

No. 677,486.

Patented July 2, 1901.

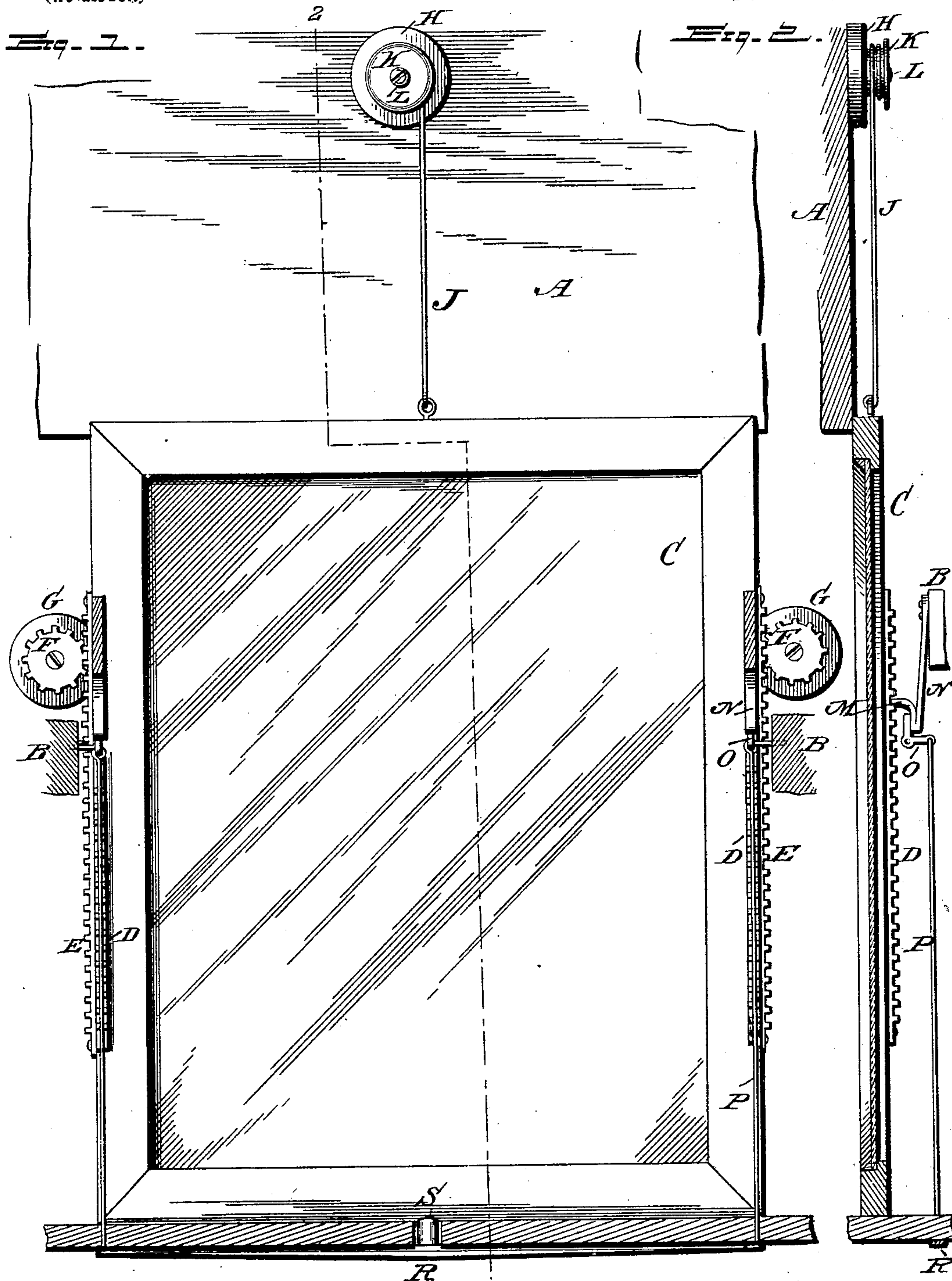
O. WILLIAMS.

DEVICE FOR FASTENING SASHES, DOORS, OR SHUTTERS.

(Application filed Jan. 8, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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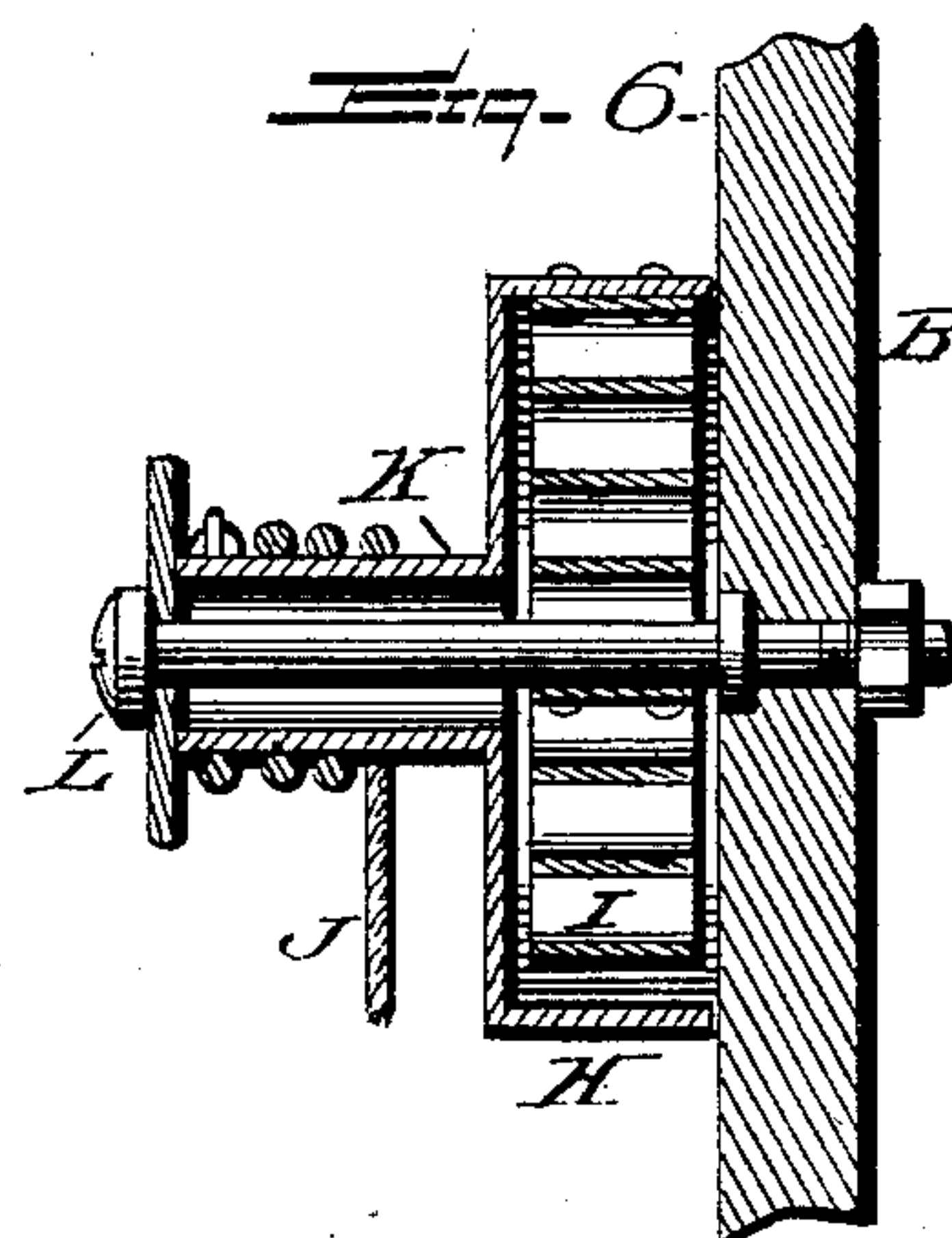
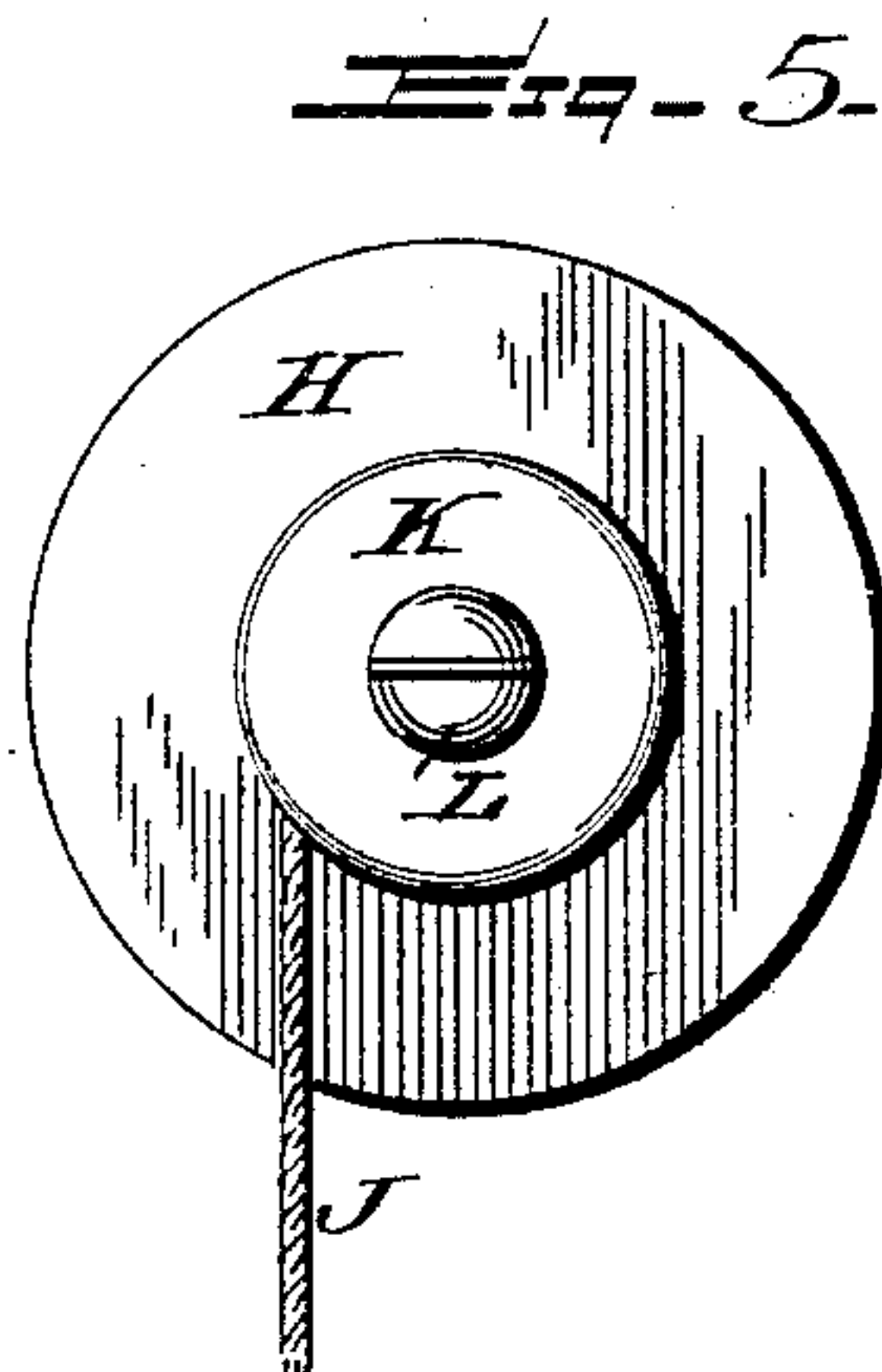
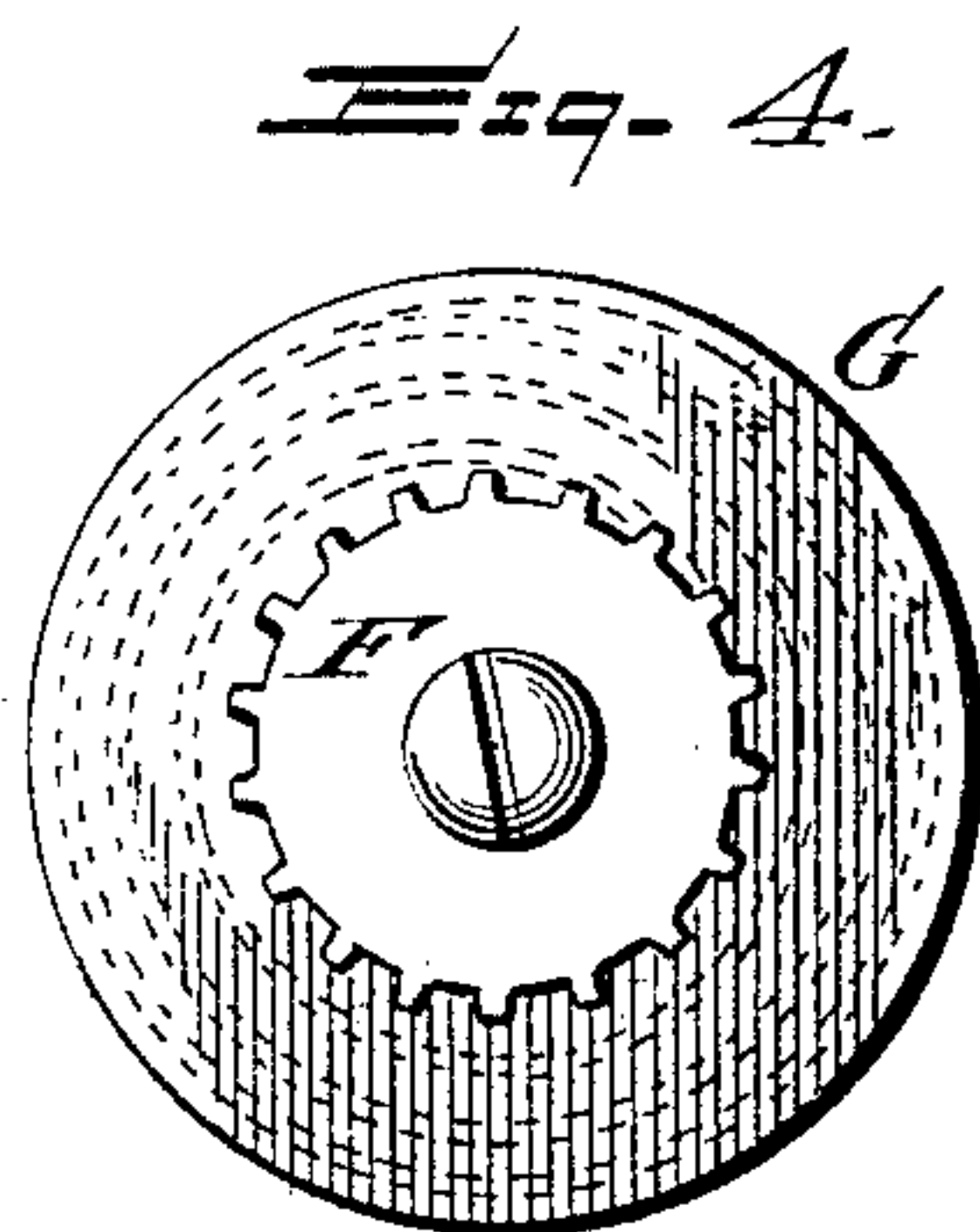
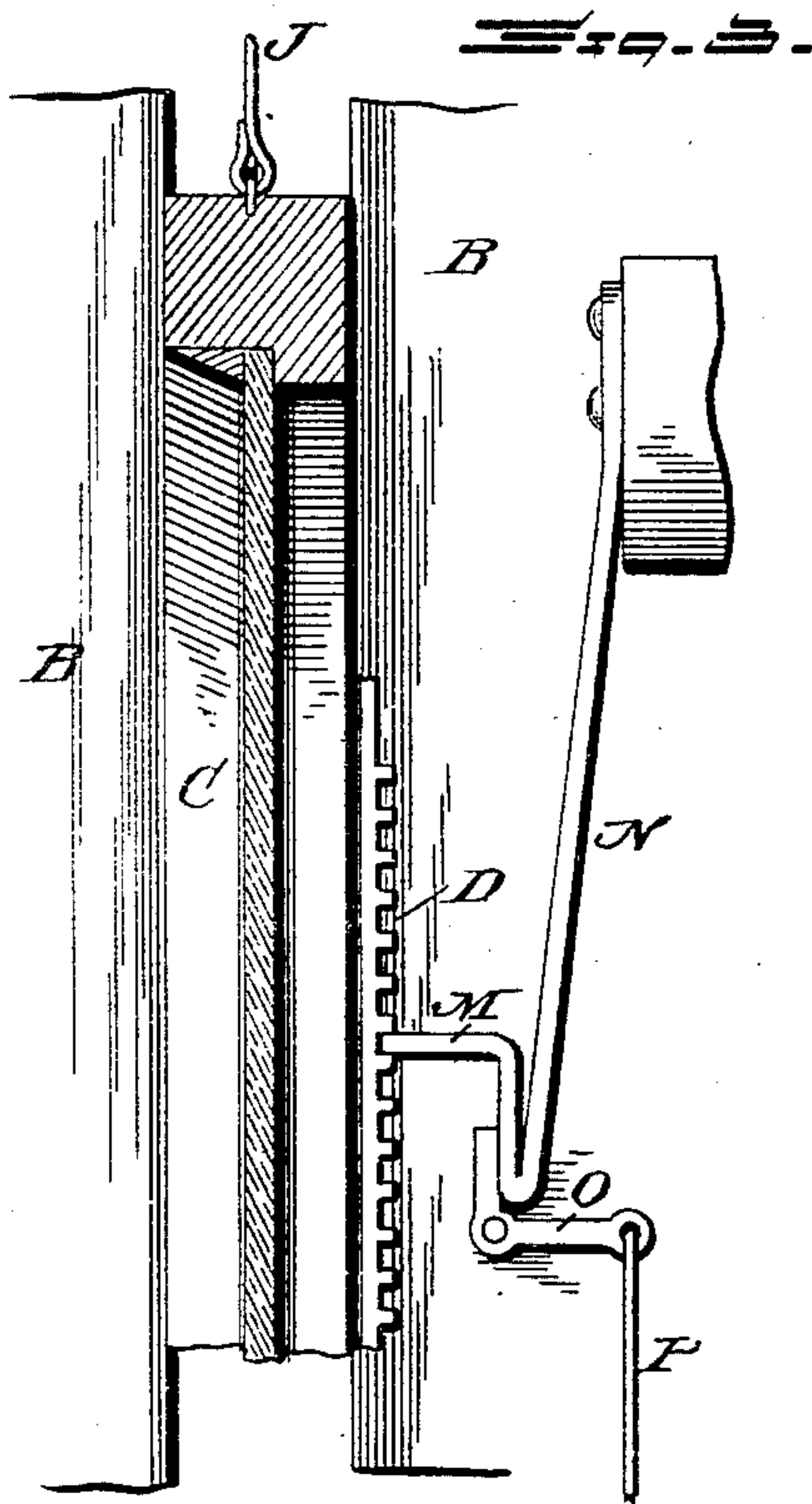
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UNITED STATES PATENT OFFICE.

OTIS WILLIAMS, OF ST. JOHNSVILLE, NEW YORK.

DEVICE FOR FASTENING SASHES, DOORS, OR SHUTTERS.

SPECIFICATION forming part of Letters Patent No. 677,486, dated July 2, 1901.

Application filed January 8, 1901. Serial No. 42,537. (No model.)

To all whom it may concern:

Be it known that I, OTIS WILLIAMS, a citizen of the United States, residing at St. Johnsville, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Devices for Fastening Sashes, Doors, or Shutters; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has reference to that class of devices for automatically raising or otherwise operating the sashes of car and other windows, also sliding doors and sliding shutters, and in which means are employed for automatically elevating the same and a controlling and releasing mechanism in connection therewith, whereby the sash, door, or shutter may be held closed or open, as found desirable, and at the same time holding it against the outside of the frame, jamb, or casing to render it dust-proof or air-tight, except when being moved.

To obtain the above-named objects, I provide a simple and effective means for releasing or holding the sash, door, or shutter in its adjusted position, substantially as shown in the drawings, and hereinafter described and claimed.

Figure 1 of the drawings is a front elevation of a car or other window, partly in section, to show the operating mechanism applied thereto; Fig. 2, a transverse sectional elevation taken on line 2 2 of Fig. 1; Fig. 3, a detail view, on an enlarged scale and partly in section, showing the releasing and holding mechanism; Fig. 4, an end view of the pinion with casing for containing the coiled spring, the latter being shown in dotted lines; Fig. 5, a similar view of the spool and elevating-cord and the casing for containing the spring; Fig. 6, a sectional elevation thereof.

In the accompanying drawings, A represents the outer and upper portion of the window-frame, and B designates portions of the sides thereof, which are shown in section, the inner parts of the frame being removed to show the operating mechanism.

The slidable sash C, which may be of the usual construction, has racks D upon its front

side and similar racks E upon its edges, as shown in Fig. 1 of the drawings, said racks being of any suitable length and construction and secured to the sash in any preferred manner. Pinions F engage the racks E, which pinions are operated by a coiled spring contained in a casing G, whereby said pinion will be spring-actuated. The construction of the casing and coiled spring for operating the pinion may be similar to the casing H and coiled spring I for automatically elevating the window-sash through the medium of the cord or other suitable connection, as shown at J. In the present instance the cord J is connected at one end to the sash C, and its upper or opposite end is attached to a spool K, rotatable with the casing H upon a stationary shaft L, secured to the window-frame, the ends of the spring I being connected or secured, respectively, to the casing and to the shaft, as shown in Fig. 6 of the drawings.

In order to hold the sash against the lifting power or release it, so as to allow the lifting power to act in raising the sash, there is provided a pawl and means for operating it, said pawl being automatic in its action in engaging the rack and released by means of rod and connections hereinafter described.

The pawl M, which is adapted to engage the rack D, as shown more clearly in Fig. 3 of the drawings, is rendered automatic in its action by means of the spring-arm N, said pawl and spring-arm being preferably formed integral, although the two may be separate and afterward connected together. By means of the spring-arm the pawl is retained in engagement with teeth of the rack, but may be released therefrom when necessary through the medium of the pivoted bell-crank lever O and rod P. The rod P upon each side of the window-sash is connected to the ends of a transverse push-bar R, which is provided with a suitable push-button S, as shown in Fig. 1 of the drawings. In pressing on the push-button S the transverse push-bar R will be depressed and carry with it the rods P, and by the downward movement of the rods the pawl M will be released from engagement with the rack D upon each side of the window-sash through the medium of the bell-crank levers O. The window-sash being released, as above described, the rotatable pin-

ions F, engaging the racks E, will automatically elevate the sash, as will also the rotatable spool K, through the medium of the cord J. When the window-sash has been elevated the
 5 desired height, the pressure on the push-button S is released, when the pawls will again and automatically engage with the racks, thereby holding the sash in its adjusted position either opened or closed and at the same
 10 time holding or pressing the sash against the outside of the frame or casing and rendering it dust-proof and air-tight, the pulling down of the sash to close it being accomplished by hand. The pawl is automatically operating—that is to say, it is automatic in its action when released to engage the rack. Therefore I shall term it an “automatically-acting or operating pawl.” The moment the pawl
 15 is released it not only locks the sash stationary, but at the same time the pawl presses the sash outward and holds it tightly against its frame, thereby performing the double function in connection with the rack on the front side of the sash in holding the sash stationary and also tightly against the frame
 20 thereof.

If the rack-bar was on the edge of the sash in place of the front side thereof, the pawl would hold the sash closed or in its adjusted
 30 position, but would have no effect in press-

ing or forcing the sash against the window-frame, which I accomplish by placing the rack-bar upon the front side of the sash and having the pawl engaging therewith, accomplishing thereby the double purpose of holding the sash in its raised or closed position and simultaneously forcing the sash against the window-frame to form a tight joint between the same, and thereby exclude air and dust and prevent rattling of the sash. 35 40

Having now fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A slidable sash, door or shutter, means for automatically raising the same, a rack upon the front side thereof, and an automatically-acting pawl to engage the rack, said pawl consisting of a spring-arm terminating at its free end in a pawl, and a pivoted bell-crank lever engaging the free end of the spring-arm below the pawl, and suitable means for operating the lever, substantially as and for the purpose specified. 45 50

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses. 55

OTIS WILLIAMS.

Witnesses:

M. WILLIAMS,

CHARLES EIGENBRODT.