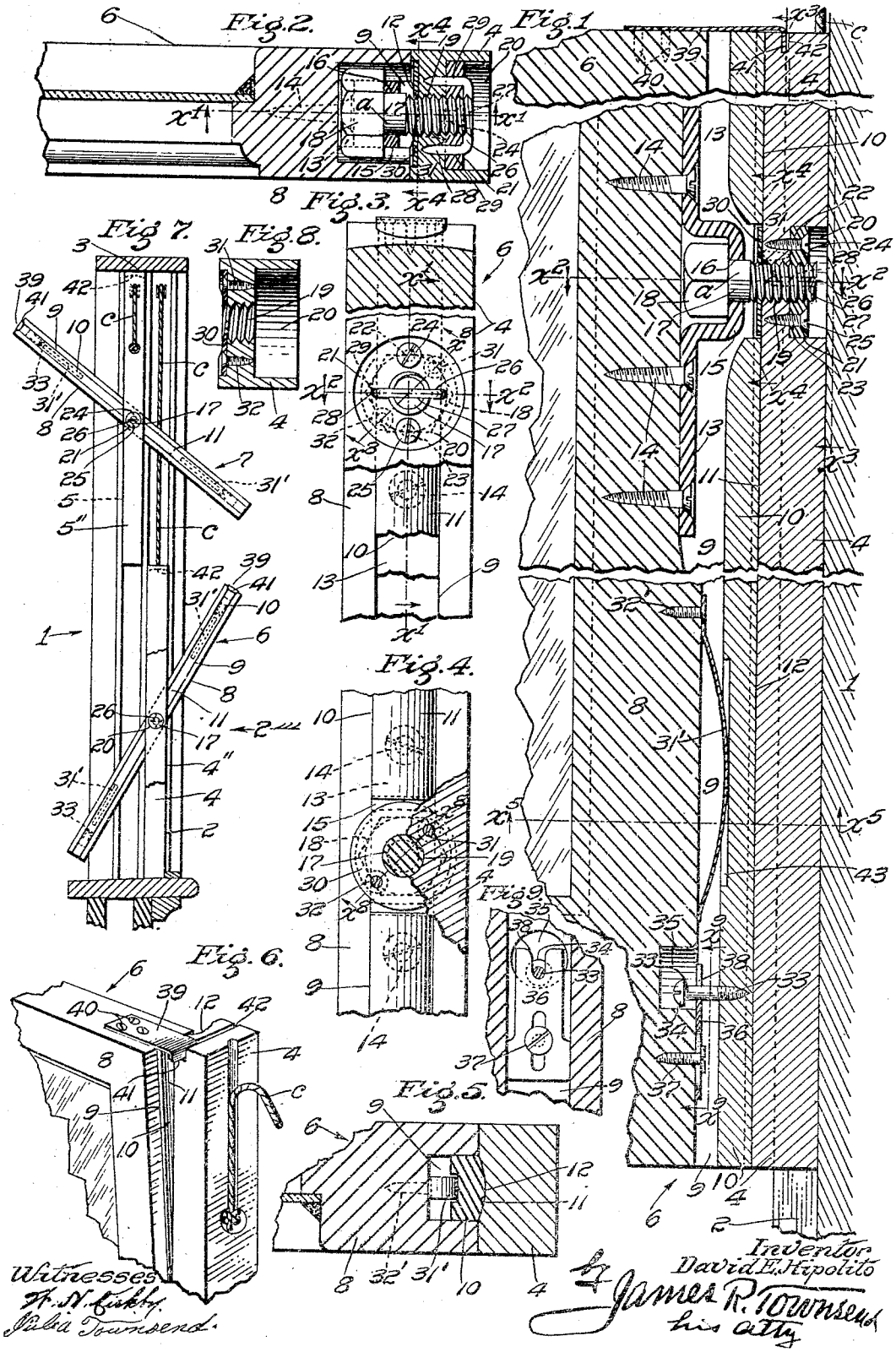
D. E. HIPOLITO.

REVERSIBLE WINDOW.

APPLICATION FILED JULY 2, 1909.

958,962. Patented May 24, 1910.



UNITED STATES PATENT OFFICE.

DAVID E. HIPOLITO, OF LOS ANGELES, CALIFORNIA.

REVERSIBLE WINDOW.

958,962. Specification of Letters Patent. Patented May 24, 1910.

Application filed July 2, 1909. Serial No. 505,756.

To all whom it may concern:

Be it known that I, DAVID E. HIPOLITO, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented new and useful Improvements in Reversible Windows, of which the following is a specification.

The object of this invention is to provide improved means whereby the sash of a reversible window will be held in true position, the parts that rub upon each other being metallic, preventing abrasion, wearing and marring that occurs when the wooden portions of the sash are allowed to rub on the widow-frame, and also giving great security to the mounting and avoiding liability of looseness from wear or other causes, and also avoiding all liability of the pivoted portions coming apart and the sash from falling out of the frame; yet to so construct the device that the same may readily be taken apart when desired.

The accompanying drawings illustrate the invention.

Figure 1 is a fragmental sectional view of one side of a pivoted window-sash in upright position in a casing, fragments of which are shown. The section is taken on line indicated by x^1, Figs. 2 and 3. Fig. 2 is a fragmental plan section on line x^2, Figs. 1 and 3. Fig. 3 is a broken elevation of a portion of Fig. 1 viewed from the right of Fig. 2 and from irregular line x^3, Fig. 1. Fig. 4 is a broken sectional elevation on line indicated by x^4, Figs. 1 and 2. Fig. 5 is a section on line x^5, Fig. 1. Fig. 6 is a fragmentary detail looking down at the uppermost corner of a window when the sash has started to swing out from the shoe. Fig. 7 is a detail view of a reversible window provided with two sashes both of which are swung on pivots. A portion of the casing is omitted and the ends of one of the near shoes are broken away to expose the farther shoe. Fig. 8 is a section of a shoe on line indicated by x^8, Figs. 3 and 4. Fig. 9 is a fragmental sectional detail looking toward the left from line x^9, Fig. 1, to illustrate the concealed fastening for one end of one of the tongues.

The casing or frame 1 of the window is provided in the usual way on each side with two runways 2, 3, in which the shoes 4, 4″ and 5, 5″ run, to carry the pivots of the lower and upper window-sashes 6, 7. It is to be understood that the sashes are each provided on their edges with shoes that form extensions of the sash; this being customary in reversible windows.

The sash-stiles 8 are provided with channels 9 that extend from end to end of the stiles to accommodate tongues 10 that have outwardly-rounded faces 11 to enter shallow rounded grooves 12 in the shoes to lock the reversible sashes in upright position. Inside each of the channels 9 there is provided a pivot-bracket composed of a thick metal strap bent to form feet 13 that are fastened by screws 14 to the stiles 8, and between the feet a loop 15 that is provided with a central perforation or pivot-seat 16 to receive the smooth portion *a* of a pivot-bolt 17, the head 18 of which is accommodated within the loop and is free to turn around therein so that the window-sash may turn on its pivots. The stem of the bolt 17 extends through a perforation 19 in the shoe and terminates inside a counterbore 20 which accommodates a circular nut 21 that screws on the bolt 17 and is provided with two screw-holes 22, 23 to receive screws 24, 25 by which the circular nut is fixed to the shoe 4. The bolt is fixed against rotation relative to the shoe by a staple 26 seated in a slot 27 extending across the end of the bolt 17, the tines 28 of the staple being driven into the shoe through holes 29 in the circular nut 21. Threaded washers 30 may be secured by screws 31, 32 to the inner faces of the shoes and in alinement with the perforations 19 to receive the pivot-bolts 17 so that when said bolts are screwed therein and the circular nuts are screwed home, the same serve as jam-nuts and when the nut, staple and screws are in place there is no liability of the same accidentally loosening to allow the sash to become detached.

To assemble the pivotal parts the pivot-bolts 17 are first fitted in the loops 15 of the brackets and the brackets are then fastened in place within the channels 9. The shoes having the washers 30 fastened thereto are screwed upon the pivots 17 until an easy working swinging tension between the face 11 and groove 12 is secured. The circular nut 21 is screwed down tightly against the face of the counter-bore 20, the screws 24 and 25 are inserted, fastening said nut 21 to the shoe, and the staple 26 is driven in place, thus locking the pivot-bolt 17 against rotation in the nut 21 and thereby permanently

though removably fastening the pivot 17 relative to the shoe.

Springs 31′ in the channels 9 of the sash are interposed between the tongues 10 and the bottom of the channel 9 of the sash-stile to press the tongues outward against the shoes and to yieldingly hold them in the groove 12 of the shoe. These springs maintain a tight joint for the entire length of the tongue 10 and may be fastened by screws 32′ at intervals apart depending upon the size of the window. One on each side of the pivot as shown in the drawing is sufficient for ordinary sizes. The shoes are broader than the loops 15 so that when said shoes are turned at right angles to the windows or vice versa, the edges of the shoes will extend beyond the shoulders of the loop.

The tongues 10 are arranged to extend between the loop and the opposite ends of the sash respectively, and the inner ends will thus be held in the channels 9 at all times when the shoes are in place. The other or outer ends of the tongues are held in place by concealed means consisting of studs 33 provided with heads 34 and screwed into the inner sides of the tongues 10 to enter holes 35 in the bottom of the channel over a portion of which holes there extends a forked retainer 36 that is fastened to the bottom of the channel 9 by a screw 37. The notch 38 between the limbs of the fork is wide enough to accommodate the stem of the screw 33 but will not allow the head 34 to pass therethrough. The hole 35, however, is large enough to allow the head 34 to be inserted behind the fork so that when the shoe is detached from the pivot bolt 17 the tongues may be put in place by inserting the heads 34 into the holes 35 and then slipping the tongues endwise in the channel to bring the heads behind the forks. After both tongues are thus put in place in the channel the shoe will be fastened on the pivot-bolt and will then compress the tongues into the channel. When the window is turned on its pivot the stops formed by the head of the studs engaging the forked retainer-plates will prevent the outer ends of the tongues from moving too far out, and the inner ends of the tongues will be held in place by the middle of the shoe while the springs 31′ force the tongues out and allow the same to be gradually forced inward by the shoe when the window is turned on its pivot.

The opposite shoes and stiles of the window are duplicates, and the shoes are supported in the usual way by the window-cords *c*.

A plate 39 secured to the uppermost corners of the window-sash by screws 40 is provided with a lip 41 to engage in an end kerf or slot 42 in the shoe whenever the window-sash is locked in vertical position. Said lips disengage by sliding out of the slot 42 as the sash is swung within the shoes, as shown in Fig. 6. Said plate extends over the end of the channel at the top of the sash and thus excludes dust and dirt therefrom and makes a tight joint. These lips also serve, when the window is closed, to hold the top ends of the shoes from spreading away from the stiles in case of any warping of the shoes, or from other causes.

Grooves 43 may be provided in the inner faces of the tongues 10 to receive the springs 31′ so that narrow springs may be used, the same being thus steadied and prevented from shifting over in the grooves; and the grooves accommodate the crowns of the springs so that the springs need not become straight when the tongues are fully pressed in.

By the construction shown, the parts are insured against rattling, and it is possible to take the shoes out and replace them whenever required, and the nut of the pivot can be screwed down to compress the springs 31′ as much as may be desired, thus to tighten the joint.

The retainer-plate 36 is slotted longitudinally to receive the stop-screw 37 so that the retainer may be adjusted to fit the stop 33 and to hold the tongue 10 in true position.

I claim:—

1. In a window, the combination with a channeled stile having holes at the bottom of the channel, of a loop fastened in the channel, a bolt extending through and having its head rotatable within the loop, forked retainers fastened in the channel and extending part-way over the holes, springs in the channel, a shoe fastened to the bolt and provided with a shallow rounded groove that faces the channel, said shoe being wider than the loop, tongues in the channel, the inner ends of said tongues being retained by the shoe, and stops fastened to the inner sides of the outer ends of the tongues and having heads inserted in said holes to engage the inner sides of said retainers to hold the outer ends of the tongues in place in the channel when the window-sash is turned relative to the shoe.

2. The combination with a channeled stile, of a shoe pivoted to the stile, a spring in the stile-channel, a retainer fastened in the channel, and a tongue provided with a stud having a head to engage the retainer to hold one end of the tongue in the channel when the window is swung on its pivot.

3. The combination with a channeled stile, of a loop having feet fastened in the channel of the stile, said loop being perforated, a bolt extending through the perforation and having a head inside the loop, the end of said bolt being transversely slotted, a shoe provided with a countersunk hole through which the bolt is inserted, a nut in the countersink, the same being screwed on

the bolt, screws fastening the nut to the shoe, and a staple seated in the nut and having its middle portion seated in the slot.

4. The combination with a channeled stile, of a loop having feet fastened in the channel of the stile, said loop being perforated, a bolt extending through the perforation and having a head inside the loop, the end of said bolt being transversely slotted, a shoe provided with a countersunk hole through which the bolt is inserted, a nut in the countersink, said nut being screwed on the bolt, screws fastening the nut to the shoe, a staple seated in the nut and having its middle portion seated in the slot, and a screw-threaded washer screwed onto the bolt and against the inside of the shoe.

5. In a window, the combination of a channeled stile, a shoe over the channel of the stile, a pivot-bolt fixed to the shoe and having its head in the channel, and means engaging the head in the channel to pivotally hold said bolt.

6. In a window, the combination of a channeled stile, a shoe provided with a shallow groove over the channel of the stile, a pivot-bolt fixed to the shoe and having its head in the channel, means engaging the head in the channel to pivotally hold said bolt, and spring-pressed tongues in the grooves and channels to close the joint.

7. The combination of a channeled sash-stile, a shoe provided with a groove over the channel, two tongues each being in the groove and channel, a strap fastened in the groove and bent to form two feet and a loop, a bolt provided with a head in the loop, the body of the bolt extending through the loop and rotatable therein, and springs in the groove to press the tongues into the channels.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 25th day of June, 1909.

D. E. HIPOLITO.

In presence of—

JAMES R. TOWNSEND,

HAZEL CLARK HIPOLITO.