

A. N. DAVIS.
AUTOMATIC WINDOW LOCK.
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912,817.

Patented Feb. 16, 1909.

Fig. 1.

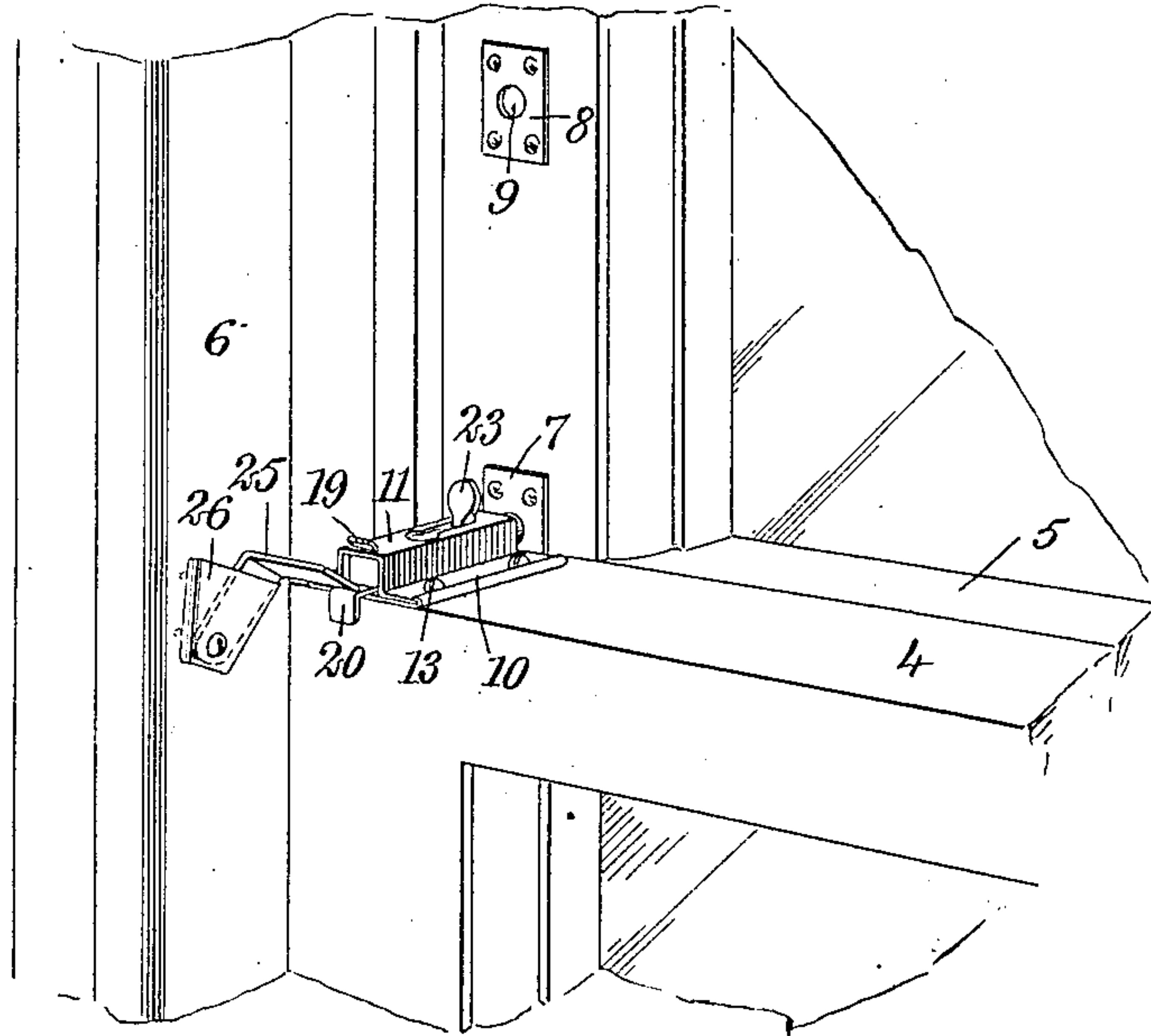


Fig. 2.

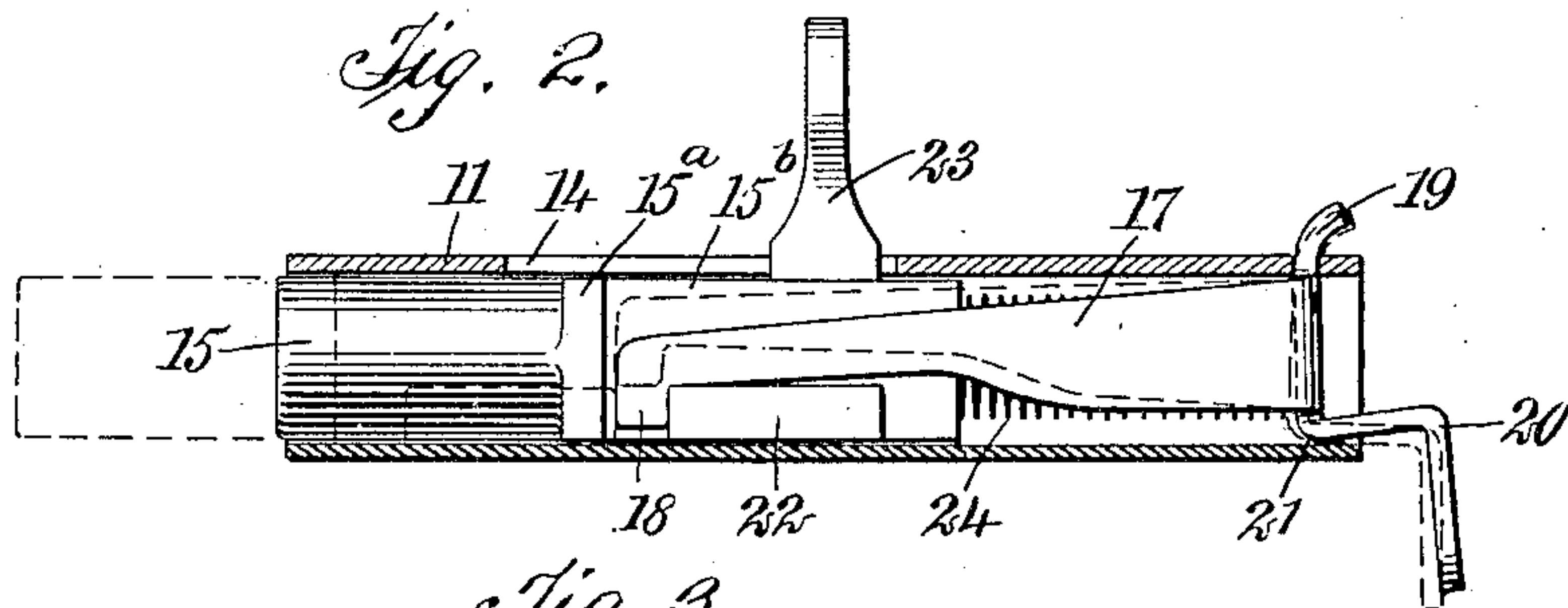
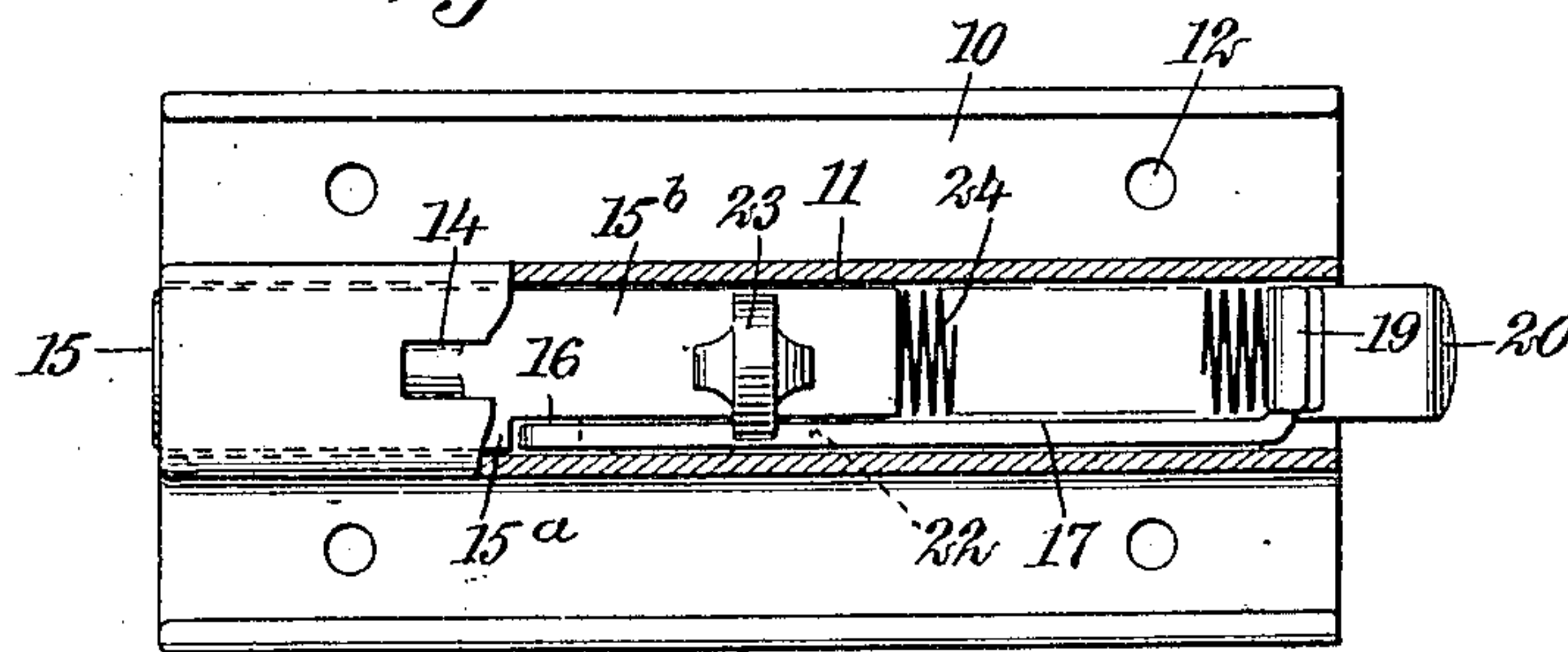


Fig. 3.



WITNESSES

L. G. Hande
Walton Harrison

INVENTOR

Albert N. Davis

BY

Wm. G.
ATTORNEYS

UNITED STATES PATENT OFFICE.

ALBERT N. DAVIS, OF NEW YORK, N. Y., ASSIGNOR TO CHARLES K. VOLCKENING, OF
BROOKLYN, NEW YORK.

AUTOMATIC WINDOW-LOCK.

No. 912,817.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ALBERT N. DAVIS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Automatic Window-Lock, of which the following is a full, clear, and exact description.

My invention relates to locks used upon windows, sliding doors and analogous closure members, my special purpose being to increase the adaptability and uses of a lock of this kind by changes in its structure.

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 views.

Figure 1 is a perspective showing my improved lock applied to an ordinary window containing upper and lower sashes; this view showing also a trip for automatically actuating the lock under certain conditions when the lower window sash is moved to its bottom limit; Fig. 2 is an enlarged central section through the lock showing the sliding bolt, the dog for holding the same in a predetermined position, the spring for thrusting the bolt outwardly when released by said dog, the thumb piece for controlling the bolt by hand, and the tripping mechanism controllable by hand for causing the dog to release the bolt; and Fig. 3 is a fragmentary plan of the lock, showing the same as partly broken away in order to exhibit the sliding bolt and its immediate connections.

The lower sash is shown at 4, the upper sash at 5, and the jamb at 6. Mounted upon the upper sash 5, are plates 7, 8 each provided with a bolt hole 9. Mounted upon the top of the lower sash 4 is a plate 10 having integral with it a sleeve 11. The plate 10 is provided with holes 12 for enabling it to be secured in position by aid of screws 13. The sleeve 11 is provided with a slot 14. A sliding bolt 15 has a square portion 15^a and a flattened portion 15^b, the flattened portion 15^b being somewhat narrower than the square portion 15^a. Following this idea, the bolt is provided with a depression 16, as will be understood from Fig. 3. Movably mounted within this depression is a dog 17 having a lug 18 and provided with a stem 19 of arcuate form, this stem extending through the upper portion of the sleeve 11. The dog 17 is further provided with a trip 20 having

generally the form of a plate bent substantially into L-shape, as will be understood from Fig. 2. This trip is provided with a rounded portion 21 upon which it rests, and this rounded portion is adapted to move slightly in relation to the bottom of the sleeve 11.

The portion 15^b of the sliding bolt is provided with a lug 22 integral with it and extending slightly from it in a lateral direction, this lug being partially within the path of the lug 18 carried by the dog 17.

The bolt 15 is further provided with a thumb piece 23 rigidly mounted upon it and extending upwardly through the slot 14. A spiral spring 24 is disposed within the casing 11 and engages the bolt 15, tending to force it to the left, according to Fig. 2. The other end of this spring engages the dog 17 at a point just below the stem 19. The pressure of this spring normally holds the dog 17 in the position indicated by full lines in Fig. 2, thereby maintaining the lug 18 in such position as to prevent the lug 22, and consequently the bolt 15, from moving to the left according to this figure.

A trigger 25, having substantially L-shape, is pivotally mounted upon the jamb 6. A guard 26 partially encircles this trigger, and serves as a limiting stop for it and also to protect it from accidental injury.

The operation of my device is as follows: The operator, by grasping the thumb piece 23 and drawing it outwardly or away from the window (to the right according to Fig. 2), while depressing the trip 20 as indicated by dotted lines in Fig. 2, presses the spring 24 and causes the dog 17, under pressure of the spring 24, to assume the position indicated by full lines in Fig. 2, so that the lug 18 prevents the lug 22 from moving to the left, according to this figure. The bolt 15 is thus restrained and held in the position indicated in full lines in this figure. The two sashes 4, 5, or either of them, may now be moved at will. If, however, the upper sash 5 be moved to its upper limit, and the lower sash 4 be moved to its lower limit, the trip 20 automatically engages the upper inclined surface of the trigger 25, and this turns the trip 20 into the position indicated by the dotted lines in Fig. 2. The lug 18 thus clears the lug 22, and the bolt 15, under the impulse of the compressed spring 24, is forced outwardly, as indicated by dotted lines at the

left of Fig. 2, and extends through the plate 7 thereby locking both sashes firmly together. If, therefore, the upper sash 5 be in its uppermost position, and the sash 4 be moved to its lowermost position, the window is locked automatically by the action of the trigger 25. This trigger being loosely pivoted within the bracket 26 leans always toward the sashes, and as its surface is slightly inclined it easily causes the trigger to rock whenever the sash 4 is moved sufficiently for this purpose. Suppose, however, that the operator now wishes to raise the sash 4; he depresses the trip 20 as indicated by dotted lines in Fig. 2, and, grasping the thumb piece 23, draws the bolt in the direction indicated at the right in Fig. 2. The dog 17 now clicks into the position indicated by the full lines in Fig. 2, thereby preventing the bolt 15 from moving back under pressure of the spring 24. The operator may now raise the sash 4, and after raising it, may lower it nearly to its bottom limit, without disturbing the bolt 15; in fact, the sash 4 may be moved freely at will into any position except the one representing its lowermost limit of travel. When, however, it is moved into its lowermost position, the trip 20 is engaged by the trigger 25, and is thrown into the position indicated by the dotted lines in Fig. 2, thereby again releasing the bolt 15 and securing the sashes together. When this action takes place—that is to say, when the lug 22 reaches its extreme limit to the left—the lug 18 drops downwardly and prevents retrogression of the lug 22. In doing this the bolt 15 is locked in its outermost position and can not be moved to the right according to Fig. 2. The two sashes are thus locked rigidly together under conditions where they can not be separated, except by a person manipulating the trip 20 so as to raise the dog 17 and thereby liberate the lug 22, the operator meanwhile grasping the thumb piece 23 and forcing it to the right so as to draw the bolt 15 to the right, according to Fig. 2. It will thus be seen that the bolt 15, when once thrown into proper position to hold the sashes firmly together, can not be readily released, except in accordance with the will of the person located within the room and having complete control over the device. A person outside can not readily manipulate both the trip 20 and the thumb piece 23 at the same time so as to open the window surreptitiously. It will also be noted that the bolt has two extreme positions representing the limits of its travel and in which it is locked positively.

If the sash 5 be lowered until the plate 8

occupies the position occupied by the plate 7 in Fig. 1, the same operations may be repeated, the only difference being that the sash 4 overlaps the sash 5 to a greater distance, so that both sashes, movable together as a unit, may be moved up and down within narrow limits.

If it be desired to move the sash 4 to its lowermost limit without causing the two sashes to lock together, the operator merely grasps the trigger 25 and rocks it slightly outward, so that the trip 20 cannot engage it.

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

1. A device of the character described, comprising a casing, a sliding bolt mounted therein, a spring engaging said sliding bolt, a dog provided with a portion engaging said sliding bolt in order to restrain the latter, said dog being provided with another portion engaged by said spring and further provided with a trip for moving said dog out of engagement with said bolt so as to release the latter.

2. The combination of a casing, a bolt movable relatively to the same, a dog connected loosely with said casing and having a limited play in relation to the same, said dog being provided with a member engaging said bolt in order to temporarily restrain movements of the latter, said dog being further provided with a portion projecting from said casing for the purpose of enabling said dog to be moved in order to disengage said bolt, and a spring pressing said dog and said bolt in opposite directions.

3. The combination of a lock provided with a bolt, a dog for preventing movements of said bolt, a trip for actuating said dog, and a spring engaging said dog and adapted to actuate the same relatively to said bolt, said spring also engaging said bolt for the purpose of moving the latter.

4. The combination of a lock provided with a bolt, a thumb piece for actuating said bolt, a dog for holding and releasing said bolt, said dog being provided with a projecting member controllable by hand, a spring engaging said bolt and said dog for the purpose of actuating said bolt and also actuating said dog, said bolt being movable by the joint action of said thumb piece and said projecting member.

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

ALBERT N. DAVIS.

Witnesses:

EVERARD B. MARSHALL,
J. W. HANAFORD.