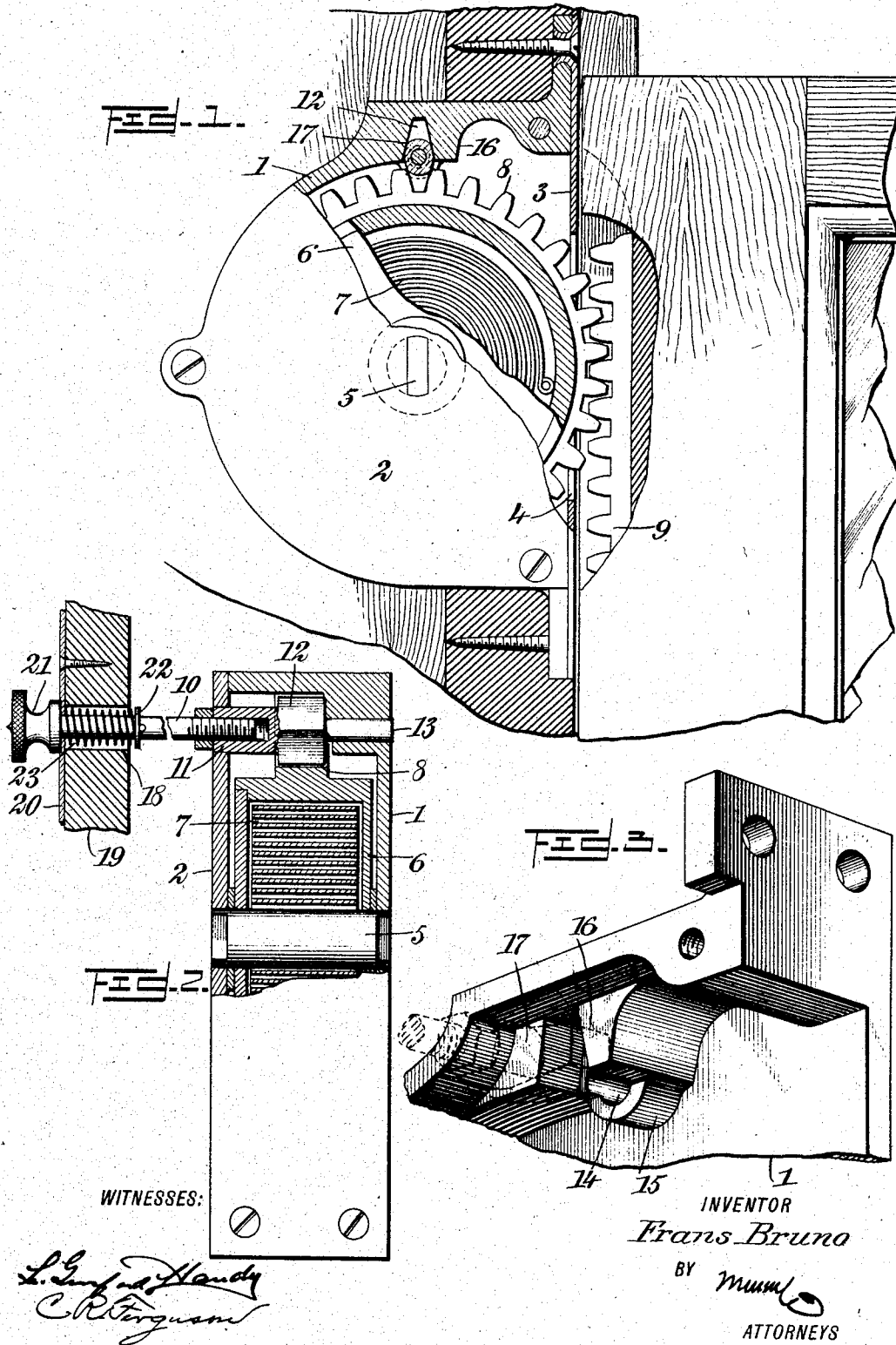


F. BRUNO.  
WINDOW RAISING AND LOCKING DEVICE.  
APPLICATION FILED DEC. 3, 1904.



# UNITED STATES PATENT OFFICE.

FRANS BRUNO, OF NEW YORK, N. Y.

## WINDOW RAISING AND LOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 791,874, dated June 6, 1905.

Application filed December 3, 1904. Serial No. 235,350.

*To all whom it may concern:*

Be it known that I, FRANS BRUNO, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the  
5 county of Kings and State of New York, have invented a new and Improved Window Raising and Locking Device, of which the following is a full, clear, and exact description.

This invention relates to improvements in  
10 window-sash raising and locking devices of that class shown in the Patent No. 608,173, granted to me under date of August 2, 1898, the main objects being to simplify the construction of the device shown in the patent  
15 by omitting certain features thereof, thus resulting in economy of production and making it more effective in operation.

I will describe a window raising and locking device embodying my invention and then  
20 point out the novel features in the appended claim.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is an elevation, partly in section, of a window raising and locking device embodying my invention. Fig. 2 is a sectional  
30 elevation at right angles to Fig. 1, and Fig. 3 is a detail perspective illustrating a portion of the locking mechanism employed.

It may be here stated that in practice the devices may be arranged at opposite sides of both the upper and lower sash, operating to  
35 counterbalance or raise the lower sash and raising or closing the upper sash. The description of one device, however, will answer for all. While the spring-actuated device is shown as attached to a casing and the rack  
40 secured to a sash, this order may be reversed, if so desired.

Referring to the drawings, 1 designates a casing designed to be seated in a recess of a window-casing. This casing has a removable  
45 side plate 2 and a detachable face-plate 3, provided with a slot 4, the purpose of which will be hereinafter described. Extended transversely through the casing and held from rotary motion with relation thereto is a shaft 5,  
50 on which a spring-barrel 6 is mounted to ro-

tate. Arranged within the spring-barrel 6 is a coiled spring 7, one end of which is attached to the shaft 5, while the other end is attached to the barrel. On the periphery of the barrel are gear-teeth 8, designed to engage with  
55 a rack 9, seated in a vertical recess formed in the side rail of the sash, as clearly indicated in Fig. 1. The slot 4 in the face-plate 3 permits the teeth to pass through to engage with said rack.

To lock the window at any desired point or to secure it when entirely closed, I employ a locking-key, here shown as consisting of a shaft 10, removably connected, by means of a screw-thread, with a sleeve portion 11, which  
65 operates to move longitudinally in an opening in the side plate 2, and carried by this sleeve portion 11 is a locking-block 12, the sides of which from the center are tapered toward each other, or, in other words, are  
70 made to conform substantially to the space between the teeth 8. As the block 12 has its projections in both directions, it is obvious that only a quarter-revolution of the key will be necessary to permit it to pass between the  
75 teeth.

Extended from the side of the block 12 opposite that on which the sleeve 11 is placed is an extension-pin 13, having a bearing in an opening 14, formed in a lug 15, extended  
80 downward from the upper wall of the casing 1. When in locking position, the block 12 is designed to engage with a locking member consisting of spaced lugs 16 17, depending from the upper wall of the casing. The longitudinal movement of the sleeve and also the longitudinal movement of the pin 13 is  
85 sufficient to permit the block to be moved to one side—say the outer side or ends of the lugs 16 17—and upon rotation to be engaged  
90 therewith, permitting the drum carrying the teeth to freely rotate to actuate the window-sash.

The members 10, 12, and 13 of the key constitute practically a single shaft; but by making the part 10 detachable from the sleeve the said parts may be readily assembled. The part 10 of the shaft extends outward freely through an opening 18 in the inner facing 19  
95 of the window-casing, and it also extends  
100

through a bearing-plate 20, attached to said face-plate, and on its outer end it is provided with a head or finger-piece 21.

5 Arranged in the opening 18 between the bearing-plate 20 and a collar 22 on the shaft member 10 is a spring 23, designed to force the key into locking engagement when the block 12 is turned to pass into the space between the lugs 16 and 17.

10 In the operation upon releasing the locking device from the gear-teeth 8 the spring will cause an upward movement of the window-sash, which obviously may be stopped at any desired point and locked. Upon a downward  
15 movement of the sash the spring will be re-wound ready for the next operation or upward movement.

It will be seen that a device embodying my invention is very simple in its construction  
20 and may be readily placed in position and furnished at a comparatively small cost.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

25 A window-casing mechanism comprising a casing arranged in a window-frame, a fixed

shaft in the casing, a spring-barrel mounted on the shaft, a spring in the barrel connected at one end thereof and at the other end to the shaft, an annular row of teeth on the barrel, a rack secured to the sash for engaging with  
30 said teeth, spaced lugs extending from a wall of said casing, a rotary and longitudinally-movable key-block for engaging between said lugs and between the teeth on the barrel, an extension-pin on the block, a lug on the cas-  
35 ing forming a bearing for said pin a shaft having a part extended outward through the window-frame, a bearing-plate having an opening through which said shaft part passes, a collar on the shaft, and a spring arranged  
40 between said bearing-plate and collar within the opening in the window-frame.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANS BRUNO.

Witnesses:

JNO. M. RITTER,  
C. R. FERGUSON.