

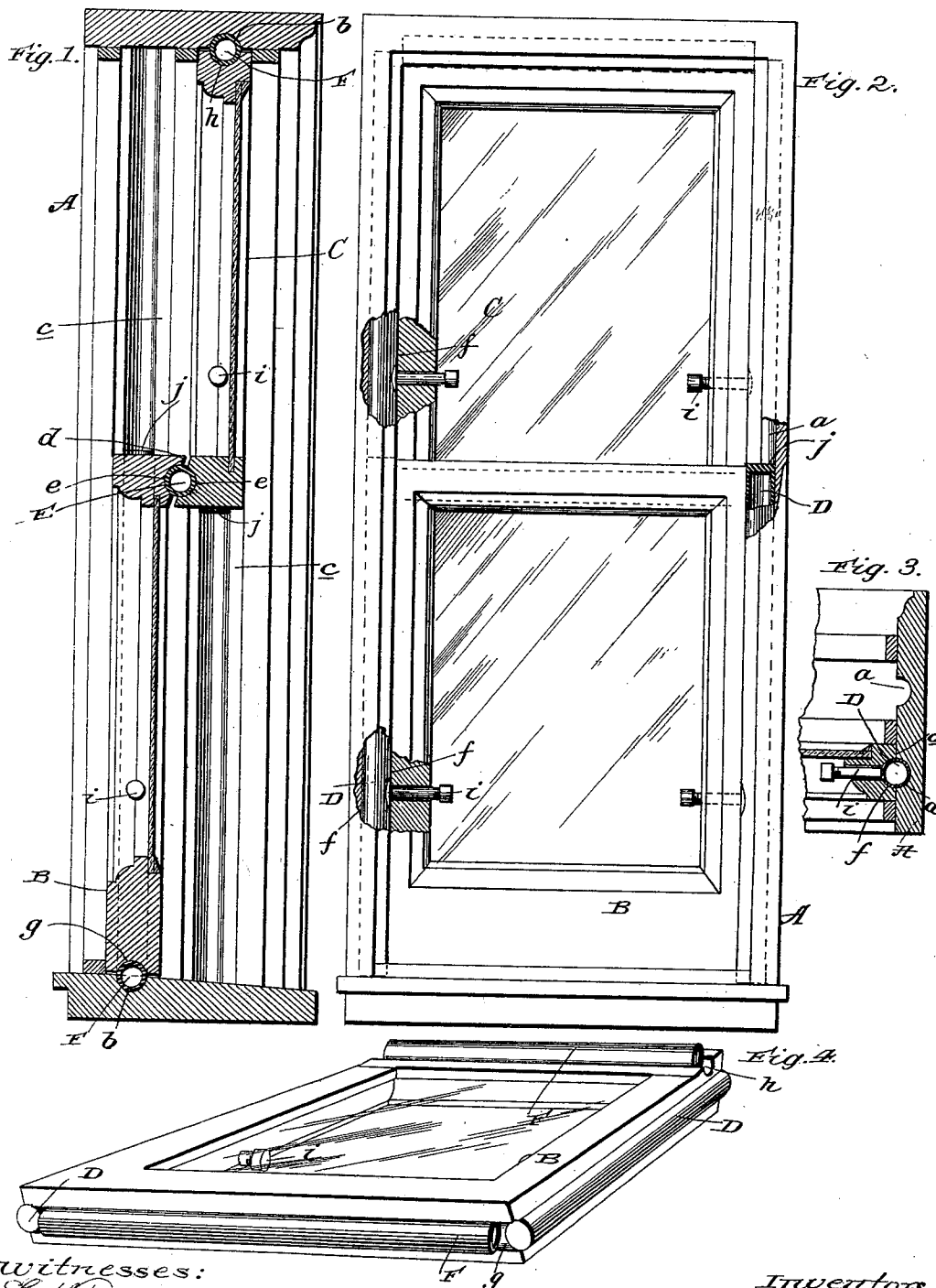
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Patented Feb. 6, 1900.

A. H. WOOD & J. D. TUNNELL.
WINDOW FRAME AND SASH.

(Application filed Oct. 21, 1899.)

(No Model.)



Witnesses:

Ed. Rauber
J. L. Crony

Inventors

A. H. Wood &
J. D. Tunnell.
James J. Shuey
Attorney

UNITED STATES PATENT OFFICE.

ALPHEUS H. WOOD AND JOHN D. TUNNELL, OF AMARILLO, TEXAS.

WINDOW FRAME AND SASH.

SPECIFICATION forming part of Letters Patent No. 643,023, dated February 6, 1900.

Application filed October 21, 1899. Serial No. 734,387. (No model.)

To all whom it may concern:

Be it known that we, ALPHEUS H. WOOD and JOHN D. TUNNELL, citizens of the United States, residing at Amarillo, in the county of Potter and State of Texas, have invented new and useful Improvements in Window Frames and Sashes, of which the following is a specification.

Our invention relates to sliding window-sashes and contemplates the equipment of such sashes with simple and efficient means for excluding the weather and for holding and fastening the sashes at any desired height, as well as preventing the objectionable rattling thereof so often experienced. Its novelty and many advantages will be fully understood from the following description and claims when taken in conjunction with the annexed drawings, in which—

Figure 1 is a vertical sectional view illustrating a window frame or casing and sashes therein constructed according to our invention and provided with our improvements. Fig. 2 is a front elevation of the same with parts in section. Fig. 3 is a detail horizontal section. Fig. 4 is a perspective view of one of the sashes removed from the frame or casing.

Referring by letter to the said drawings, A is a window-frame, which is of the ordinary construction, with the exception that it is provided in the inner side of each of its side stiles with parallel grooves *a* of semicircular form in cross-section and in the inner sides of its lower and upper cross-bars with similar grooves *b*.

B C are the sliding sashes, which are arranged and adapted to move in the usual ways *c*, provided in frame A. These sashes are of wood and of the ordinary construction, except that the meeting faces of their inner cross-bars are correspondingly beveled, as indicated by *d*, and are provided with grooves *e*, while their upright bars are provided in their outer sides with grooves *f* of semicircular form in cross-section. The lower sash B is also provided in its lower cross-bar with a groove *g* and the upper sash C in its upper cross-bar with a groove *h*.

In the grooves *f* of the vertical bars of the sashes inflatable tubes D, of rubber or other suitable material, are secured by glue or other

means and also by their inflation-tubes *i*, which extend transversely through the vertical sash-bars, as shown. These tubes are by preference of a slightly-greater length than the sashes, and their ends are made thick, as indicated by *j*, so as to strengthen them and at the same time form cushions *j*, calculated to take up the shock and jar incident to forcible opening and closing of the sashes. The inflatable tubes are arranged to move in the grooves *a* of the sash-frame and are adapted to effectually exclude the weather and take up shrinkage of the wood of the sashes, and thereby prevent the objectionable rattling so common to windows. They are also adapted by virtue of the friction between them and the sash-frame to serve as stops and hold the sashes at any desired height, thus dispensing with weights, cords, pulley-wheels, and other appurtenances, the cost of which is considerable. Moreover, when inflated to a considerable extent they form locks or fasteners calculated to securely hold the sashes against movement.

When the sashes are locked, as stated, and it is desired to release them, a person at the inner side of the window has but to press the non-return valves of the inflation-tubes *i* away from their seats until sufficient air escapes from the tubes D to permit of the sashes being moved.

E is a tube of rubber sufficiently thick to retain its shape, which is arranged and secured by glue or other means in the groove *e* of the upper cross-bar of sash B. This tube extends the full width of the sash B and is designed when the sashes are closed to seat in the groove *e* of sash C and effectually prevent the passage of air between the sashes. The beveled meeting faces *d* of the inner cross-bars of the sashes assist the tube E in seating in the groove *e* of the upper sash C, and when the tube is thus seated it will be seen that the joint between the two sashes is broken, which assists materially in the exclusion of air.

In the grooves *g h* of the sashes B C rubber tubes F, similar to the tube E, are suitably secured, the said tubes F being designed when the sashes are closed to seat in the grooves *b* of the lower and upper cross-bars of the sash-

frame and assist in preventing the passage of air, rain, &c., between the sashes and their frame.

It will be appreciated from the foregoing that notwithstanding the advantages which they possess our improvements are simple and inexpensive and are easily kept in order, it being simply necessary to inflate the tubes D to the extent desired through the medium of an ordinary air-pump. It will also be appreciated that the inflation-tubes *i* are the only parts of the improvements exposed to view and that when nickel-plated these will enhance rather than detract from the appearance of the window.

Having thus described our invention, what we claim is—

1. The combination of a window frame or casing having parallel grooves in the inner sides of its side stiles, and also having grooves in the inner sides of its lower and upper cross-bars, sashes arranged and adapted to slide in ways in the frame or casing and having grooves in their outer cross-bars and side bars, and also having the meeting faces of their inner cross-bars correspondingly beveled and provided with grooves, tubes of yielding material secured in the grooves in the outer cross-bars of the sashes, a yielding tube secured in the groove of the inner cross-bar of one sash, and adapted, when the sashes are closed, to seat in the groove in the inner cross-bar of the other sash, and inflatable tubes secured in the grooves of the vertical bars of the sashes, and having ends *j* of increased thickness extended beyond the ends of the sashes so as to form cushions, and also hav-

ing inflation-tubes extending transversely through said vertical bars; the said inflatable tubes being arranged and adapted to move in the grooves in the side stiles of the casing, substantially as specified.

2. The combination of a window frame or casing, sashes arranged and adapted to slide in ways in the frame or casing and having grooves in the outer sides of their vertical bars, and inflatable tubes secured in the grooves of the sashes and having ends *j* of increased thickness extended beyond the ends of the sashes so as to form cushions, substantially as specified.

3. The combination of a window frame or casing having parallel grooves in the inner sides of its side stiles extending throughout the length thereof, sashes arranged and adapted to slide in ways in the frame or casing and having grooves in the outer sides of their vertical bars, and inflatable tubes secured in the grooves of the sashes and having ends *j* of increased thickness extended beyond the ends of the sashes, and also having inflation-tubes extending transversely through the vertical bars of the sashes; the said inflatable tubes being arranged and adapted to move in the grooves of the frame or casing, substantially as and for the purpose set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

ALPHEUS H. WOOD.
JOHN D. TUNNELL.

-Witnesses:

RAY WHEATLEY,
W. G. WITHEY.