

No. 720,362.

PATENTED FEB. 10, 1903.

E. LAAS & H. SPONENBURG.

RAILWAY RAIL STAY.

APPLICATION FILED OCT. 9, 1902.

NO MODEL.

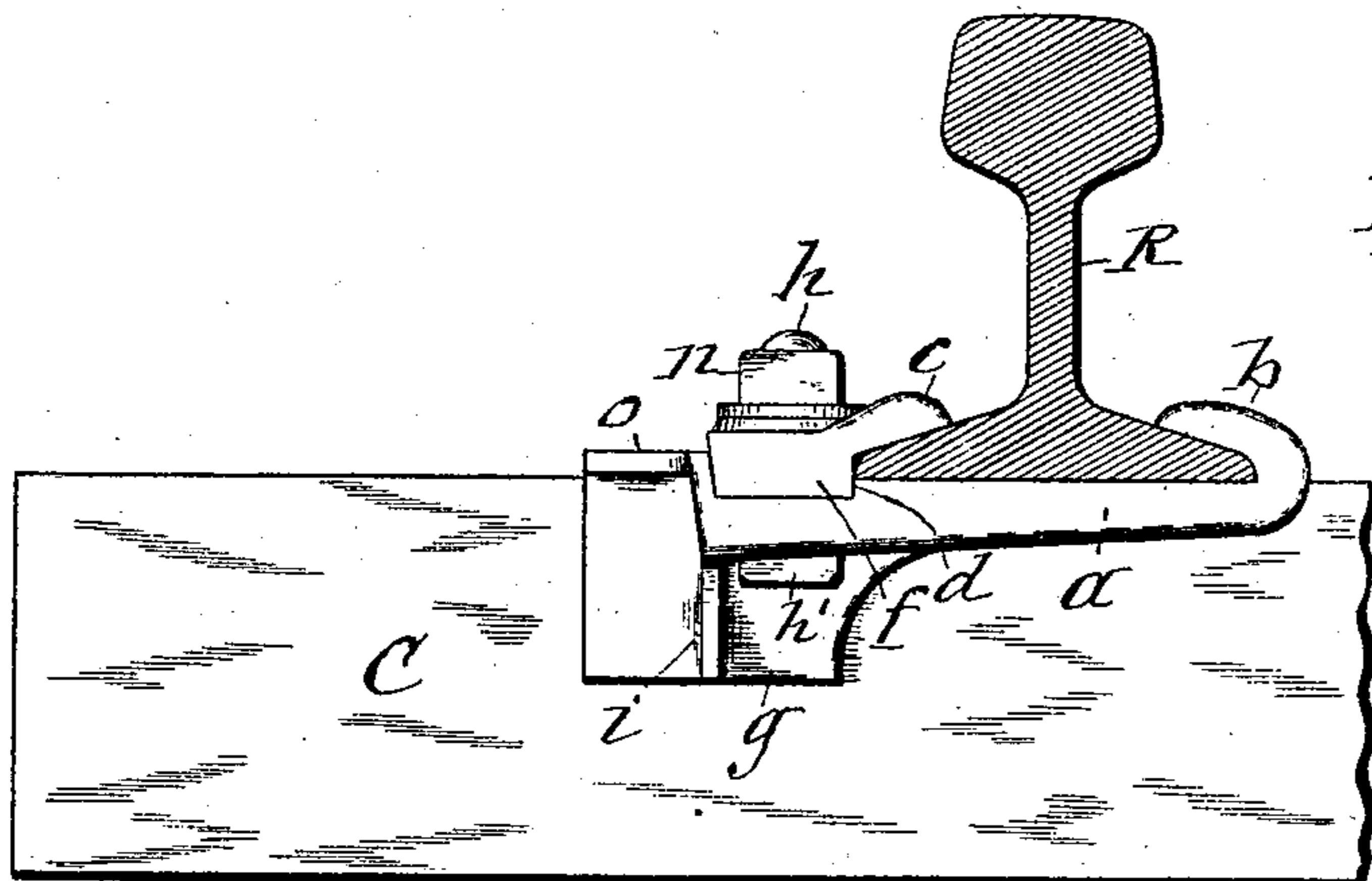


Fig. 1

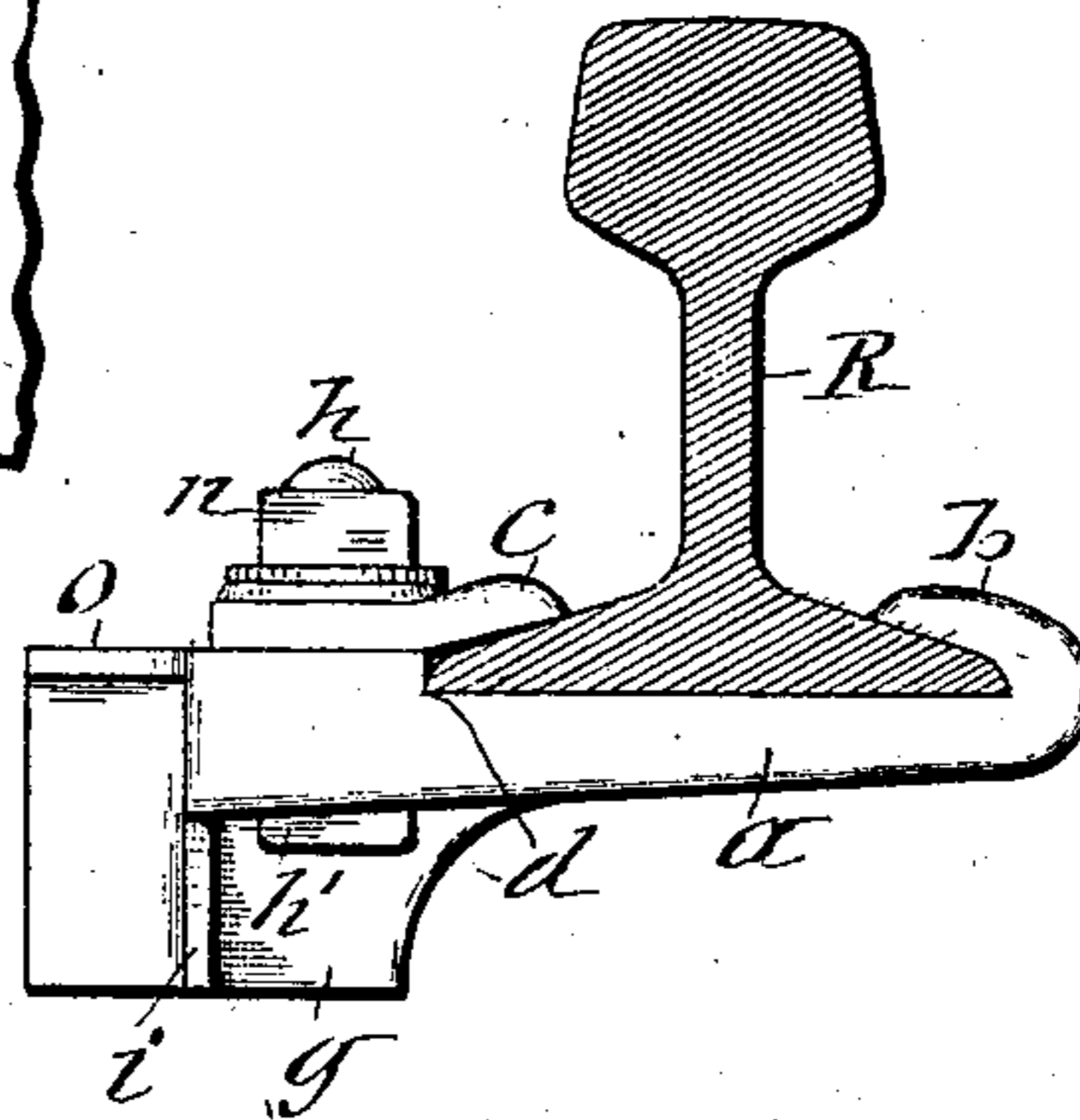


Fig. 4

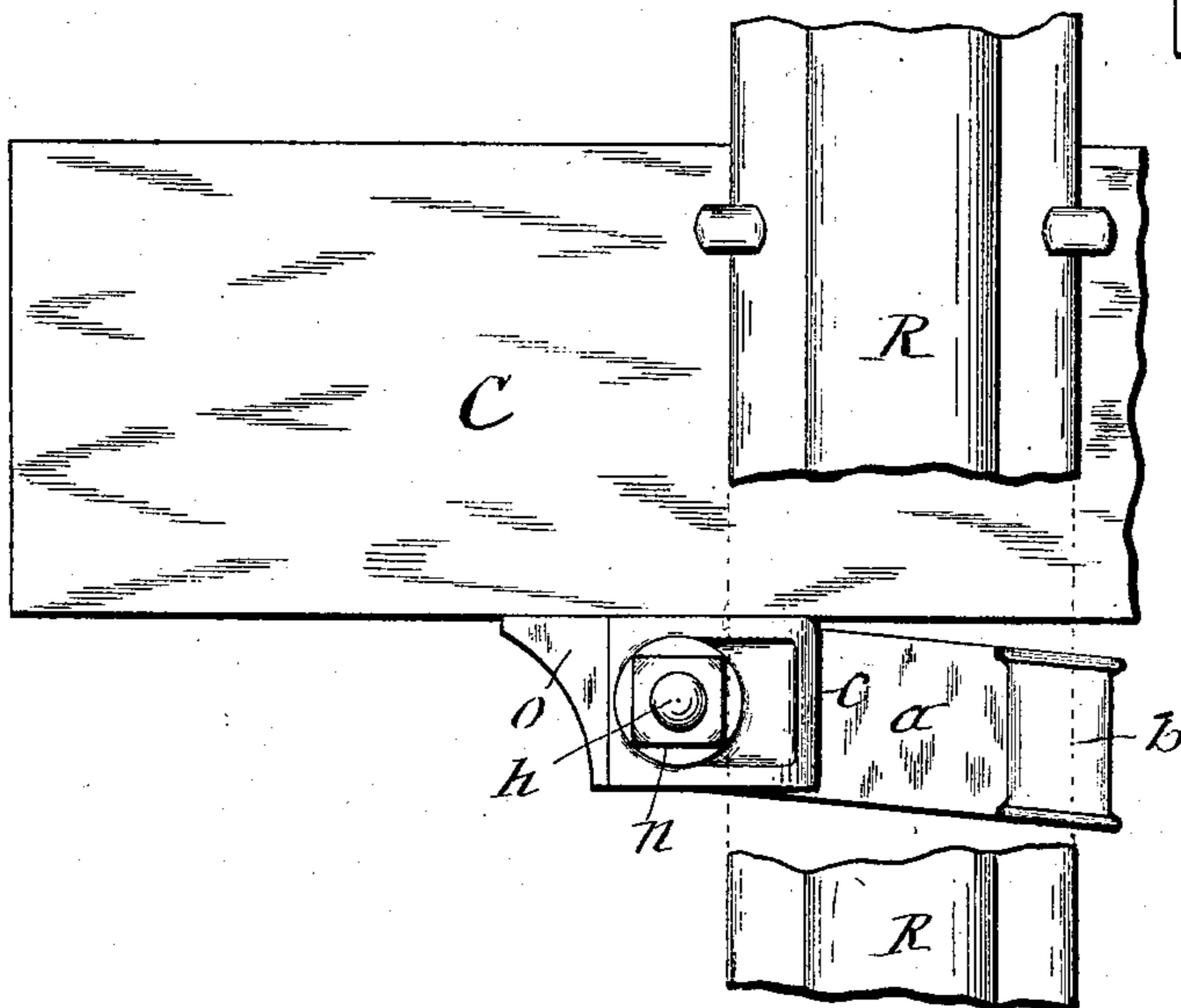


Fig. 2

WITNESSES:

J. J. Laass.  
G. Van Vleet.

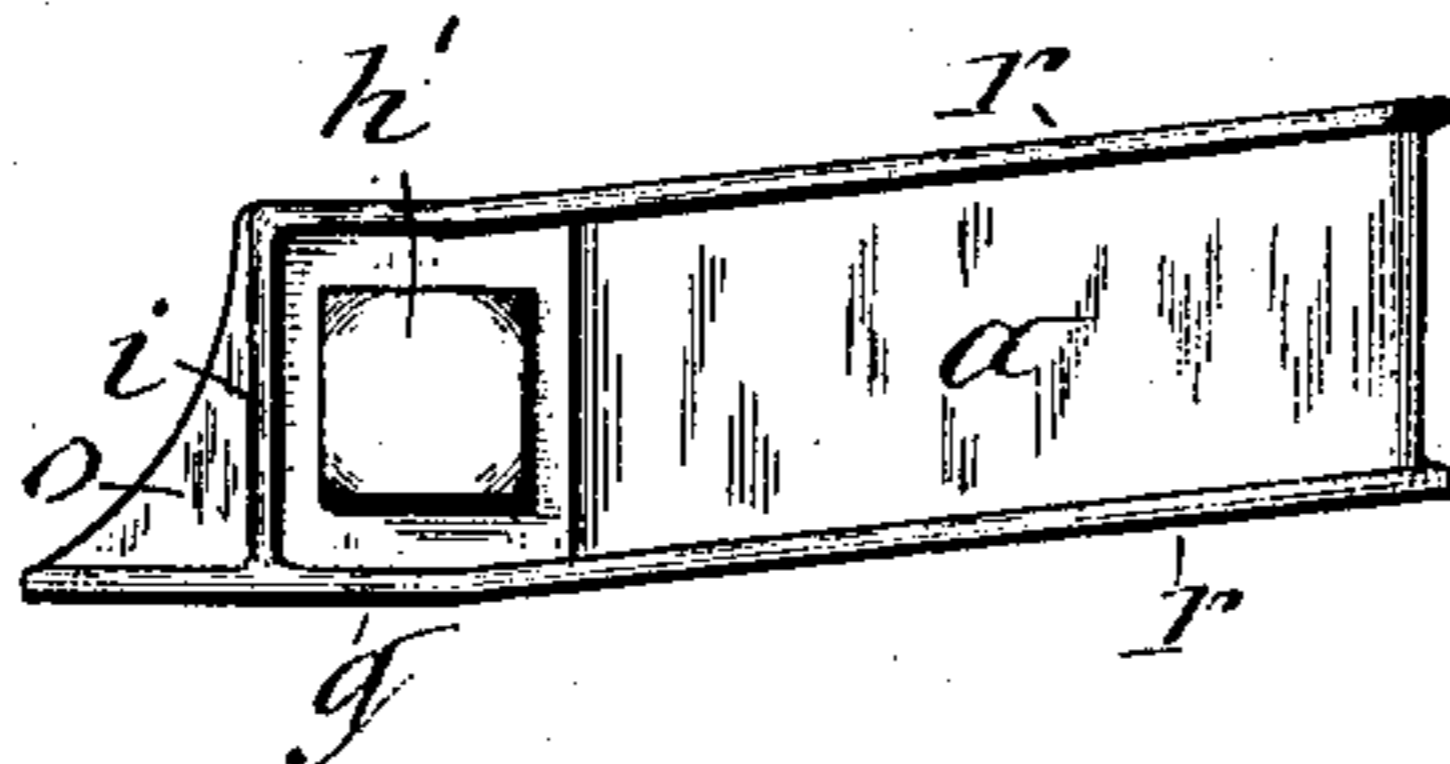


Fig. 3

INVENTORS:

Edward Laas  
Hiram Sponenburg  
E. Laas  
ATTORNEY.

# UNITED STATES PATENT OFFICE.

EDWARD LAAS, OF ELGIN, AND HIRAM SPONENBURG, OF WADSWORTH,  
ILLINOIS.

## RAILWAY-RAIL STAY.

SPECIFICATION forming part of Letters Patent No. 720,362, dated February 10, 1903.

Application filed October 9, 1902. Serial No. 126,387. (No model.)

*To all whom it may concern:*

Be it known that we, EDWARD LAAS, a resident of Elgin, in the county of Kane, and HIRAM SPONENBURG, a resident of Wadsworth, in the county of Lake, in the State of Illinois, citizens of the United States, have invented new and useful Improvements in Railway-Rail Stays, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to the class of rail-stays shown in the Patents No. 668,423, of February 19, 1901, and No. 703,602, of July 1, 1902.

The object of our present invention is to provide a rail-stay of superior strength and efficiency in preventing the rail from creeping longitudinally; and to that end the invention consists in the improved construction and combination of the component parts of the rail-stay, as hereinafter described, and as illustrated in the annexed drawings, in which—

Figure 1 is a tranverse section of a railway-rail provided with our improved rail-stay. Fig. 2 is a plan view of the same, a portion of the rail being broken away to show more clearly the position of the rail-stay in relation to the side of the cross-tie upon which the rail is mounted. Fig. 3 is an inverted plan view of the said rail-stay, and Fig. 4 illustrates a modification of our invention.

Similar letters of reference indicate corresponding parts.

R denotes the railway-rail, which is of the usual so-called "T shape" in cross-section. C represents the cross-tie upon which said rail is mounted.

To prevent the rail R from creeping longitudinally, we employ our improved rail-stay, which is constructed as follows, to wit:

a is a metal bar which is placed flatwise and transversely under the rail R and is formed at one end with a jaw b, which grips one edge of the base of the rail. The opposite end of the bar a has the rail-gripping jaw c detachably secured to it, preferably by means of a bolt h, passing through the heel portion of the jaw and the plate. To securely confine the bar a laterally on the rail R, we provide the said bar with a shoulder d, which abuts directly against the opposite edge

of the rail-base. This shoulder may be formed integral either with the bar a, as shown in Fig. 4 of the drawings, or with a hub e, formed on the jaw c, as represented in Fig. 1 of the drawings, in which latter construction the said hub is effectually supported by means of a socket f, formed in the top of the bar a and having the hub seated therein. The portion of the wall of the socket bearing on the hub at a point opposite the shoulder d serves to effectually brace the hub. A flange o on the top of the bar a adds strength to the said portion of the socket. The bolt h passes through the hub and subjacent portion of the bar a and is provided with a nut n, by means of which the hub e is retained in the socket f and the jaw c is firmly clamped onto the base of the rail R. The back of said hub is beveled to cause it to be wedged toward the rail in tightening the nut n. The bar a is formed with a flange g, depending therefrom, preferably at one of the end portions of the bar, and disposed to bear on the side of the tie C, and thereby prevent the rail R from creeping longitudinally. A brace i, extending from the bar a to the flange g, serves to better enable the said flange to resist the strain it is subjected to by the attempt of the rail to creep, as aforesaid. The head h' of the bolt h is square or hexagonal, and the flange g and brace i are in position to cause one or both of said parts to engage one or more of the flat sides of the head h', and thereby prevent the bolt from turning in the operation of tightening the nut n.

In order to allow the described rail-gripping jaws to increase their hold on the rail in proportion to the resistance required to prevent the rail from creeping, we form the flange g at an angle in relation to the length of the bar a, so as to cause the opposite end portion of the bar to be normally out of contact with the tie, and thus yield to some degree to the longitudinal strain of the rail, and by said yield of the bar the jaws b c thereof are caused to more effectually pinch the rail R.

To strengthen the bar a from its point of attachment to the tie, we form said bar with ribs r r, extending from the flange g and brace to the free end of the bar, as shown.

What we claim as our invention is—

1. A rail-stay consisting of a bar extending across the under side of the rail, jaws on said bar gripping the rail passing between them, 5 a flange formed on the bar and engaging the side of the cross-tie, and a brace extending from said bar to the aforesaid flange as set forth.
2. A rail-stay consisting of a bar extending 10 across the under side of the rail, jaws on said bar engaging the rail passing between them, ribs on the under side of the bar and extending lengthwise thereof, and a flange depending from the bar and bearing on the side of 15 the tie as set forth.
3. A rail-stay consisting of a bar extending across the under side of the rail and provided with jaws gripping said rail, and a flange depending from one end portion of the bar and 20 bearing on the side of the tie and disposed at an angle in relation to the length of the bar to hold the opposite end portion of the bar normally out of contact with the tie as and for the purpose set forth.
- 25 4. A rail-stay consisting of a bar extending across the under side of the rail and provided at opposite ends with jaws gripping the rail, a flange depending from one end portion of the bar and disposed to bear on the side of the 30 tie and at an angle in relation to the length of the bar to hold the opposite end portion thereof normally out of contact with the tie, and ribs extending lengthwise of the bar as set forth.
- 35 5. A rail-stay consisting of a bar extending across the under side of the rail and provided at opposite ends with jaws gripping the rail, a flange depending from the bar and engaging the side of the tie, a brace extending from 40 the bar to the flange, and ribs extending from said flange and brace lengthwise of the bar as set forth.
- 45 6. The combination with the supporting-tie and rail, of a rail-stay consisting of a bar disposed flatwise and extending across the under side of the rail, a jaw fixed to one end of said bar and gripping one edge of the rail-base, a shoulder on the opposite end of the bar and abutting directly against the other edge of

the rail-base, a separately-formed jaw provided with means for securing the same on top of the bar back of the abutting shoulder whereby the latter jaw grips the rail-base and retains the rail on the said abutting shoulder as set forth. 50

7. A rail-stay consisting of a bar extending across the under side of the rail and formed at one end with a jaw engaging the rail, a rail-gripping jaw mounted on the opposite end of the bar, a bolt fastening the latter jaw to the 60 bar, and a flange on the bar bearing on the side of the tie and engaging the bolt to lock it from turning. 55

8. A rail-stay consisting of a bar extending across the under side of the rail and formed 65 at one end with a rail-gripping jaw and at the opposite end with a socket, a jaw formed with a hub seated in said socket, means for confining the hub in its seat and clamping the jaw onto the rail, a flange on the bar engaging the 70 side of the tie, and means for wedging the aforesaid hub toward the rail.

9. A rail-stay consisting of a bar extending across the under side of the rail and formed 75 at one end with a rail-gripping jaw and at the opposite end with a socket, a jaw formed with a hub seated in said socket, a bolt passing through said hub and bar and clamping the hub in the socket, and a flange on the bar bearing on the side of the tie and locking the 80 bolt from turning as set forth.

10. A rail-stay consisting of a bar extending across the under side of the rail and formed at one end with a rail-gripping jaw and at the 85 opposite end with a socket in its top, a jaw formed with a hub seated in said socket, a bolt passing through said hub and bar and clamping the hub in its seat, a flange on the bar engaging the side of the tie and locking the bolt from turning, a brace extending from 90 the bar to the flange, and ribs extending from said flange and brace lengthwise of the bar as set forth.

EDWARD LAAS.  
HIRAM SPONENBURG.

Witnesses:

C. S. JONES,  
S. W. TROUTMAN.