

No. 629,261.

Patented July 18, 1899.

F. H. KNIGHT.
SASH LOCK.

(Application filed Apr. 4, 1899.)

(No Model.)

Fig. 1.

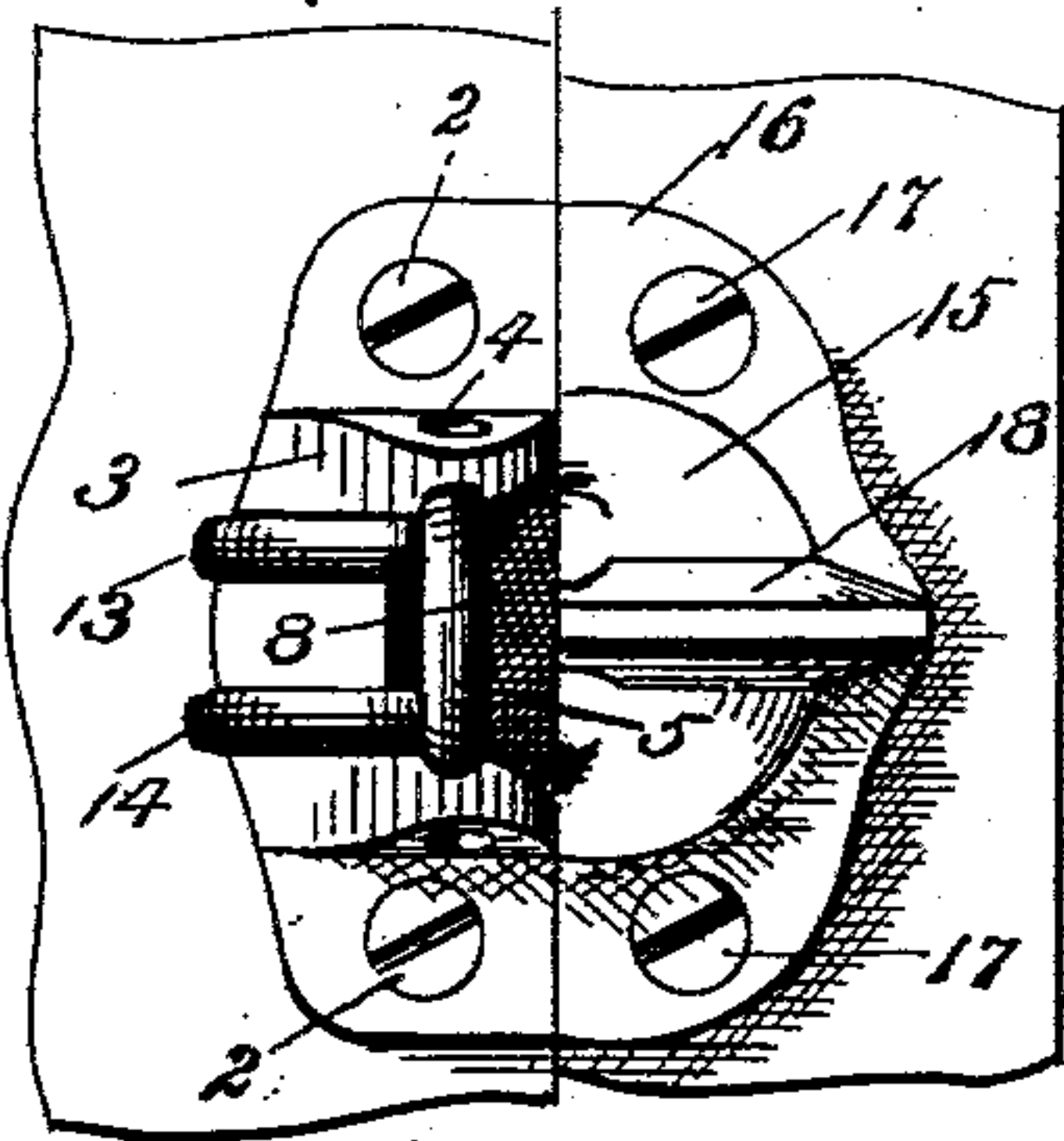


Fig. 3.

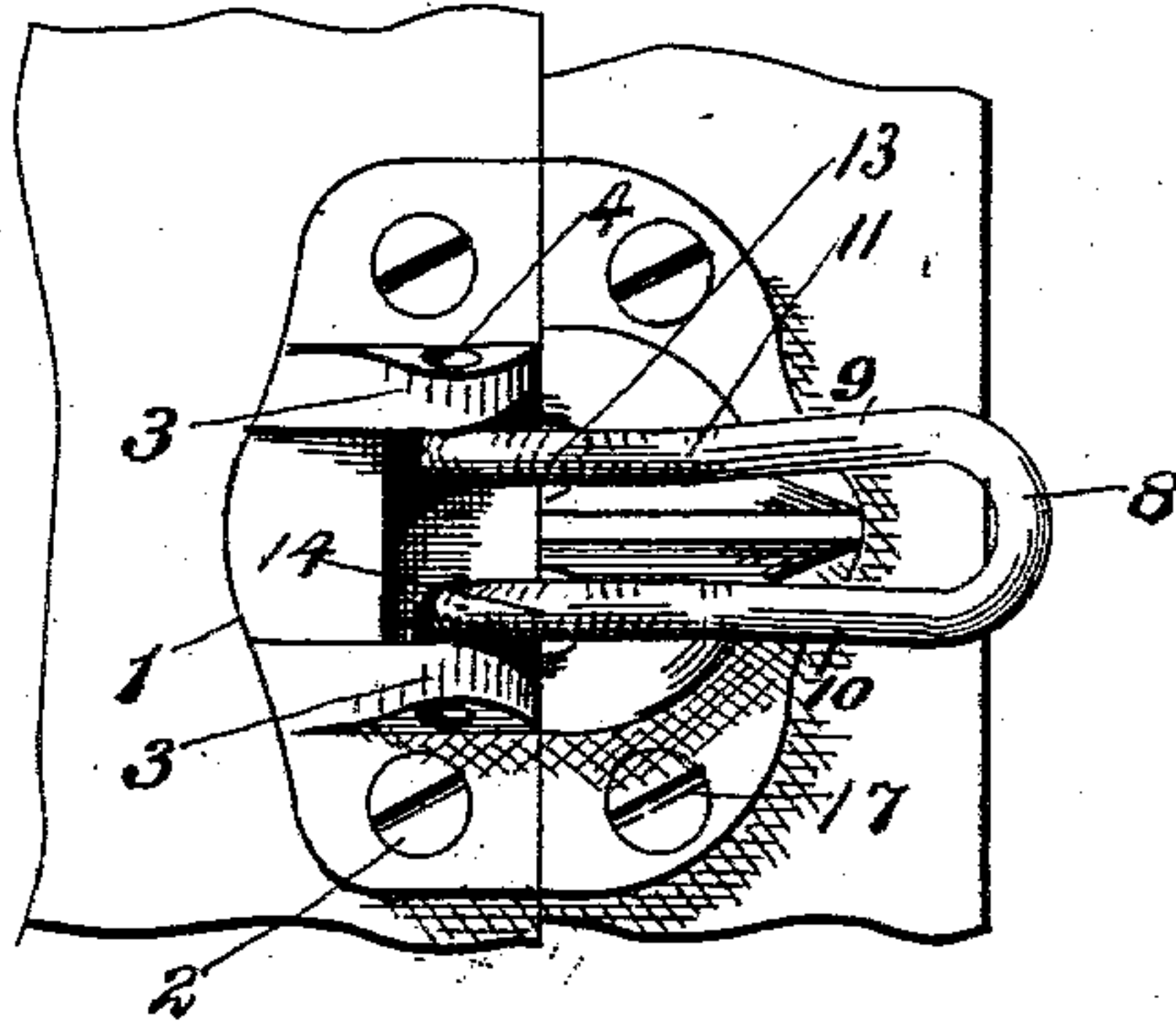


Fig. 2.

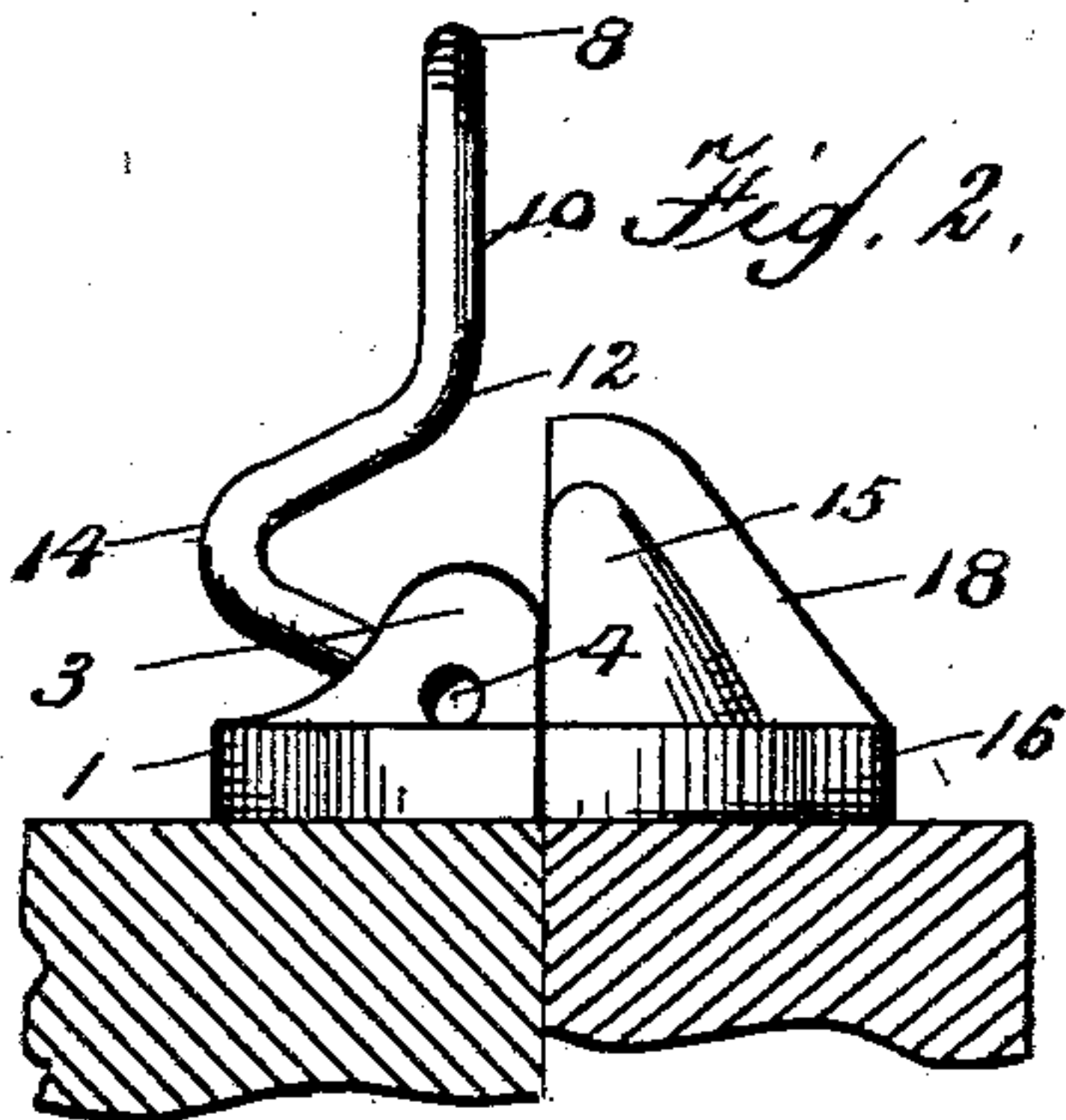


Fig. 4.

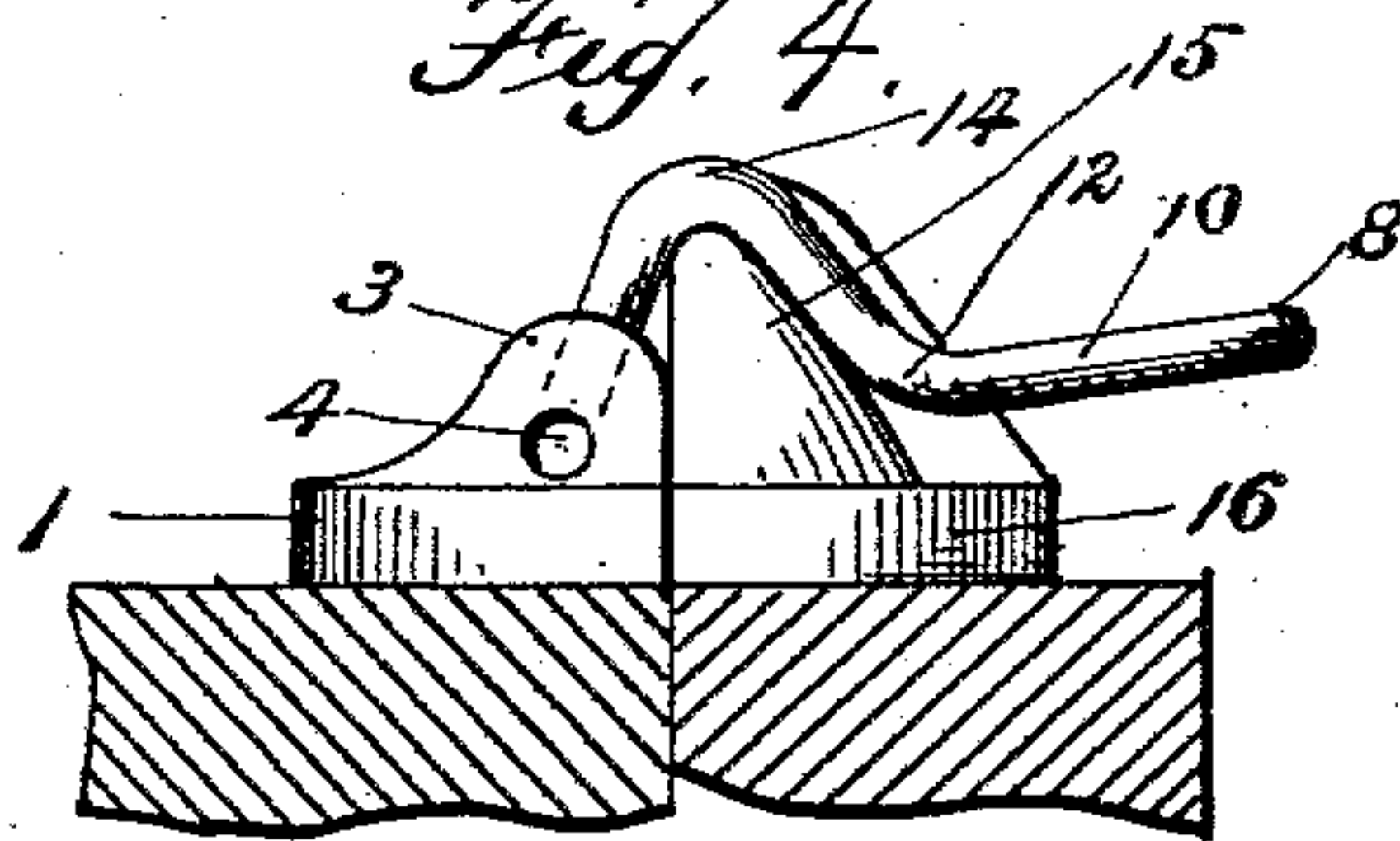


Fig. 5.

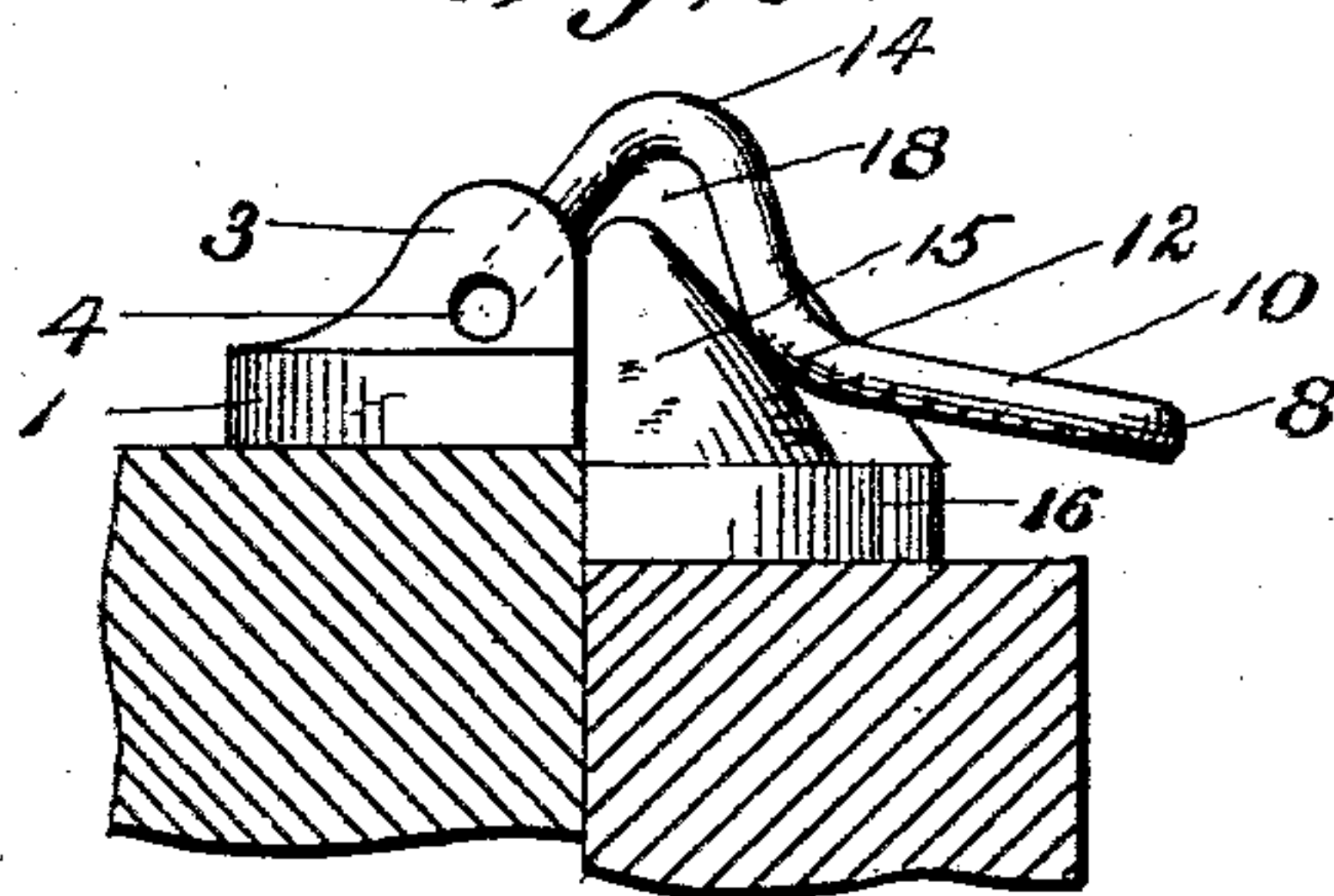


Fig. 6.

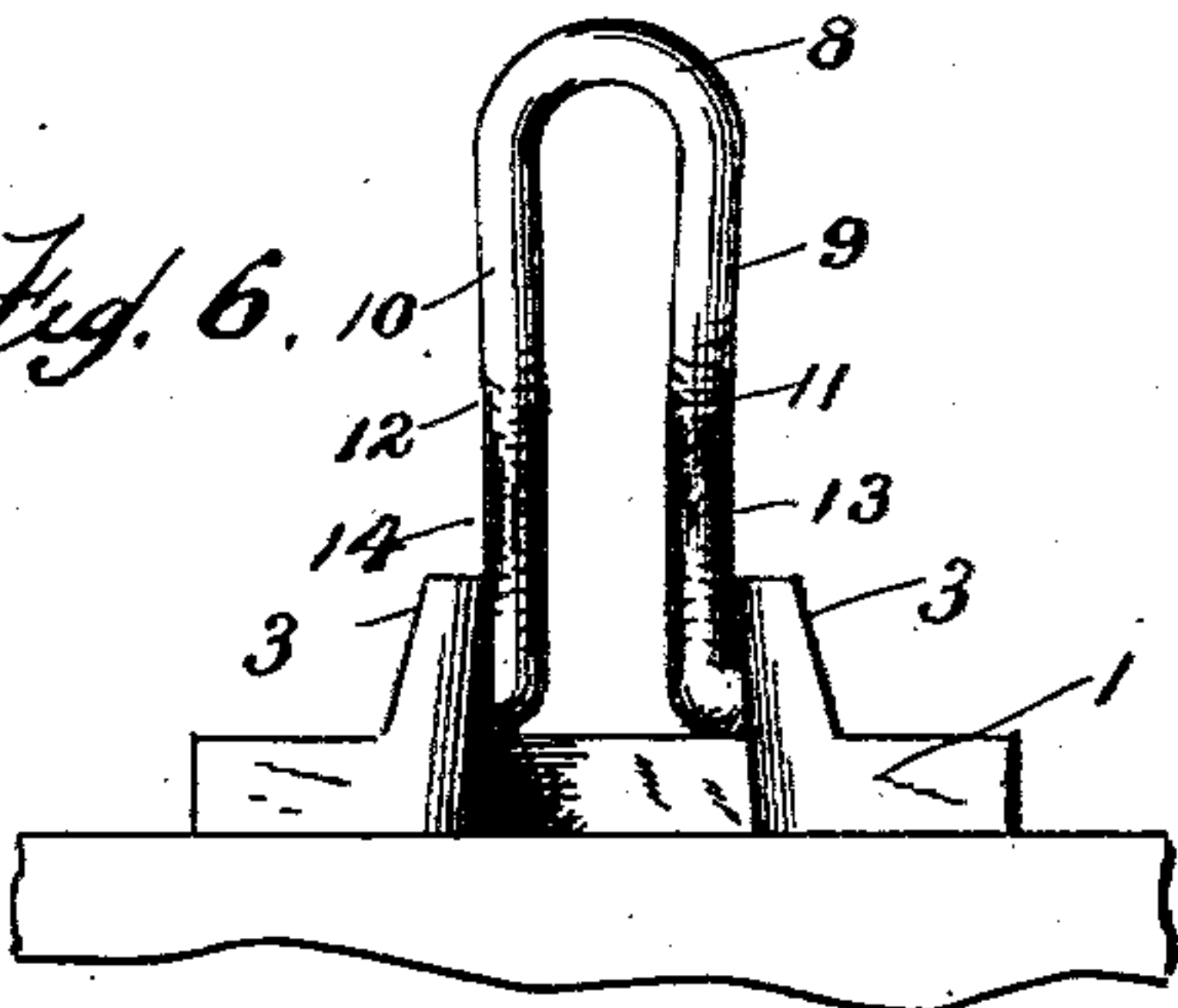


Fig. 7.

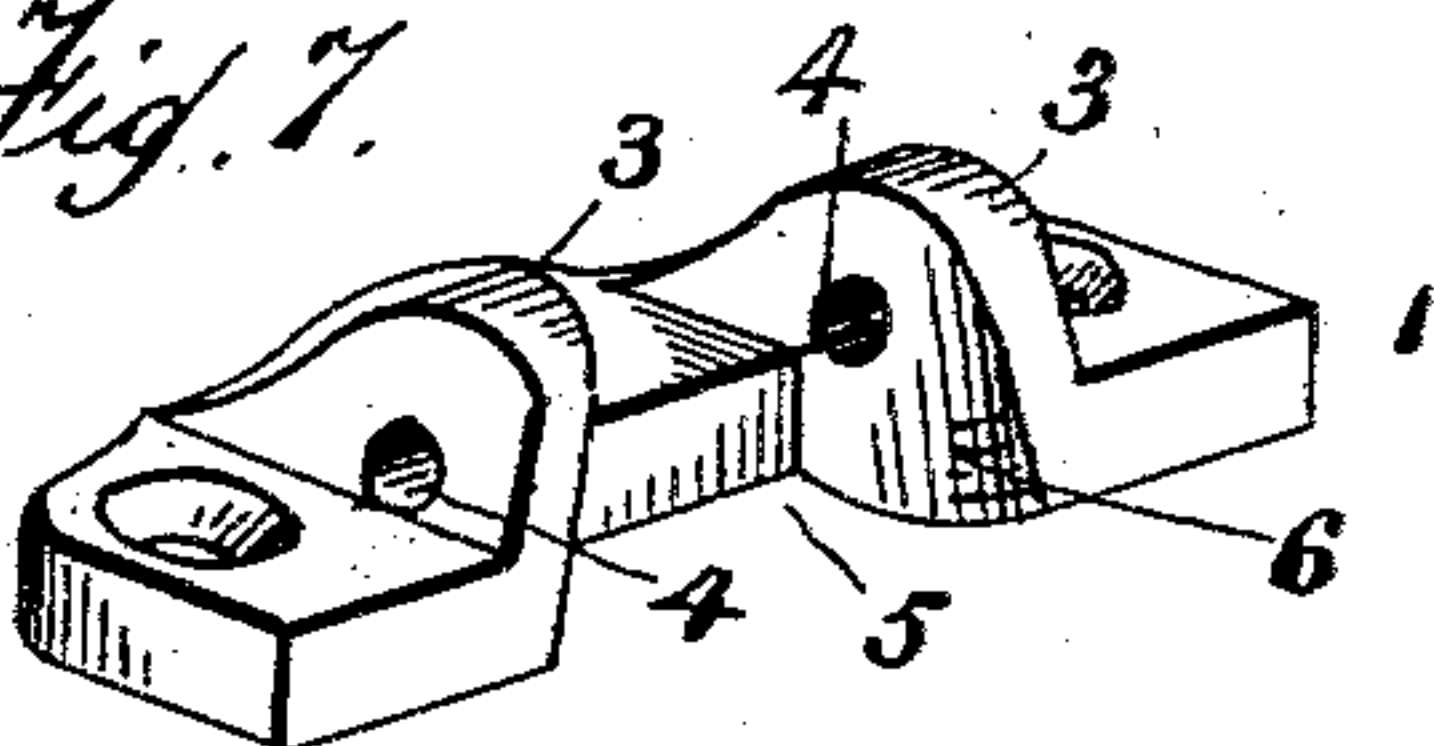


Fig. 9.

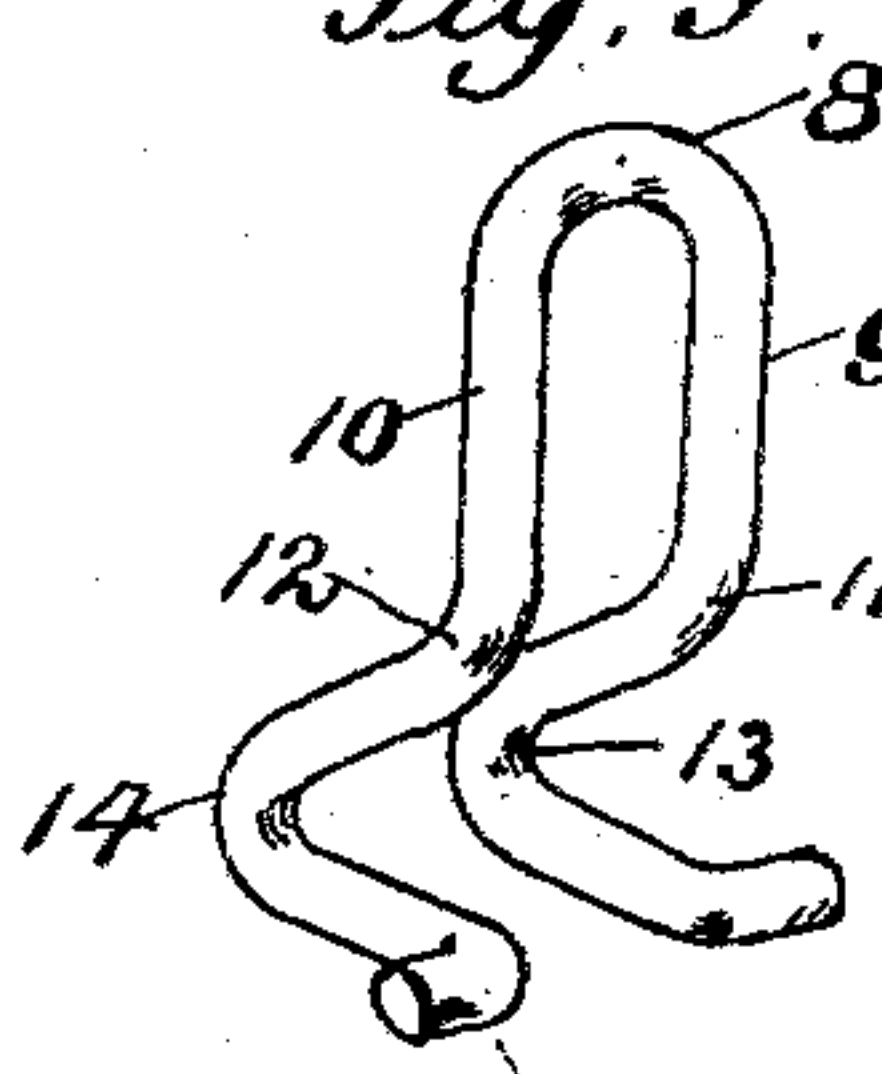
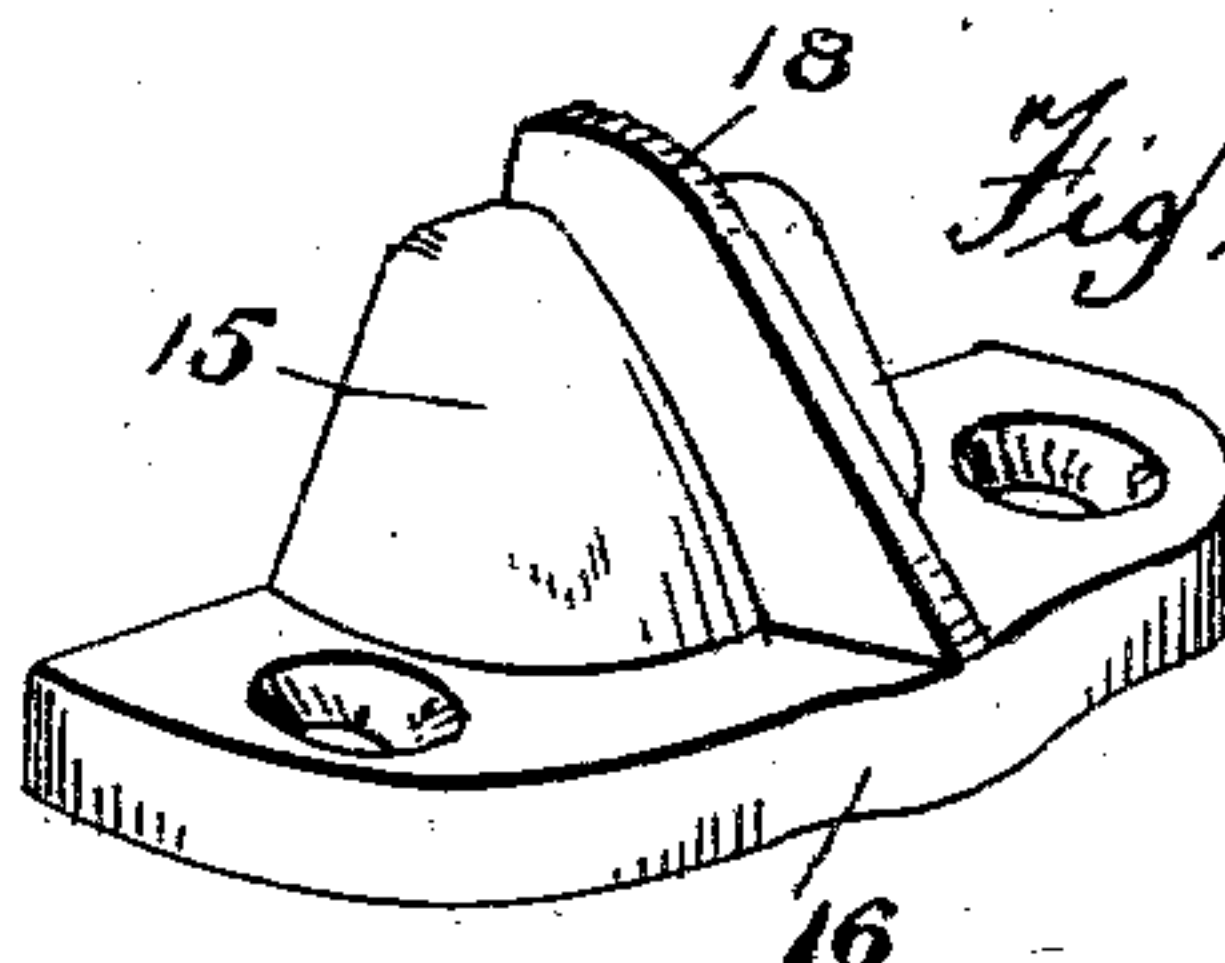


Fig. 8.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK H. KNIGHT, OF WASHINGTON, DISTRICT OF COLUMBIA.

SASH-LOCK.

SPECIFICATION forming part of Letters Patent No. 629,261, dated July 18, 1899.

Application filed April 4, 1899. Serial No. 711,689. (No model.)

To all whom it may concern:

Be it known that I, FRANK H. KNIGHT, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Sash-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates particularly to that branch of the general class of builders' hardware which has to do with devices designed to hold the mid or meeting rails of the upper and lower sash of windows in a locked position, and such invention contemplates the provision of a simple, durable, and easily-operated device of the class named having means whereby the mid or meeting rails of the upper and lower sash of a window are when desired securely locked together and held in close contact not only when the upper surfaces of said rails extend in the same plane, but also when said surfaces extend in dissimilar planes, as is often the case in old buildings, and also whereby all lateral movement of the rails upon each other is absolutely avoided and the accurate centering of the sash as regards each other is as absolutely assured.

To the accomplishment of the ends above set forth the invention consists in the construction, arrangement, and combination of the several parts comprised therein for service, substantially as is hereinafter set forth, and illustrated in the accompanying drawings, wherein—

Figure 1 is a top plan view of a section of the mid or meeting rails of the upper and lower sash of a window provided with my improved locking device, the latter shown as disconnected or unlocked from each other. Fig. 2 is a side elevation of the parts shown in Fig. 3, the rails extending in the same plane. Fig. 3 is a top plan view similar to that shown in Fig. 1, the meeting-rails shown as locked together by my improved device. Fig. 4 is a side elevation of the parts shown in Fig. 3, the meeting-rails shown as extending in the same plane and locked together.

Fig. 5 is a side elevation of the parts shown in Fig. 3, the meeting-rails shown as locked together and extending in dissimilar planes. Fig. 6 is a front elevation of that portion of my improvement to which the locking-latch is hinged. Fig. 7 is a perspective view of that part of the device to which the locking-latch is hinged detached from the device. Fig. 8 is a perspective view of the latch-plate detached from the device. Fig. 9 is a perspective view of the locking-latch detached from the device.

Similar numerals of reference in the several figures of the drawings denote similar parts.

Referring to the drawings, 1 designates the section which carries the locking-latch and is secured, preferably by screws 2, to the rail of the upper sash. This section 1 is provided with upwardly-projecting lugs 3 3, that are apertured at 4 4 to receive the laterally-projecting lower ends of the locking-latch, as will be presently described.

Between the lugs 3 3 the section 1 is cut away, as shown at 5, to facilitate the manufacture of the device, and the inner opposing faces of said cut-away portion 5 and also of the lugs 3 3 are at their forward edges rounded and undercut, as shown at 6, so that a part of said faces shall diverge outwardly from each other from rear to front and from top to bottom (see Figs. 6 and 7) for a purpose presently to be explained.

To the section 1 I hinge a locking-latch 7, hereinbefore referred to, which latch I preferably make of a single piece of spring-wire and so form the same that it shall fulfil a two-fold function—viz., that of a latch to securely hold the opposing faces of the sash-rails in close contact each with the other and that of a spring to maintain itself in continual engagement with its catch without regard to the plane in which the upper surfaces of the rails extend. (See Figs. 4 and 5.)

With the above-named ends in view I bend a single piece of wire at its middle portion 8 into a U-shaped form and extend the opposite legs 9 and 10, formed thereby, backward in parallel planes to points 11 and 12, at which points I bend the said legs laterally as re-

gards the direction of the bend 8 and thence extend them to points 13 and 14, at which latter-named points I again bend the said legs backward, thus imparting to each thereof a V-shaped portion which engages an upwardly-projecting portion of the catch-plate presently to be described.

The free end of each of the legs 9 and 10 is turned outwardly to enter the apertures 4 4 of the lugs 3 3, and thus pivotally connect the locking-latch with said lugs.

When placing the latch in position between the lugs 3 3, I press the lugs 9 and 10 toward each other, so that when released from such pressure and in place they shall bear with considerable force against said lugs for a purpose presently to be explained.

I provide that the V-shaped portion of the locking-latch shall engage and embrace the upwardly-projecting portion 15 of a catch-plate 16, which I secure, preferably by screws 17, to the upper rail of the lower sash, and which I provide with a web 18, that projects outwardly from the part 15 of the catch-plate (see Fig. 8) and is V-shaped in cross-section, the thickest part thereof being immediately in contact with the part 15 of the plate, as shown, for a purpose presently to be explained.

While I have herein described the locking-latch as formed of a single piece of spring-steel wire bent to the necessary proper shape, I yet do not intend to limit myself solely to such material or construction, as the said latch may be formed by casting and of any suitable material other than steel.

By reference to Fig. 3, which illustrates the locking-latch as engaging the catch-plate, it will be seen that the outer surfaces of the latch-legs 9 and 10 bear upon the outwardly-inclined rounded edges of the lugs 3, and since the said lugs are also undercut or diverge outwardly from top to bottom it will be readily apparent that the outward pressure of said latch-legs 9 and 10 will operate to hold said locking-latch in continual engagement with the upwardly-projecting portion of the catch-plate without regard to the planes in which the upper surfaces of the sash-rails rest, (see Figs. 4 and 5,) such result being consequent upon the fact that the locking-latch will be forced downward by the inclined portions of the lugs 3 3 above referred to.

Again, by reference to Figs. 3 and 4 it will be seen that the opposite legs or members of the locking-latch closely hug the sides of the V-shaped web 18 and that because of the downward pressure of the locking-latch above described the said web 18 will be forced to and held securely in line with the middle, longitudinally, of said locking-latch. (See Fig. 3.) From the drawings, particularly Fig. 3, it will be readily apparent that all movement of the sash upon each other will be wholly prevented through the coaction of the locking-latch and web 18, as above set forth.

In Fig. 2 of the drawings I have shown the

locking-latch in an almost or quite vertical position and the legs 9 and 10 thereof between the points 13 14 and the pivotal points 4 at some distance above the base 1 of the latch-carrying plate, which position I have for this view chosen to clearly bring out the fact that the said locking-latch will maintain itself at different points of elevation, such result being due to the outward pressure of the legs 9 and 10 against the inner surfaces of the lugs 3, which surfaces, back of the apertures 4 in said lugs 3, are parallel each with the other and perpendicular with the upper surface of the base 1 of the latch-carrying section.

Modifications in detail of my improved sash-lock may be made without departing from the spirit or sacrificing the advantages of said lock. I therefore claim the right to make any of and every such modification as shall properly fall within the scope and limit of this invention.

Having thus described my invention, I claim and desire to secure by Letters Patent—

1. In a sash-lock, a locking-latch comprising in a single piece a latch to hold the meeting-rails of sash in contact and spring parts to exert a continuous downward pressure to hold said latch in continuous engagement with a catch-plate, a latch-carrying plate to which said latch is hinged, and a catch-plate to be engaged by said latch, substantially as described.

2. In a sash-lock, a locking-latch comprising in a single piece of spring-wire a hook-shaped portion to engage a catch-plate and a spring to bear upon the latch-carrying plate to maintain the hooked portion in continuous engagement with a catch-plate, said catch-plate, and said latch-carrying plate, substantially as described.

3. In a sash-lock, a latch-carrying plate provided with upwardly-projecting lugs having their opposing faces rounded and undercut at their forward edges, a locking-latch pivoted between said lugs and provided with spring portions to be acted upon by the rounded and undercut edges of said lugs, and a catch-plate to be engaged by said locking-latch, substantially as described.

4. In a sash-lock, a latch-carrying plate provided with upwardly-projecting lugs having their opposing faces rounded and undercut at their forward edges, a locking-latch pivoted to said latch-carrying plate and comprising in a single piece a hooked portion to engage a catch-plate and spring portions to coact with the rounded lugs of the latch-carrying plate, and a catch-plate to be engaged by said locking-latch, substantially as described.

5. In a sash-lock, a catch-plate having an upwardly-projecting portion provided upon its forward surface with a web V-shaped in cross-section to be engaged by a locking-latch, a latch-carrying plate provided with upwardly-projecting lugs having their opposing

5 faces rounded and undercut at their forward edges, and a locking-latch pivoted between the lugs of the latch-carrying plate and comprising in a single piece a hooked portion to engage the upwardly-projecting portion of the catch-plate and spring portions to coact with the rounded lugs of the latch-holding plate to maintain the latch in continuous engagement

with the catch-plate, substantially as described.

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

FRANK H. KNIGHT.

Witnesses:

CLARA G. COOPER,

HENRY E. COOPER.