

(No Model.)

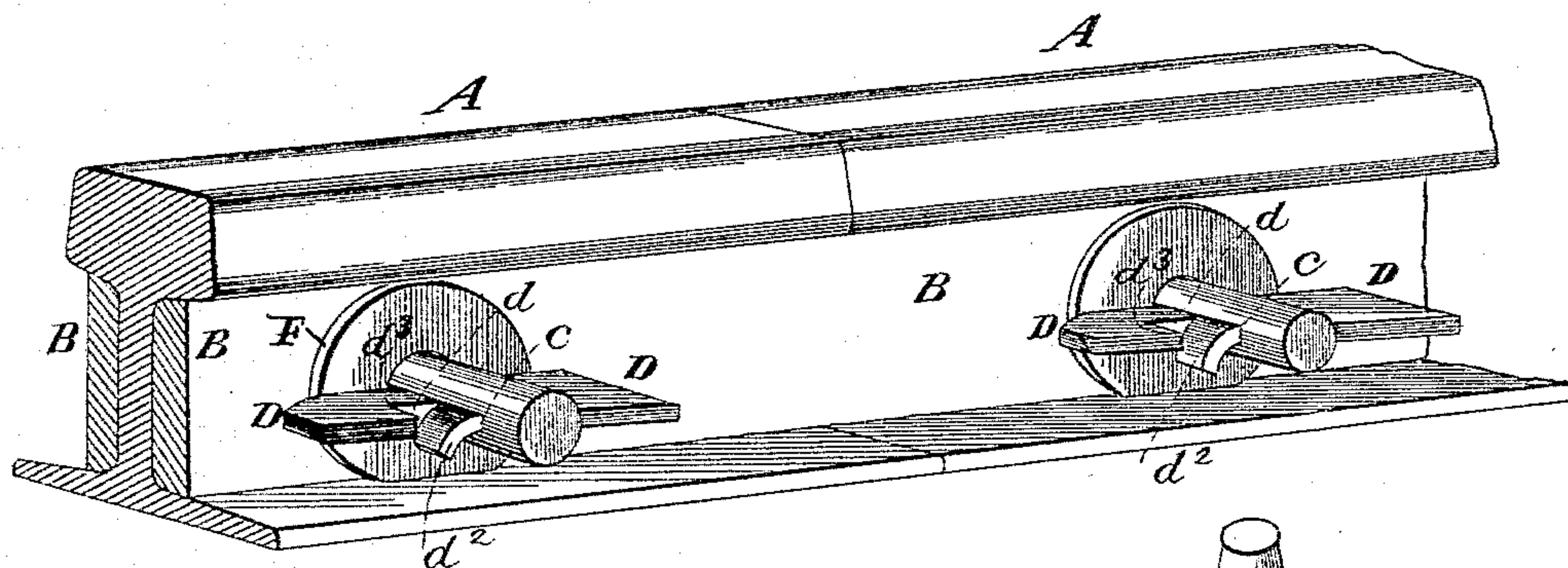
J. TITTLE.

LOCKING RAILROAD RAILS TO THEIR FISH PLATES AT THE RAIL JOINTS.

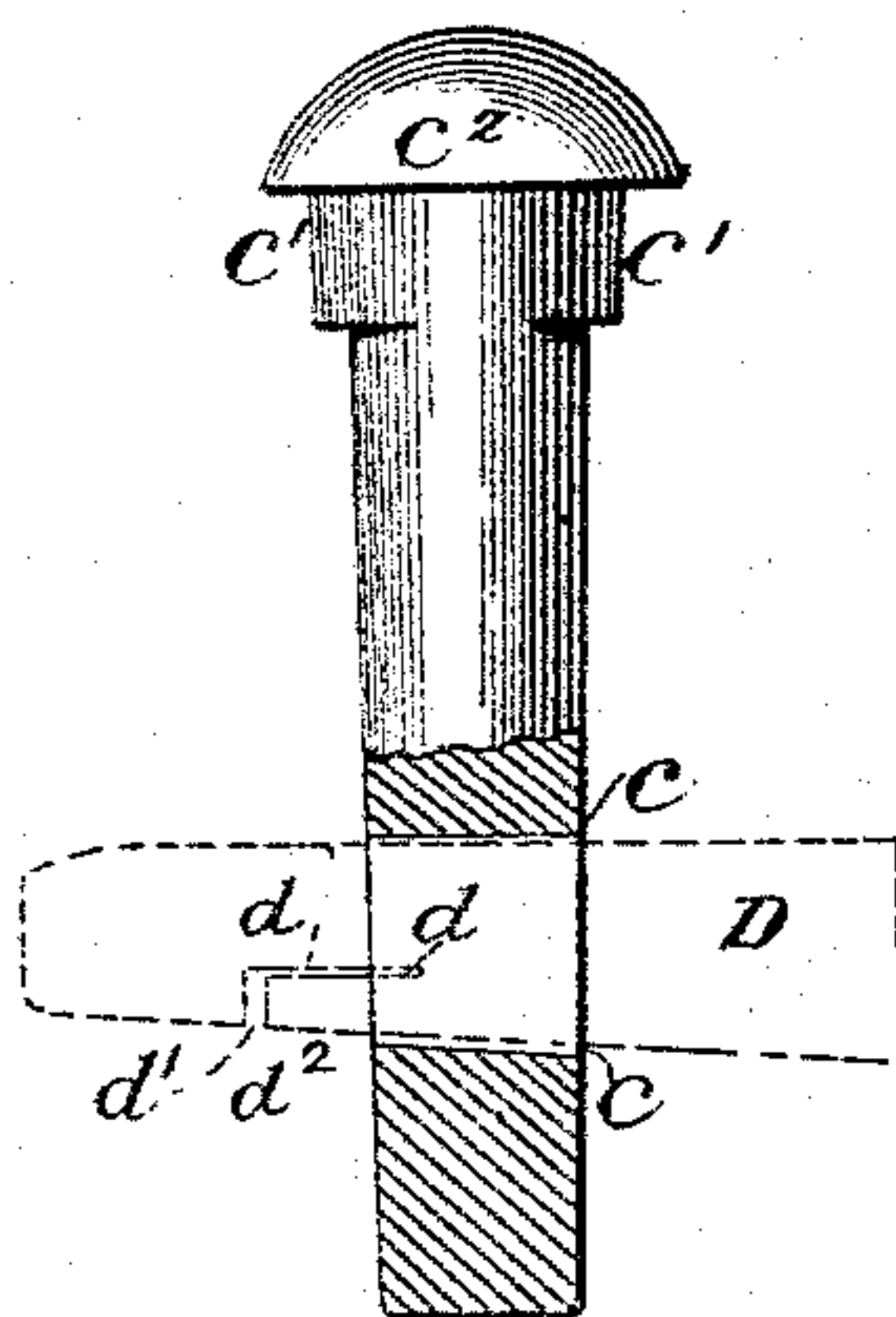
No. 356,904.

Patented Feb. 1, 1887.

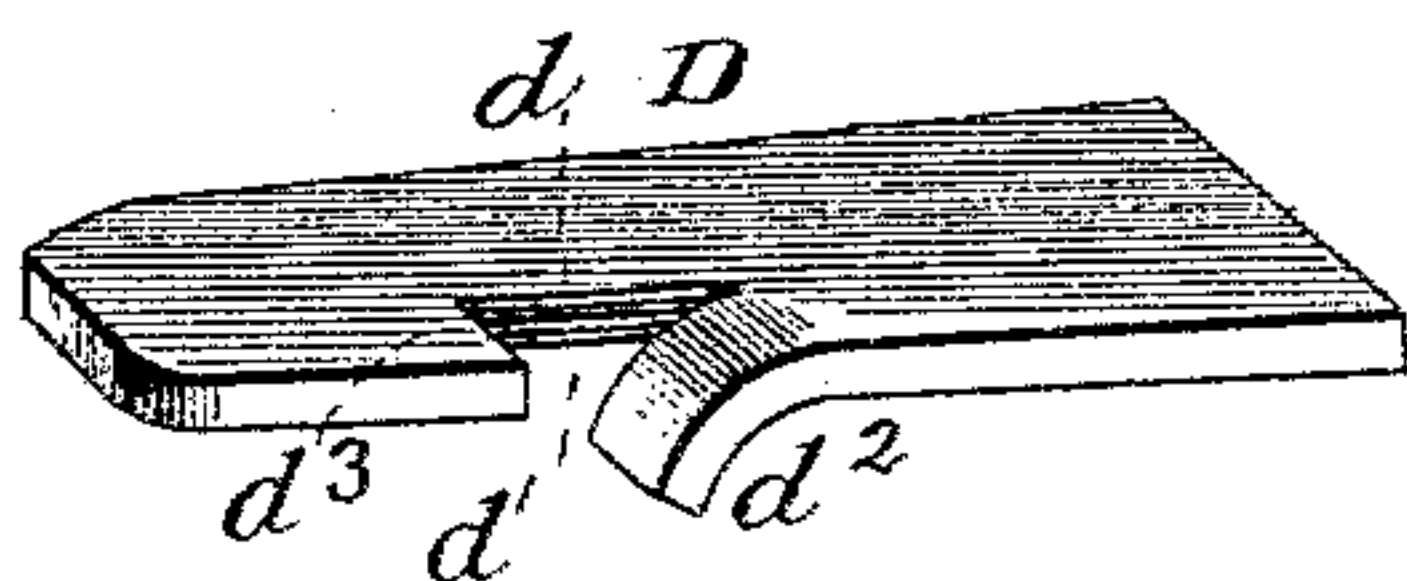
*Fig. 1.*



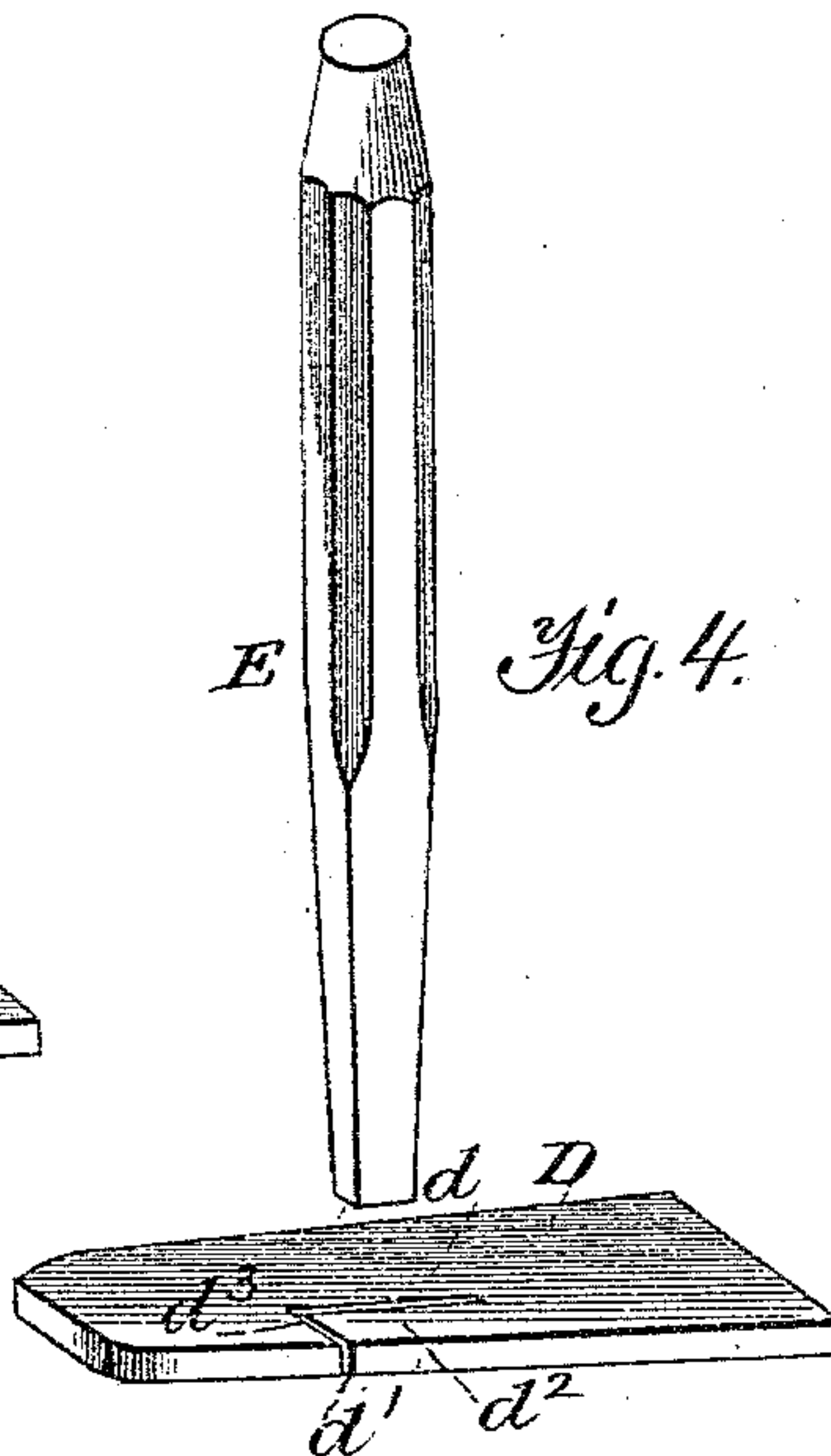
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



*Witnesses.*  
*A. Ruppert.*  
*Thomas P. Simpson.*

*Inventor.*  
*James Tittle*



# UNITED STATES PATENT OFFICE.

JAMES TITTLE, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR OF ONE-FOURTH  
TO JOHN S. TITTLE, OF SAME PLACE.

LOCKING RAILROAD-RAILS TO THEIR FISH-PLATES AT THE RAIL-JOINTS.

SPECIFICATION forming part of Letters Patent No. 356,904, dated February 1, 1887.

Application filed December 9, 1886. Serial No. 221,072. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES TITTLE, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Locking Railroad-Rails to their Fish-Plates at the Rail-Joints; and I do 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, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

The special object of the invention is to lock fish-plates to railroad-rails by a bolt and key in such a manner that the key may be quickly inserted in the slot of bolt or removed therefrom, while the fish-plates are held securely to the rail without becoming loose.

Figure 1 of the drawings is a perspective view showing my invention applied. Fig. 2 is a detail view of the bolt; Fig. 3, a similar view of the key, and Fig. 4 a similar view of the instrument with which the key is put in or taken out of the bolt.

In the drawings, A A represent two railroad-rails held together by the fish-plates B B.

C are bolts which pass through the fish-plates and rails, are slotted at *c*, and are provided with oblong necks *c'*, under the head *c''*.

D is the key, which has the longitudinal cut *d*, and at right angles to this the "cut-out" *d'*, to form an integral tongue, *d''*, which fits behind the shoulder *d'''*. This tongue is in the direction of the taper of the key, and on one of the edges thereof, while the key is made of malleable steel—such as, when made into wire, will tie into a knot, like a piece of string. E represents the punch which I preferably employ in manipulating the key.

I am aware that keys split at the end have been used in the slots of bolts to hold fish-plates to the rail; but they are so difficult and troublesome that the bolt and key are both broken in order to avoid delay. As these bolts and keys are frequently removed and must be very quickly replaced, so as to be in position when the next train comes along, it is a matter of the greatest importance that it

shall be possible to handle them rapidly. This cannot be done with a key split at the end; hence the railroad companies prefer the old screw and nut, which requires frequent tightening up, rather than incur the delay of manipulating the split-key lock.

My wedge or tapering key is placed in the correspondingly - shaped bolt - slot *c*, then tapped on the head with the heavier end of the punch E until the tongue *d''* has passed through to the opposite side of the bolt. I now place the smaller end of the punch upon the tongue and tap the head of punch, and the lock is complete and perfectly secure.

When it becomes necessary to remove the key, I merely strike the smaller end of the key with the heavier end of the punch, when the tongue is automatically forced behind the shoulder *d'''* and the key comes out without the smallest delay.

In towns and at stations where the bolts are locked on the inside of the rails, it is necessary that the keys shall not stand vertically, as they will be struck by the flanges of the wheels. In order to avoid this, I make the long axis of the neck *c'* in the same plane with the cross-slot *c*. This neck fits a corresponding slot in one of the fish-plates. The bolt is then inserted, so as to bring the neck and slot into a horizontal plane, or nearly so.

F is an annular washer, which I prefer to use between the key and fish-plate; but it is not necessary to the working of my invention, and may be dispensed with.

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

The key D, having the longitudinal cut *d*, and at right angles thereto the cut-out *d'*, thus forming the tongue *d''* and shoulder *d'''*, in combination with the rails A, fish-plates B, and bolt C, the latter having the slot *c* and oblong neck *c'*, the long axis of said neck being in the same plane with the slot, as and for the purpose specified.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES TITTLE.

Witnesses:

A. RUPPERT,  
THOMAS P. SIMPSON.