

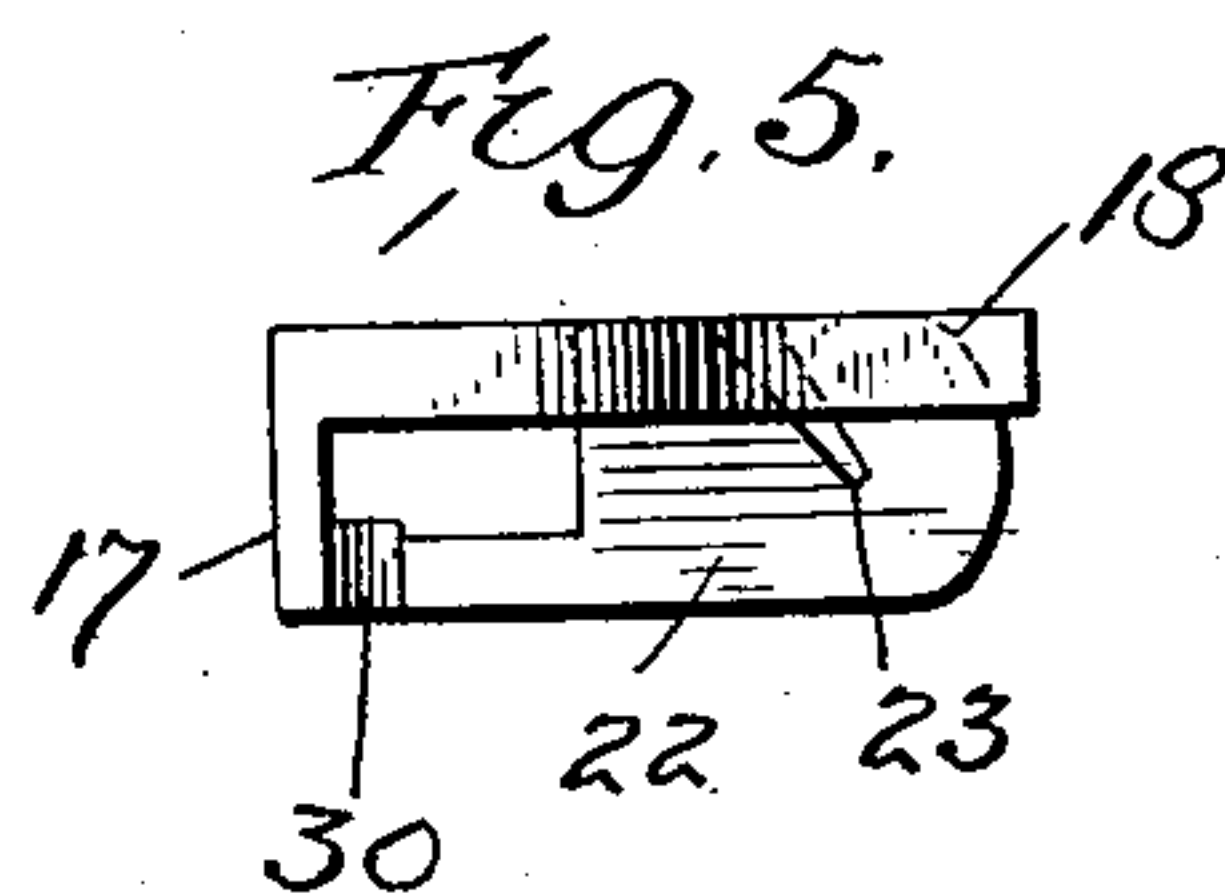
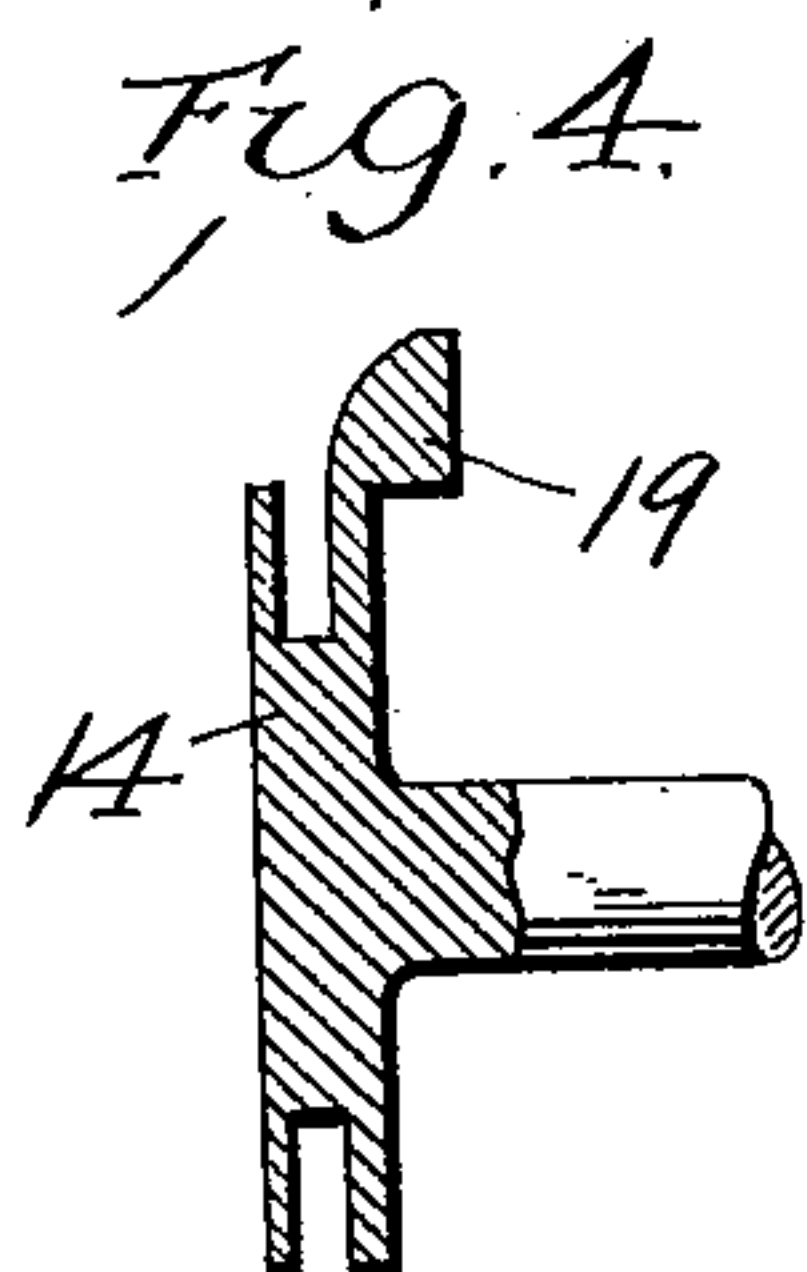
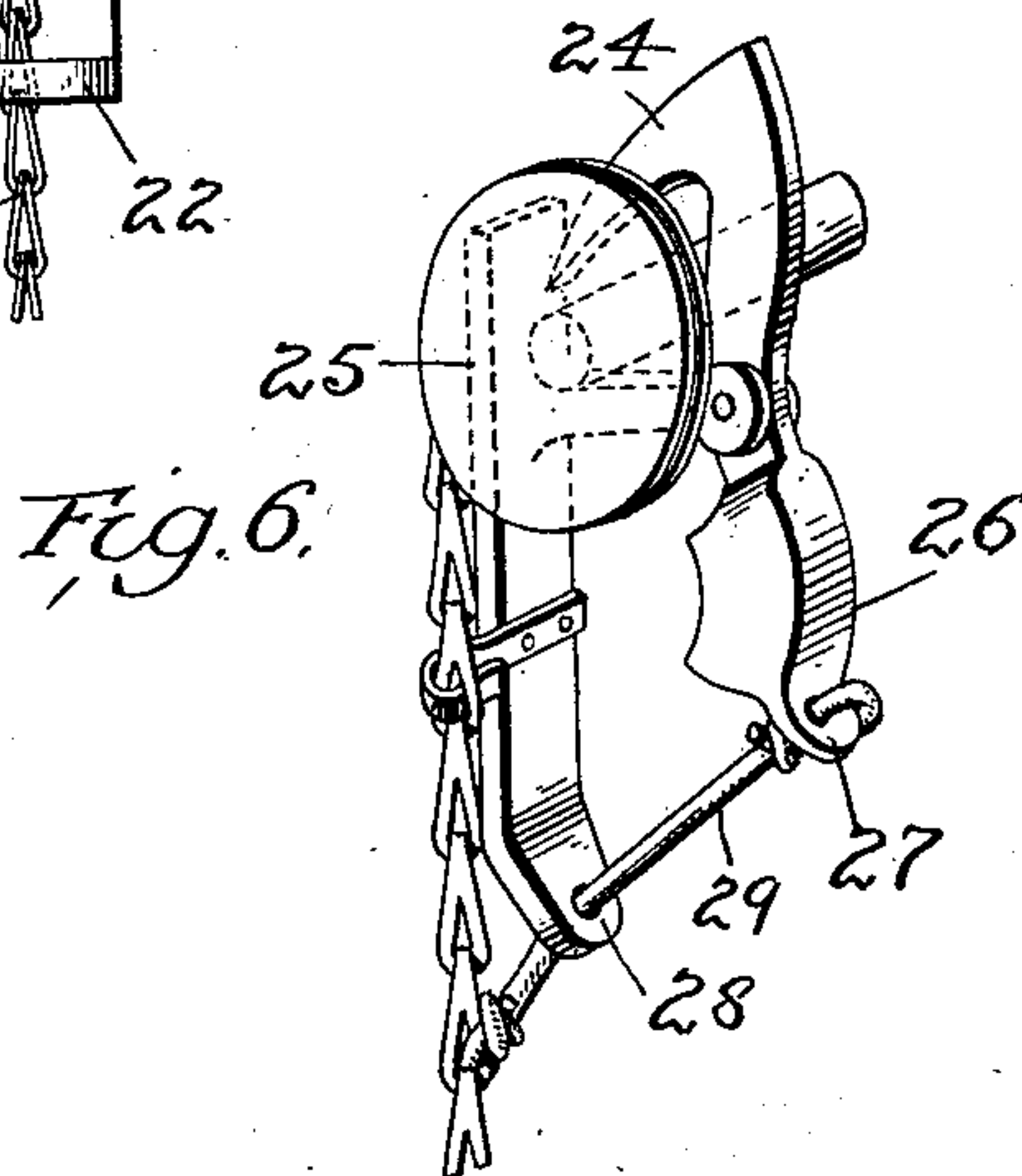
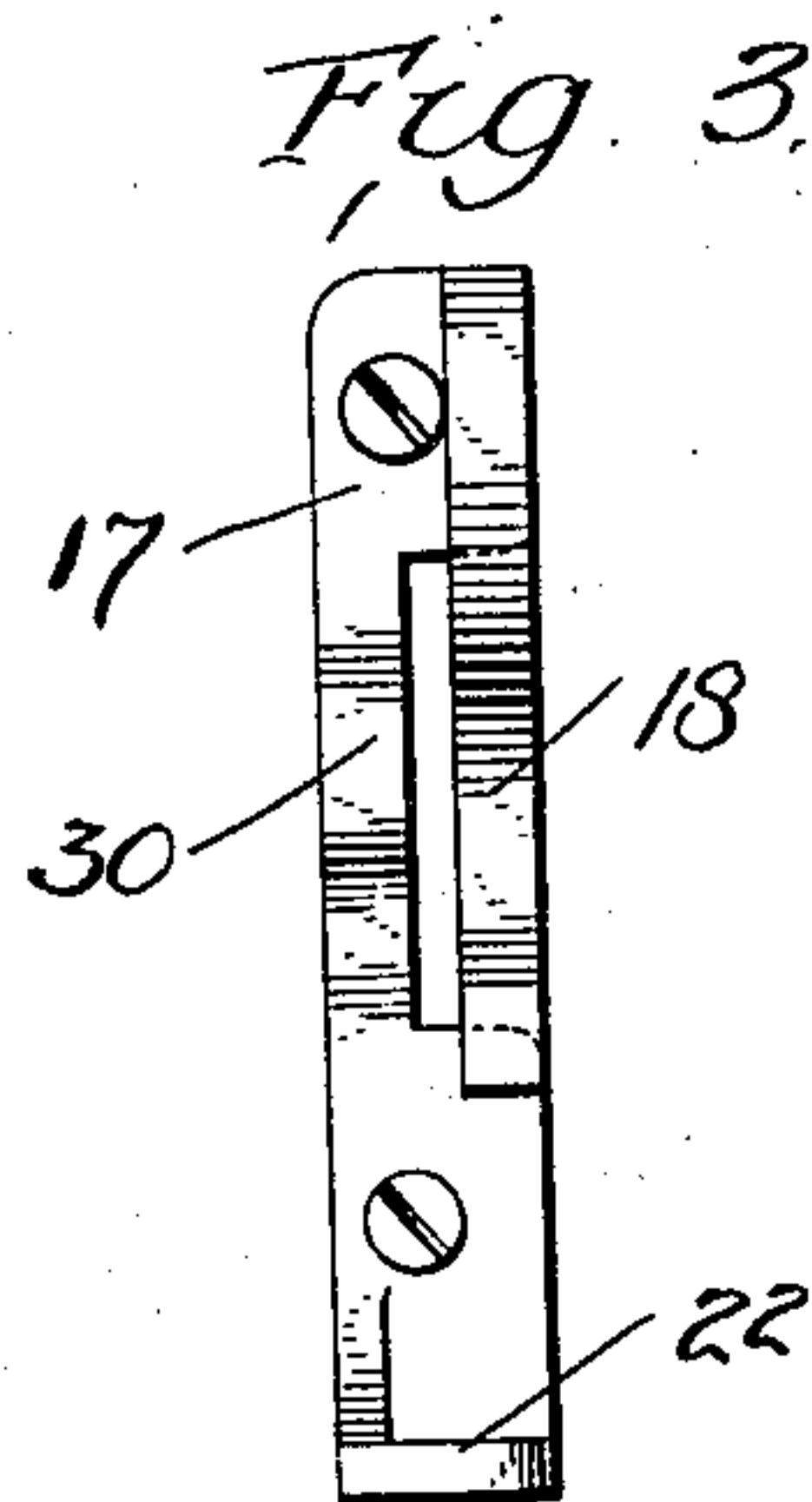
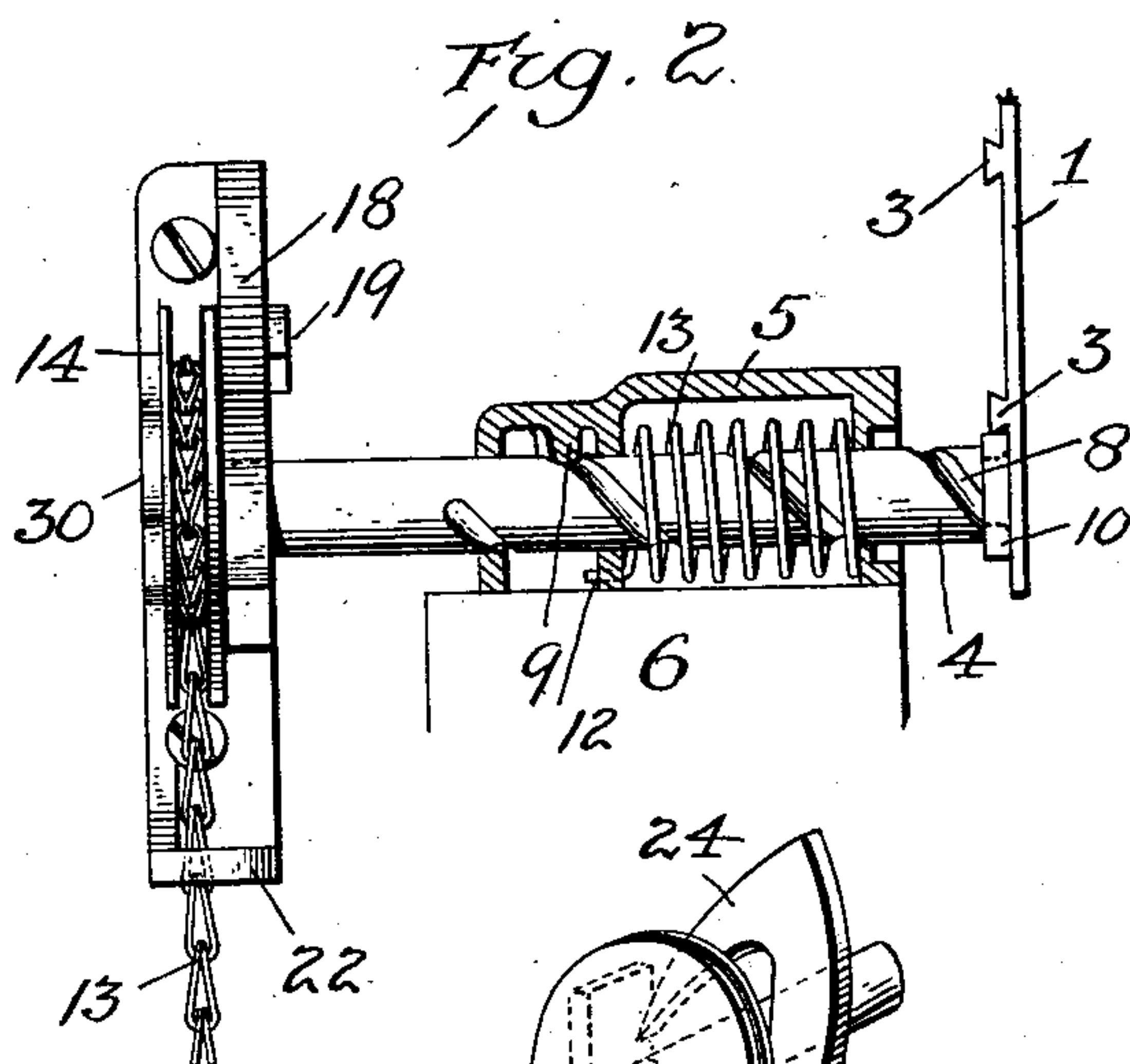
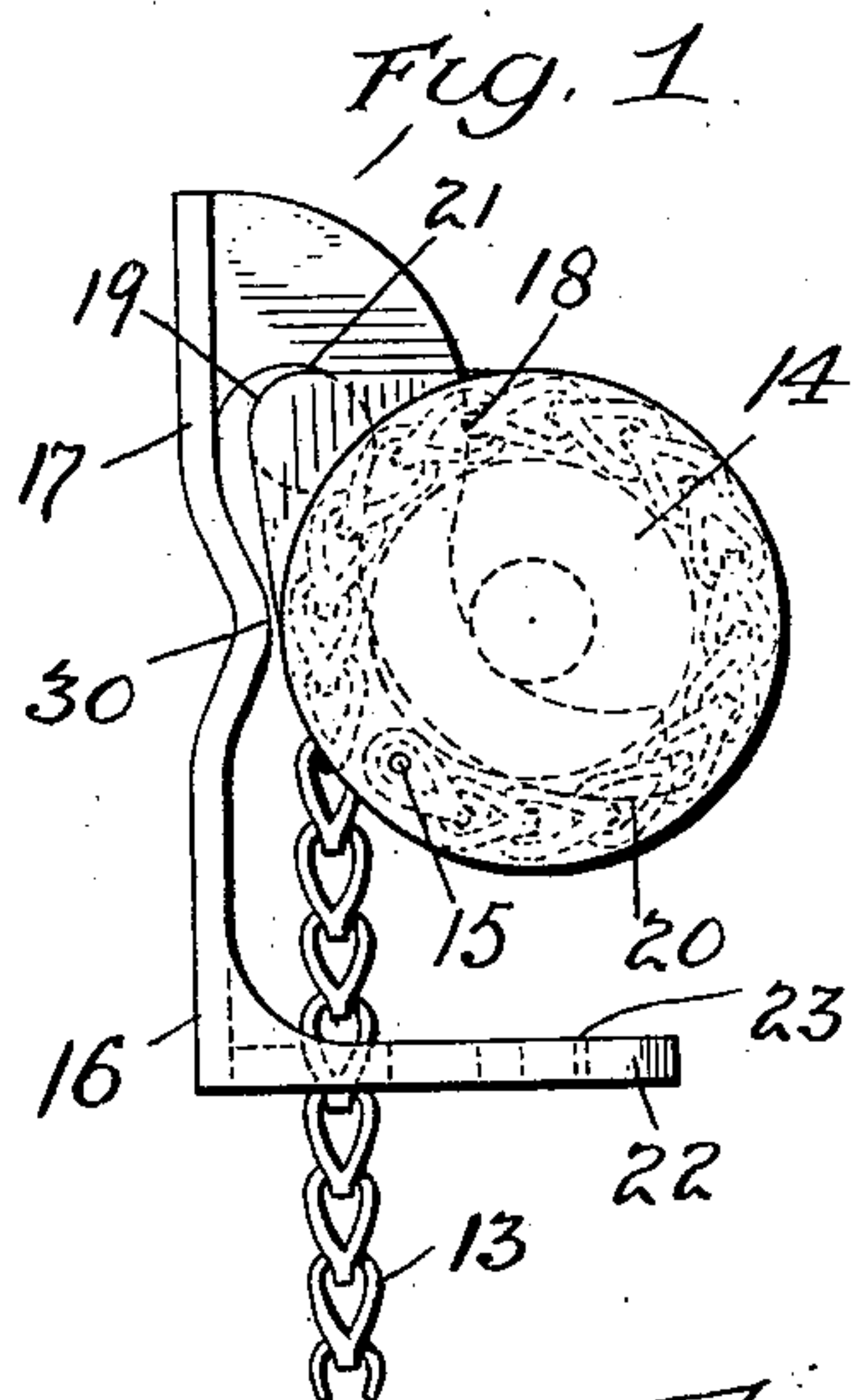
No. 747,619.

PATENTED DEC. 22, 1903.

A. F. W. LORIE.
SASH FASTENER.

APPLICATION FILED AUG. 26, 1903.

NO MODEL.



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UNITED STATES PATENT OFFICE.

ADOLPH F. W. LORIE, OF DUNEDIN, NEW ZEALAND.

SASH-FASTENER.

SPECIFICATION forming part of Letters Patent No. 747,619, dated December 22, 1903.

Application filed August 26, 1903. Serial No. 170,868. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH F. W. LORIE, a subject of the King of Great Britain, residing at Dunedin, New Zealand, have invented certain new and useful Improvements in Sash-Fasteners, of which the following is a specification.

My invention relates to the form of sash-fastener disclosed by me in applications for Letters Patent of the United States filed July 2, 1902, Serial No. 114,130, and July 29, 1903.

My present invention consists in the features and combination and arrangement of parts hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a front view of the invention. Fig. 2 is a side view, partly in section. Figs. 3, 4, and 5 are detail views. Fig. 6 is a perspective view showing a modified form of locking means.

In the drawings, 1 indicates a strip to be secured to the face of the side rail of the upper sash. This strip or plate I show as provided with dovetail-shaped ridges 3, extending transversely thereof from edge to edge, said ridges or corrugations forming abrupt or sharp shoulders or ridges for contact therewith of a holding device, which I prefer to employ, in the form of a screw-bolt or rod 4, working through a nut 5 on the upper edge of the meeting-rail 6 of the lower sash. The screw-bolt is provided with a quick-acting thread 8, extending from its forward end along the same and engaged by a rib or projection 9, cast on the interior of the nut, so that the turning of the screw will cause a longitudinal movement of the same. The screw has a reduced end, with a stop-ring 10 loosely held thereon, so as to turn, and thus provide for even wear of said stop. In order to operate the screw, I provide a coil-spring 13 within the nut, connected at one end to the nut at 12 and at the other end to the screw, and the action of this spring is to turn the screw and cause its longitudinal movement into locking position—i. e., in position to engage with the corrugations or other stop means on the plate or strip. For retracting the screw-bolt it is turned in opposition to the spring by a flexible connection, as a chain 13, extending downwardly along the window-

frame to within easy reach of the hand, the upper end of said chain extending over and around a wheel 14, grooved to receive the chain, the point of connection of the chain to the wheel or other part having a curved bearing for the chain being shown at 15. By pulling the chain the screw is turned and retracted, so that its stop end is withdrawn from contact with the plate or strip on the upper sash, and consequently the sash or sashes may be moved into the required position, and then by releasing the chain the spring, exerting its force, will automatically turn the screw, so that the same will be set into locking position. In order to supplement the locking effect and to hold the lower sash firmly locked when closed, I provide means whereby when the screw is set in locking position at the time the lower sash is closed the lower sash will be automatically locked in said closed position. This locking means in one of its forms comprises a bracket 16, having a base-plate 17, screwed to the window-frame, and provided with an arm 18, extending outwardly therefrom, said arm being curved downwardly and outwardly. The chain-wheel has a projection 19 on its inner face arranged in such relation to the axial center of the chain-wheel and to the curved stop-arm that when the lower sash is closed the said projection will be in such position relative to the curved arm as to describe an arc under the said arm or within its inner edge. It will be understood that in closing the lower sash the screw-bolt must be retracted out of line with the corrugations on the plate, and the chain being pulled for this purpose will turn the wheel, so that the lug will be in position to pass down outside the outer end of the curved arm and to a point just below the horizontal plane thereof, and then upon releasing the chain the spring will turn the screw into locking position, and at the same time the lug or projection of the wheel will move on the circle and along the inner edge of the curved arm until it abuts against the edge or surface 21 of the curved extension, which thus acts as a lock. In releasing the fastener the movement of the chain-wheel to retract the screw will turn the projection or lug away from engagement with the locking or stop arm. By the use of the screw-fastener and this supple-

mental lock or fastener both of the sashes will be held locked, even though the upper sash may be open. In such case the two sashes will be locked together by the screw, and the lower sash will be held against movement by the locking-arm. Were the locking-arm not used to hold the lower sash, of course the two sashes might be raised a distance equal to the distance the upper sash is lowered; but the locking-arm will prevent this.

In order to prevent the chain from being reached and used by a person on the outside of the window when the upper sash is lowered, I fasten the chain, so that it cannot be drawn out through the window for operating the lock, and for this purpose the locking-bracket is provided with a foot-piece or projection 22, slotted at 23, and when the lock is set the chain is simply given one turn about the projection or foot-piece, so as to rest in the notch, which will hold the chain securely against being grasped by an implement or device in the hands of a person outside the window.

For a like purpose I provide a swell 30 on the bracket, which lies with its face sufficiently near the groove of the chain-wheel as to shield the chain and prevent the insertion of an instrument or wire to grasp the same.

Instead of the form of lock above described consisting of the bracket having the curved arm I may employ a gravity-hook 24 of substantially the same form as disclosed in my applications referred to. This lock is pivoted to a bracket 25, attached to the window-frame, and it is in position to engage the spindle of the screw-bolt when the lower sash is closed, and its engagement with said spindle is automatic, for which purpose its upper edge is inclined, so that as the sash is closed the spindle striking the inclined edge will push the gravity-hook aside, and the weight 26 on the said hook will return the same into locking position. In order to release this lock at the same time the screw is retracted to disengage the corrugated or other bearing part, I provide an eye 27 on the gravity-hook and a second eye 28, slightly offset on the bracket, and I employ a cord or chain 29, extending from the main operating-chain above mentioned, through the eye 28 and attached to the eye 27 of the gravity-hook, so that when the main chain is operated to retract the screw the same action will cause the gravity-hook to be swung aside, and then the sash may be raised.

It will be seen that both forms of lock are controlled by the operation of the hand operating connection.

I claim as my invention—

1. In combination, in a sash-fastener, a nut, a screw working through the same to engage a part of the window, a lock for said screw comprising a part on the frame and means for operating said screw and simultaneously controlling the lock manually, substantially as described.

2. In combination in a sash-fastener, a

nut, a screw working through the same to engage a part of the window, a lock for the sash, and means for turning the screw, said locking means being automatically set by the rotation of the screw in one direction and being automatically released by the rotation of the screw in the opposite direction, substantially as described.

3. In combination in a sash-fastener, a nut on one sash, a screw working through the same to engage a part of the other sash a lock for one of the sashes comprising a member on the frame and a hand operating connection for the screw extending vertically of the window-frame, said operating connection controlling also the lock substantially as described.

4. In combination, in a sash-fastener, a nut, a screw working through the same to engage a part of the window, a lock for the said screw comprising a turning member, a curved bearing on the screw-shaft and a flexible operating connection extending around the said bearing, said connection controlling both the screw and the locking member, substantially as described.

5. In combination, in a sash-lock, a nut, a screw working through the same to engage a part of the window, a curved bearing on the screw, a locking member carried by the said curved bearing, a locking-arm fixed to the frame and means extending over the curved bearing for operating the same.

6. In combination, in a sash-lock, a nut, a screw working through the same, a grooved wheel on the screw, a laterally-projecting locking-lug, a chain or cord for operating the grooved wheel and an arm on the frame for engaging the locking-lug, substantially as described.

7. In combination, in a sash-fastener, a nut, a screw working through the same, a flexible connection for operating the screw and locking means for the flexible connection, substantially as described.

8. In combination, in a sash-fastener, a nut, a screw, a flexible connection for operating the screw and a lock for the said connection comprising a foot-piece or projection about which the flexible connection may be wound, said projection having a slot to receive said flexible connection, substantially as described.

9. In combination in a sash-fastener, a nut, a screw, a curved bearing on the screw-spindle having a groove therein, a flexible connection extending over the said curved bearing and attached thereto, and a shield extending in close proximity to the groove of the bearing substantially as described.

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

ADOLPH F. W. LORIE.

Witnesses:

HENRY E. COOPER,
C. S. MIDDLETON.