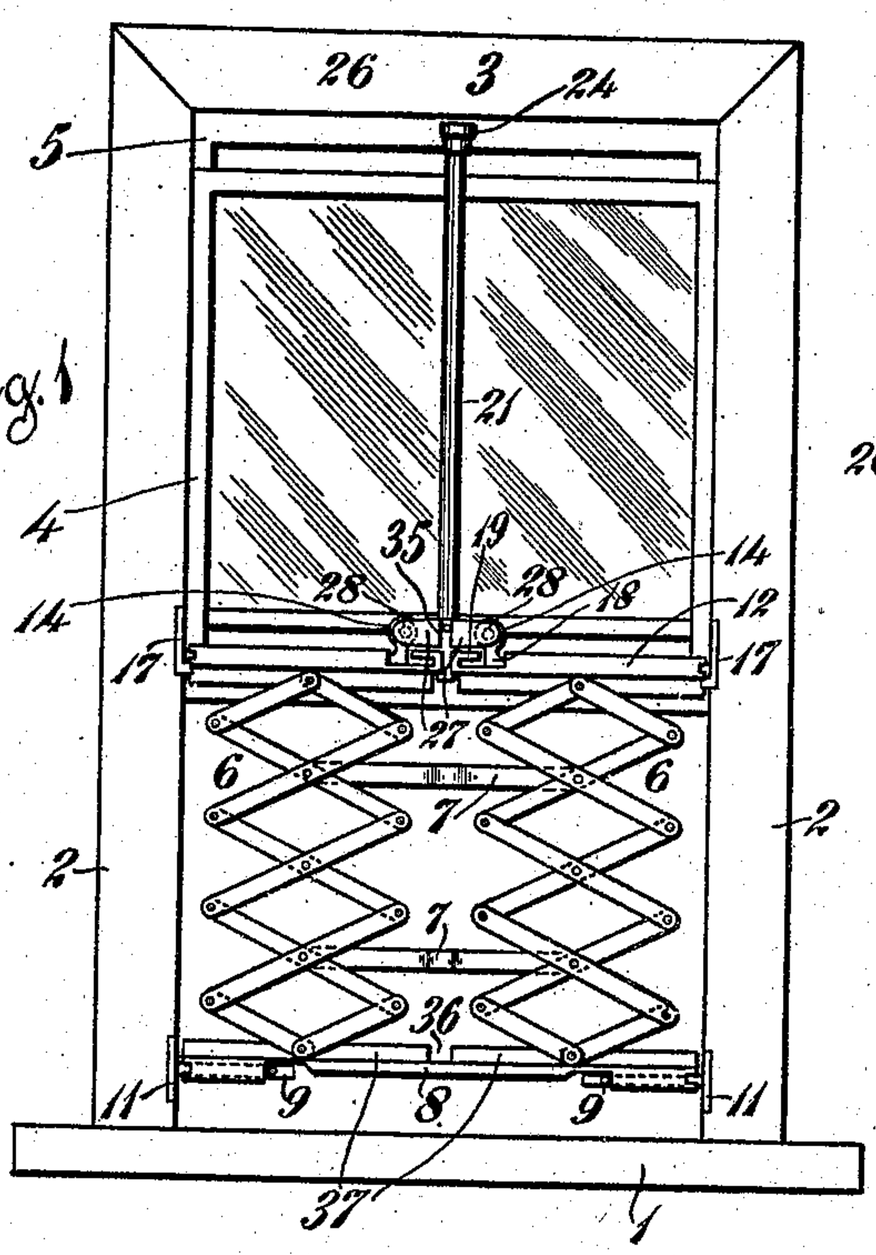


Fig. 2

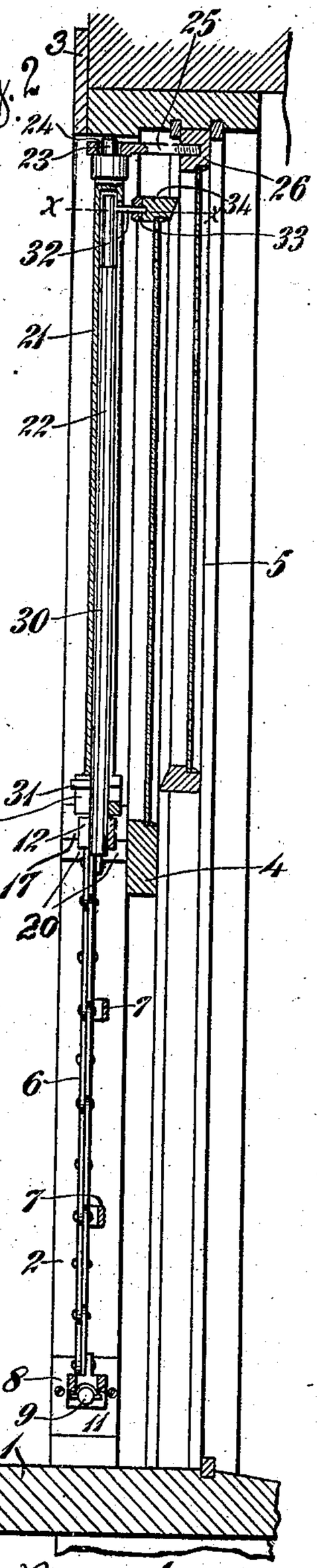


Fig. 5

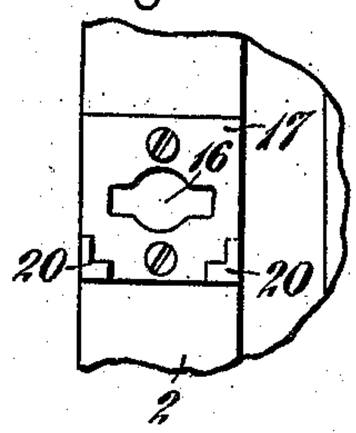


Fig. 6

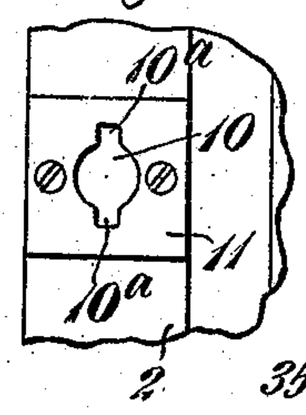


Fig. 3

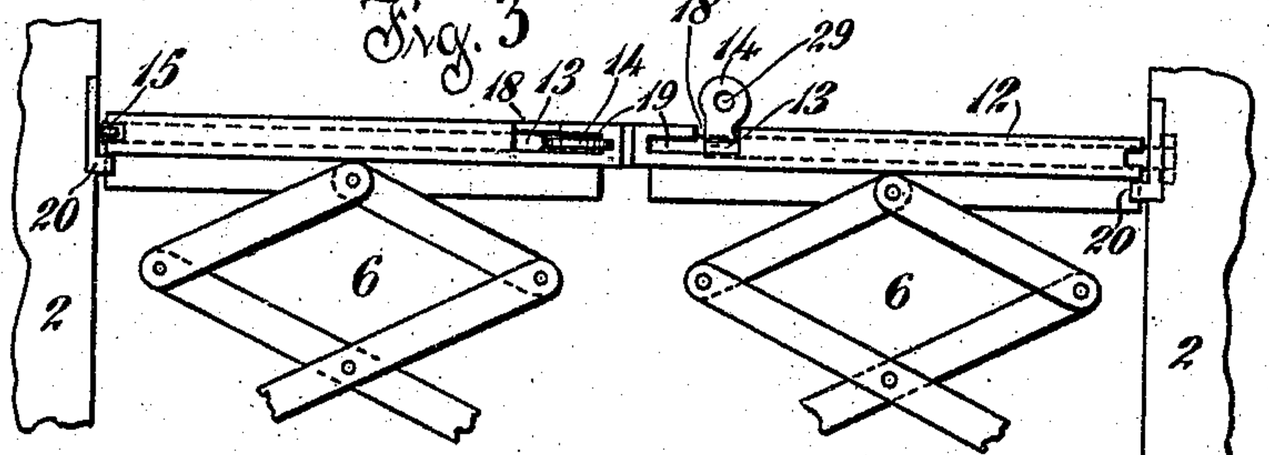
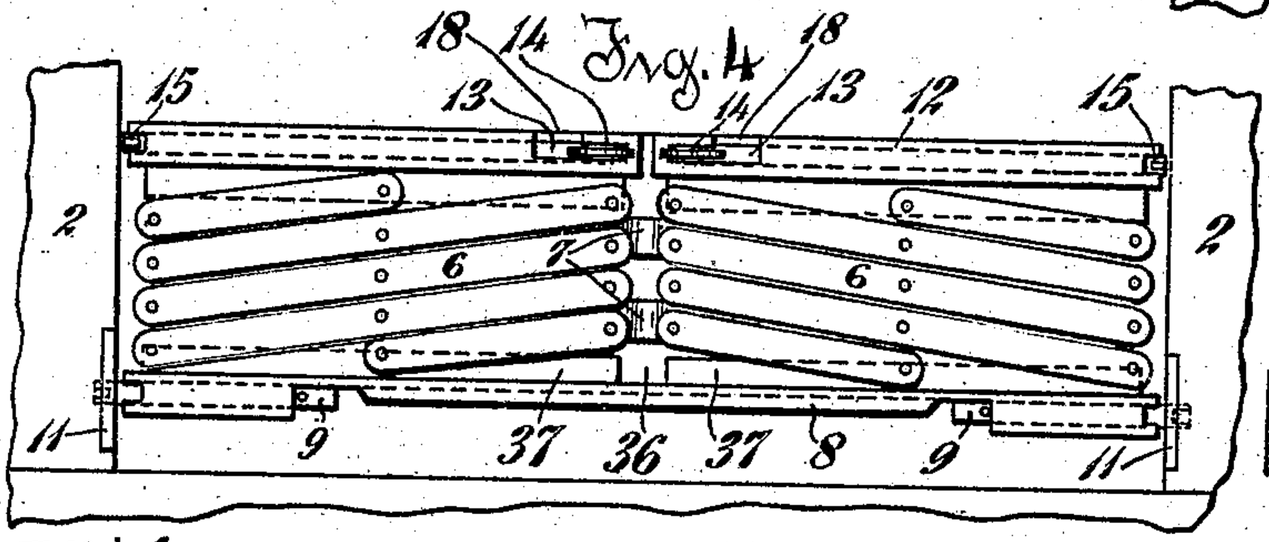


Fig. 4



Witnesses:

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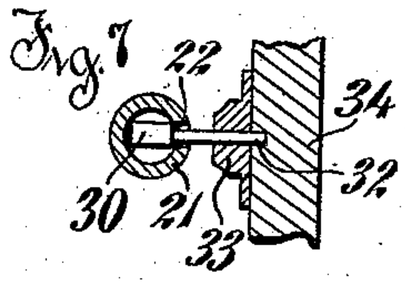
Fig. 7



Inventor:

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UNITED STATES PATENT OFFICE.

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WINDOW VENTILATING DEVICE.

No. 911,660. Specification of Letters Patent. Patented Feb. 9, 1909.

Application filed December 12, 1908. Serial No. 467,273.

To all whom it may concern:

Be it known that I, HENRY KRUG, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Window Ventilating Devices, of which the following is a specification.

This invention relates to window ventilating appliances, particularly to that class in which a closure or safety device is used to enable either sash to be arranged and held in open position for ventilation or the like, especially in warm weather, or in warm climates where such a device is necessary and most desirable.

The invention consists in the provision of a pair of lazy-tongs gratings coupled so as to open and close in unison and pivotally-connected at their respective opposite ends to horizontal cross frame-bars, means for connecting said cross frame-bars to the sides of the window-frame, means for adapting said cross frame-bars to be locked in open position and means for connecting the traveling upper cross frame-bar with the open sash whereby the latter is held in locked position readily accessible from the inside and the gratings prevented from being closed or operated except for authorized service.

The essential features of the invention, including details of construction, will be fully hereinafter described and particularly pointed out in the claims.

In the accompanying sheet of drawings, Figure 1 is a front elevation of my invention, showing it in operating position in connection with an open window-sash, the view being taken on the inner side of the window; Fig. 2, a central, sectional elevation of Fig. 1, but taken on a somewhat larger scale; Fig. 3, a fragmentary front elevation of the gratings and showing the upper cross frame-bar, but omitting the sashes and showing fragments of the vertical sides of the window-frame; Fig. 4, a front elevation of my invention, showing the device in closed position in connection with the lower portion of the window-frame but omitting the sashes; Fig. 5, a detail front elevation of one of the side socket-plates used for the support and locking-engagement of the upper grating cross frame-bar; Fig. 6, a view similar to Fig. 5, but of one of the lower pair of socket-plates used in connection with the lower cross frame-bar of the gratings; and Fig. 7, a horizontal section taken on line x, x, of Fig. 2.

In these views, 1 indicates the window-sill, 2, 2 the upright sides of the window-frame and 3 the horizontal top of said window-frame.

4 indicates the lower sash and 5 the upper sash of the window, arranged as customary within said window-frame and adapted to slide vertically therein.

6, 6 indicates a pair of vertically-disposed lazy-tongs gratings coupled together by a pair of horizontal parallel bars 7 to prevent lateral sagging or tendency and so that they may operate in a direct perpendicular line into expanded, open position or into contracted closed position, as shown in Figs. 1 and 4, respectively.

8 indicates a lower horizontal cross frame-bar having laterally-operating bolts 9, 9 at its opposite ends, the outer ends of such bolts having horizontally-projecting lugs that engage slots 10 in plates 11 attached at the lower ends of the sides 2, 2 of the window-frame. The slotted plates 11 are best shown in detail in Fig. 6, the slots being elongated vertically and provided with narrowed ends or notches 10^a for the passage to and fro of the lugs on the bolts 9 when the gratings are to be placed in position in the window opening or taken therefrom. When the gratings are in position in said window opening, the lugs on the bolts 9 lie horizontally and are thus held firmly within the cavity of the window-frame sides back of the plates 11.

12 indicates an upper horizontal cross frame-bar to which the upper ends of the lazy-tongs gratings are pivotally-attached, the lower ends of said gratings being pivotally-attached to the lower horizontal cross-bar 8, as best seen in Fig. 1. The upper cross-bar 12 carries a pair of bolts 13 having outwardly-disposed handles 14 at their inner ends and horizontally-disposed lugs 15 at their opposite outer ends, such lugs engaging horizontally-elongated openings 16 in plates 17 attached to the sides of the window-frame about mid-height and the bolts turned a quarter of a revolution with the handles 14 disposed upwardly so that the lugs at the outer ends engage back of the plates 17 in suitable cavities provided in the said sides of

the window-frame. In order to turn the bolts said quarter of a revolution, notches 18 are provided in the upper cross-bar 12 and horizontal guide-ways or slots 19 are further provided for the sliding of said bolts inwardly and thereby releasing the lugs at their outer ends from engagement with the horizontally-elongated slots of the plates 17. Notched corner lugs 20 are provided at the lower portion of the plates 17 for the seating of the opposite ends of the upper cross-bar 12 when the gratings are in position for closing the window-opening.

21 indicates a vertical tube slotted at 22 along its rear side and provided at its upper end with a projection or pin 23, the latter engaging an eye 24 in the outer end of an arm 25 projecting forwardly from the center of the upper bar 26 of the upper window-sash, all as best seen in Fig. 2.

27, 27 indicate a pair of lateral arms or lugs projecting in opposite directions from the lower end of the tube 21 and provided on their rear ends with inwardly-projecting pins 28, shown dotted in Fig. 1, such pins engaging the openings 29 in each of the two handles 14 of the sliding bolts 13, for the purpose of sustaining said bolts 13 in their locked position and, also, for the purpose of supporting said tube 21 in vertical position in engagement between the eye 24 on the arm 25 of the upper sash and the upper cross-bar 12 of the gratings. The gratings are thus held in their open position to properly close the opening beneath the raised lower sash when it is desired to ventilate or to leave said lower sash in its open position.

30 indicates a vertical rod provided with a pin 31 projecting at its lower end inwardly toward the apartment and with a pin 32 projecting from its upper end outwardly into engagement with a metal socket 33 secured to the inner face of the central portion of the meeting-rail 34 at the top of the lower sash, as best seen in Fig. 2. This vertical rod 30 telescopically engages the tube 21 from the lower end or mouth of the latter, the vertical slot 35 provided between the lateral-projecting lugs 27 and the upper pin end of the rod being engaged with the upper meeting-rail 34 of the lower sash and the pin 32 being adapted to ride vertically in the slot 22 of the said tube 21. The pin 31 at the lower end of the rod 30 serves as a handle in sliding such rod vertically within the tube 21, but the ordinary means of raising the lower sash by taking hold of the lower bar of said sash serves the purpose of raising the rod in the tube through the intermediary of the upper pin 32 engaging the meeting-rail of said lower sash. Said pin 31 is housed within the slot or opening 35 at the lower end of the tube 21, as best seen in Fig. 2, and thus prevents the rod from turning-strain within the tube and relieves the pin 32 at the top of the rod from turning-strain in connection with its engagement with the meeting-rail of the lower sash.

When it is desired to remove the grating device from the window-frame, the following operation is pursued:—The rod 30 is first lowered so that its lower end shall engage the opening 36 provided between the inner ends of the ribs 37 of the lower cross-bar 8, at which time the upper pin end of said bar can be swung outward from engagement with the meeting-rail of the lower sash and, also, from position at the lower end of the tube 21; said rod can now be entirely removed from the device and set aside; the lower end of the tube 21 carrying the pins 28 is then swung outward so that said pins can become disengaged from the openings 29 in the bolt-handles 14 and then the tube can be lowered so that the pin at its upper end can be readily disengaged from the eye 24 in the arm 25 at the upper end of the upper sash; said tube can now be set aside the same as said rod; the handles 14 on the bolts 13 are now swung inwardly (toward the operator) a quarter turn so that both bolts can be drawn inwardly from engagement at their outer ends with the lock-plates 17; the upper cross-bar 12 is now raised from seating-engagement at its ends with the lower lugs 20 on said lock-plates 17 and then swung outward slightly, thereby permitting the said opposite ends to clear said lugs 20 in the further downward movement of the upper cross-bar 12, the bolts 9 serving as pivots until the quarter turn has been made, at which time said bolts 9 can be drawn inwardly for releasing their outer lugged ends from engagement with the slotted plates 11.

When the parts are in the position seen in Figs. 1 and 2, neither of the window-sashes can be moved owing to the presence of the tube 21 and the rod 30 with their locking-pin connections in due engagement as hereinbefore described and it is not possible for any one on the outside of the window to enter the room or apartment through the grating, as access to the locking rod and pin devices is retarded and prevented by the lowering of the open lower sash which is progressively closing against the hand of the intruder at all times from the beginning of the descent of such lower sash.

I claim:—

1. In a window-grating for ventilating purposes, the combination of a lazy-tongs grating, a lower cross-bar connected to said grating, locking means on said lower cross-bar adapted to engage the window-frame, an upper cross-bar to which the upper end of said grating is attached, locking means on said upper cross-bar adapted to engage the window-frame and means between said upper cross-bar and the upper bar of the window-frame to lock said grating in its open posi-

tion for closing the opening of an open lower window-sash.

2. In a window-grating for ventilating purposes, the combination of a lazy-tongs grating vertically expansible, a lower cross-bar having bolts at its opposite ends that are adapted to engage lock-plates in the window-frame and connected to the lower end of said grating, an upper cross-bar having bolts adapted to engage lock-plates in the window-frame intermediate its upper and lower end and connected with the upper end of said grating, a tube having pins at its lower end engaging said lock-bolts of the upper cross-bar and, also, having a pin at its upper end engaging an orificed arm projecting from the upper bar of the upper window-sash and a rod telescopically engaging said tube and having a pin projecting through a slot in said tube into engagement with the upper meeting-rail or cross-bar of the lower window-sash.

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