No. 704,014. Patented July 8, 1902.

J. A. ESPITALLIER.

SASH LOCK.

(Application filed Oct. 21, 1901.)

(No Model.)

Fig. 1

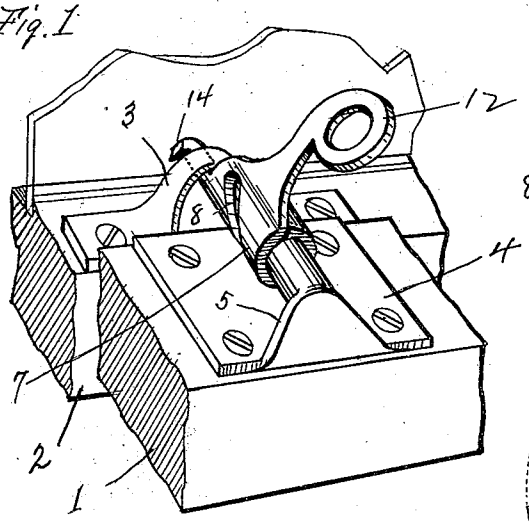



Fig. 6

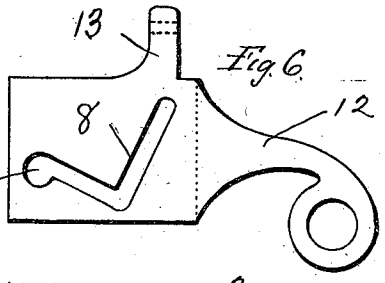



Fig. 7

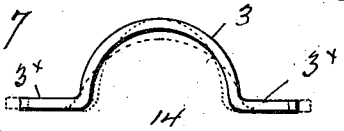



Fig. 8.

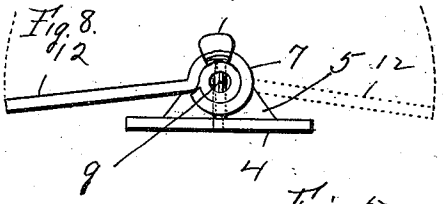



Fig 2

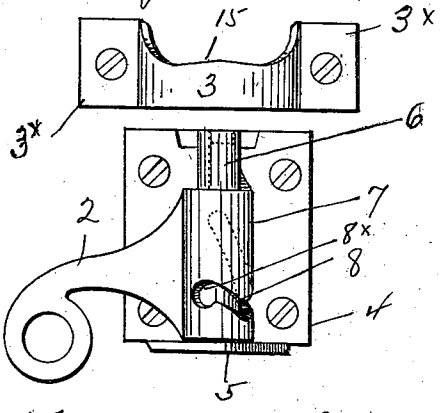



Fig. 5.

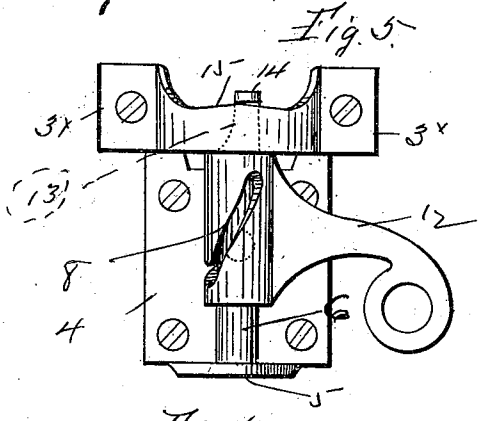



Fig. 3.

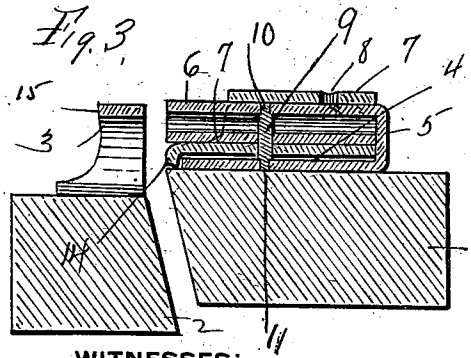
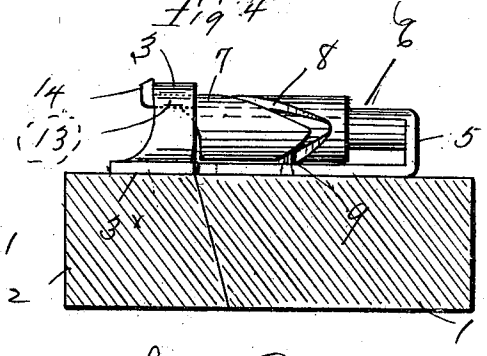



Fig. 4




WITNESSES:

INVENTOR

BY

ATTORNEYS

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

# UNITED STATES PATENT OFFICE.

JOHN A. ESPITALLIER, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF TO ALBERT WOHLHUTER, OF OAKPARK, ILLINOIS.

## SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 704,014, dated July 8, 1902.

Application filed October 21, 1901. Serial No. 79,395. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. ESPITALLIER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sash-Locks, of which the following is a full, clear, and exact specification.

My invention relates to sash-locks designed for not only locking the sashes against relative movement, but for also pulling the contiguous sash-rails into alinement and clamping them firmly together, and more especially to that class of such sash-locks in which a keeper is secured to one sash and is engaged by a bolt which is given a combined rotary and reciprocatory motion by means of a pin and a cam-slot, which cause the bolt to first enter the keeper and then raise it and at the same time pull it inwardly toward the contiguous sash.

My invention has for its primary object to improve and simplify the construction and operation of sash-locks of this character whereby the bolt, its operating-handle, the hook for engaging the keeper, and the slot for effecting the reciprocatory motion of the bolt may be formed in one piece and the pintle or guide upon which the bolt slides may be formed in one piece with its support or base and possess the requisite strength and rigidity to withstand the great strain to which it is subjected by the bolt, a further object of the invention being to so form the keeper that it will be strong and durable and at the same time capable of being more or less altered in shape, so as to allow for differences in the relative positions of the two sashes when one is entirely up and the other entirely down, it being understood that in some instances the top rail of the bottom sash and the lower rail of the top sash will be in accurate alinement or flush when in said position, while in other instances one will be more or less below the plane of the other, thus necessitating a corresponding variation in the relative positions of the bolt and the keeper.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a perspective view of my improved sash-lock applied to a part of two sashes, showing the lock in the act of locking the sashes together. Fig. 2 is a plan view of the two sash-lock members, showing them unlocked. Fig. 3 is a vertical longitudinal sectional view of the sash-lock members applied to the sash and unlocked. Fig. 4 is a side elevation thereof, showing them locked. Fig. 5 is a plan view thereof, showing them entirely locked. Fig. 6 is a plan view of the blank from which the bolt is formed. Fig. 7 is an edge view of the keeper, illustrating in dotted lines the different forms into which the keeper may be bent; and Fig. 8 is an end elevation of the bolt and its supporting-pintle with the base thereof.

1 is the upper rail of the lower sash, and 2 the lower rail of the upper sash. To the upper side of the rail 2 is secured a keeper 3, and to the rail 1 is secured a base-plate 4, upon which is supported the pintle for the sliding rotary bolt before referred to. This base-plate 4 is formed in one piece of sheet metal, with a standard or support 5 rising from one end thereof, and projecting laterally from this standard 5 is the aforesaid pintle 6, which is also formed of sheet metal integrally with the standard 5, it being first produced in the form of a tongue projecting from the upper end of the standard 5 and then curled around in the form of a cylinder, so as to constitute a cylindrical support or journal for the bolt, which latter is in the form of a sleeve 7, rotatably mounted thereon. This sleeve is formed from the blank shown in Fig. 6, which is provided with a V-shaped slot 8, which constitutes a cam when the flat plate or blank shown in Fig. 6 is curled around the pintle 6, and with which cam-slot or groove 8 engages a pin 9, arranged transversely of the pintle 6 and having its upper end reduced in diameter, as shown at 10, and riveted in the upper side of the tubular pintle, while its lower end 11 is similarly reduced and riveted in the base-plate 4, the pin 9 passing through the slot 8, where it projects from the under side of the pintle 6, and thus at

once constituting a support for the pintle and a lug for forcing the sleeve 7 back and forth as it is rotated on the pintle. The blank of which the sleeve 6 is formed is formed on one side with a projection 12, which constitutes a handle for the operation of the bolt or sleeve 7, and on another side of this blank, diagonally opposite the projection 12, is formed a projection 13, whose end is turned up in the form of a hook 14 and which is adapted to first enter the keeper 3 and then engage with the outer side thereof as the sleeve rotates, and thus serve to pull the rail 2 toward the rail 1, while securely locking the sashes together, and at the same time to either raise the rail 2 or depress the rail 1, so as to bring the rails into alinement, by virtue of the engagement of the projection 13 with the under side of the keeper 3, as the sleeve 7 is rotated from left to right and the projection 13 thereby raised relatively to the keeper. It will also be seen that the outer edge of the keeper is formed with a bevel or cam 15, with which the inner side of the hook 14 engages as it turns upwardly, and thus better adapts the hook for clamping the sash-rails together. When the bolt is in its locked position, as shown in Figs. 4 and 5, the inner end of the cam-slot 8 will have arrived at the pin or lug 9, and in order that the bolt may be held against accidental displacement this inner end of the cam-slot is provided with a supplemental recess $8^{\times}$, into which the lug 9 snaps when the bolt reaches its locked position. The keeper 3 is also formed, preferably, of sheet metal, it being constituted of a strip which is cut out on one side at an intermediate point to form the cam 15 and bowed upwardly at this point to permit of the engagement therewith of the hook 14, while the ends of the strip are turned outwardly to constitute footpieces $3^{\times}$ for the attachment thereof to the sash-rail, and hence it will be seen that if in any instance it should be found that the bowed part of the keeper is too high or too low for the bolt its ends may be squeezed together or spread apart until the desired adjustment is attained, and yet it will possess all necessary strength and rigidity after it is secured to the sash.

It is of course understood that the cam-slot 8 being V-shaped its effect will be to first project the bolt through the keeper and then pull it in a direction away from the keeper, so as to bind the sash-rails together, which may be done very effectually, owing to the great difference in leverage between the projection 13 and the handle 12. It will also be seen that the handle 12 is so situated with reference to the other end of the blank where it is curled around the pintle 6 that the locking movement of the handle will be in a direction toward such end of the blank, and hence will not tend to uncurl the blank or spring it from the pintle.

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

1. In a sash-lock, the combination of a horizontal pintle adapted to be secured to one sash, a keeper adapted to be secured to the other sash, a lug projecting transversely of said pintle and a sleeve journaled on said pintle and having a cam-slot with which said lug engages and a hook formed on and projecting from the edge of said sleeve at one end for engaging said keeper, substantially as set forth.

2. In a sash-lock the combination of a horizontal pintle adapted to be secured to one sash, a keeper adapted to be secured to the other sash, a lug projecting transversely of and supporting said pintle and a sleeve journaled on said pintle and provided in its side with a cam-slot with which said lug engages and at its end with a hook for engaging with said keeper, substantially as set forth.

3. In a sash-lock a blank for constituting the bolt thereof, formed with a V-shaped slot and two projections extending substantially at right angles to each other and constituting respectively a handle and the hook for engaging the keeper of the sash-lock, substantially as set forth.

4. In a sash-lock the combination of a rotary reciprocatory bolt adapted to be secured to one sash, a base-plate adapted to be secured to the other sash, a standard rising from and formed integrally with said base-plate, and a horizontal pintle formed of sheet metal integrally with said standard and rolled into a cylindrical form, and a bolt journaled on said pintle and adapted to engage said keeper, substantially as set forth.

JOHN A. ESPITALLIER.

Witnesses:
F. A. HOPKINS,
W. D. CROSS.