

(No Model.)

J. P. CHAMPION.

NUT LOCK.

No. 333,502.

Patented Jan. 5, 1886.

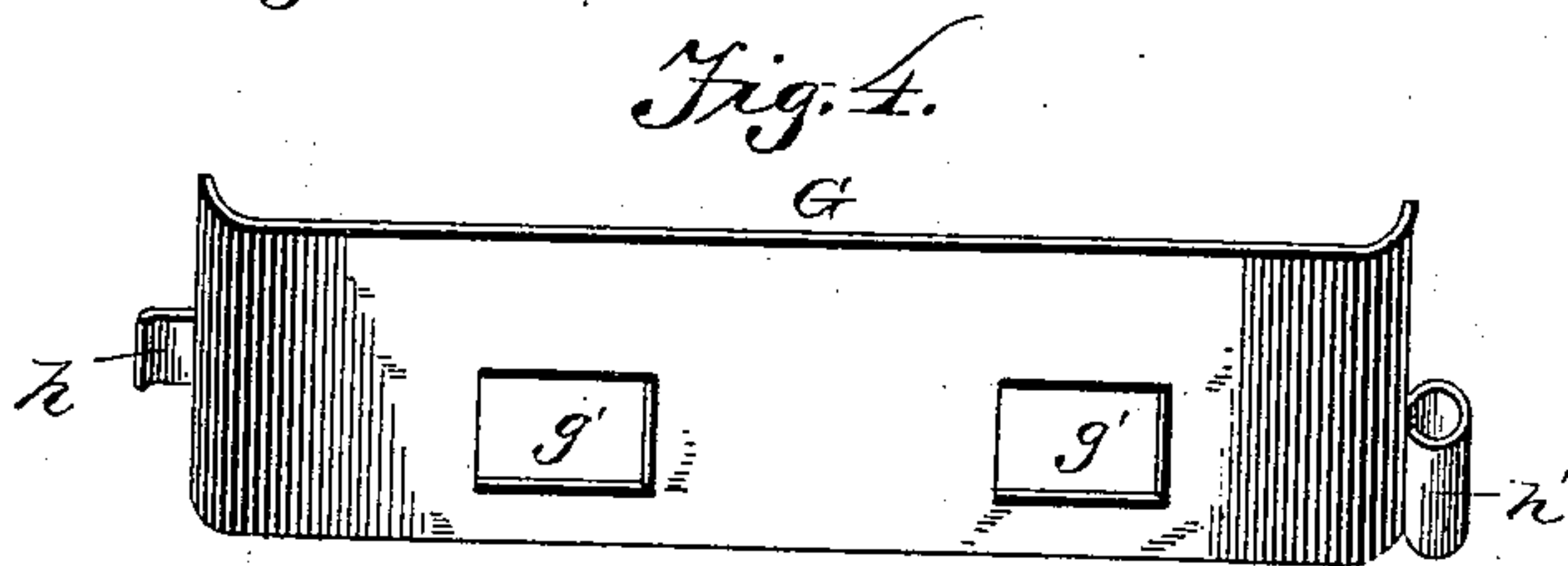
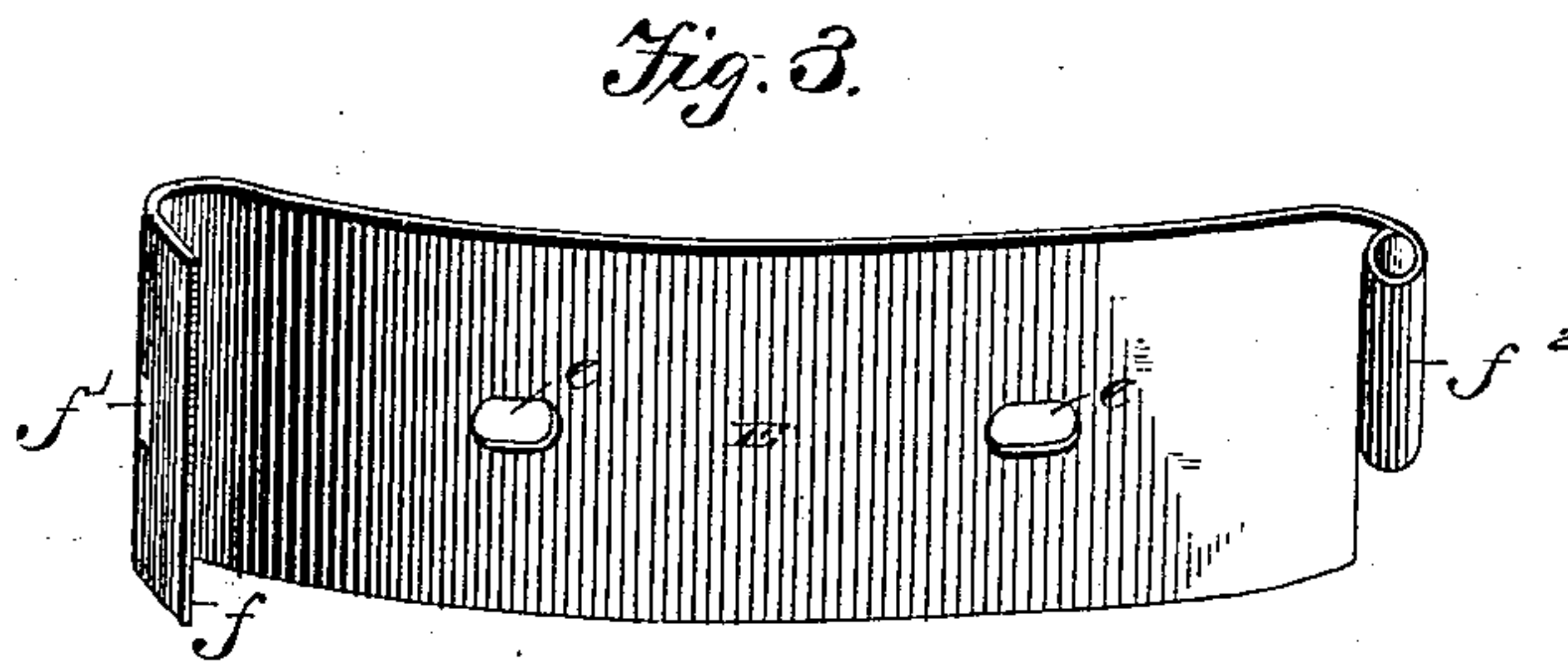
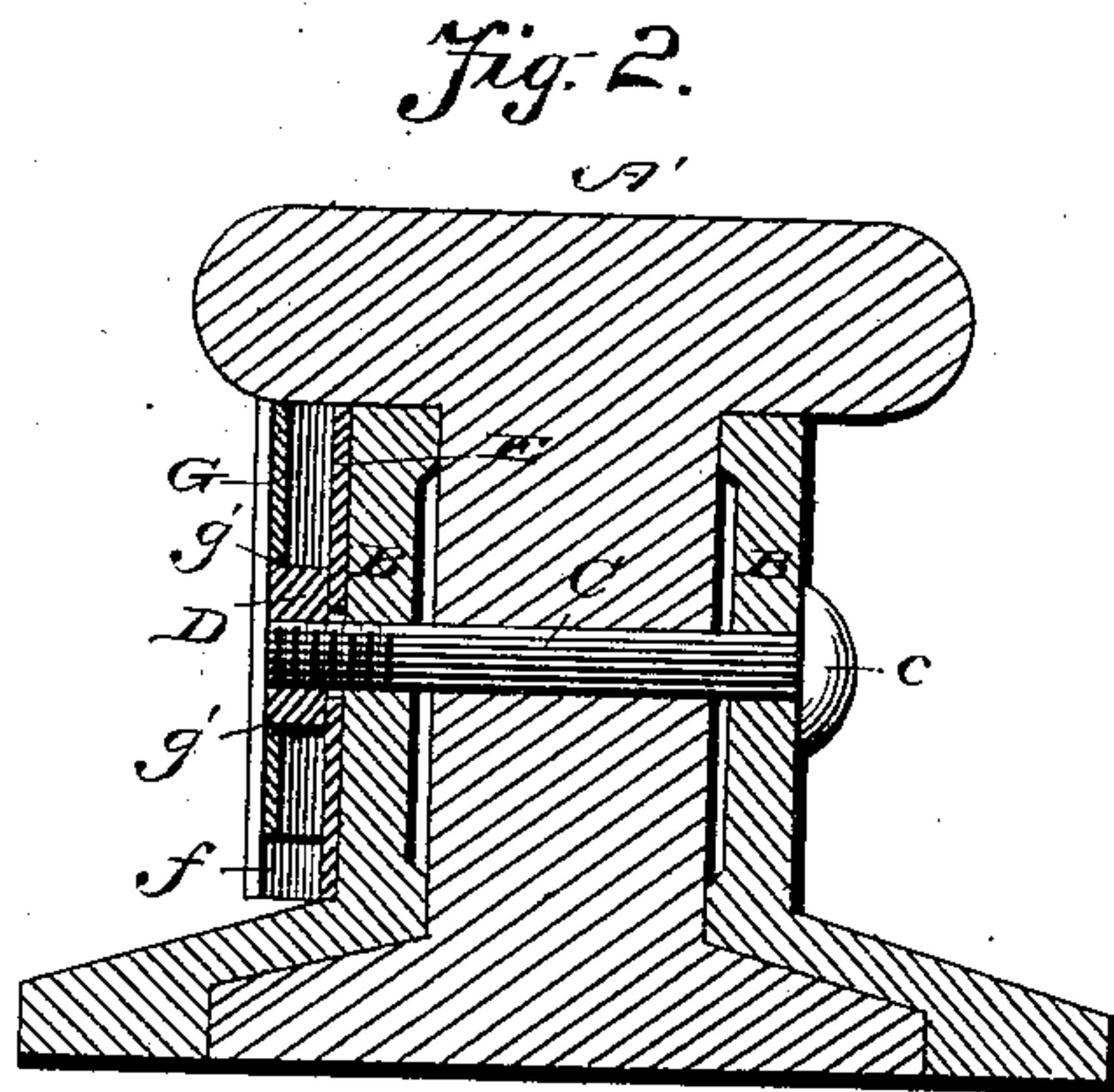
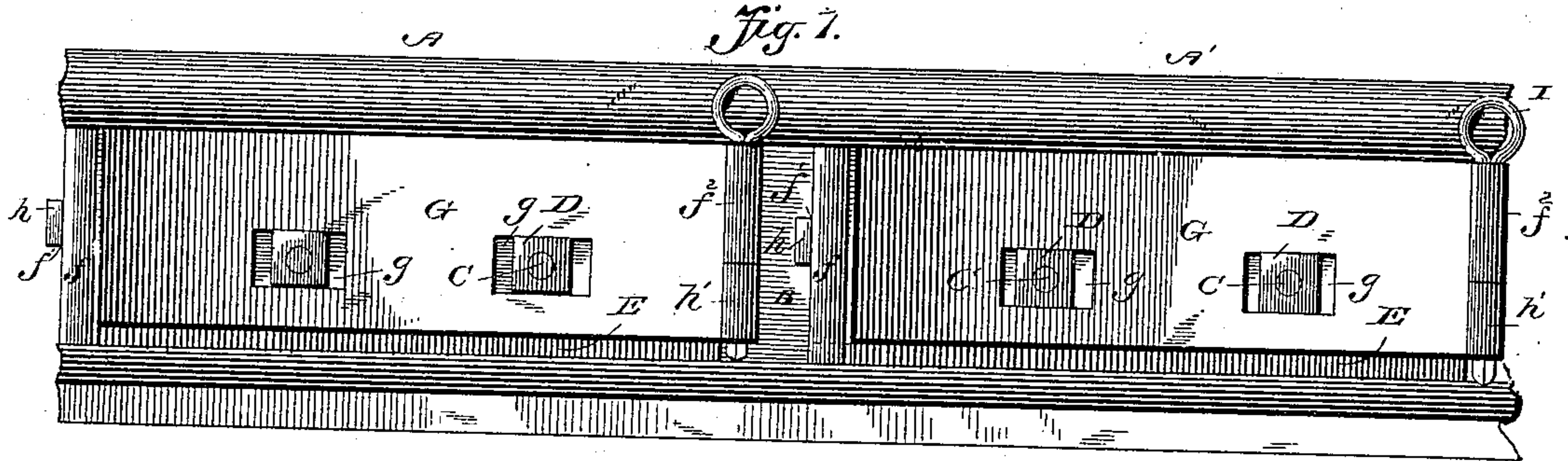
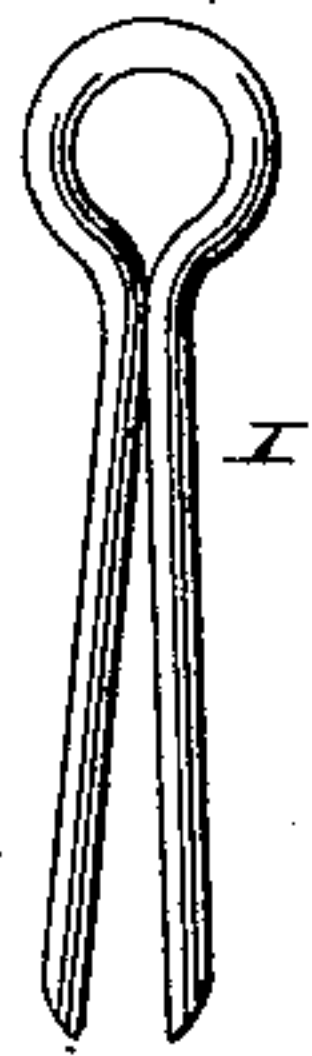


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN PAULDING CHAMPION, OF GAINESVILLE, GEORGIA, ASSIGNOR OF TWO-THIRDS TO JOSEPH L. GREEN AND JOHN A. SMITH, BOTH OF SAME PLACE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 333,502, dated January 5, 1886.

Application filed October 27, 1885. Serial No. 181,090. (No model.)

To all whom it may concern:

Be it known that I, JOHN P. CHAMPION, a citizen of the United States, residing at Gainesville, in the county of Hall and State of Georgia, have invented a new and useful Improvement in Nut-Locks, of which the following is a specification, reference being had to the accompanying drawings.

My invention has relation to improvements in nut-locks; and it consists of the peculiar construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and specifically pointed out in the claims.

My invention has for its object to provide a nut-lock which shall obviate the objection of the bolt working loose and rattling in the sockets in the fish-plates and rails, caused by the jar and strain upon the rails when a train passes over the same; to prevent the securing-nuts from working loose or turning and becoming detached from the bolts; and to combine simplicity, strength, and durability of construction with thorough effectiveness of operation and ease of application to and removal from the nuts and bolts.

In the accompanying drawings, Figure 1 is a side elevation of an ordinary rail having my improved nut-locking device applied thereto. Fig. 2 is a transverse vertical sectional view on the line *xx* of Fig. 1. Fig. 3 is a detail perspective view of the spring securing-plate. Fig. 4 is a like view of the nut-locking plate, and Fig. 5 is a detail view of a spring fastening-key.

Referring to the drawings, in which like letters of reference indicate corresponding parts in all the figures, A A' designate the sections of the rails, of ordinary construction; B, the fish-plate thereof; C C, the through-bolts passing through the fish-plates and rails, and having a head, *c*, bearing on one of the fish-plates, and a threaded end which projects beyond the opposite fish-plate; and D, the securing-nuts.

Two bolts, C, are arranged on each side of the line where the rails A A' meet or abut together; and I will only describe the means for securing two of such bolts in position, it being understood that each pair of bolts are provided with the locking devices.

E designates a spring-plate, which when it is detached from the bolts assumes the curved shape shown more clearly in Fig. 3, said plate having apertures or openings *e* of a contour and diameter corresponding to the shape of the bolt over which the plate is fitted, said apertures being spaced apart a distance equal to the distance between the bolts. This spring-plate is provided at one end with a turned-up lip or flange, *f*, having an aperture, *f'*, at or near its middle, and at its opposite end it has an eye, *f*², for a purpose presently described. The nut-securing plate A has squared apertures *g'* at or near its middle, which fits over the nuts D, a projecting nib, *h*, at one end which fits in the aperture *f'*, and an eye, *h'*, at its opposite end, which, when the securing-plate to which it is attached is secured to the nuts, registers with the eye *f*² of the spring-plate E, and these eyes receive a key, I, (shown in detail in Fig. 5,) which serves to secure one end of the plates E G together, while the opposite ends thereof are secured or held in position together by the tongue *h*, fitting in the aperture *f'* of the spring-plate.

In applying my improved nut-locking device to the rails the spring-plate E is first fitted over the shanks of the bolts, so as to leave the lip *f* and socket *f*² projecting forwardly thereof. The nuts D are then fitted on the bolts and screwed home, so as to force the spring-plate close against the fish-plate. The lip *h* of the plate G is fitted in the socket *f'* of the spring-plate, and the end of said plate G to which the tongue is attached fitting beneath the lip *f* of said spring-plate, the apertures *g'* fitted over the nuts D, and the eye *h'* registering with the eye *f*², and the spring-key I passed through said eyes or sockets *f*² *h'*. By means of the spring-plate E bearing against the nuts of the bolts the heads of said bolts are drawn firmly against the fish-plate; and the shanks thereof prevented from working loose or turning in their socket in the webs of the rails and fish-plates, longitudinal strain being exerted on the bolts, which serves to keep the shanks from turning, and by reason of the plate G fitting over and engaging the nuts on the bolts said nuts are prevented from turning and becoming detached.

My improved nut-lock is simple, strong, and durable in construction, thoroughly effective for the purposes designed, can be easily and quickly applied to and removed from the securing-bolts, prevents the bolts from working loose in the sockets and wearing them elliptically shaped, and can be manufactured cheaply.

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

1. The combination of the rails, the fish-plates, the through-bolts having nuts, an elastic pressure-plate interposed between the nuts and the fish-plates, and a nut-securing plate detachably connected to the elastic pressure-plate, substantially as described.

2. The combination of the rails, the fish-plates, bolts having nuts, a spring pressure-plate fitted over the bolts and interposed between the nuts and fish-plate, and a rigid securing-plate detachably secured to the spring pressure-plate, and having sockets *g'* to engage and hold the nuts, substantially as described.

3. The combination of the rails, the fish-

plate, the through-bolts having nuts, a spring pressure-plate interposed between the nuts and fish-plates, and having a socket at one end and an eye at its opposite end, a nut-securing plate having a tongue to engage the socket of the spring pressure-plate, and an eye that registers with the eye of said pressure-plate, and a fastening-key fitted in the eyes of said pressure and securing plates, as set forth.

4. The combination of the rails, the fish-plates, through-bolts having securing-nuts, a spring-plate, *E*, interposed between the nuts and fish-plates, and having a lip, *f*, and socket *f'* at one end, and an eye, *f*², at its opposite end, a securing-plate, *G*, having sockets *g'* to engage the nuts, and one end fitted beneath the lip *f*, and the tongue *h* and socket *h'*, and a spring fastening-key, *I*, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN PAULDING CHAMPION.

Witnesses:

JAMES F. LAW,
ALPHA R. SMITH.