

(No Model.)

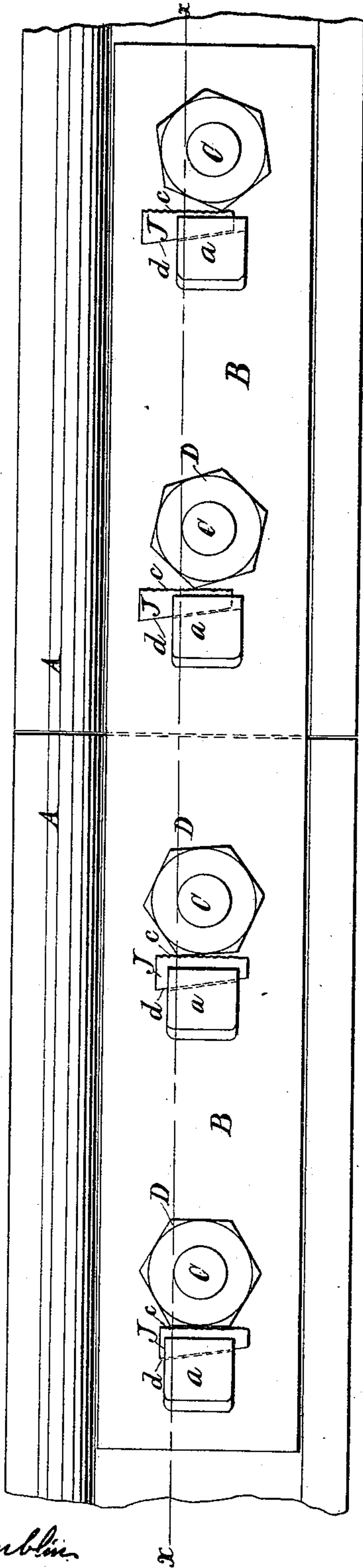
A. B. SCHOFIELD.

NUT LOCK.

No. 451,174.

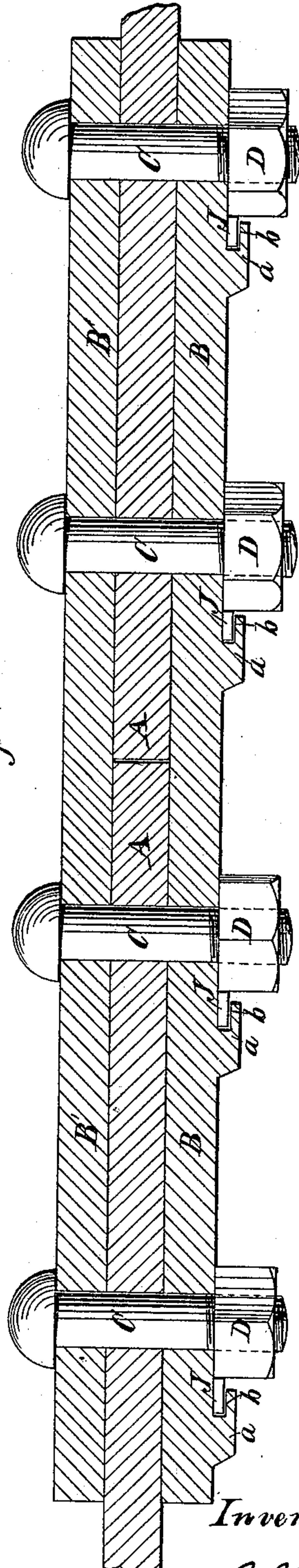
Patented Apr. 28, 1891.

Fig 1



Witnesses:
John S. Sicker
Arthur C. Gamblin

Fig 2.



Inventor:
Albert B. Schofield
by attorneys
F. W. H. H. H. H.

UNITED STATES PATENT OFFICE.

ALBERT B. SCHOFIELD, OF NEW YORK, N. Y., ASSIGNOR OF ONE-HALF TO
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NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 451,174, dated April 28, 1891.

Application filed January 7, 1889. Serial No. 295,641. (No model.)

To all whom it may concern:

Be it known that I, ALBERT B. SCHOFIELD, of New York, in the county of New York and State of New York, have invented a certain new and useful Improvement in Nut-Locks, of which the following is a specification.

My improvement relates to a lock for securing a nut against rotation which will unscrew the nut from the bolt to which it is attached.

I will describe a nut-lock embodying my improvement in detail, and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a side elevation of a nut-lock embodying my improvement. Fig. 2 is a horizontal section of the same, taken on the line *x x*, Fig. 1.

Similar letters of reference designate corresponding parts in all the figures.

A A designate two rails, the ends of which abut or approximately abut in the usual manner.

B B' designate fish-plates arranged one upon each side of the two rails A A and adapted, when clamped together, to secure said rails against displacement.

C designates bolts. These bolts extend through suitable apertures in the fish-plates B B' and the webs of the rails. Nuts D applied to the bolts C secure the latter in position.

In carrying out my improvement I form projections *a* upon the outer side of the fish-plate B. These projections may be rolled up from the metal of the fish-plate and milled out so as to form recesses *b* between the outer portions of the projections and the face of the fish-plate. These milled portions constitute cavities, which cavities taper from their upper to their lower ends toward the bolt-holes.

J designates locking devices. As shown, these locking devices have a straight face *c* and a wedge-shaped or inclined face *d*. When the locking-pieces are dropped into the cavities *b*, the wedge-shaped faces *d* of the locking-pieces will of course contact with the wedge-shaped rear wall of said recess and the locking-pieces will be forced outwardly, so that their straight faces *c* will have a par-

allel motion toward the bolt-holes. The straight faces of the locking-pieces when thus forced sidewise will extend into the path of the nuts D when the latter are rotated. In other words, the corners of the nuts will always contact with the straight faces of the locking-pieces when the nuts are rotated in a direction to unscrew them from the bolts.

In Fig. 1 I have illustrated the locking-pieces and the nuts in four different positions. In the first position, or that at the left of Fig. 1, one of the faces of the nut is substantially parallel with the straight face *c* of the locking-piece. In the next instance the locking-piece is somewhat raised and one of the corners of the nut contacts with the locking-piece. In the third example the locking-piece is still further raised; but one of the corners of the nut still engages the locking-piece. In the fourth position, which I may remark is the most disadvantageous which the nut and locking-piece can occupy relatively to each other, the locking-piece is so far raised that the corner of the nut only contacts with it near the lower end of the locking-piece. Assuming, however, that the nut may now slip past the locking-piece, the latter will, by gravity, be immediately returned to the position shown in the example to the left of Fig. 1, and will therefore again act as a positive lock against the further rotation of the nut. It is to be borne in mind, therefore, that the locking-piece J always operates by gravity, and that even if the same should not be properly inserted in the first instance the nut can rotate but a very short distance before the locking-piece will again operate to effectively prevent further rotation.

I prefer that the face of the locking-piece with which the nut contacts shall be serrated in order that the corners of the nut may obtain a firm grip upon the locking-piece; but this, however, I do not deem wholly essential.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination, with the bar or plate B, having upon it a projection within or on which is a bearing presenting a downward inclination toward a bolt-hole in said plate, of a locking-piece applied against the said

bearing, between it and the bolt-hole, and having a straight face *c*, and a surface contacting with said bearing corresponding in inclination to the inclination of said bearing, 5 said locking-piece being free to move against said projection by the force of gravity, and thereby be caused to move toward a nut on a bolt in said bolt-hole with the straight face *c* in vertical parallel lines, substantially as 10 herein described.

2. The combination, with the plate B, having in it a bolt-hole and having upon it the projection *a*, within which is the inclined bearing *b*, of the gravitating tapering locking-piece having a straight notched or serrated 15 edge *c*, substantially as herein described.

ALBERT B. SCHOFIELD.

Witnesses:

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