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W. J. BYRNES.  
SASH LIFT AND LOCK.  
APPLICATION FILED MAY 28, 1906.

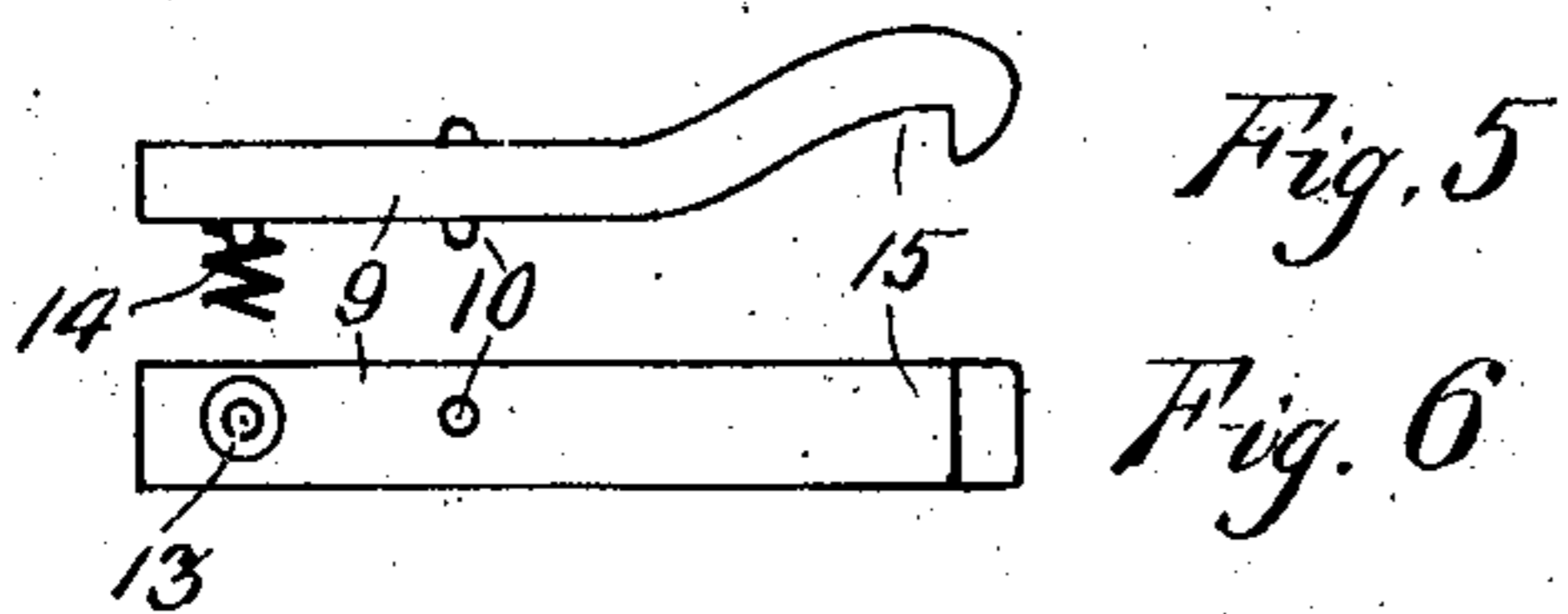
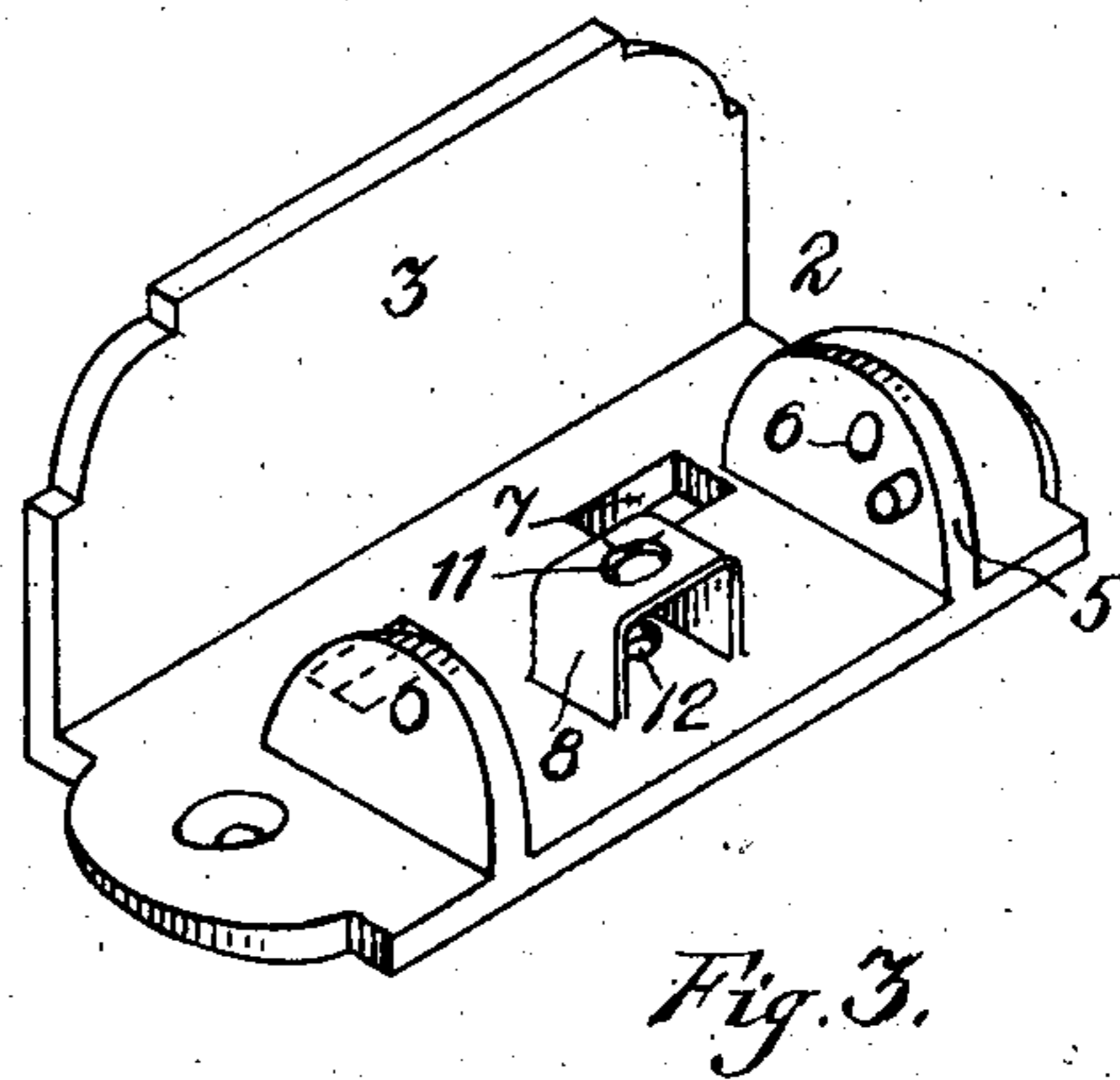
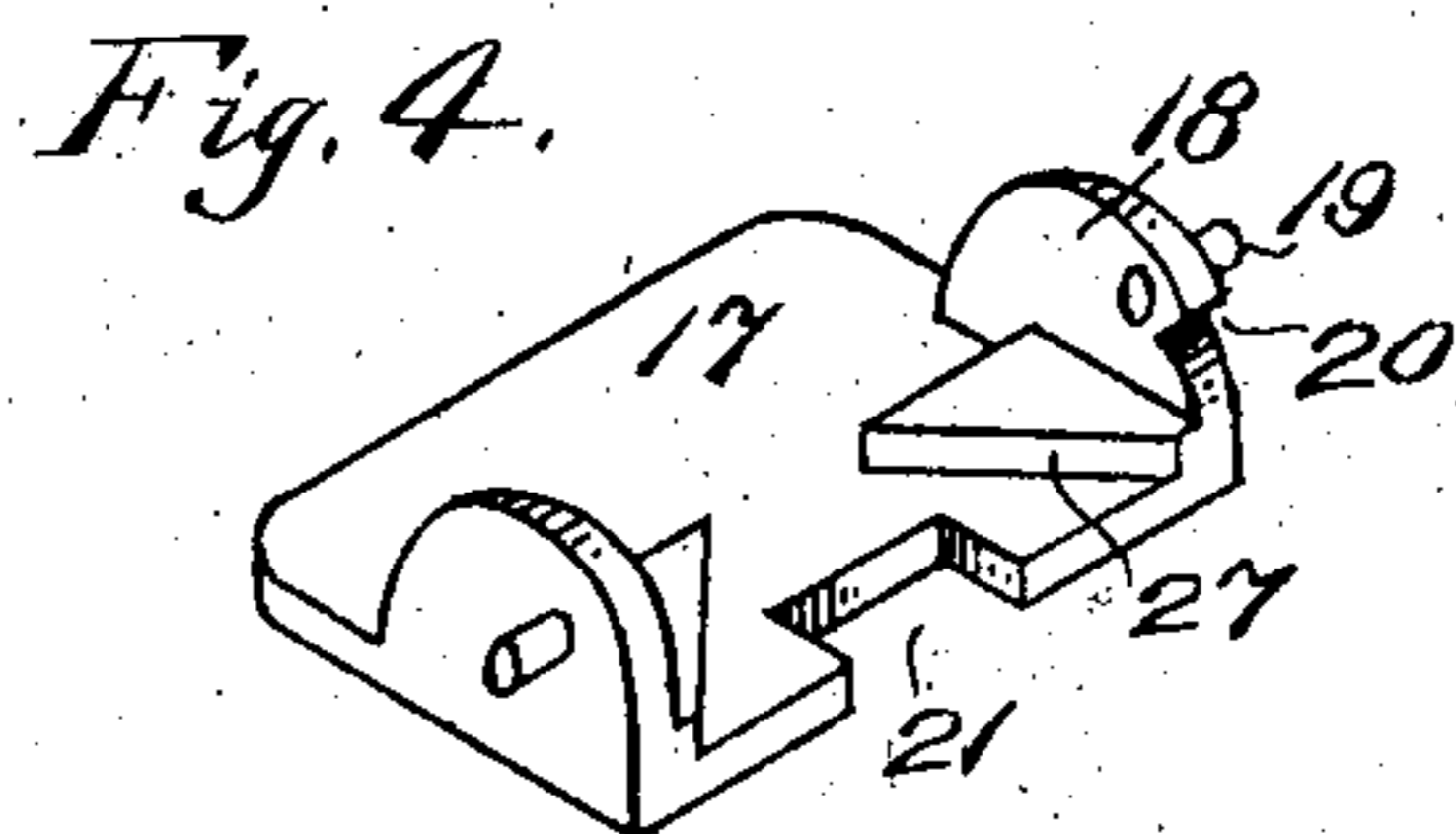
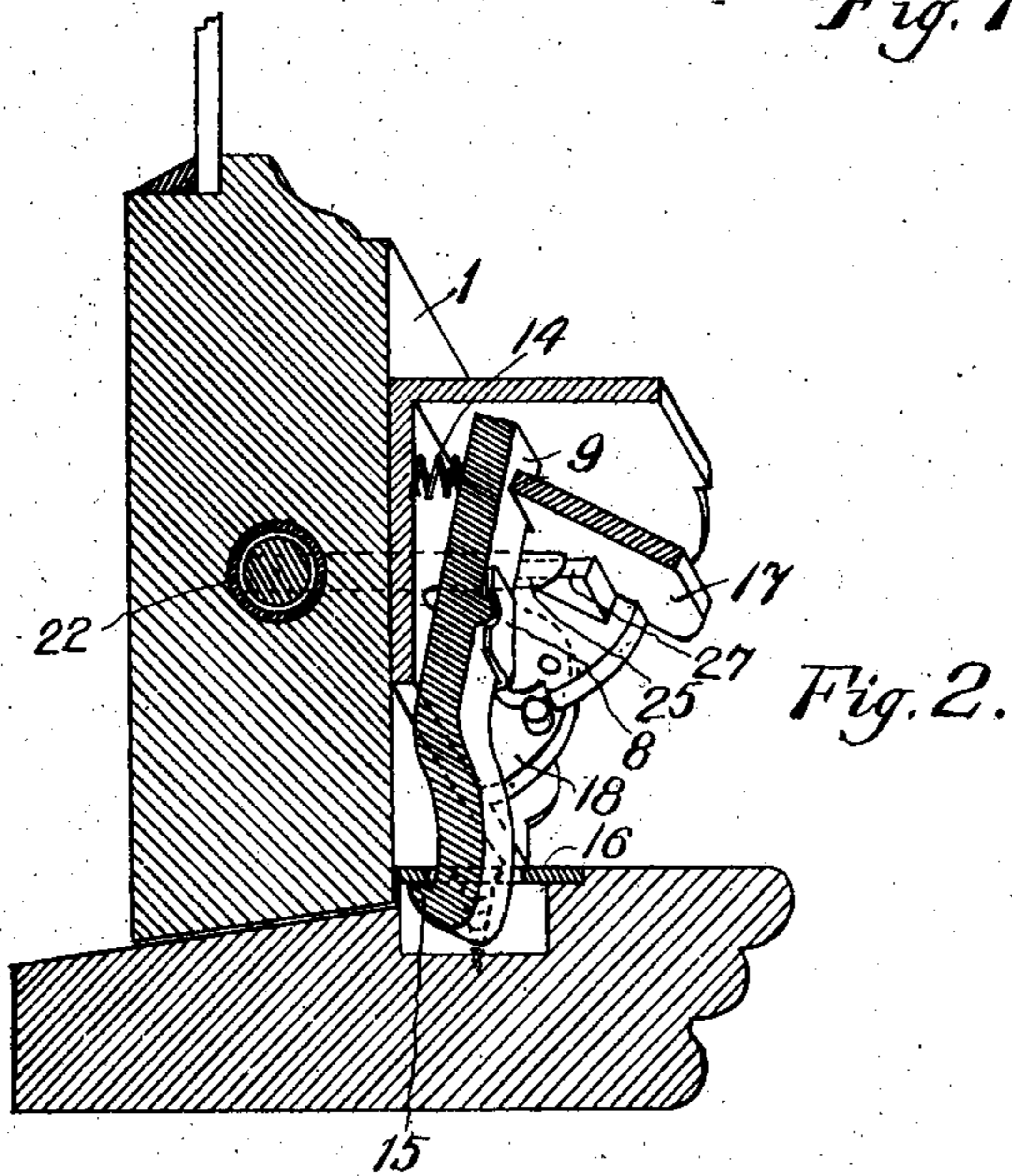
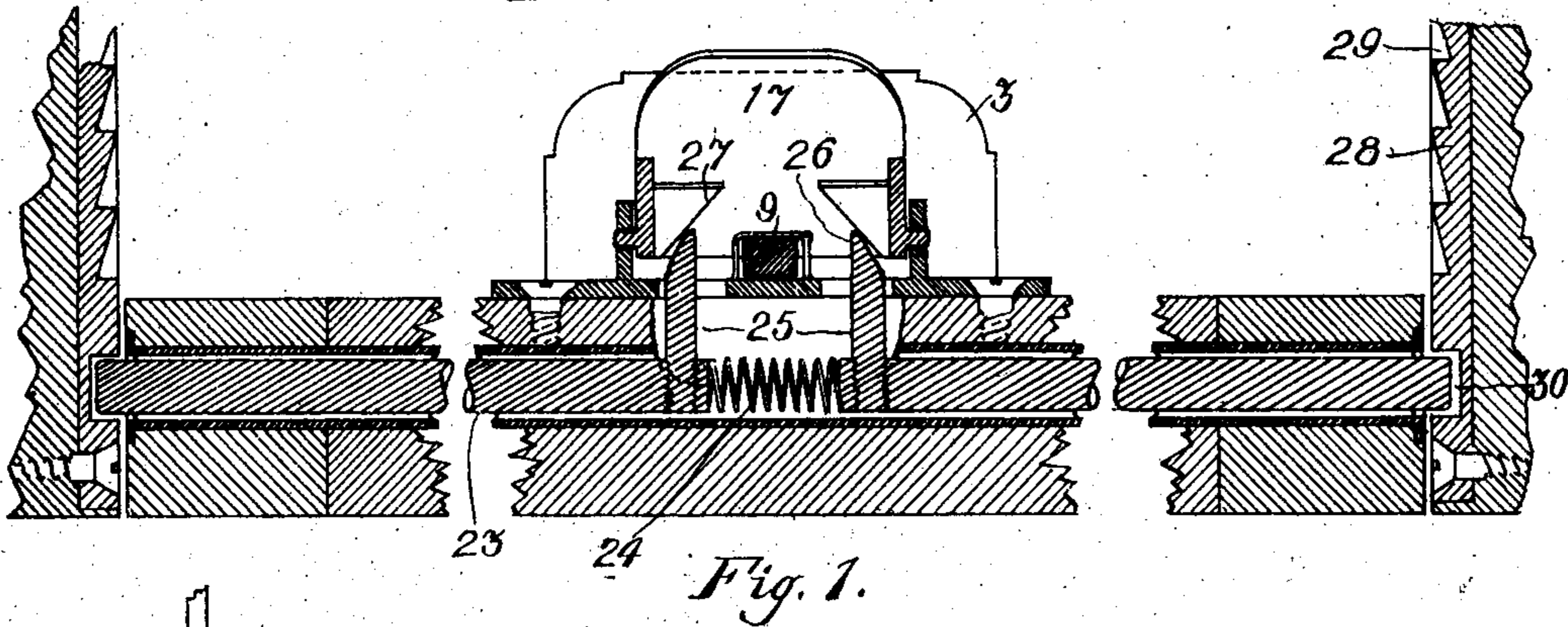
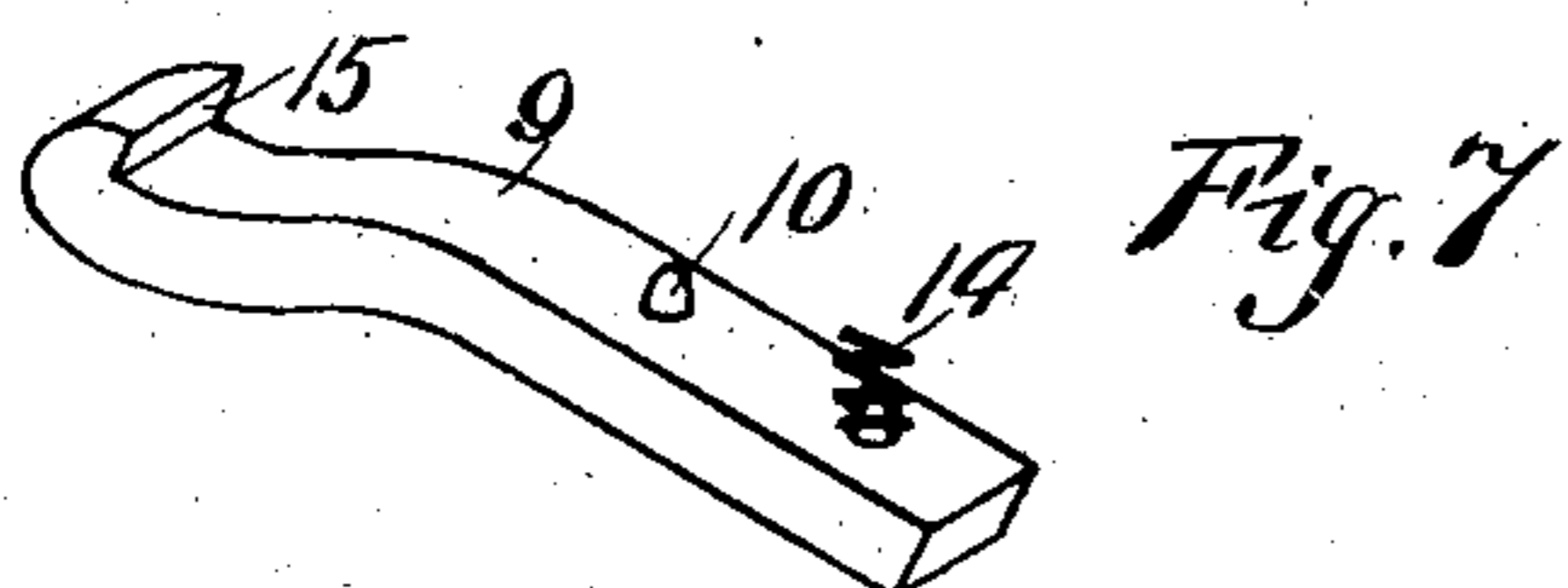


Fig. 6



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# UNITED STATES PATENT OFFICE.

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FORNIA.

## SASH LIFT AND LOCK.

No. 834,886.

Specification of Letters Patent.

Patented Nov. 6, 1906.

Application filed May 28, 1906. Serial No. 319,164.

*To all whom it may concern:*

Be it known that I, WILLIAM JOSEPH BYRNES, of Sacramento, in the county of Sacramento and State of California, have invented certain new and useful Improvements in Sash Lifts and Locks; and I do hereby declare the following is a full and clear description thereof.

My invention relates to a device to be applied to a sash, and affords facility for readily raising and lowering the sash and at the same time locking the sash when in closed position or retaining it at any desired elevation.

An exemplifying structure embodying my invention is shown in the accompanying drawings, in which—

Figure 1 is a bottom sectional view of the assembled device; Fig. 2, a perspective side view, partly in section; Fig. 3, a detail of the sash-plate; Fig. 4, a detail of the finger-piece; and Figs. 5, 6, and 7, details of the latch.

1 designates the lower cross member of a sash. The sash may be of any known construction and run in suitable guides in any ordinary frame.

The invention is particularly applicable to car-windows, but may be used in any desirable location.

2 is a sash-plate of angular shape, comprising a portion 3, forming a handle for convenient grasping, and another part 4, which is secured to the sash member 1. On the part 4 are two lugs 5, each bored at 6 to receive a pivot. The part 4 is also provided with two slots 7 and a bracket 8 to accommodate the latch.

9 is the latch, which is provided with pivot-studs 10, one of which fits in the hole 11 in bracket 8 and the other in a socket 12 in the plate 4. The fit of the stud 10 in the hole 11 is a loose one, so that the latch is permitted a swinging movement toward and away from the sash.

13 is another stud in the upper end of the latch, which forms a seat for the coiled spring 14, bearing against the sash-plate and normally urging the lower hooked end 15 of the latch toward the sash.

16 is a latch-plate set in the window-frame, slotted and adapted to be engaged by the hook 15 when the sash is closed.

17 is a finger-piece having lugs 18 and pivot-pins 19, which enter the holes 6 above referred to and serve to mount the finger-

piece 17 pivotally in relation to the sash-plate, as clearly shown in Fig. 2. A notch 20 is provided in one of the lugs 18, which coöperates with the pin 21 in the corresponding lug 5 to limit the downward movement of the finger-piece. The finger-piece is provided with a recess 21, accommodating the upper end of the latch 9.

The sash member 1 is bored through from end to end, and the hole is preferably lined with a metal tube 22. In this tube are inserted two bolts 23, which normally project somewhat beyond the ends of the sash member and are urged to that position by spring 24. The sash is hollowed out at the center to accommodate the spring 24 and also two extensions 25, one of which is provided on each of the bolts and which extend one through each of the slots 7, formed in the sash-plate. The ends of these extensions 25 are beveled, as at 26, and these beveled ends engage the faces 27 of two wedges provided on the finger-piece.

28 designates two ratchet-plates, fastened to a suitable part of the window-frame, usually in the groove in which the sash runs, and provided with ratchet-teeth 29 and at the lower end each with a socket 30 to receive the ends of the bolts 23.

With the parts in the position shown in Figs. 1 and 2 the sash is closed, and the ends of bolts 23 extend outward and engage the sockets 30, and the hook 15 of latch 9 engages the plate 16 in the window-sill, and the sash is therefore effectually locked in a closed position and cannot be raised from the outside. Now to unlock and raise the sash it is only necessary for the operator to grasp the handle 3 and finger-piece 17. In gripping these parts the finger-piece is naturally raised and turns on the pivots 19, the upper end of latch 9 is moved toward the sash, the hook 15 moves outwardly and becomes disengaged from the plate 16, and at the same time the wedges 27 move inwardly and force together the extensions 25 of bolts 23, withdrawing the bolts from sockets 30. The window may then be raised to the desired point, and upon releasing the finger-piece 17 by gravity and influence of the spring 14 the finger-piece drops, freeing the extensions 25 from the action of the wedges 27, and by the action of the spring 24 the bolts 23 are forced outwardly and engage the adjacent ratchet-

teeth, thereby preventing the sash from descending.

It appears from the foregoing that my invention provides a very compact, simple, and effective mechanism for locking the sash securely, for grasping and manipulating the sash, and for permitting the retention of the sash at any desired elevation.

Many changes in detail in the invention may be made without departing from its spirit. For instance, the pivots of the latch 9 may be at the edges of the latch, and in this case they will fit in sockets or holes in the sides of the bracket 8 instead of those as shown. In some cases this will give a better pivotal action to the latch.

I claim—

1. The combination with a window frame and sash, of a combined sash lift and lock comprising a handle, a finger-piece, a latch and a member on the frame adapted to be engaged by the latch, toothed racks in the frame, a socket near the bottom of each rack, a plurality of sliding bolts normally urged toward the rack, and means acting on movement of the finger-piece to withdraw the latch and bolts.

2. The combination of a window-frame, a sash, a sash-plate, a finger-piece pivotally mounted therein, a latch pivotally mounted in the sash-plate, a slotted plate on a stationary part of the frame adapted to be engaged by the latch, a spring urging the latch to position of engagement, a ratchet member in each side of the casing, a socket near the lower end of each ratchet, a tubular bolt socket provided in the sash, two bolts adapted to move in the socket, a spring between the bolts urging them outwardly, and an extension provided on each bolt, wedge-shaped members provided on the finger-piece engaging said extension; the whole being so constructed and arranged that an upward pull on the finger-piece causes said bolts to be moved inwardly and drawn from contact with the ratchets, and also moves the latch to position of disengagement.

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

WILLIAM JOSEPH BYRNES.

Witnesses:

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