

J. J. TOWER & H. W. KAHLKE.
Lock for Handcuffs.

No. 222,751.

Patented Dec. 16, 1879.

Fig. 1.

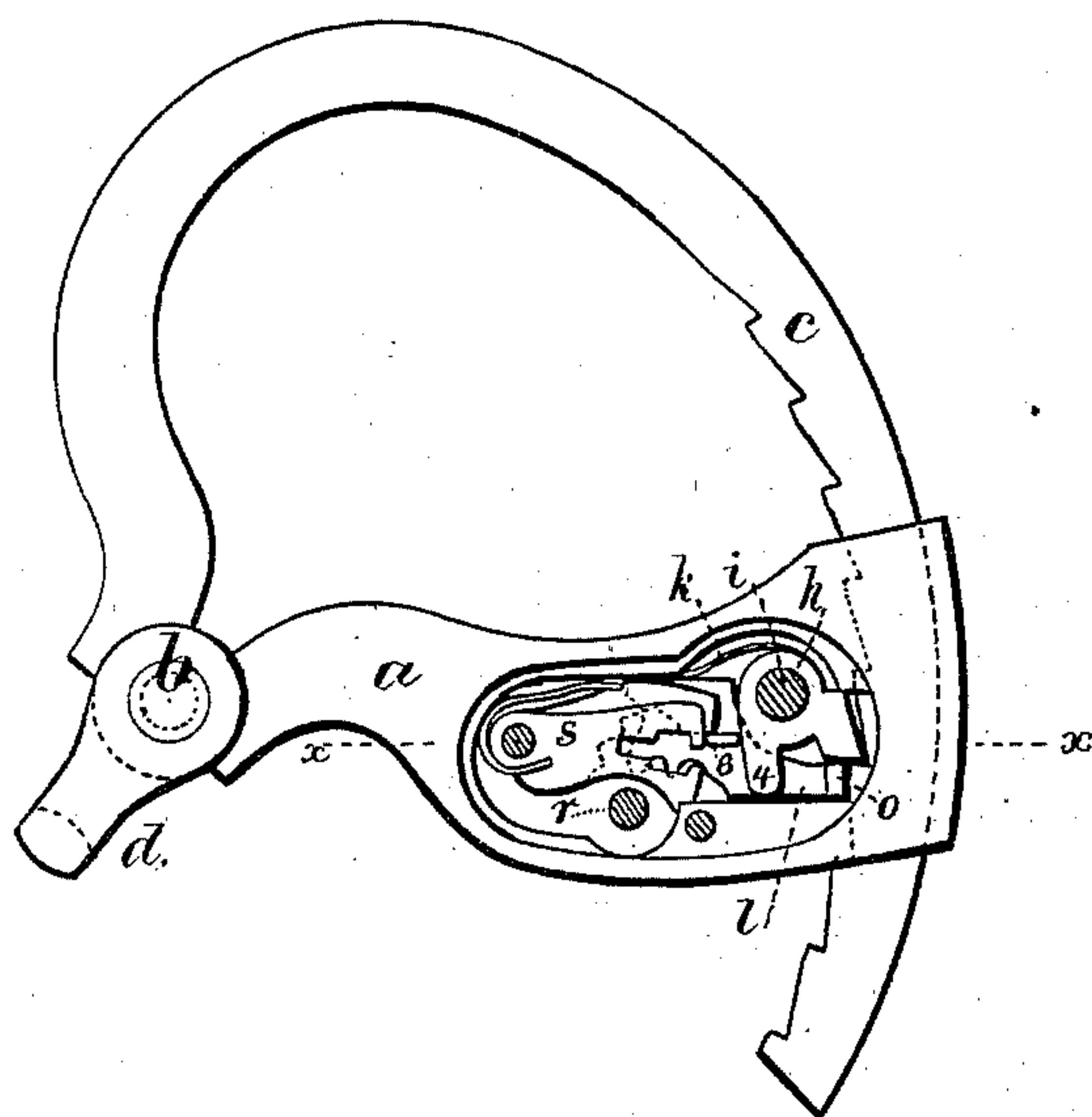


Fig. 4.



Fig. 5.



Fig. 3.

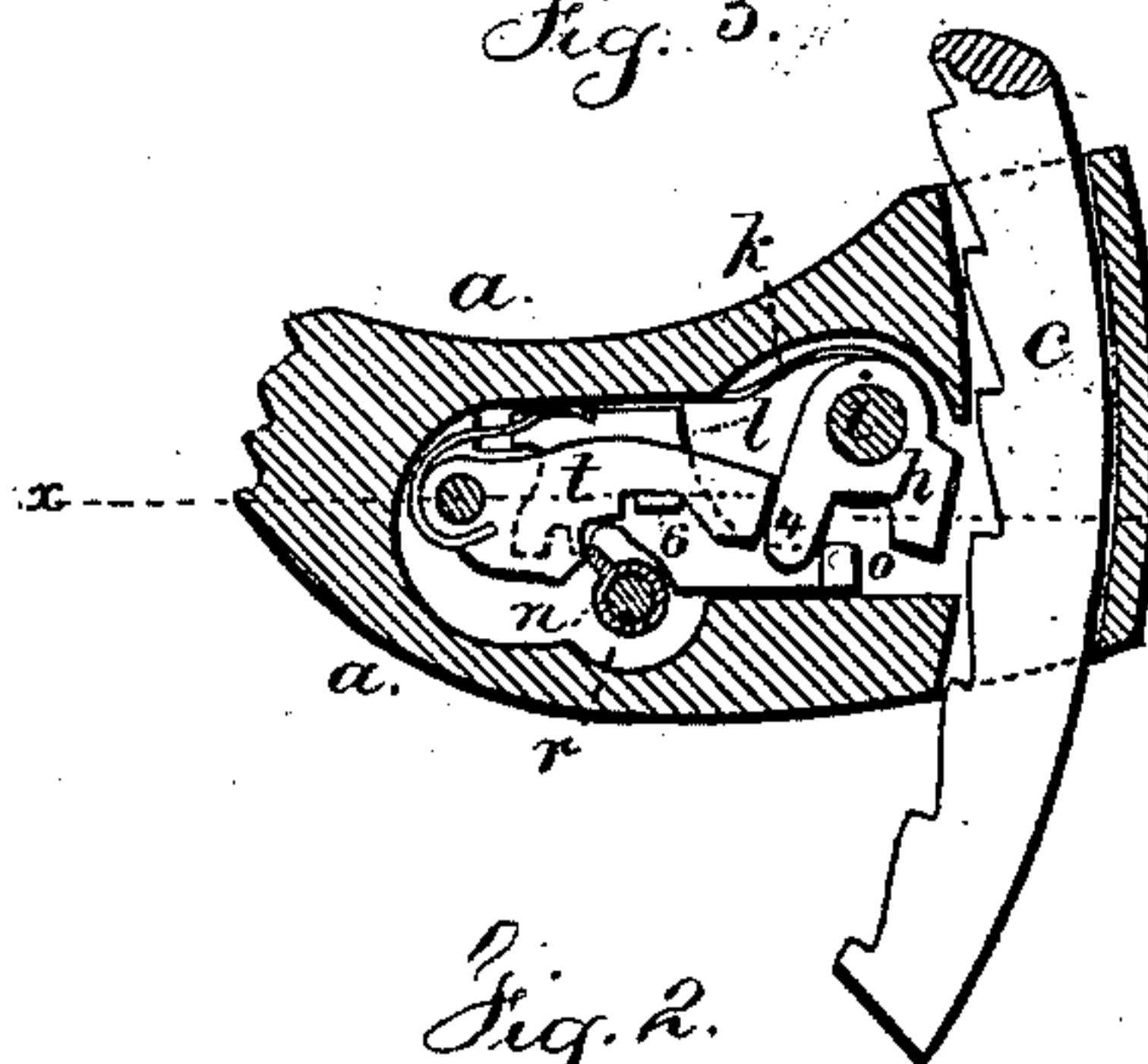


Fig. 6.

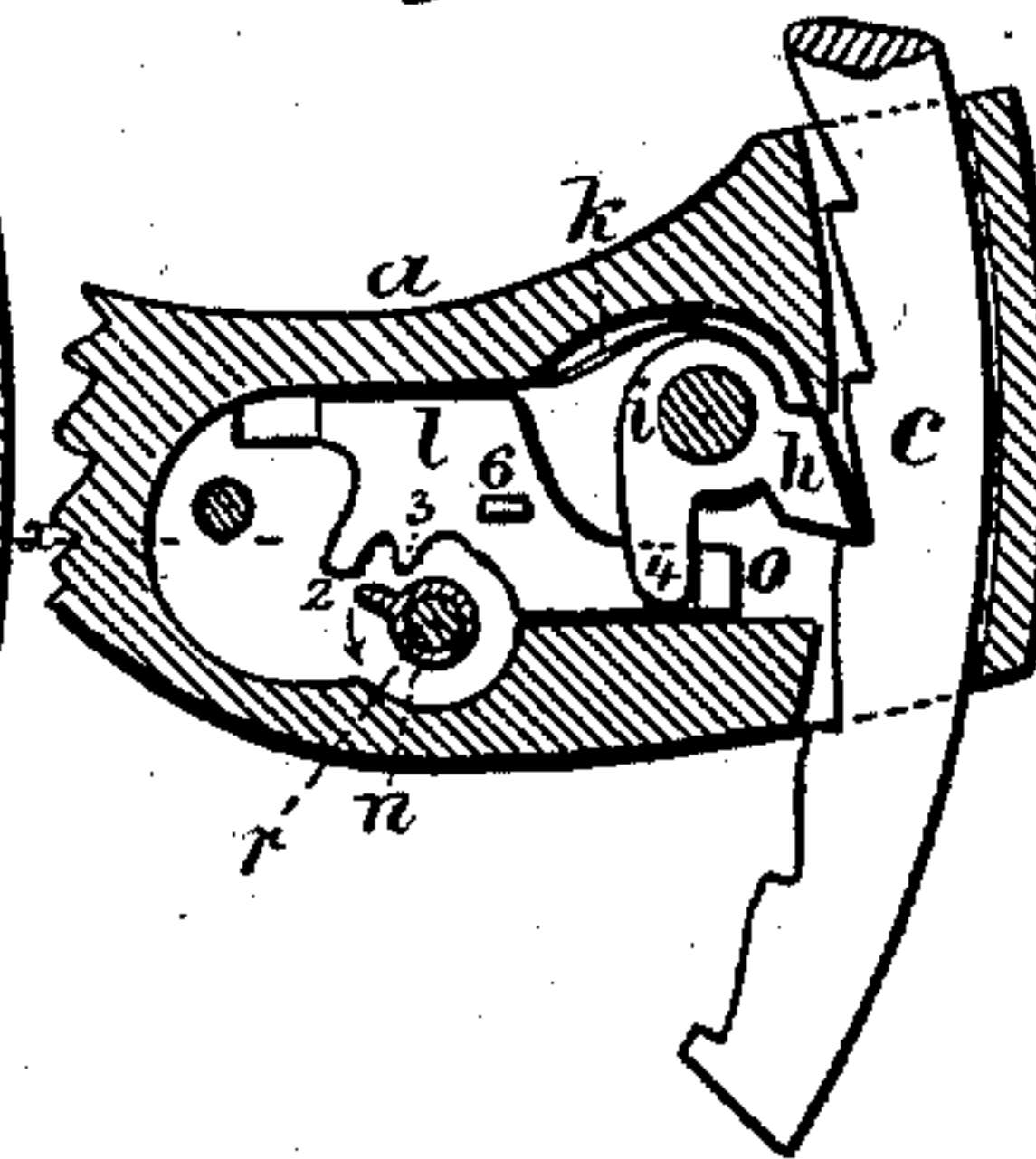
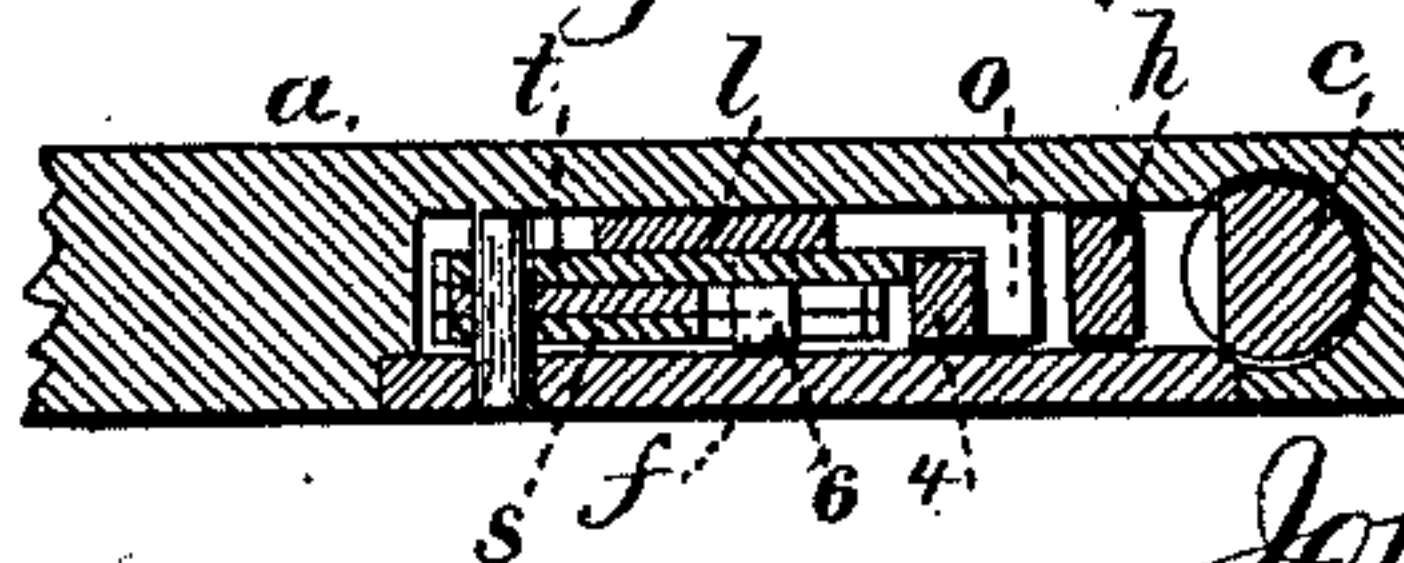


Fig. 2.



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UNITED STATES PATENT OFFICE

JOHN J. TOWER AND HENRY W. KAHLKE, OF BROOKLYN, NEW YORK,
ASSIGNORS TO SAID JOHN J. TOWER.

IMPROVEMENT IN LOCKS FOR HANDCUFFS.

Specification forming part of Letters Patent No. **222,751**, dated December 16, 1879; application filed August 19, 1879.

To all whom it may concern:

Be it known that we, JOHN J. TOWER and HENRY W. KAHLKE, of Brooklyn, in the State of New York, have invented an Improvement in Locks for Handcuffs, &c., of which the following is a specification.

In Letters Patent No. 200,950, granted to us, the lock of the handcuff is made with a sliding bar, upon which are pivoted two or more swinging catches.

Our present invention is for the purpose of locking the spring-catch so that it cannot be forced back by an instrument introduced between the notched segment and the radius-bar; for allowing the handcuff to be slipped upon the person and instantly closed without the use of a key; for allowing the handcuff to be opened by the key, and preventing the withdrawal of the key until the parts have been moved so as to be in a position for instant use again.

In the drawings, Figure 1 is an elevation of the handcuff and lock, the plate of the lock being removed. Fig. 2 is a section at the line *x x* of Fig. 1. Fig. 3 shows part of the radius-bar in section, and elevation of the lock, the tumblers being removed. Fig. 4 represents the bolt-detaining tumbler detached, and Fig. 5 shows the bolt detached. Fig. 6 is a view similar to Fig. 3, but the guard-tumbler is not shown.

The radius-bar *a* is jointed at *b* to the end of the notched segment-bar *c*, and the link *d* is applied at the joint, as usual. The segment-bar *c* passes through the outer end of the radius-bar, and the notches in the segment-bar *c* are on the inner surface. Within the radius bar there is a cavity for the parts of the lock, and the cap-plate *f* is secured by rivets in the ordinary manner. The spring-catch *h* swings upon the stud *i*, and it is moved toward the segment-bar by the spring *k*. *l* is a sliding bolt, having a block, *o*, that can be moved in between the ends of the swinging catch *h* and the inner part of the lock-case when the catch *h* is in one of the notches of the segmental bar. Hence the spring-catch cannot be forced back or drawn back until that block is removed from the said position shown in Fig. 1.

The bolt *l* has two talons on it, so that the

key *n* turned upon the stud *r* may act in the talon 2 and draw the bolt *l* and stud *o* to the position shown in Fig. 6. The spring-catch *h* is now free to move either way. This is the normal position of the lock, and the position it assumes when the key has been once turned around and then removed from the lock. The handcuff can now be closed around the wrists, and the spring-catch will yield as the segment-bar is forced through the radius-bar, and the said catch will prevent the lock being opened until some device is applied to draw the spring-catch back out of the notch of the segmental bar *c*. This is accomplished by giving the key a partial second turn, which causes it to act in the talon 3 of the bolt and draw the same along, and, by the block *o* acting on the tail 4 of the spring-catch, draw the same and the spring-catch back out of the way of the segmental bar.

It is now to be understood that any desired character of springs or tumblers may be employed to prevent end motion being given to the bolt except by the key.

We have shown two tumblers, *s s*, with springs and notches and a stud or fence, 6, upon the bolt, to hold the said bolt when in the projected position, or when in the partially-retracted position that the parts assume when the handcuff is ready for use. When the key is applied to draw the bolt back and open the handcuff the spring of the catch would immediately throw the bolt forward if the key turned all around, and hence clear the bolt. To prevent this the talon 4 may be made so as to stop the revolution of the key at the desired place; but we prefer and use a guard-tumbler, *t*, made as seen in Fig. 4. The incline 8 on this tumbler allows the said tumbler to swing until its heel 9 passes into the path of the key and arrests its further movement. The key is now blocked, and the parts of the lock do not act upon the segment-bar; but when the key is again turned forward the parts assume their normal position, the guard-tumbler is raised out of the way of the key by the stud of the bolt running under the incline 8, the key can be removed, and the handcuffs are ready for use. After they have been placed upon the prisoner so as to secure him the key is applied to move the bolt and secure the parts against any attempt to open

the same, and in so doing the parts are so immovably fixed that the radius-bar cannot be moved in either direction relatively to the segmental bar, thereby preventing the handcuff being tightened too much, and preventing any motion that otherwise might be made with a view to opening the handcuff.

We claim as our invention—

1. The combination, with the notched segment and radius bars in a handcuff, of a spring-catch to hold the segment-bar, a bolt, and a block to hold the spring-catch, substantially as set forth.

2. The combination, with the notched segment-bar, of the spring-catch, the bolt *l*, block *o*, and guard-tumbler *t*, to prevent the withdrawal of the key, substantially as set forth.

3. The combination of the notched segmental

bar, the swinging radius-bar, the swinging spring-catch *h*, the bolt *l* and its block *o*, the guard-tumbler *t*, having the incline *s* and heel *9*, and the tumblers *s s*, and fence or stud *6*, substantially as set forth.

4. The combination, with the notched segment-bar *c* and the radius-bar *a*, of a bolt moved by a key and acting to prevent the movement of the radius-bar in either direction relatively to the segmental bar, substantially as set forth.

Signed by us this 16th day of August, A. D. 1879.

JOHN J. TOWER.
HENRY W. KAHLKE.

Witnesses:

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