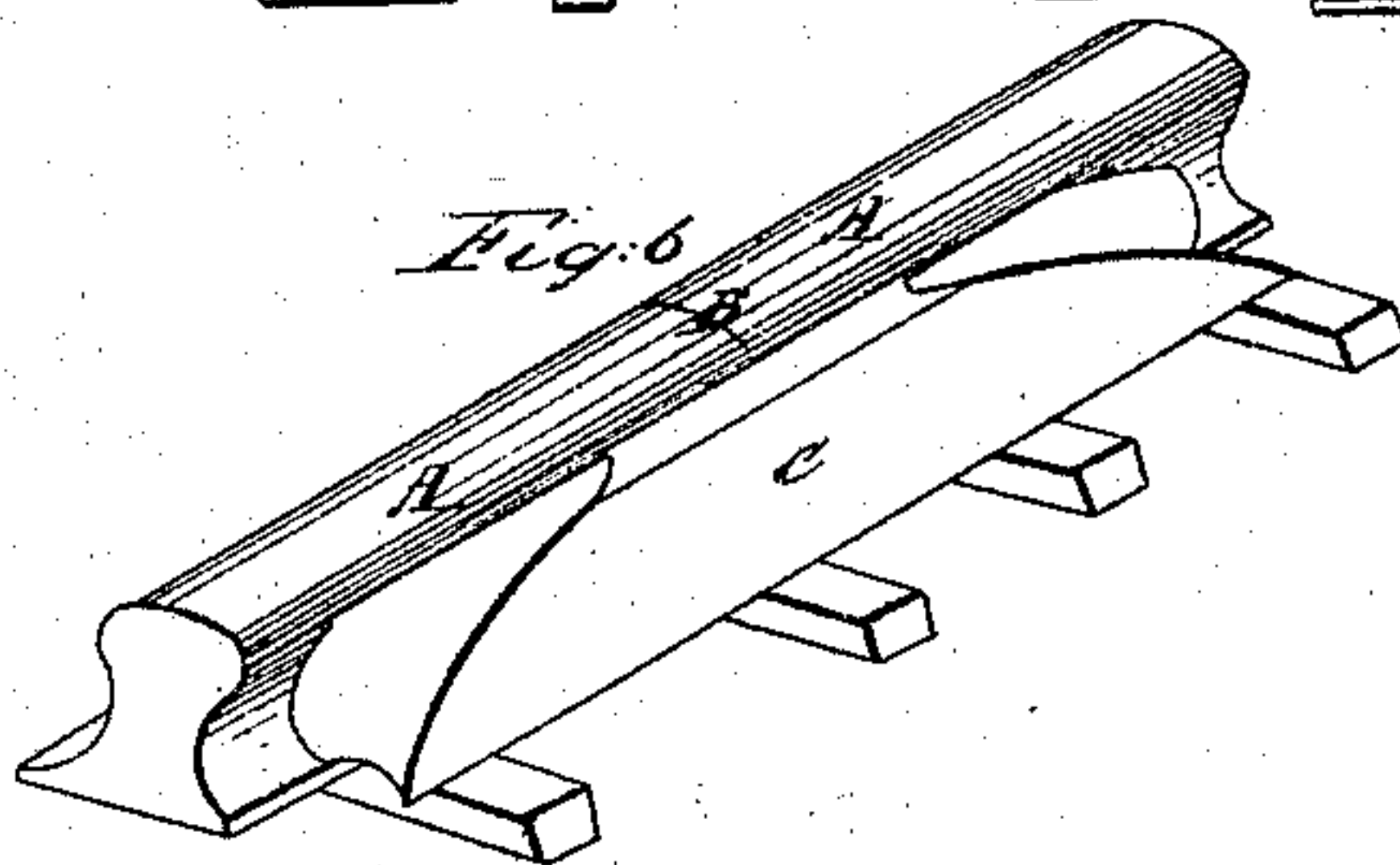
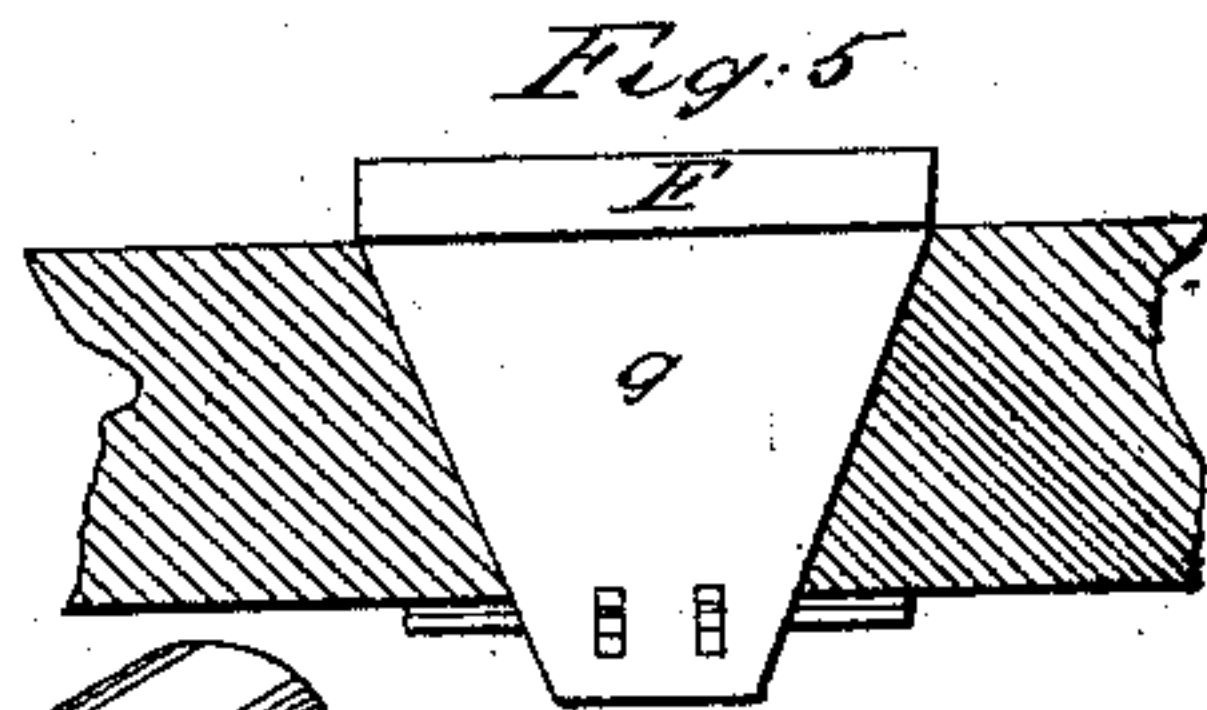
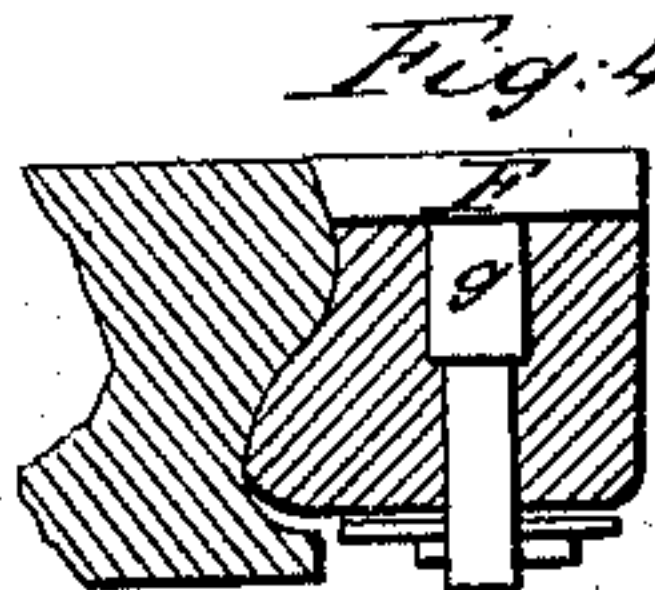
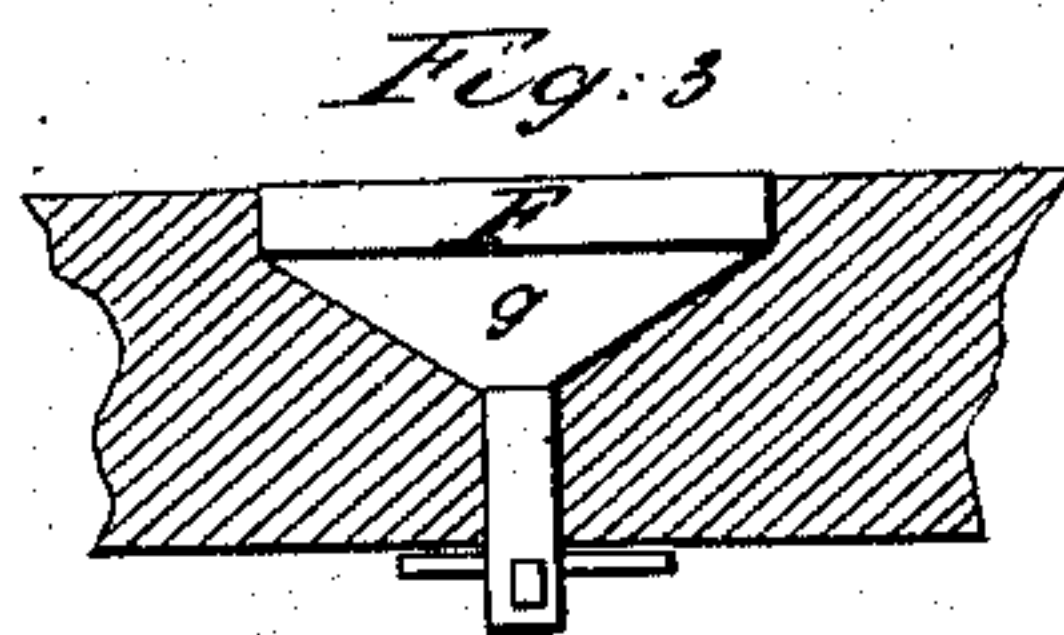
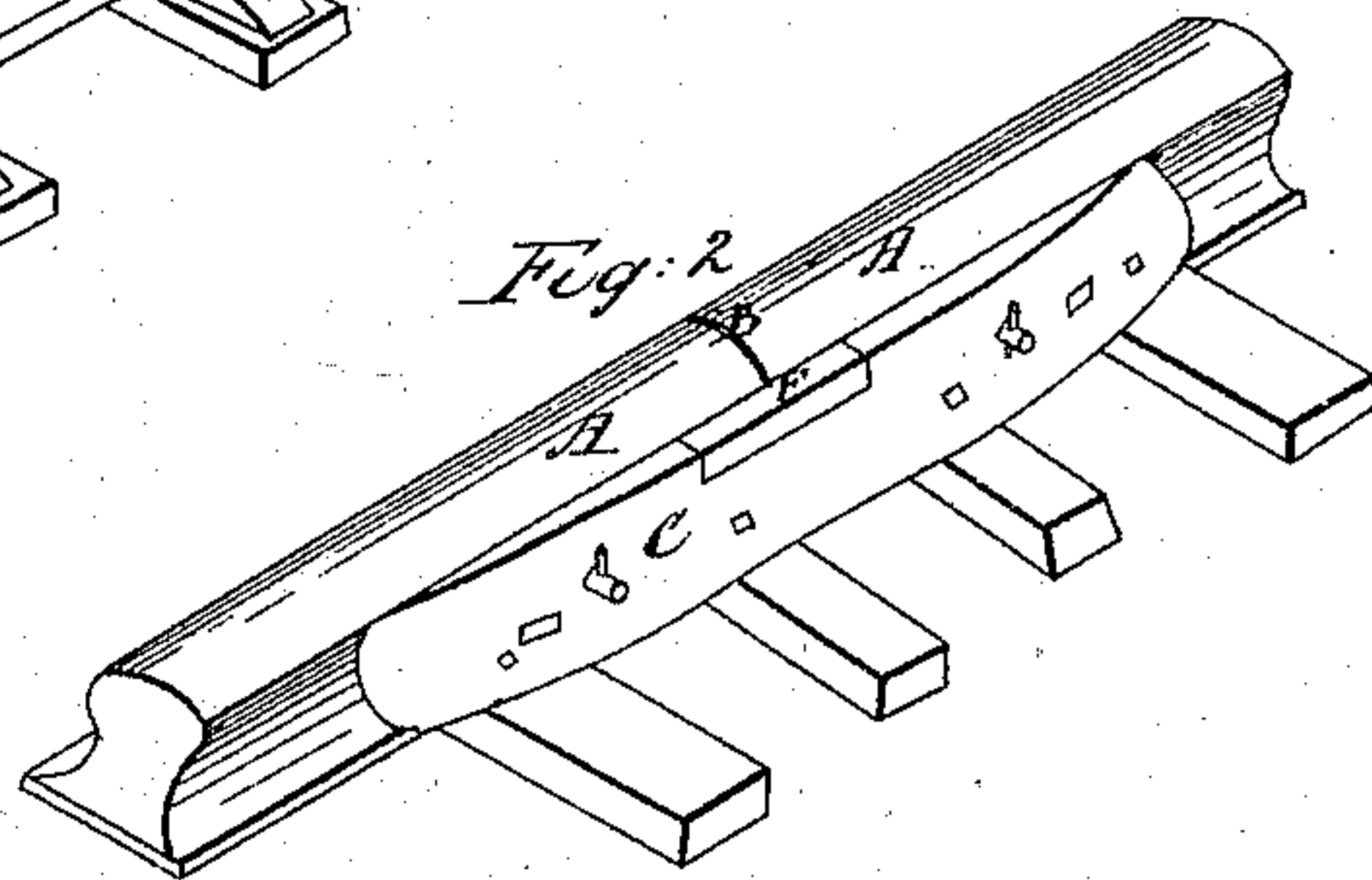
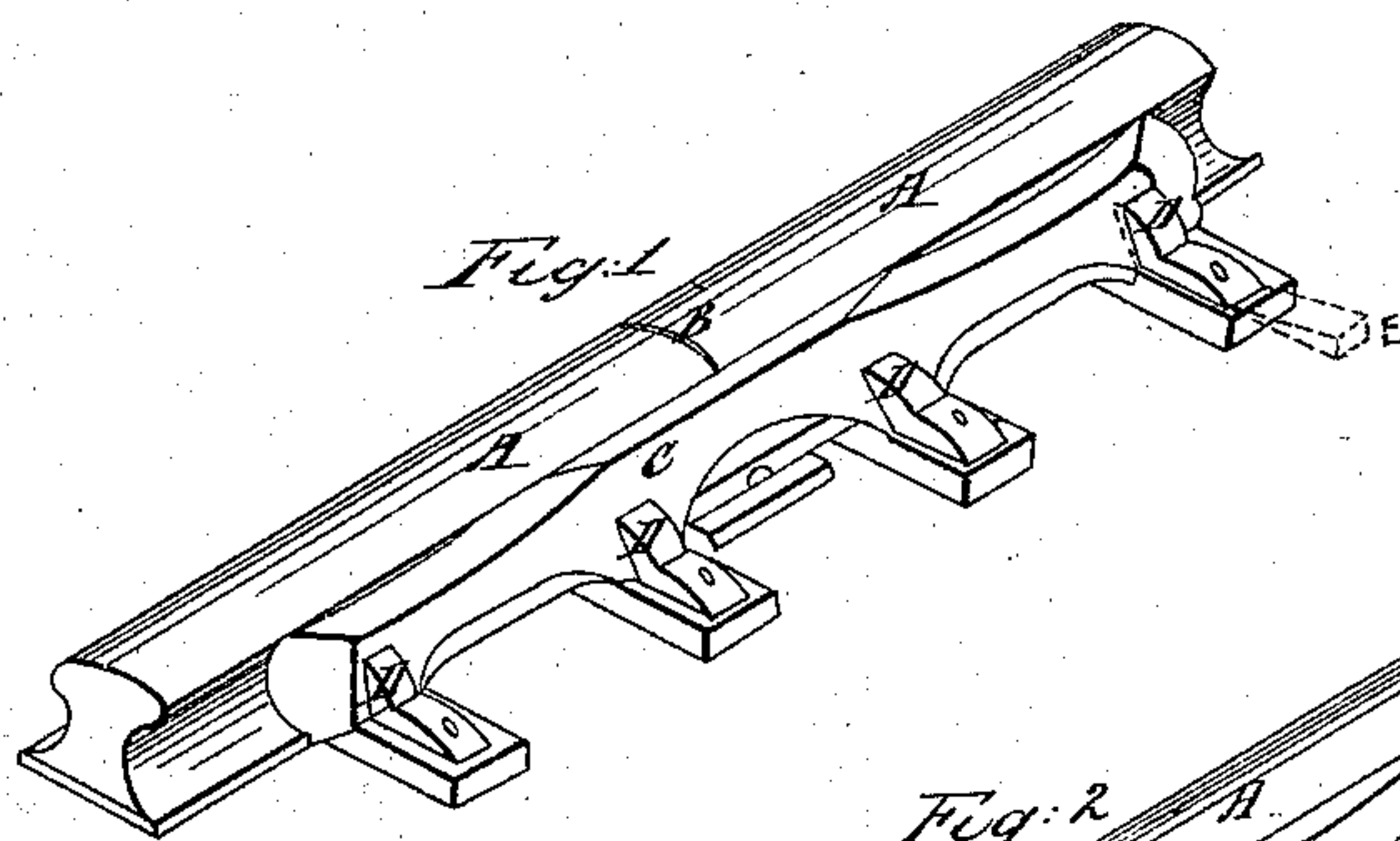


G. Palmer.

Railroad Rail Joint.

N^o 83,303.

Patented Oct. 20, 1868.



Witnesses

R. S. Turner

W. H. Browne

Geo Palmer
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By his atty
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United States Patent Office.

GEORGE PALMER, OF LITTLESTOWN, PENNSYLVANIA,

Letters Patent No. 83,303, dated October 20, 1868.

RAILWAY-RAIL JOINT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE PALMER, of Littlestown, in the county, of Adams, and State of Pennsylvania, have invented a new and useful Improvement in Joints for Railroad-Rails; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my joint.

Figure 2 is a perspective view of my joint, when wood, instead of metal, is employed.

Figures 3, 4, and 5 are longitudinal and cross-sections of fig. 2.

Figure 6 is a perspective view, showing my joint constructed so as to aid in replacing cars when off the track.

My invention consists in providing the butt-joint of railroad-rail with a lap or fish-piece long enough to rest upon several ties, and high enough to receive and support the car-wheel when the same is passing over said joint, and constructed so that it may be secured to the ties, independent of the rail, the object being to enable the car-wheels to pass over the butt-joints, without battering the ends of the rails, and without changing the general rigidity of the track, and to apply said fish-pieces in such a way that their fastenings may be independent of the fastenings of the rails; and they can, therefore, be readily applied to tracks which are already laid.

The nature and object of the invention will more fully appear from the following description.

Various modes of securing the ends of railroad-rails, so that they may not be battered and shortly destroyed by the constant passage of the loaded-car wheels over them, have heretofore been proposed, and the principal expedients to this end may be included in a group, having one feature in common, viz, rigid attachment to the rail. This rigid attachment I seek to avoid. Though it may be advisable to insert bolts through the rails, in cases where holes already exist, I deem it advisable only as additional precaution, and not otherwise beneficial or necessary; and where such bolts are employed, they should not be so tight as to render the rail dependent upon the fish-piece for its strength.

I am aware that fish-pieces have been applied heretofore, in such a way that the car-wheel would be received thereon while passing over the joint of the rail; but such fish-pieces have always, so far as I am informed, combined the functions of a chair, and have therefore been firmly bolted to the rail.

That others may fully understand the construction and operation of my invention, I will particularly describe it.

A A are the rails, butted together at B, and held in

position in regard to each other by any of the usual devices for that purpose.

C is the fish-piece, which is made of sufficient length to rest upon two or more of the ties, and the shape of its inner side may conform to the shape of the rail. It is not essential that it should so conform, but only convenient and advisable.

This fish-piece may be made of metal, as in fig. 1, or of wood and metal, as in fig. 2. If made entirely of wood, it would not be sufficiently durable to be useful.

If the fish-piece C is made of metal, it may be provided with feet, as shown in fig. 1, through which bolts or spikes may be inserted, to hold it to the tie, or the feet may be made separate, and simply bear against the side of the fish-piece, so as to hold it up against the side of the rail. To this end, the ordinary angle-irons or side-chairs may be employed, as represented at D.

In order more effectually to retain the fish-piece in place, and to render it to some degree adjustable, recesses may be formed in its side, in which the upright portions of the angle-irons D may fit; and when, in consequence of long use, the fish-piece has become somewhat loose, it may be rendered tight again, by driving wedges under their outer ends, as shown at E, which operation will cause the upper end of said angle-irons to press closely against the fish-piece again.

I should prefer to drive these wedges between the angle-iron and tie, rather than between the angle-iron and fish-piece, for the reason they would thus be less affected by the vibrations of the track.

When the fish-piece C is not made entirely of metal, then I use wood, with a hardened plate, F, inserted in its upper surface, opposite the joint B.

The plate F must be secured and constructed in such a manner as will prevent it from being bent by the repeated passage of heavy wheels, and the most ready and effectual way of accomplishing this is by forming it with a rib, G, on its under side. This rib is let into the wood, and the whole may be securely fastened by extending said rib, either in the form of a bolt, as shown in fig. 3, or by making the rib itself of sufficient depth to receive pins or screws through it, to key it fast to the wooden fish-piece, as shown in fig. 5.

The plate F may be made of cast or wrought-metal, as desired.

The wooden fish-piece may be secured in place in the same manner as that employed when a metallic one is used, or it may be bolted or spiked directly to the ties.

In connection with the above-described fish-piece, it would be an advantageous mode of construction if the metallic piece C should be made with grooved and sloping ends, as shown in fig. 6, the object being

to afford, at every rail-joint, or at intervals of some fourteen feet, facility for regaining the track, if a car chances to be thrown therefrom. This arrangement would secure at all points, and permanently attached, means for regaining the track, and it will not, therefore, be necessary to depend upon the portable contrivances for this purpose which are sometimes carried upon the engine.

It will be observed that no part of this device extends beneath the rail, and it is, therefore, evident that the rail does not receive any additional stiffness from the presence of the fish-piece. This is considered advantageous, as it will insure the passage of the car-wheel upon the fish-piece, without making the surface of said piece sensibly higher than the surface of the rail, because the elasticity of the rail will permit it to yield. The consequence of this will be a perfectly smooth passage of the car over the joint, as the wheel will neither strike the end of the rail, nor will the car

be lifted suddenly, to pass upon the fish-piece, a little higher than the level of the rail.

Having described my invention,

What I claim as new is—

1. The fish-piece C, lapping the rail-joint B, its upper surface as high as the level of the top of the rail, in length, sufficient to rest upon two or more ties, and secured to said ties, independent of the fastenings of the rail.

2. A wooden fish-piece, provided with a metallic plate on its upper surface, lapping the rail-joint B; substantially as and for the purpose set forth.

3. A fish-piece, lapping the rail-joint B, and constructed with the grooved ends as shown and described, for the purpose of enabling cars to regain the track, after having been thrown therefrom, as set forth.

Witnesses:

GEORGE PALMER.

R. D. O. SMITH,

R. S. TURNER.