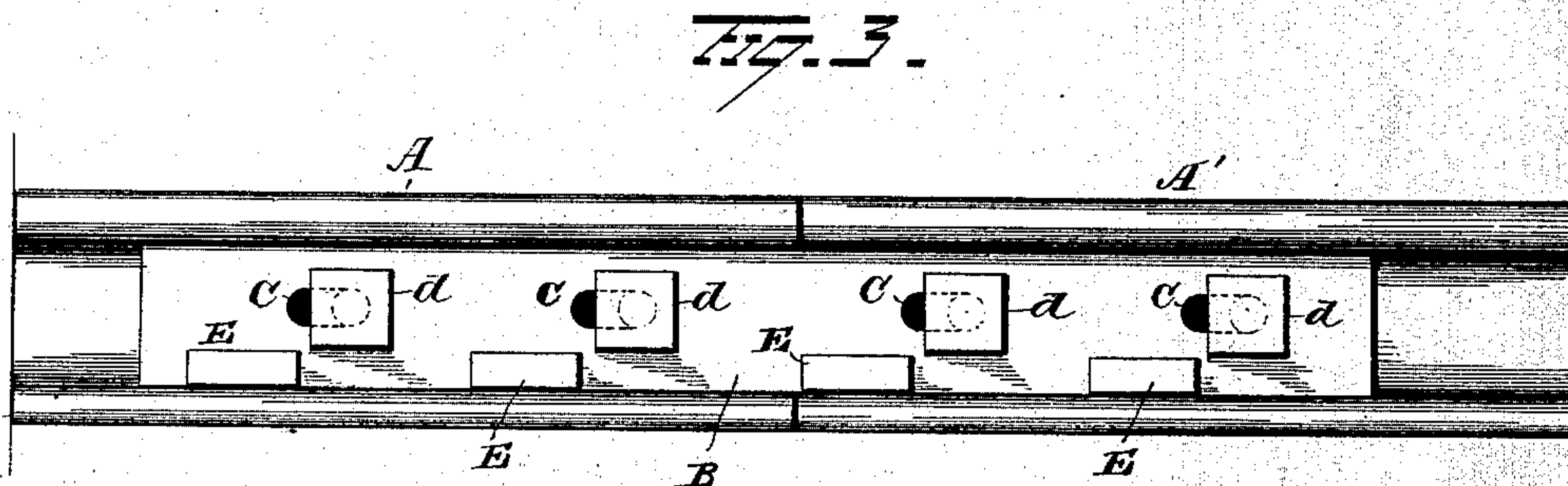
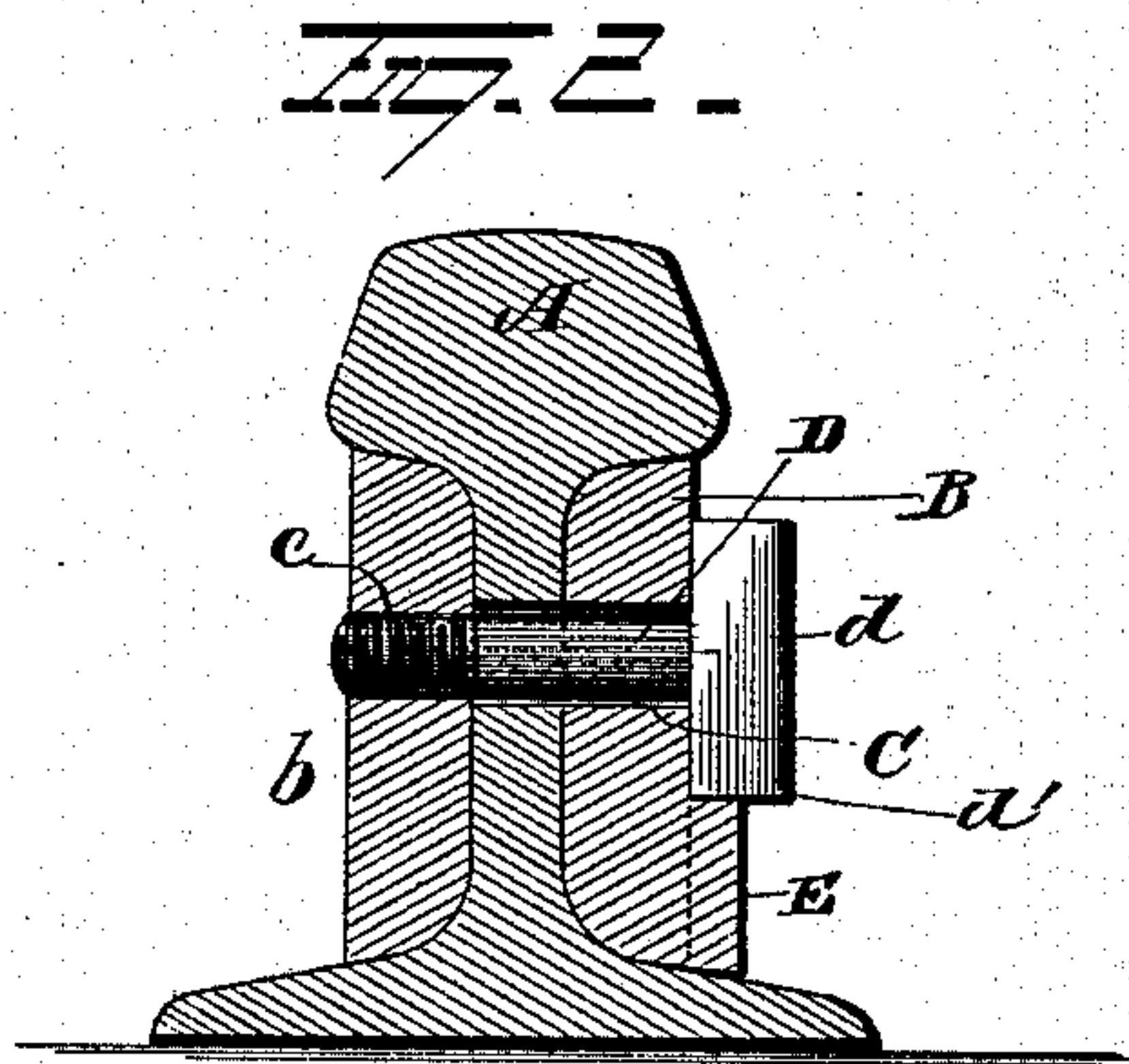
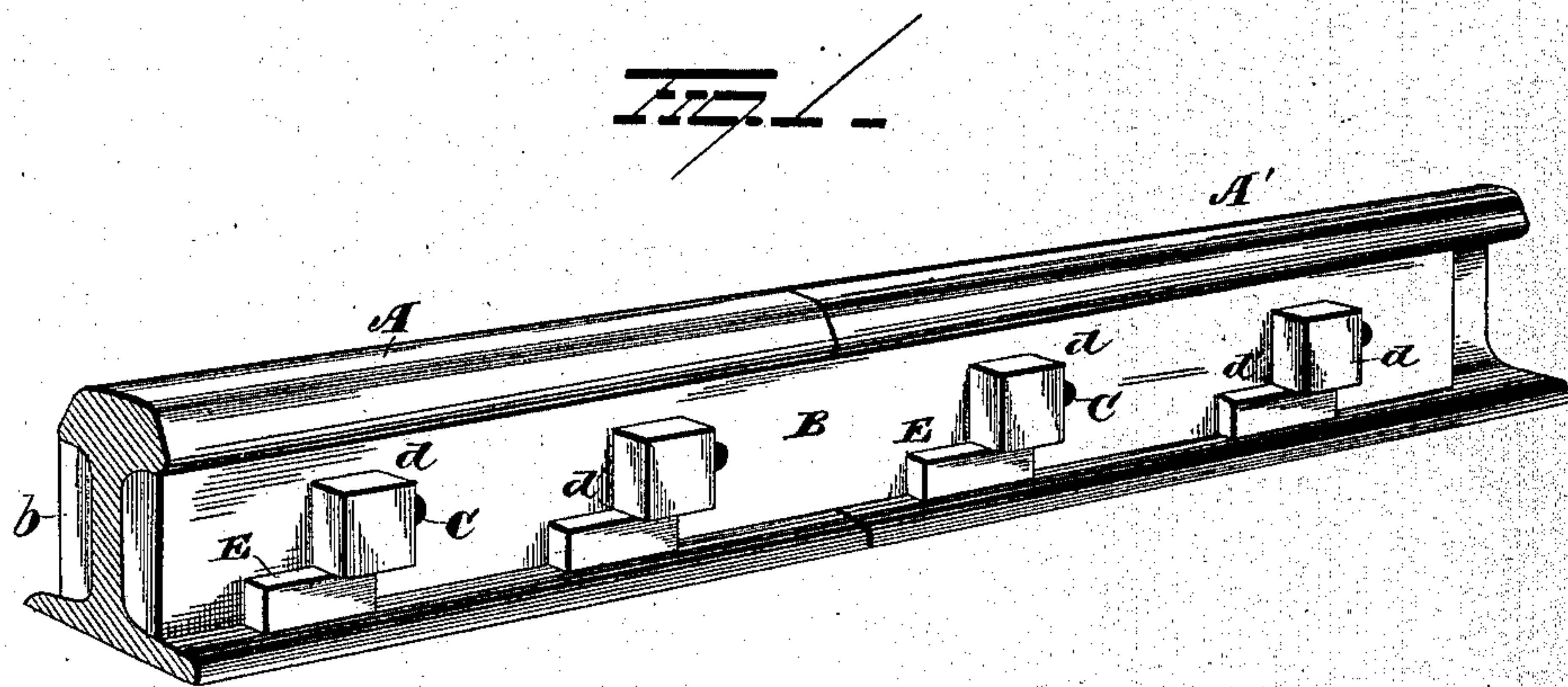


(No Model.)

N. H. BROWN.
MEANS FOR LOCKING BOLTS.

No. 326,101.

Patented Sept. 15, 1885.



WITNESSES
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Geo. F. Downing

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UNITED STATES PATENT OFFICE.

NICHOLAS HARLESTON BROWN, OF MOBILE, ALABAMA.

MEANS FOR LOCKING BOLTS.

SPECIFICATION forming part of Letters Patent No. 326,101, dated September 15, 1885.

Application filed February 19, 1885. (No model.)

To all whom it may concern:

Be it known that I, NICHOLAS H. BROWN, of Mobile, in the county of Mobile and State of Alabama, have invented certain new and useful Improvements in Means for Locking Bolts; 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 to an improvement in means for locking bolts, and more particularly for locking the bolts which secure together the two sections of a fish-plate.

It is well known that the jar to which the bolts holding the two sections of a fish-plate in position are subjected tends to loosen the nuts, and requires a constant supervision to prevent the plates from becoming displaced. So strong is the tendency to unscrew that various nut-locks in use have been found unequal to the strain, and while adding to the security have failed to make it complete. As an illustration, the metal plate placed beneath two or more successive nuts and having its pronged ends turned up in contact with the nuts is straightened out and rendered ineffective by the action of the nuts tending to unscrew. Other devices hitherto employed, while serving to effectually lock the bolt, have been too complicated or too expensive to come into practical use.

The object of my present invention is to provide means for effectually locking the bolts, which means shall at the same time be inexpensive and durable; and with these ends in view my invention consists in a series of lugs or projections formed on the face of one section of a fish-plate, so located that when the fish-plate is in close adjustment on the rail the angular heads of the bolts will rest in contact with said lugs and prevent the bolts from turning and fish-plate section from sliding.

My invention further consists in a fish-plate having one section provided with threaded bolt-holes, and the opposite section provided with oblong slots for receiving the bolts, and lugs or projections adapted to slide with the fish-plate beneath the bolt-heads.

My invention further consists in a set of lugs or projections formed on one section of a fish-plate and adapted to form a stop for the

rotary motion of the bolt-head, in combination with a set of round bolts, whereby the tendency of the bolt to turn will be increased, and the lock thereby made more effectual.

My invention further consists in certain features of construction and combinations of parts, as will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a view in side elevation of the adjacent ends of two rails secured by a fish-plate and bolts, showing my improved means for locking the bolts. Fig. 2 is a view in side elevation of the opposite side, and Fig. 3 shows the locking section of the fish-plate in position to allow the bolts to turn.

A A' represent the adjacent ends of two consecutive rails. B represents the bolt-locking section of the fish-plate, and b the opposite section of the fish-plate. The section b is provided with a series of screw-threaded perforations, c, which are adapted to receive the threaded ends of the bolts D. The section B of the fish-plate is provided with a series of oblong slots, C, corresponding to the threaded perforations c, which slots are sufficiently wide to admit the bolts D and long enough to allow the section B to slide longitudinally thereon a distance equal to about half the diameter of one of the bolt-heads d.

The bolt-heads d are preferably square, but may be of other angular shapes, if found desirable. The section B is further provided with a series of lugs or projections, E, located below and to one side of the slots C. The projections E are located on the left-hand side of the slots, or on that side toward which the upper portions of the bolt-heads turn in unscrewing. The upper faces of the projections E are level, and are located a distance below the centers of the slots C equal to the distance from the center of one of the bolt-heads to the middle of one of the sides of the bolt-head. When the section B is slid toward the left, with the bolts in the extreme right-hand ends of the slots C, the ends of the projections E will be far enough from the bolt-heads to admit of the free use of a wrench, and in this position the bolts may be screwed into the fish-plate section b. When the bolts are screwed home and left with one of their sides, the lowest side, parallel with the tread of the rail, or

with the face of its lug, the section B may be driven to the right, sliding the lugs E beneath the bolt-heads until the bolts occupy the extreme left of the slots C. It will be observed
 5 that the bolt-heads, and hence the bolts, are now absolutely locked against a rotary motion toward the left as long as the lugs occupy their present positions, and as the tendency of the bolts is constantly to turn toward the left
 10 or unscrew, the left-hand lower corners, d' , of the heads will impinge against the faces of the lugs E and tend to hold the section B from sliding toward the left, and, in case there should be any play left between the faces of
 15 the lugs and the bolt-heads, would tend to slide the section B toward the right.

It is evident that the greater the tendency of the bolt to unscrew the more securely will the section B be locked against displacement.
 20 To enable the bolts to have a stronger tendency to unscrew, I make them round instead of angular.

The advantages of the above-described means for locking the bolts consist in the saving of
 25 loose nuts on the ends of the bolts, the convenience with which the fish-plates are adjusted and removed, the small number of parts employed, and the perfect freedom from wear on the parts, and finally the absolutely
 30 sure and permanent locking of the bolts.

It is evident that the location of the lugs might be changed and the slots C made longer

or shorter, and the heads of the bolts shaped differently from those shown, without departing from the spirit and scope of my invention; 35
 hence I do not wish to limit myself strictly to the construction herein set forth; but,

Having fully described my invention, what I claim as new, and desire to secure by Letters Patent, is— 40

1. In a bolt-lock, the combination, with a bar or plate having a screw-threaded hole therein, and a sliding plate having an oblong slot and a lug or projection, of a screw-threaded 45
 bolt adapted to be screwed into the screw-threaded opening in the bar or plate and provided with a head adapted to rest in contact with the lug or projection on the sliding plate, substantially as set forth.

2. In a bolt-lock, the combination, with rails 50
 and a fish-plate having a series of screw-threaded openings therein, of screw-bolts having angular heads, and the sliding fish-plate having oblong slots, and the lugs or projections, all of the above parts combined and operating substantially as set forth. 55

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

NICHOLAS HARLESTON BROWN.

Witnesses:

GEO. A. PEARCE,
 H. PRYOR.

It is hereby certified that the name of the patentee in Letters Patent No. 326,101, granted September 15, 1885, for an improvement in "Means for Locking Bolts," was erroneously written and printed "Nicholas Harleston Brown"; that said name should have been written and printed *Nicholas Harleston Broun*; and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 22d day of September, A. D. 1885.

[SEAL.]

H. L. MULDROW,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.