

No. 815,803.

PATENTED MAR. 20, 1906.

W. A. DOUGLAS.  
SASH LOCK.

APPLICATION FILED MAR. 20, 1905.

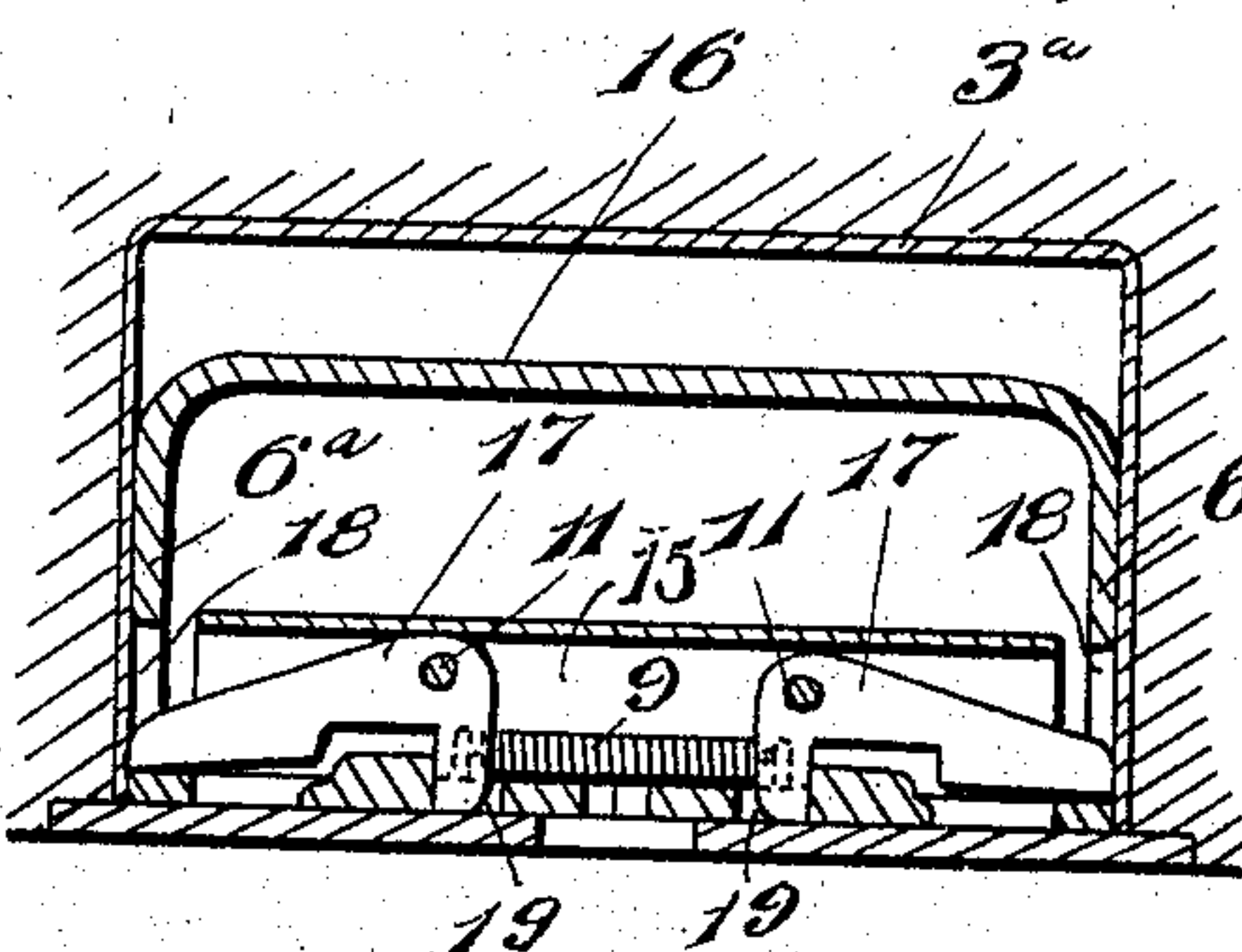
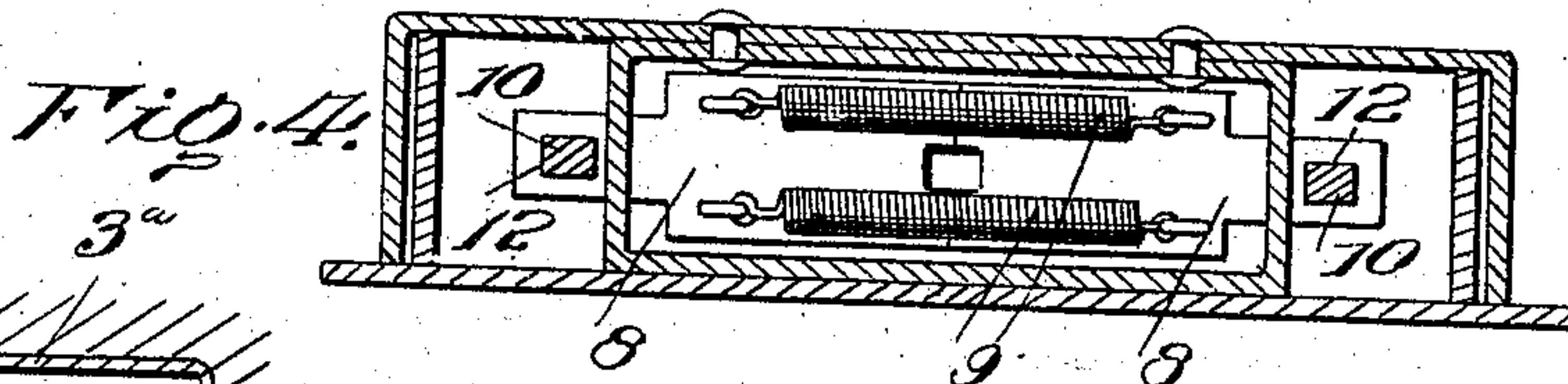
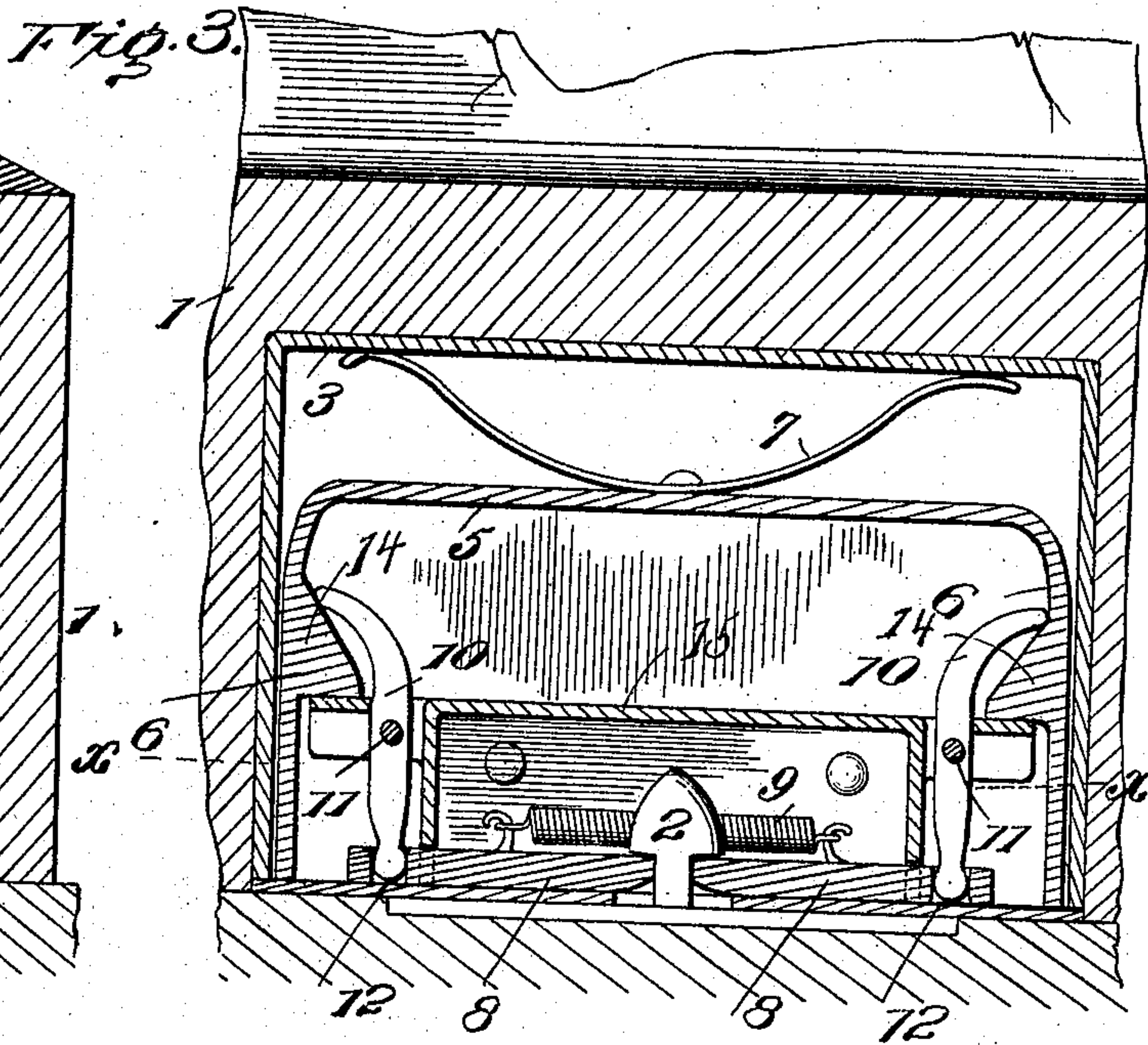
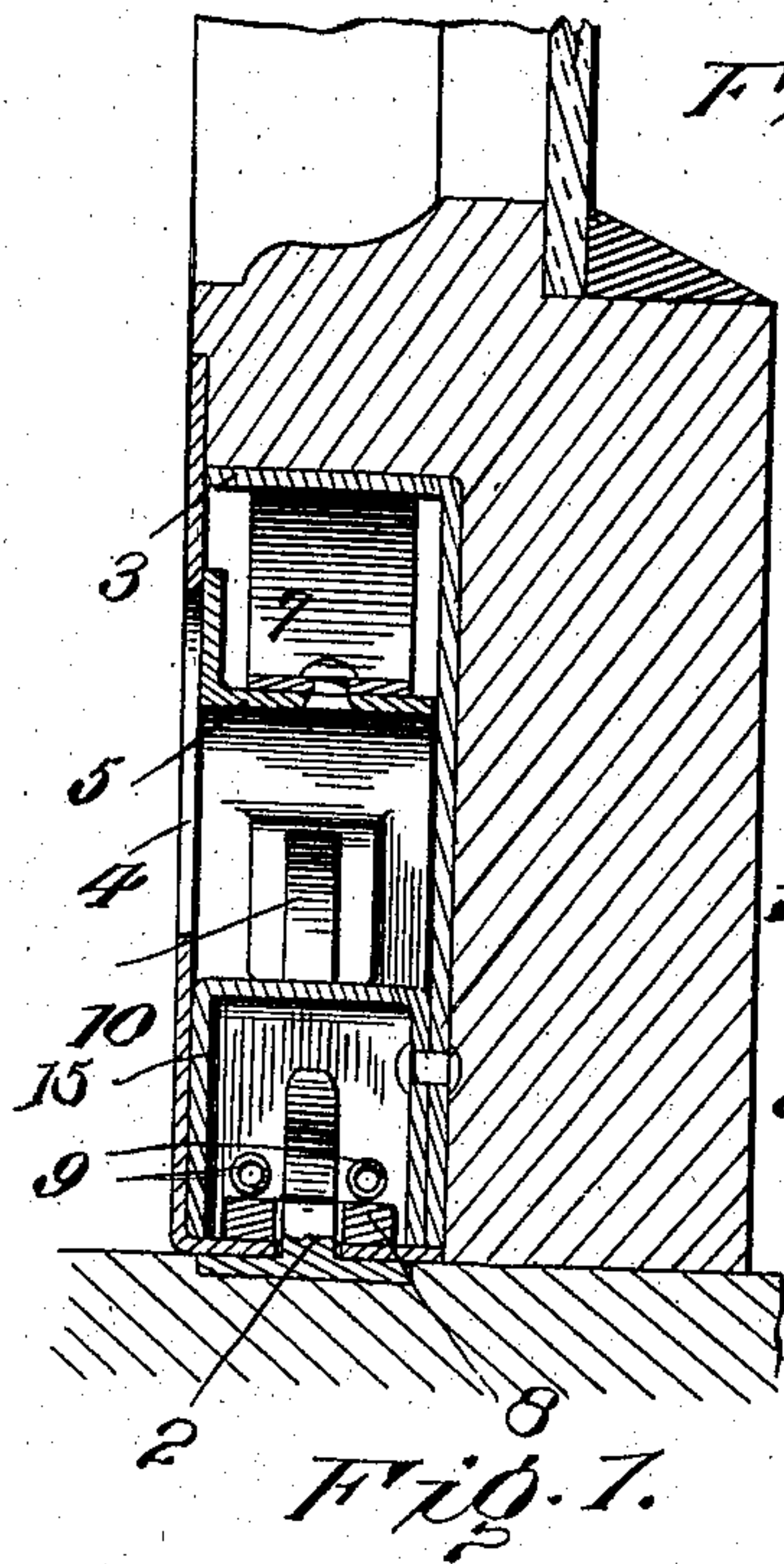
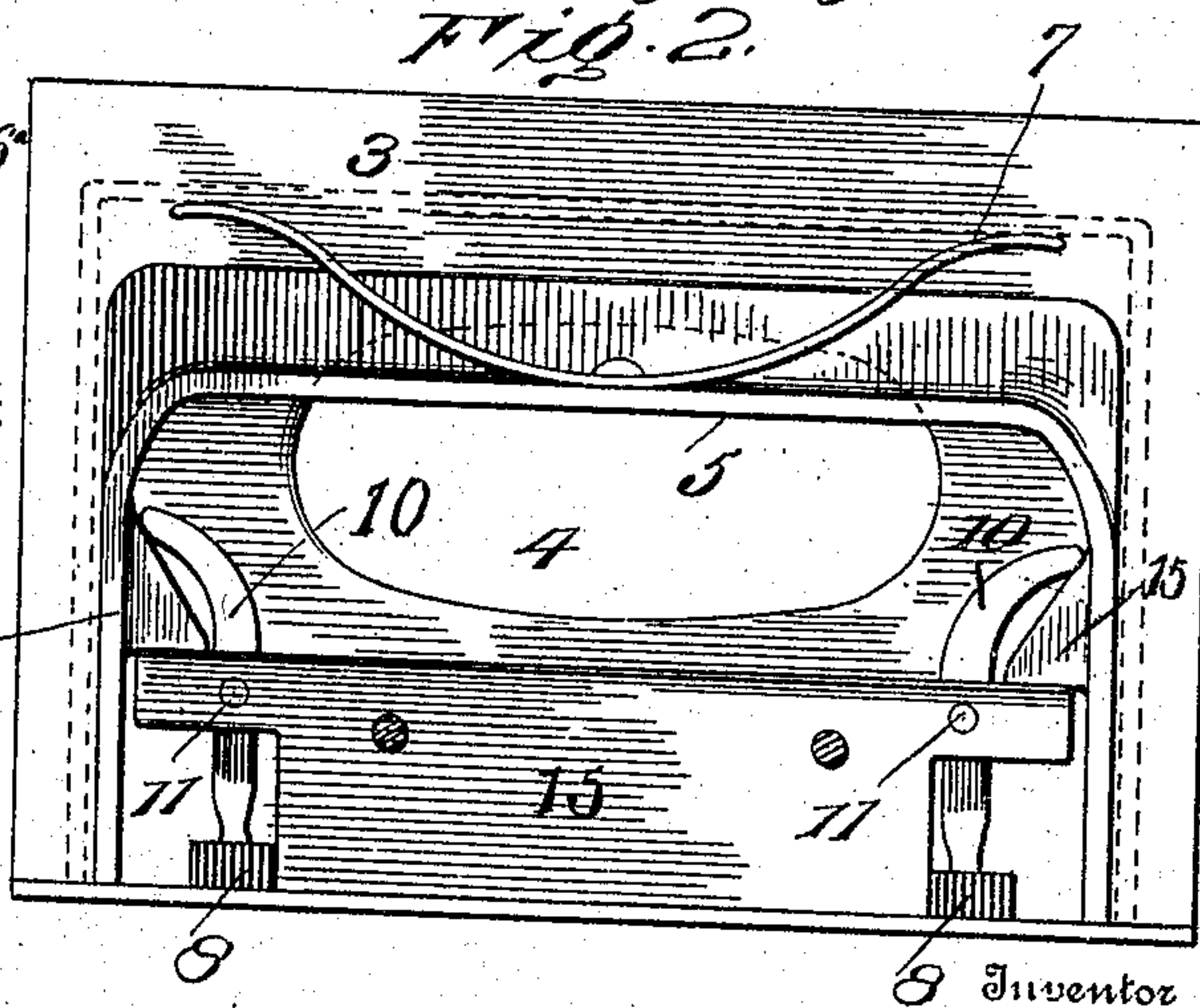


Fig. 5.



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM A. DOUGLAS, OF UTICA, NEW YORK.

## SASH-LOCK.

No. 815,803.

Specification of Letters Patent.

Patented March 20, 1906.

Application filed March 20, 1905. Serial No. 251,061.

*To all whom it may concern:*

Be it known that I, WILLIAM A. DOUGLAS, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Sash-Locks, of which the following is a specification.

This invention comprises an improved form of sash-lock described in my previous application for patent, Serial No. 226,434, filed September 29, 1904; and the essential object of the invention is to provide a device of the above type embodying a general simplicity of construction, a novel arrangement of operating parts conducing to compactness and ease of operation to an extent not heretofore attained.

The sash-lock constructed in accordance with this invention includes a movable catch and handle and peculiar connections between these parts which enable the lock device to be made comparatively small without decreasing the serviceability and substantiality of the same as a lock means.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a vertical sectional view showing the invention as when applied to a window-sash. Fig. 2 is a view in elevation, showing the lock mechanism, the rear or inner side of the casing being removed. Fig. 3 is a vertical longitudinal sectional view. Fig. 4 is a horizontal sectional view taken on the line X X of Fig. 3 looking downwardly. Fig. 5 is a view embodying a modification of the invention.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The window-sash 1, to which the invention is shown applied, is of the vertically-movable type, and the lock mechanism which composes this invention may be mortised or otherwise secured to the sash for coöperation with the fixed catch 2, suitably secured to the window frame or casing.

The lock mechanism consists of a casing 3, one side of which is provided with a hand-opening 4, admitting of ready manipulation of the handle 5, which is mounted in said casing in the form of the invention shown in the

first figures of the drawings. The handle 5 has downwardly-extending end portions or members 6, which operate between the inner and outer sides of the casing 3, affording guide means for directing the handle in its slidable movement within the casing. A spring 7, preferably a flat spring, is interposed between the upper side of the handle 5 and the upper plate of the casing 3, said spring normally holding the handle in such a position so that the same is partially opposite the hand-opening of said casing in order that the handle may be readily actuated to operate catches 8, which are slidable in the lower portion of the casing 3. The catches 8 consist of plates disposed above the bottom plate of the casing 3 and movable in opposite directions, the adjacent end portions of the plates or catches 8 being adapted to engage the fixed catch 2 at opposite sides of the latter. The catch 2 is of arrow-head shape similar to many at present in use. Movable catches 8 are normally held in engagement with the catch 2 by means of coil-springs 9, opposite ends of which are connected, respectively, with the catches. The springs 9 are arranged in spaced relation, so as to admit of ready engagement of the fixed catch with the movable catches.

The special connection between the catches 8 and the handle 5 consists of lever devices, the preferred forms of which are illustrated in the figures of the drawings. In Figs. 1 to 4, inclusive, it is designed to use levers 10, mounted upon pintle members 11, with the lower ends of said levers entering slots 12 in the catch-plate 8. The upper extremities of the levers 10 curve outwardly, as shown at 13, and are arranged to be engaged by cams 14, carried by the downwardly-extending end portions 6 of the handle 5. A supplemental or inner casing 15 is located in the main lock-casing 3 at the lower portion of the latter and forms a casing for the catch devices 8 and adjacent parts more particularly. The inner casing at the upper side forms a closure for the lower portion of the hand-opening and prevents foreign matter from lodging in the lower portion of the casing 3 in a manner which will be readily apparent.

Describing the operation of the construction above set forth, it will be noted that the spring 7 and springs 9 normally hold the handle 5 partially opposite the hand-opening 4 and the catches 8 in engagement with the



fixed catch 2. To raise or open the window, the fingers are passed into the hand-opening 4, and pressure against the handle 5 will force the latter upwardly, moving the cams 14 in the same direction and causing the latter to impart pivotal movement to the levers 10, causing separating slidable movement of the catches 8. The initial movement of the handle thus disengages the catches 8 from the catch 2, and further pressure upon the handle will elevate or raise the sash of the window in an obvious manner.

The modification of the invention shown in Fig. 5 illustrates a casing 3<sup>a</sup>, in which a handle 16 is partially exposed, the hand-opening structure of casing being the same as before set forth. The handle 16 also has the downwardly-extending portions 6<sup>a</sup>. In the modified construction it is designed to use bell-crank levers 17 instead of those described hereinbefore. The levers 17 are suitably pivoted within the casing 3<sup>a</sup>, and one end of the levers is received in a recess or slot 18 in the adjacent end portions 6<sup>a</sup> of the handle, the opposite end of the levers being received in a similar recess or slot 19 in the adjacent catch 8. The catches 8 may be of the same form as before described. The use of the bell-crank levers economizes space to such an extent that the size of the lock device may be greatly reduced and rendered very compact, this being of great advantage in many instances, as well as accomplishing a saving of material. It will be noted that in the construction shown in Fig. 5 upward movement of the handle imparts pivotal movement to the levers 17, which actuate the catches 8 and cause separation of the latter and disengagement from the catch 2. The levers 17 are pivoted at approximately the points adjacent the elbows thereof, and the slots or openings 18 in the portions 6<sup>a</sup> of the handle 16 are elongated, so that in the closing movement of the sash the catch 2 will automatically separate the catches 8 in engaging therewith, and in such movement, because of the provision of the elongated slots 18, the levers 17 are adapted to move pivotally without actuating the handle. The catches 8 in the construction in

Fig. 5, as well as in the construction in the remaining figures of the drawings, are adapted to move independently of the handle. In Fig. 5 the spring 7 shown in the other figures is dispensed with, and said spring may or may not be used in the constructions, according to the desire of the manufacturer.

It will be noted that the levers 10 and 17 in the constructions of the invention shown in the drawings operatively connect the end members 6 and 6<sup>a</sup> of the handles 5 and 16, respectively, with the fixed catch 2, which is directly engaged by the movable catches 8.

Having thus described the invention, what is claimed as new is—

1. In a sash-lock, the combination of a handle having angularly-extending end members, movable catches, and connections comprising levers arranged between the end members of the handle and operably connecting the catches therewith.
2. In a sash-lock, the combination of a casing, a handle arranged therein and provided with downwardly-extending vertical end portions, levers arranged in the casing in the space between the end portions of the handles having their upper ends curved toward the end portions of the handle, the end portions of the handle having cams projected from the inner sides thereof to engage the upper curved portion of the levers to impart pivotal movement to said levers, catches slidably mounted in the casing and engaged by the lower end portions of the levers, and a fixed catch adapted to be engaged upon opposite sides by the movable catches.
3. In a sash-lock, the combination of a casing, a handle mounted therein, and embodying angularly-extending end members, levers arranged between said end members, catches movable with said levers, and a fixed catch adapted for operable connection with the catches of said levers.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM A. DOUGLAS. [L. S.]

Witnesses:

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WILLIAM FARRELL.