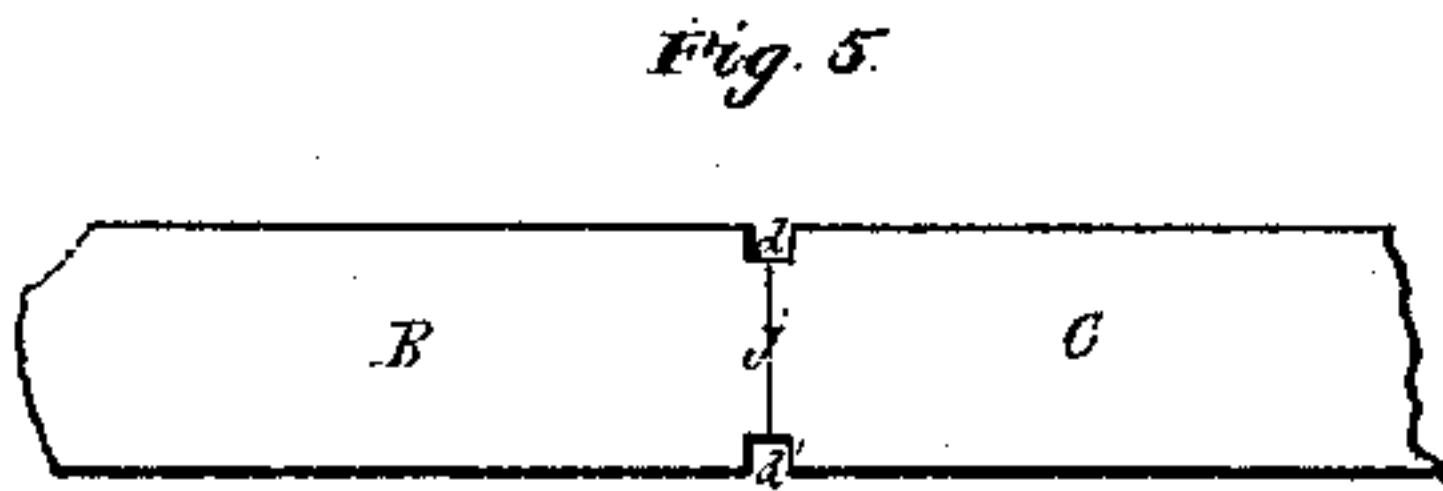
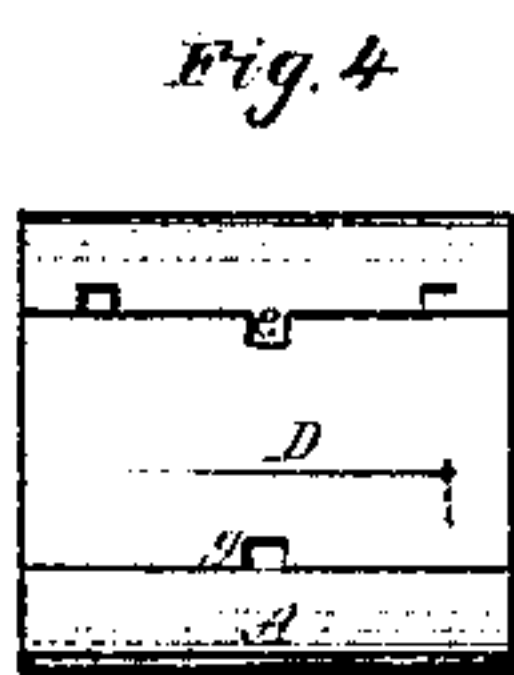
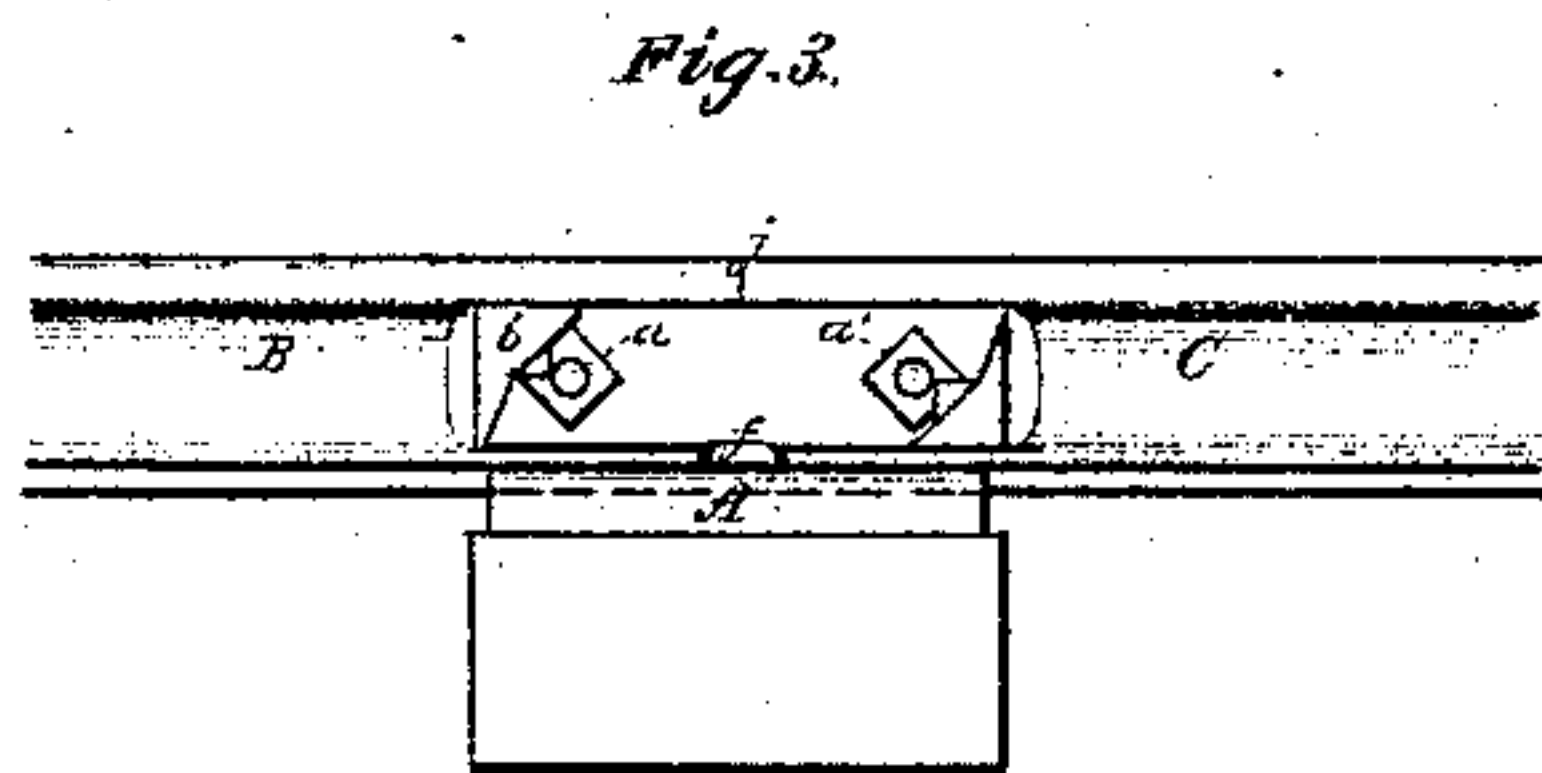
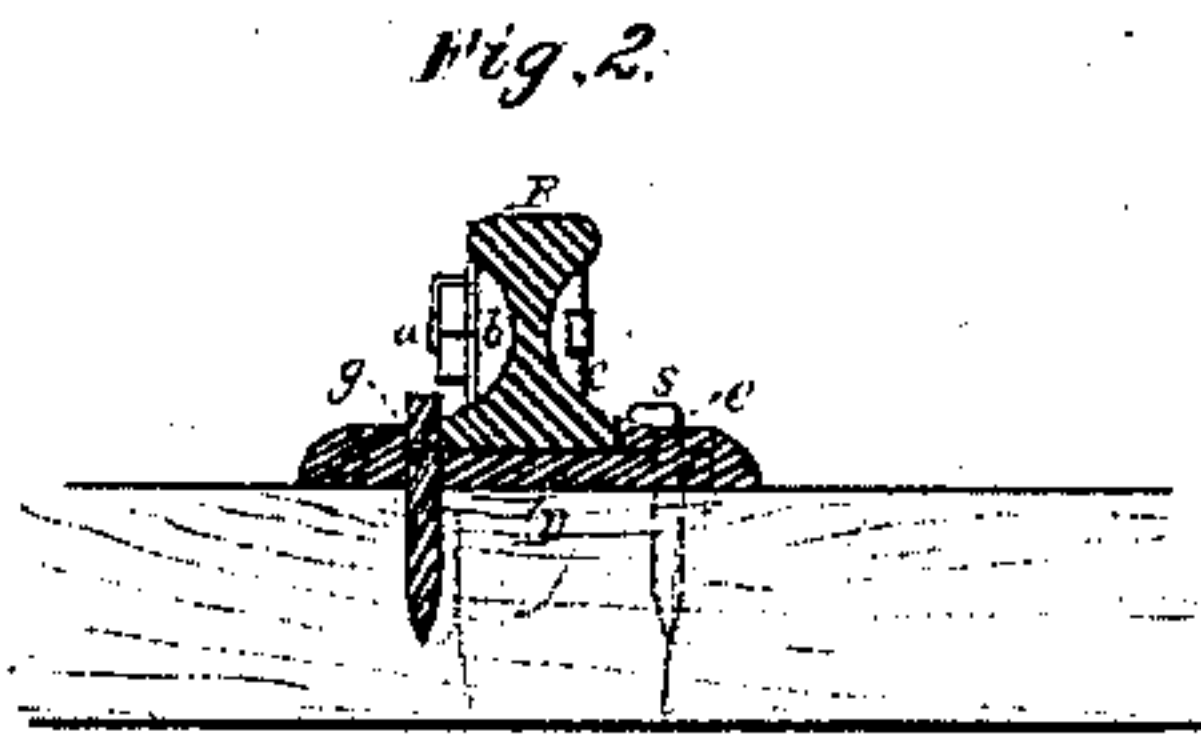
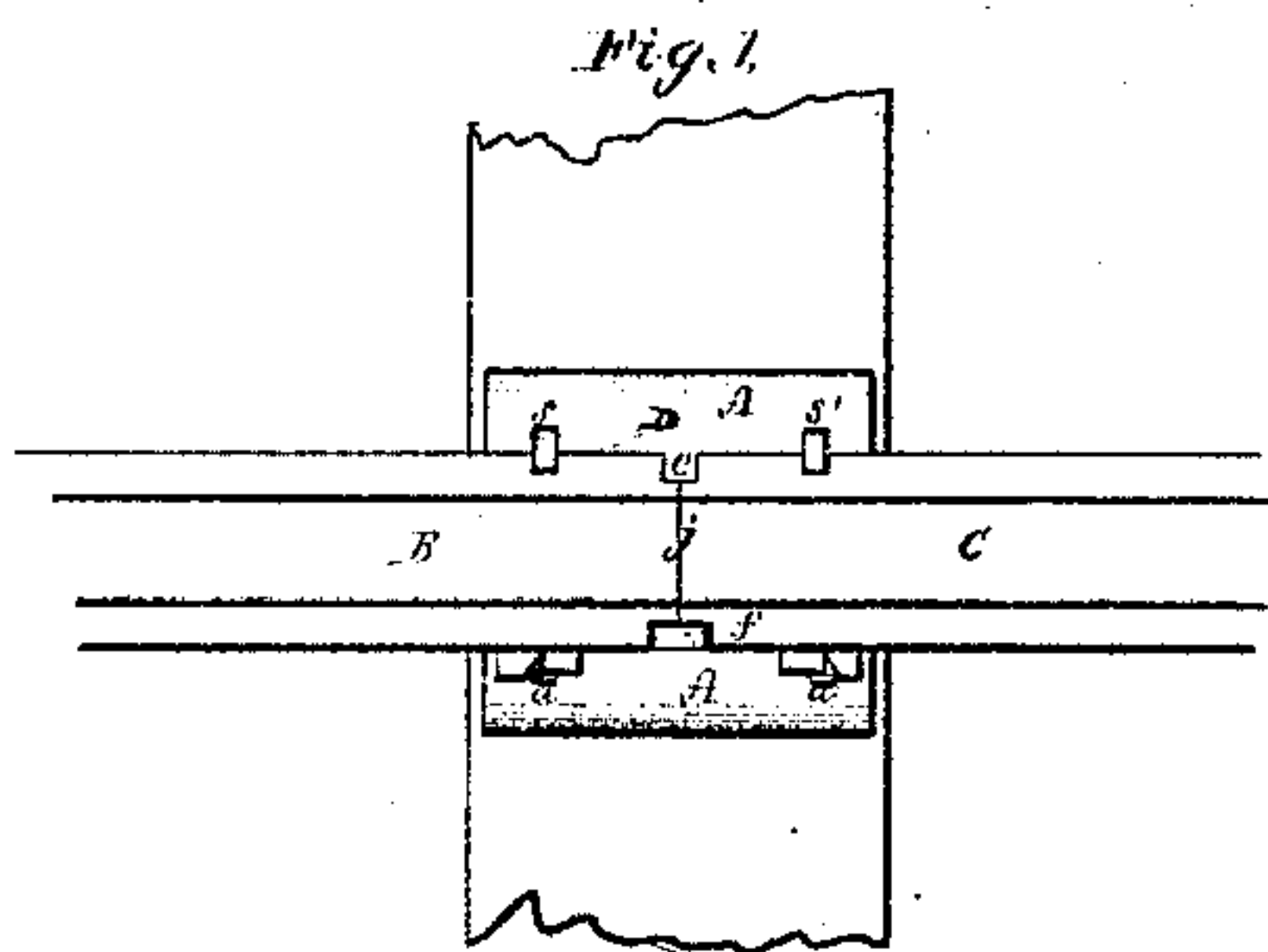


H. Cook,

Rail Joint.

No. 99849.

Patented Feb. 15. 1870.



Witnesses.
S. A. Piper.
J. R. Brown.

Inventor
Hiram Cook

by his attorney.
H. A. Cook

UNITED STATES PATENT OFFICE.

HIRAM COOK, OF NORWICH, CONNECTICUT.

IMPROVEMENT IN FISH-JOINTS FOR RAILWAY-RAILS.

Specification forming part of Letters Patent No. 99,849, dated February 15, 1870.

To all whom it may concern:

Be it known that I, HIRAM COOK, of Norwich, of the county of New London and State of Connecticut, have made a new and useful invention having reference to Railways; and I do hereby declare the same to be fully described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a top view. Fig. 2 is a transverse section, and Fig. 3 a side elevation, of the fished joints of two rails as provided with my invention.

In carrying out my invention, I make use of a chair or metallic plate, A, with a recess or groove, D, for the reception and support of two rails, B C, at the joint *j*, when said joint is fished—that is, when the two rails are fastened together with screw-bolts *a a'*, which go through the rails, and one or two fishings or bars, *b c*, arranged on the side or sides of the rails and extending across their abutting ends. I also make one or two notches, *d d'*, in the corner or corners of the base of each rail at its end and where it abuts against the other; and I make the chair either with a projection or stop, *e*, to enter each notch in the rails, or with a hole, *g*, whereby a spike, *f*, may be driven between the ends of the rails (where notched) through the chair and into the sleeper or supporter of the chair.

Fig. 4 of the drawings is a top view of a chair as provided with the groove D, the stop *e*, and the hole *g*, to receive the spike *f*. Fig. 5 exhibits a view of the bases of the two rails with the notches in their corners. The purpose of the notches in the rails and the stop or hole and spike, or both, in the chair, as above described, is to prevent the rails from being driven endwise either by the action of the carriage-wheels on the rails or the expansion and contraction of the rails by heat and cold. The chair prevents the rails from being depressed at the joint, so as to crook or bend the fishing or rails, which is very apt to result when the rails rest directly upon the sleeper at the joint, since, owing to the weakness at the joint, the rails soon cut into the sleeper.

The spike *f* and the ordinary rail-spikes *s s'*, in connection with the chair with its recess D, in which the rails rest, and the fishing or fish-

ings, keep the rails even and secure at the joint, in consequence of which the carriages will run smoother over the joints. The stop *e* in the chair or the spike *f*, or both, and the notches in the rails, prevent the rails from moving endwise so as to force the joint off the sleeper, or drive the rails together, and thereby throw the track out of alignment.

It should also be observed that the abutment or stop *e*, when cast in one piece with the chair and the latter is spiked down to the timber on which it may rest, will operate to save the connection-bolts of the fishing from being loosened or broken off by the pressure exerted on the rails by the wheels while the brakes are being forced up. This pressure, tending to drive a rail forward, is very strong at times, especially when the revolution of the wheel may be nearly arrested, so that the carriage may slide more or less on the rail.

It is very important to save the fishing bolts from the effects of such strains, and this may be accomplished either by the stop *e* and the spike *f*, or by both, the spike also operating to hold the chair down, and also to prevent either rail at the joint from rising above the other while a wheel may be crossing from one to the other.

I do not claim a chair as ordinarily applied to two rails at their joint, nor the combination of the chair A with the rails B C and their fishing or fishings *b c*.

I claim—

1. The combination and arrangement of an abutment, *e*, and recesses *d*, as described, with the chair A and rails B C, and a fishing or fishings, *b c*, applied to the rails.

2. The combination and arrangement of the hole *g* and its headed spike *f* and the recesses *d* with the chair A and rails B C and a fishing or fishings, *b c*, applied to the rails, the whole being substantially as set forth.

3. The combination and arrangement of the abutment *e* and the spike *f* with the chair A, the recesses *d* of the rails B C, and with a fishing or fishings, *b c*, bolted to the rails, the whole being substantially as explained.

HIRAM COOK.

Witnesses:

R. H. EDDY,
J. R. SNOW.