No. 650,047. Patented May 22, 1900.

J. A. KNISELY & J. HORSFIELD.

WINDOW.

(Application filed Aug. 25, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1

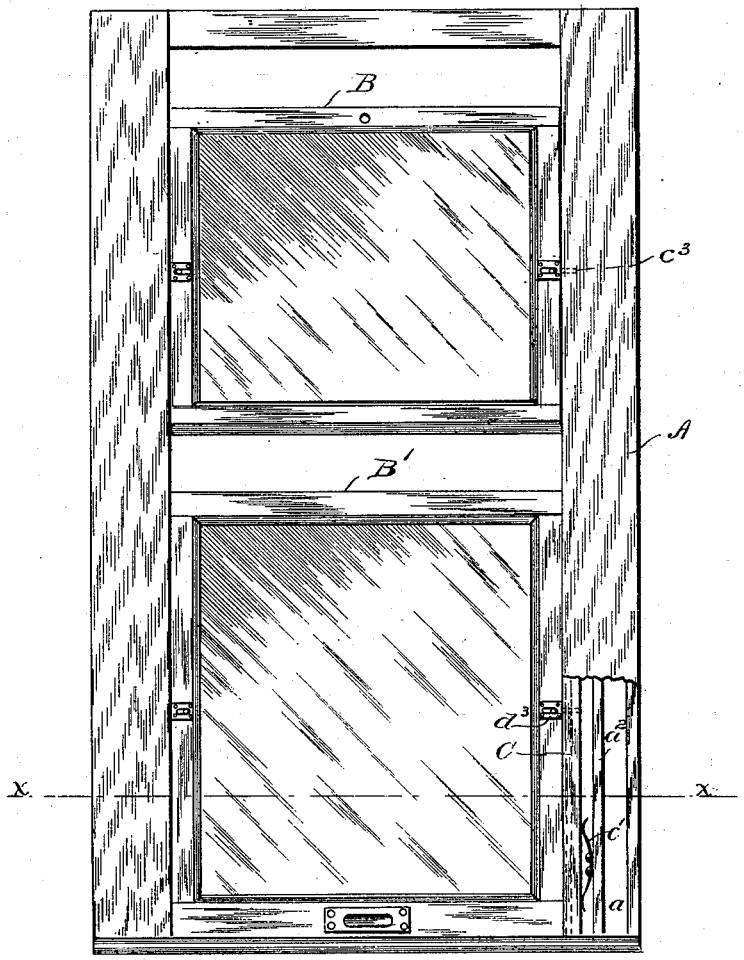
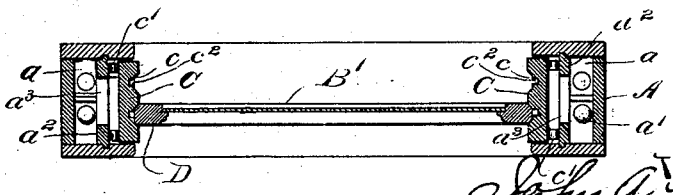


Fig. 2



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(No Model.) 2 Sheets—Sheet 2.

Fig. 3

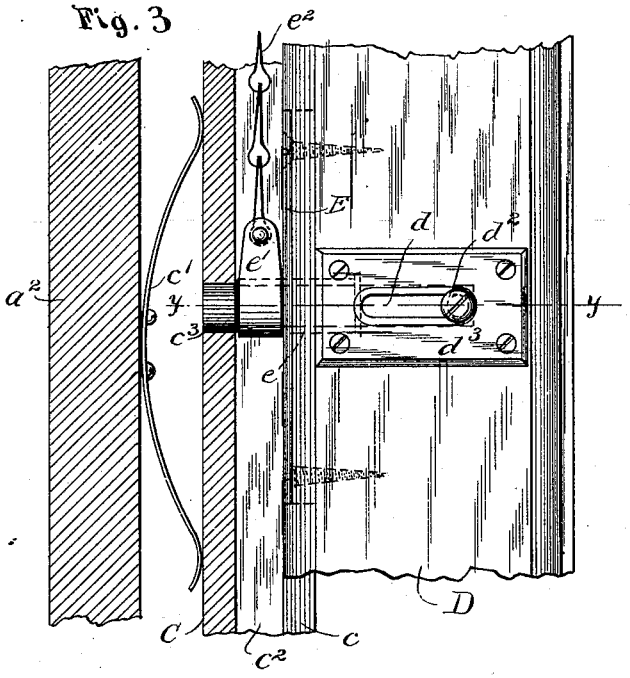


Fig. 5

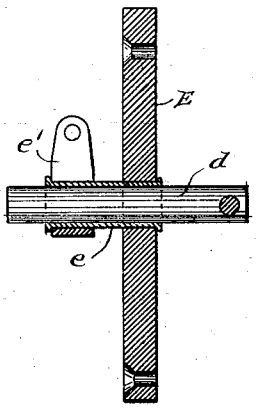
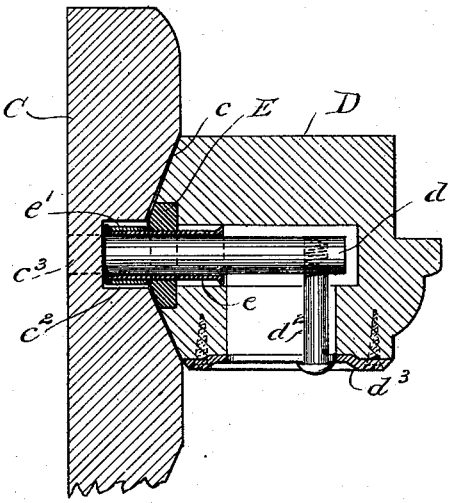


Fig. 4



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UNITED STATES PATENT OFFICE.

JOHN A. KNISELY AND JOHN HORSFIELD, OF CHICAGO, ILLINOIS.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 650,047, dated May 22, 1900.

Application filed August 25, 1899. Serial No. 728,469. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. KNISELY and JOHN HORSFIELD, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Windows, of which the following is a specification.

Our invention relates particularly to the construction of the sash-frames and the pulley-stiles or jambs and of the means for suspending, pivoting, and locking the sash-frames; and it consists of improvements in certain features of the invention described in the application for Letters Patent, Serial No. 718,660, filed on May 29, 1899, by the said John Horsfield.

The improvements involved in this invention consist of a combined sliding and pivotally-swinging window-sash, yielding pulley-stiles having ways formed therein for the side rails of the sash, and ways for the sash chains or cords; in a slidable pivot-pin device, which also serves as a sash-lock; in combining with a slidable pivot-pin a sash cord or chain; in securing the sash chain or cord to the pivot-pin so that it may not become accidentally detached, no matter in what position the sash may be placed; in housing the sash-chain in the pulley-stile so that it may not interfere with the swinging of the sash on its pivots, and in various other combinations and details of construction hereinafter described, and pointed out in the claims.

In the drawings forming a part of this application, Figure 1 is a front elevation of a window built in accordance with our invention, the upper sash being shown swung upon its pivots in an open position and a part of the frame being broken away to show the manner of yieldingly supporting the pulley-stile. Fig. 2 is a cross-section on line $x\ x$ of Fig. 1. Fig. 3 is a detail, on a larger scale than Figs. 1 and 2, showing a section of the window frame, sash, and the pulley-stile, and showing the application of the pivot-pin device and the sash-chain. Fig. 4 is a cross-section on the line $y\ y$ of Fig. 3. Fig. 5 is a detail, partly in section, of the device for attaching the sash-chain to the window-sash, the same forming a part of the pivot-pin device.

Referring to the drawings, A represents a window frame or casing of the usual box-like form, in which are located the sash-weight chambers a and partitions a^2, the latter having openings a^3 therein through which the sash-chain e^2 and sash-weights a' may be reached for the purpose of repairs or alterations. The partitions a^2 extend from the top to the bottom of the frame, and have secured thereto curved springs c', which are formed from flat metal, and are so positioned that their end portions bear against the back of the pulley-stiles C. In Figs. 1 and 3 but one of these springs c' is shown, but it will be understood that several may be used to support each stile and that other forms of springs may be substituted for that shown, the function of said springs being to yieldingly hold the stiles against the edges of the side rails of the window-sash.

The jambs or pulley-stiles C are formed with plane sides and back, as clearly shown in Fig. 2, but with their outer face having formed therein beveled longitudinal grooves c and in the bottom of said grooves channels c^2, the latter forming slideways for the pivot-pins and housings for the sash-chains and the beveled portions of the grooves c forming bearings for the correspondingly-beveled edges of the side rails D of the window-sash B and B′, the former representing the upper sash and the latter the lower one. In the stiles, at points opposite the center of each sash, holes c^3 are bored to receive the pivot-pin when the latter is thrown out, as will be explained. It will be understood that other holes may be bored in the stiles at other points for the purpose of locking the sash in open positions.

Let into each side rail D of the sash B and B′ is a pivot-pin, sash-lock, and sash-chain holding device, which is formed as follows: A flat metal plate E is provided with suitable holes for the passage of screws, by means of which screws the plate is secured to the edge of the side rail D and is centrally perforated for the passage of a tubular casing or sleeve e, the ends of which are flanged, as shown in Fig. 5. The flange on the outer end of said sleeve serves to prevent the slipping off of the stirrup e', which is secured to the end of the sash-chain e^2, while the flange on the inner end of said sleeve prevents the latter from

being thrown or pulled out of the plate E by the sliding bolt d or by any strain exerted thereon by the chain, in case the sash and chain are thrown out of their respective ways or grooves. Normally the sleeve will be in the position shown in Fig. 4; but if the sash is tilted or turned upon its pivots the beveled edges of the side rails will bear against and push back the stile and the sleeve will slide outwardly as the pulley-stile recedes from the sash. Slidably secured in the sleeve e is a bolt d, near the inner end of which and at right angles thereto is secured a pin d^2, the head of which projects beyond the face of the side rail and serves as a means for shooting the bolt. Secured to the face of the side rail is a recessed or dished plate d^3, which is suitably slotted to receive the pin d^2 and prevent the sliding movement. Preferably the plate d^3 will be let into the face of the side rail, so that neither it nor the head of the pin will project beyond such face. When it is desired to lock the sash in position, the bolt is shot into the hole c^3; but normally said bolt is in the position shown in Fig. 4, whereby it forms, with the sleeve e, a pivot-pin for the sash and a strong means for holding the end of the sash-chain, the strain being on both bolt and sleeve.

When the sash is tilted, the tension of the springs c' against the stiles and the resulting pressure of the beveled portions of the stiles against the side rails of the sash will be sufficient to hold the latter in any desired position.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In combination with a window-sash, and frame, sash chains or cords, pulley-stiles yieldingly supported in said frame and having formed therein channels for the sash-chains, pivot-pins secured to the chains, said pins being formed of a sleeve slidably secured in the sash, and a bolt sliding in said sleeve.

2. In combination with a window-sash, a pivoting device composed of a perforated plate secured to said sash, a sleeve slidably secured in said plate and in a suitable recess in the sash, a bolt sliding in said sleeve and recess, and means for shooting said bolt.

3. In combination with a window-frame, and sash, a sash-chain, a sash-pivoting and chain-holding device composed of a perforated plate secured to said sash, a sleeve slidably secured in said plate and in a suitable recess in said sash, means for securing the chain to the sleeve, a bolt sliding in said sleeve and recess and means for shooting the bolt.

4. In combination with a window-frame, and sash, a sash-chain, a sash-pivoting and chain-holding device composed of a perforated plate secured to said sash, a sleeve slidably secured in said plate and in a suitable recess in the sash, means for preventing the sleeve from being withdrawn from said plate, a stirrup for securing the chain to the sleeve, means for preventing the accidental removal of the stirrup from the sleeve, a bolt sliding in said sleeve and recess, and means for shooting said bolt.

5. In combination with a yieldingly-supported pulley-stile having a channel formed therein, a sash-pivoting device composed of a perforated plate secured to said sash, a sleeve slidably secured in said plate and in a suitable recess in the sash and adapted to slide in said channel, a bolt sliding in said sleeve and recess, and means for shooting said bolt.

6. In combination with a window-frame, a sash having beveled side rails, yieldingly-supported pulley-stiles having correspondingly-beveled grooves and having channels formed in the bottom of said grooves, a sash-pivoting device composed of a perforated plate secured to said sash, a sleeve slidably secured in said plate and in a suitable recess in the sash and adapted to slide in said channel, and a bolt adapted to slide in said sleeve and recess, and means for shooting said bolt.

In testimony whereof we affix our signatures in the presence of two witnesses.

JOHN A. KNISELY.
JOHN HORSFIELD.

Witnesses:
A. E. KLUNDER,
THOS. MEINEMA.