

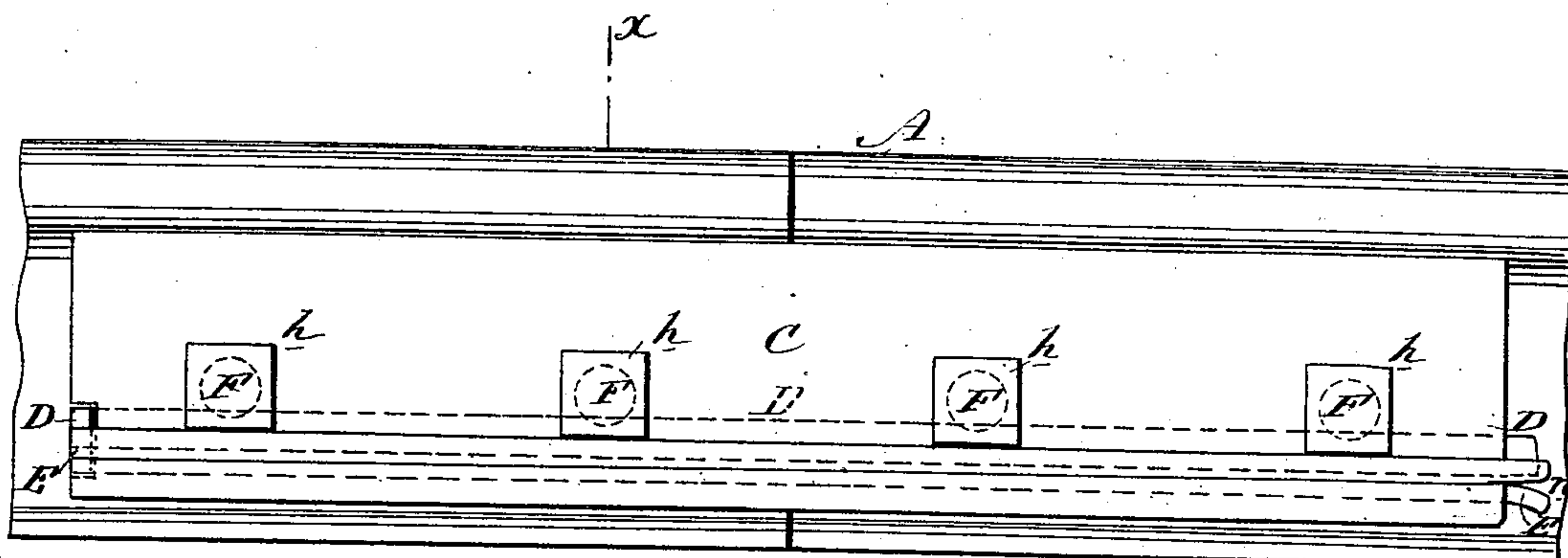
(No Model.)

W. SHORTLO.  
Fish Plate Joint.

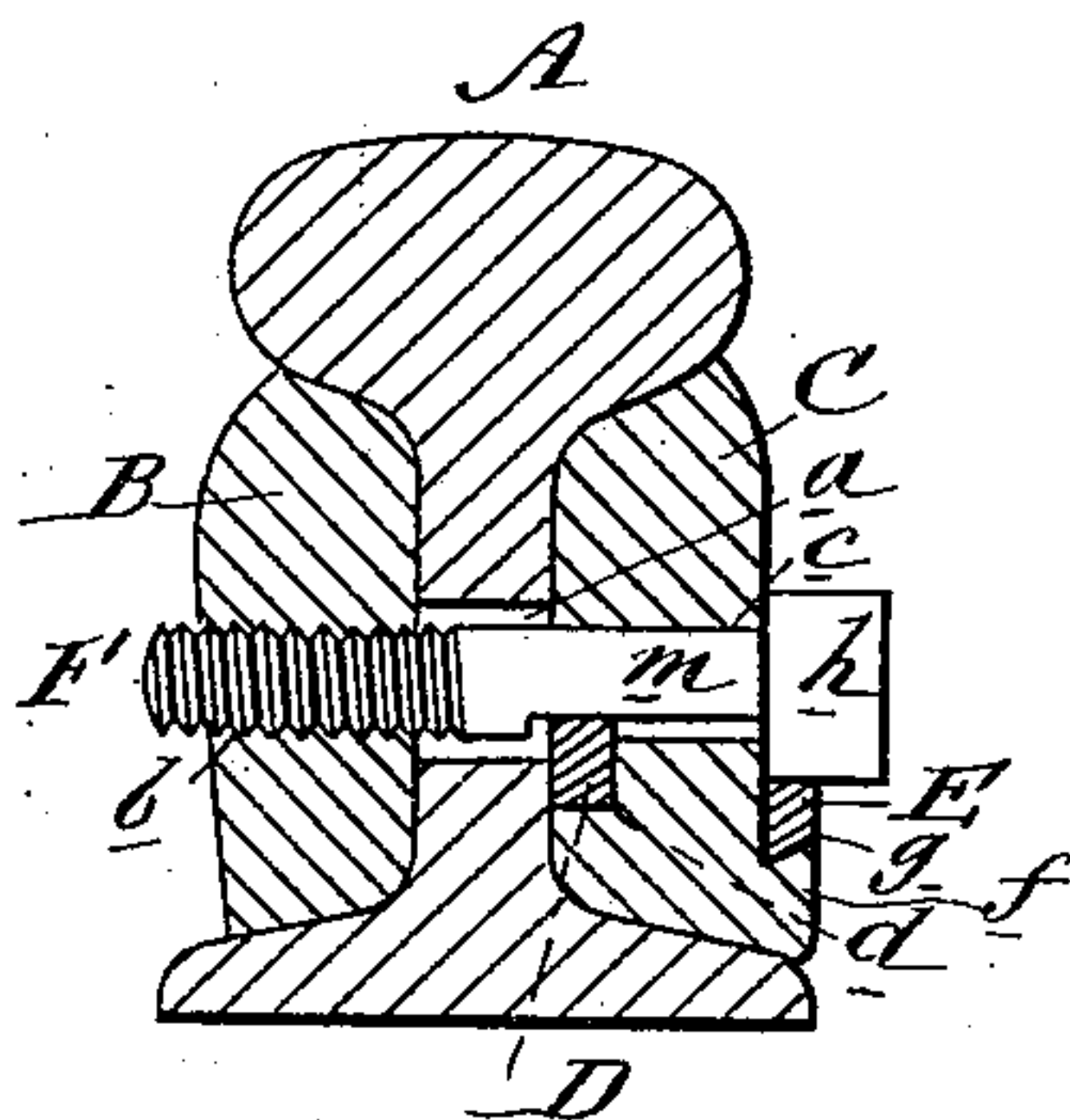
**No. 236,637.**

**Patented Jan. 11, 1881.**

*Fig. 1*



*Fig. 2.*



**WITNESSES:**

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# UNITED STATES PATENT OFFICE.

WILLIAM SHORTLO, OF SPRINGFIELD, ILLINOIS.

## FISH-PLATE JOINT.

SPECIFICATION forming part of Letters Patent No. 236,637, dated January 11, 1881.

Application filed November 10, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM SHORTLO, of Springfield, in the county of Sangamon and State of Illinois, have invented a new and Improved Fish-Plate, of which the following is a specification.

The invention relates to that class of devices that are designed for securing the joints of railroad-rails.

The invention consists of the combination of an inner plate having screw-threaded bolt-holes, an outer plate having inner and outer longitudinal keyways, bolts having their shanks flattened on one side, and keys to fit in the keyways and bear against the shanks and heads of the bolts to prevent them from turning.

Figure 1 is a front elevation, showing the fish-plate applied to a rail-joint. Fig. 2 is a transverse sectional elevation of the same on line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts.

In the drawings, A represents a rail, through the web of which are bolt-holes *a*, of greater diameter than the fish-plate bolts, to permit of the contraction and expansion of the said rail A without injury to said bolts.

B is the inner plate, provided with screw-threaded bolt-holes *b*.

C is the outer plate, provided with smooth bolt-holes *c*, and with a rectangular keyway, *d*, that extends the whole length of the said plate C, intersecting the lower sides of the bolt-holes *c* on the inner face of the plate and forming a seat for the rectangular key D.

On the outer face of the plate C, extending along its lower edge, is formed a rib, *f*, whose upper face is sloped or beveled inward, as shown at *g*, forming a groove for the reception of the corresponding beveled key E.

F represents a screw-bolt having a square head, *h*, and having one side of its shank cut away or flattened, as shown at *m*, for the key D to bear against, for the purpose of preventing said bolts F from turning.

The plates B C being applied to the rails A, as shown, the bolts F are screwed in place, drawing the plates B C tightly upon the rails A, with their flattened shank-faces *m* downward. The key D, which is preferably of steel, is then driven into the keyway *d*, so that its upper face shall bear against the said flattened faces *m* of the bolts F to prevent their turning.

The key E is then driven from one end into the groove *g* beneath, and in contact with the heads *h* of the bolts F, for further security against their turning.

The heads of the keys D E may be enlarged and fitted in sockets in the end of the plate C, and their opposite ends may be split or bent, as indicated at *n*, to prevent them by any chance from becoming loosened.

If desirable, the plate C may be made somewhat thicker at the center than at the ends, to insure sufficient strength.

It will be seen that with this device no nuts are required for holding the bolts, and consequently a considerable item of expense is saved, besides the trouble caused by the constant loosening and falling of the nuts.

The device is easily applied and removed, and is simple, cheap, and effective.

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

1. An improved fish-plate joint, constructed substantially as herein shown and described, consisting of plate B, provided with screw-threaded bolt-holes *b*, plate C, provided with inner and outer keyways, *d g*, respectively, flat-shanked bolts F, and keys D E, arranged and combined as set forth.

2. In a fish-plate joint, the combination, with the bolts F and plate C, provided with inner keyway, *d*, and outer keyway, *g*, of the keys D E, substantially as herein shown and described, said keys extending longitudinally along the said plates, to prevent the fish-plate bolts from turning, as set forth.

3. In a fish-plate joint, the combination, with the plate C, provided with keyway *d*, and flat-shanked bolts F, of the key D, substantially as herein shown and described, whereby the bolts are prevented from turning, as set forth.

4. In a fish-plate, the combination, with the bolts F and plate C, provided with beveled rib *f* on its face, of the beveled key E, substantially as herein shown and described, whereby the bolts F are prevented from turning, as set forth.

WILLIAM <sup>his</sup> X SHORTLO.  
mark.

Witnesses:

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JAMES A. KENNEDY.