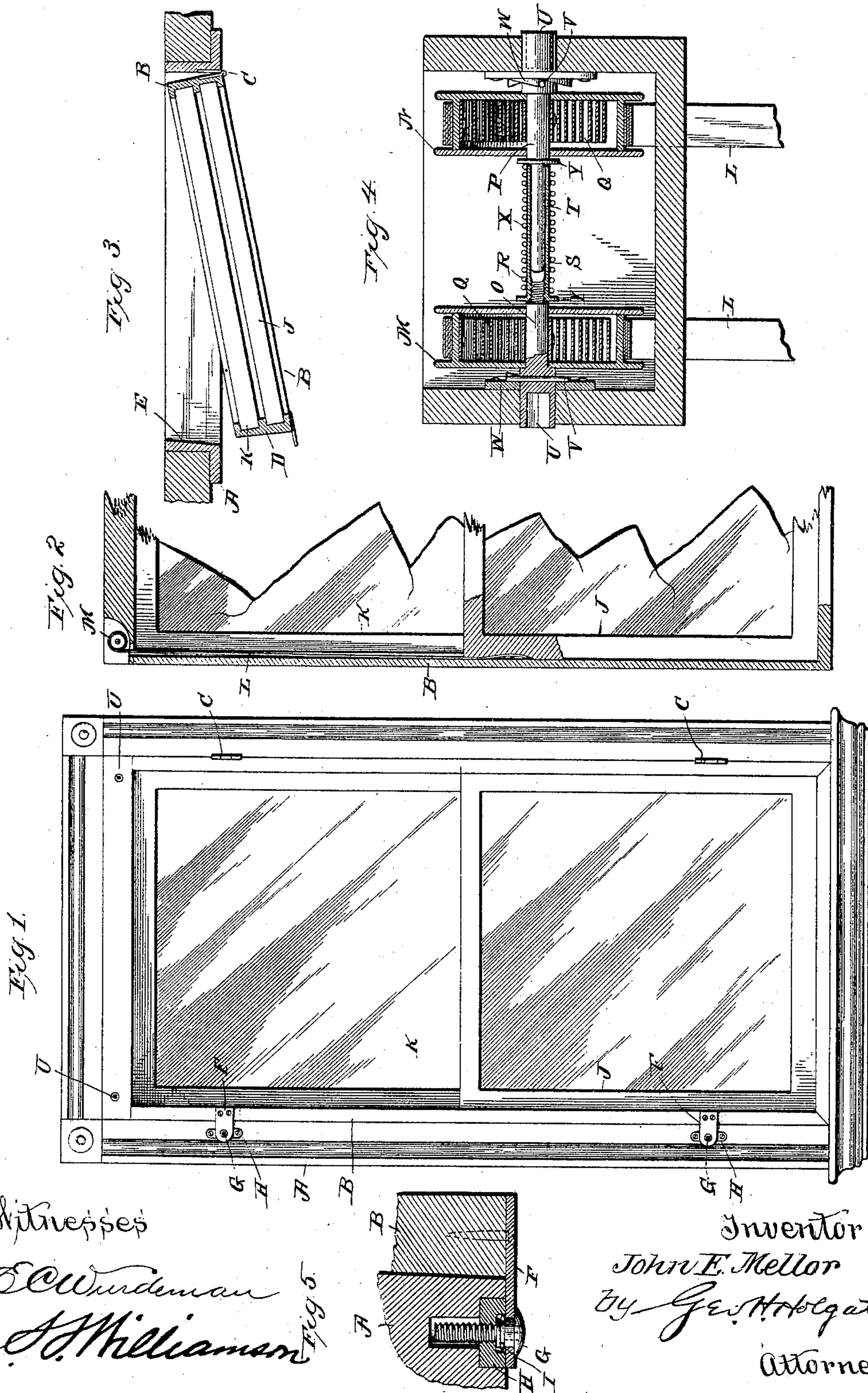


(No Model.)

J. E. MELLOR.
WINDOW.

No. 584,268.

Patented June 8, 1897.



Witnesses

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WINDOW.

SPECIFICATION forming part of Letters Patent No. 584,268, dated June 8, 1897.

Application filed August 22, 1896. Serial No. 603,578. (No model.)

To all whom it may concern:

Be it known that I, JOHN EDWARD MELLOR, a subject of the Queen of Great Britain, residing at New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Windows, of which the following is a specification.

This invention relates to a new and useful improvement in window-frames, and has for its object to so construct a window and the frames thereof as to permit the inward swinging of the sashes without disturbing their vertical guidance, whereby access may be had to the outer surfaces of the window for the purposes of cleaning, painting, and repairing, and also to give a larger opening for the purposes of ventilation.

With these ends in view this invention consists in the details of construction and combination of elements hereinafter set forth, and then specifically designated by the claims.

In order that those skilled in the art to which this invention appertains may understand how to make and use the same, its construction and operation will now be described in detail, referring to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of a window made in accordance with my improvement; Fig. 2, a detail section of a portion of the swinging frame, illustrating the manner of securing and balancing the sashes therein; Fig. 3, a cross-section of the frames, the swinging frame being partly opened; Fig. 4, an enlarged detail section of one set of the balancing-pulleys, and Fig. 5 is a similar view of one of the locking-bolts for securing the swinging frame in position when closed.

In carrying out my invention I provide a stationary frame A of any suitable design, which is set in the usual manner within the wall of the building, so as to form a casing for the window, and within this frame is fitted the swinging frame B, hinged to the stationary frame at C and having its front edge D beveled, so as to correspond with and fit snugly against the beveled surface E of the first-named frame. Two locking-plates F are secured to the swinging frame opposite the hinges C and have secured therein, so as to

turn upon their axes, the locking-bolts G. These bolts are preferably provided with sockets in their heads for the reception of a suitable wrench in order that they may be tightly screwed up when occasion requires, and their threaded ends are adapted to engage the internal threads formed in the escutcheon-plates H, which latter are set within the stationary frame, so as to be flush therewith, and have recesses formed therein for the reception of the wire collars I, which serve to prevent the removal of the bolts from the locking-plates. From this it will be seen that when the swinging frame is closed it may be securely held against outward movement by the engagement of the bolts with the threads in the escutcheon-plates, and should these bolts be firmly screwed up by the application of a wrench the swinging frame will be caused to fit tightly within and against the stationary frame, thereby forming a dust and water proof joint.

Within the swinging frame are fitted the upper and lower sashes J and K, respectively, so as to slide in the ordinary manner, and these sashes may be balanced by means of flexible metal tapes L, passing upward therefrom and coiled around the flanged drums M and N. The drums M and N are mounted upon the spindles O and P, respectively, and are connected therewith by the coiled springs Q, so that when the tapes are drawn downward said springs will be wound, and when the tapes are permitted to move upward they will be again coiled upon the drums by the reverse action of these springs. The spindle O has a threaded shank R, which is screwed within the sleeve S, which latter is fitted upon the shank T of the spindle P, so as to revolve thereon or permit said shank to revolve therein. The heads of each of the spindles O and P are provided with sockets U for the application of a wrench in adjusting the tension of the coiled springs in order to adapt them to the weight of the sashes suspended thereby, and a pin V is set in each of these heads, so as to enter into engagement with the teeth of the ratchet-plates W, secured within the top portion of the swinging frame. A spring X is coiled about the sleeve S and so confined between the shoulders Y as to give the spindles O and P an outward thrust,

thus insuring the engagement of the pins V with the teeth of the ratchet-plates, so that when the spindles are revolved to increase the tension of the coiled springs Q the pins 5 will be caused to reengage with the teeth of these plates, thereby preventing a retrograde movement of the spindles. The drum M is for balancing the lower sash and the drum N the upper sash, and it is to be noted that 10 there are two of these drums for each sash, one upon each side of the swinging casing.

The advantages of my improved window are obviously as follows: The glass of the sashes can be cleaned without sitting or stand- 15 ing on the sill, and consequently without danger to the operator; broken glass can be replaced without taking out the sash; they are convenient for painting and for the ingress or egress of heavy pieces of furniture, such as pianos and the like; can be built complete 20 in a factory and put in a building with a great saving of labor. It being unnecessary to take out the sashes for any purpose, the usual removable parting-strips and holdings are dispensed with, and the sashes may therefore be 25 better fitted than is now the case and are consequently more nearly waterproof and non-rattling, and in manufacture the guideways for the sashes may be applied by machinery, 30 thereby not only producing more accurate work than is now possible, but also greatly cheapening the production of this work.

Another great advantage of my improvement is that when it is desired to increase the 35 ventilating capacity of a window the swinging frame may be opened, which would not only give a draft capacity equal to the clear space occupied by the sashes, but will increase this space by the space occupied by the swinging frame, and from a sanitary point of view 40 this is of the utmost importance.

Having thus fully described my invention, what I claim as new and useful is—

1. In a device of the character described, 45 sash-supports, drums upon which said supports are wound, telescoping spindles carrying the drums, springs actuating the drums in one direction, pins carried by the spindles, stationary ratchet-plates with which the pins 50 engage and means for forcing said spindles apart, as and for the purpose described.

2. In combination with a stationary frame, a swinging frame fitted and hinged thereto, locking-plates carried by the swinging frame,

bolts carried by said plates, threaded escutcheon-plates secured to the stationary frame and adapted to receive the threaded ends of the bolts, sashes fitted within the swinging frame so as to slide vertically, and spring-actuated 60 drums connected by flexible tapes with the sashes for counterbalancing the same, substantially as and for the purpose set forth.

3. The herein-described combination of the stationary frame, the swinging frame fitted and hinged thereto, locking-plates carried by 65 the swinging frame, escutcheons secured to the stationary frame, locking-bolts carried by the locking-plates and adapted to be operated by a wrench, sashes fitted to slide within the swinging frame, flexible metallic tapes 70 attached to the sashes, drums upon which said tapes are wound, spindles upon which the drums are mounted, springs for actuating the drums in one direction, pins carried by the spindles, stationary ratchet-plates with 75 which said pins are adapted to engage, and a coiled spring arranged to force said pins into engagement with said ratchet-plates, substantially as and for the purpose set forth.

4. In a device of the character described, 80 a casing, spindles journaled therein, spring-actuated drums mounted on the spindle, a shank formed on one spindle, a sleeve secured on the other spindle and fitting over the shank, means for forcing the spindle apart, 85 pins carried by the spindles and ratchet-plates on the casing with which said pins engage, as and for the purpose described.

5. In a device of the character described, a casing, spindles journaled therein, spring- 90 actuated drums on the spindles, pins carried by the spindles, ratchet-plates on the casing with which the pins engage, a shank and collar formed on one spindle and a sleeve having a collar threaded on the other shank and 95 fitting over the shank and spiral springs around the sleeve bearing against the two collars to force the pins into engagement with the ratchet-plates, as and for the purpose described. 100

In testimony whereof I have hereunto affixed my signature in the presence of two subscribing witnesses.

JOHN EDWARD MELLOR.

Witnesses:

S. S. WILLIAMSON,
R. M. PIERCE.