

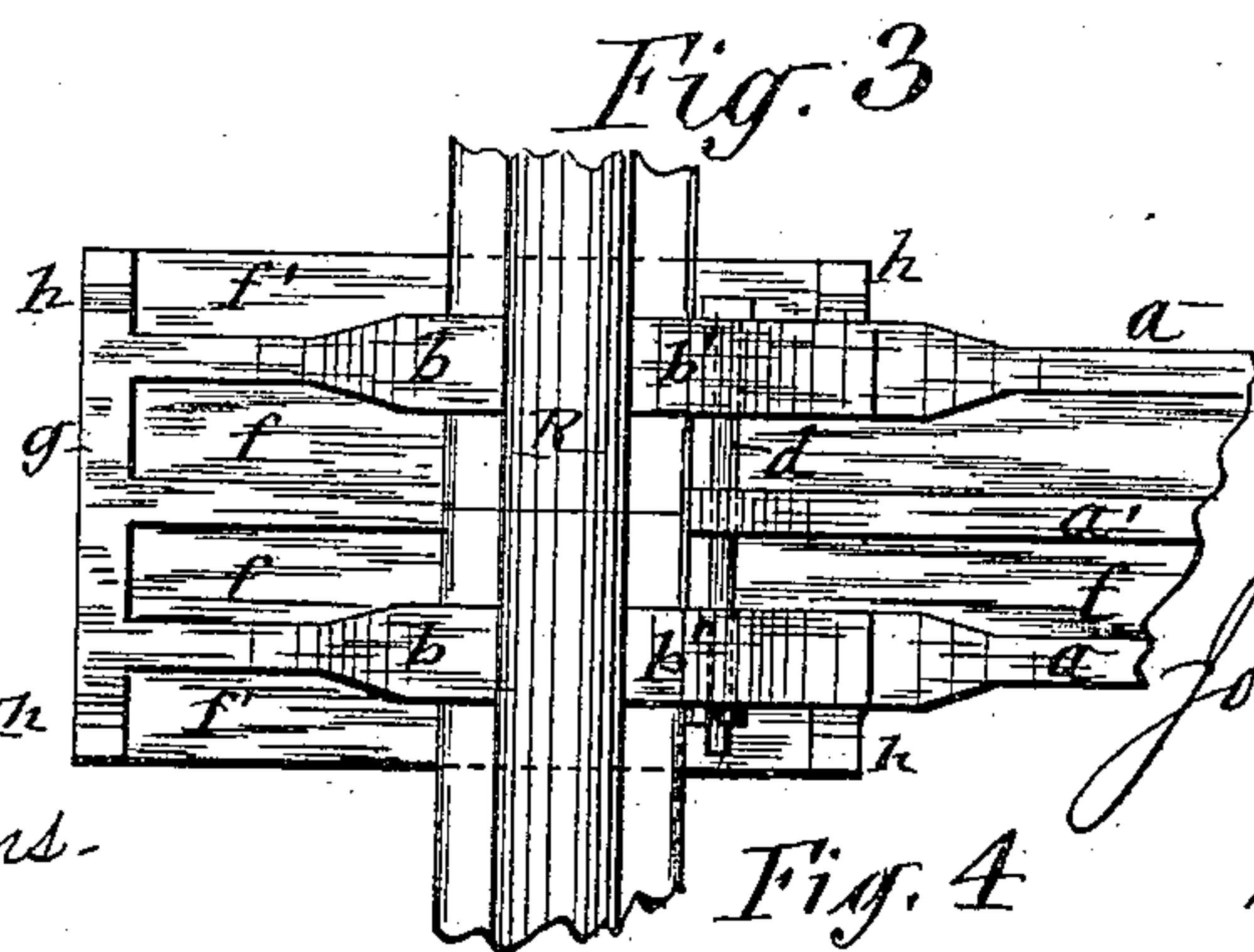
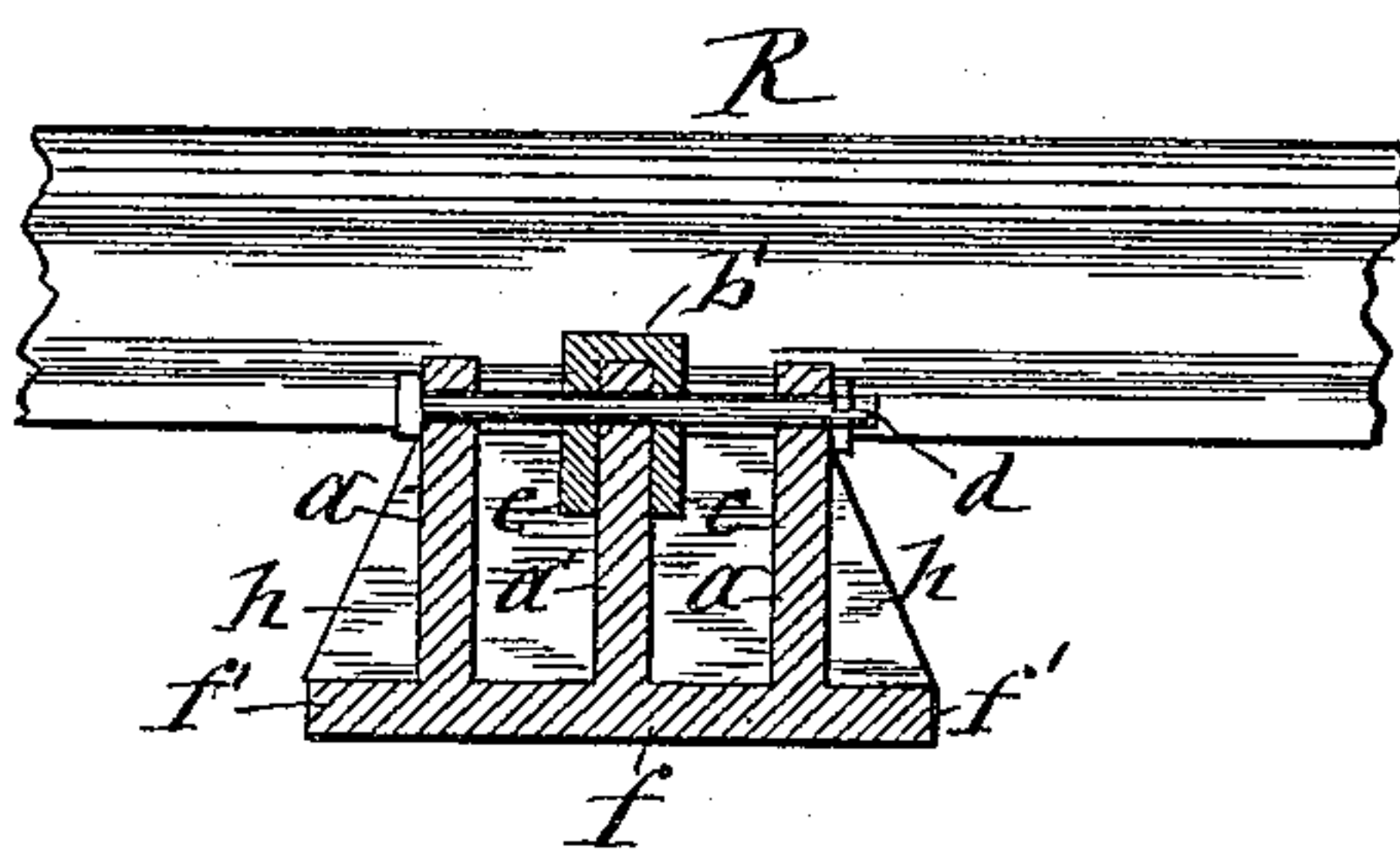
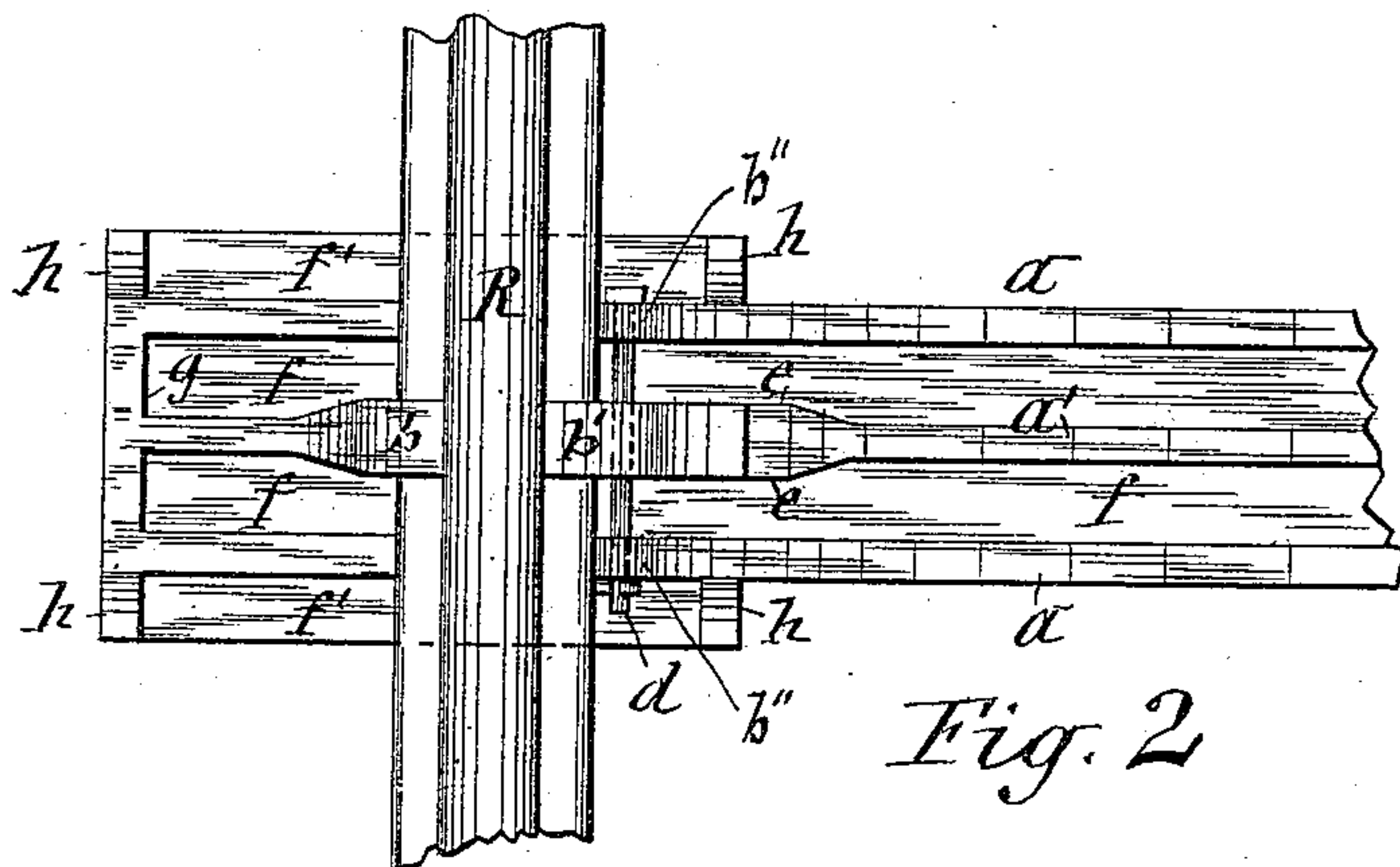
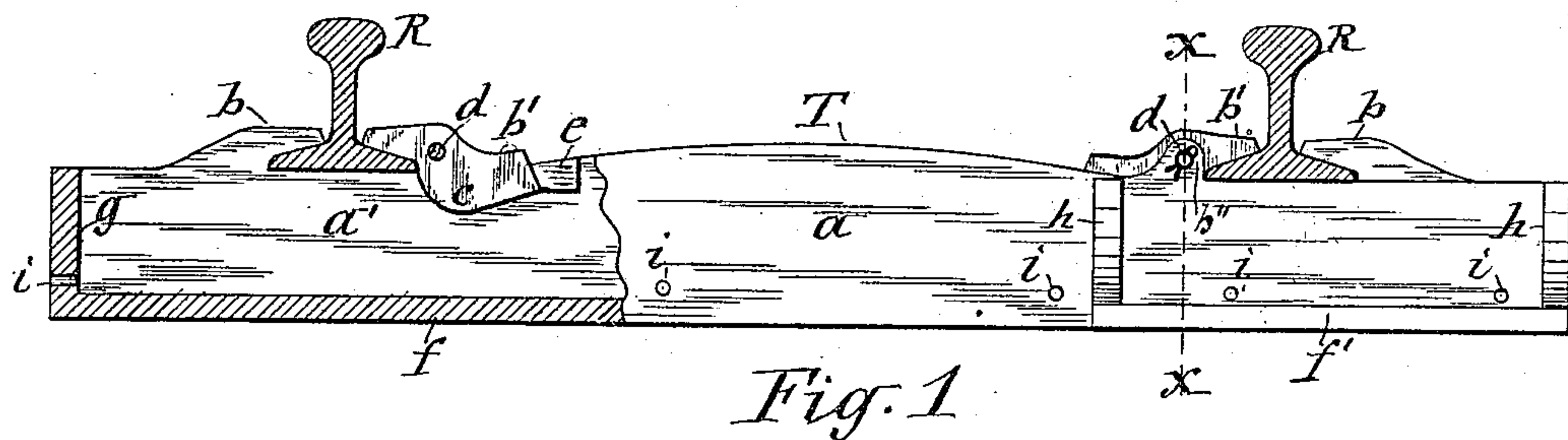
(No Model.)

J. M. DAVIS.

RAILROAD TIE.

No. 397,785.

Patented Feb. 12, 1889.



WITNESSES:

C. L. Burdison  
H. M. Seamans

INVENTOR.

John M. Davis.

BY

Snell & Benedict  
ATTORNEYS.



# UNITED STATES PATENT OFFICE.

JOHN M. DAVIS, OF MARATHON, NEW YORK.

## RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 397,785, dated February 12, 1889.

Application filed December 22, 1887. Serial No. 258,761. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN M. DAVIS of Marathon, in the county of Cortland, in the State of New York, have invented new and useful  
5 Improvements in Railroad Cross-Ties, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention consists in an improved construction of a metallic cross-tie for railroads  
10 and means for securing the rails thereto, which afford a secure and permanent support for the rail and permit a ready removal of the rail when required for repairs or renewal.  
15 newal.

The invention is fully illustrated in the annexed drawings, in which Figure 1 is a side elevation of the cross-tie with the rails mounted thereon, a portion of one of the side ribs being broken away to better illustrate the attachment of the rail-holding jaws. Fig. 2 is  
20 a top plan view of one of the end portions of the tie. Fig. 3 is a vertical transverse section on line *x x*, Fig. 2; and Fig. 4 is a top plan view of a modification of my invention.  
25

Similar letters of reference indicate corresponding parts.

T represents the cross-tie, on which the rail R is mounted. Said tie is composed of the  
30 base-plate *f*, from which rise longitudinal side ribs, *a a*, and central rib, *a'*, extending from end to end of the tie and preferably formed crowning to impart increased strength to the same. Transverse ribs *g g* unite the longitudinal ribs and brace the same laterally. The  
35 central longitudinal rib, *a'*, has integral with it jaws *b b*, which grip the bases of the rails R R at one side, preferably at the outer side of the rail. At the opposite or inner side of each  
40 rail I detachably connect to the aforesaid central rib, *a'*, a jaw, *b'*, which grips the base of the rail at said side. This jaw rides on the aforesaid rib and is provided with downwardly-extending flanges *c c*, embracing between them the rib. A bolt, *d*, passes transversely through the flanges *c c* and ribs *a a a'*  
45 and thereby fastens the jaw *b'* to the rib. The jaw is further supported by shoulders *e e*, rigidly attached to the rib *a'* at the heel of the jaw. Upon the ribs *a* are also formed  
50 projections or shoulders *b''*, which oppose

strain or movement of the rail toward the center of the track and thereby relieve the bolt *d* of such strain.

At the joints of the rails I employ a tie having the jaws *b b'* attached to the side ribs, *a a*, as shown in Fig. 4 of the drawings, thereby fastening the adjacent end of the rails without the aid of the usual fish-plates placed  
60 across the joints of the rails, and said fish-plates may therefore be dispensed with. Underneath the rails R R, I provide the tie T with enlarged bearings on the road-bed by widening the end portions, *f' f'*, of the base-plate *f* and brace the same by vertical ribs *h h*  
65 on the exterior of the longitudinal ribs *a a*.

It will be observed that my improved tie affords by the ribs *a a a'* three substantial bearings for each rail, and the rail can be readily removed, when required for repairs or  
70 renewal, by simply removing the bolt *d* and raising the jaw *b'* from the rib *a'*. The side and end ribs of the tie I perforate, as shown at *i i*, for the purpose of allowing the water to escape from the troughs formed by the said  
75 ribs.

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

1. In combination with the tie T, formed with the longitudinal ribs *a a a'*, the jaws *b b*,  
80 formed integral with the central rib, *a'*, at one side of the rails, the jaws *b' b'*, detachably connected to and riding on the central rib at the opposite side of the rails and provided  
85 with the downwardly-extending flanges *c* at opposite sides of the rib, the bolts *d d*, passing transversely through said flanges and ribs, and the shoulders *e e* on the central rib at the heels of the jaws *b' b'*, and shoulders *b''*  
90 upon ribs *a*, substantially as described and shown.

2. The tie T, composed of the base-plate *f*, formed with the widened end portions, *f' f'*, longitudinal side ribs, *a a*, rising from the  
95 base-plate, transverse ribs *g g* between the ribs *a a*, and braces *h h* on the end portions *f' f'* outside of the longitudinal ribs, all rigidly united, substantially as described and shown.

3. The improved tie T, composed of the base-plate *f*, formed with the widened end portions,  
100

*f' f'*, longitudinal side ribs, *a a*, and central  
rib, *a'*, rising from said base-plate, transverse  
ribs *g g*, uniting the longitudinal ribs and  
braces *h h* on the end portions, *f' f'*, outside of  
5 the ribs *a a*, all formed in one piece, the jaw  
*b*, rigidly secured to the rib *a'* at one side of  
the rail, the jaw *b'*, riding on said rib at the  
opposite side of the rail and having down-  
wardly-extending flanges *c c* embracing said  
10 rib, the bolt *d*, passing transversely through  
said flanges and rib, and the shoulders *e e* on

the rib *a'* at the heel of the jaw *b'*, substan-  
tially as described and shown.

In testimony whereof I have hereunto signed  
my name, in the presence of two witnesses, at 15  
Cortland, in the county of Cortland, in the  
State of New York, this 17th day of December,  
1887.

JOHN M. DAVIS. [L. S.]

Witnesses:

H. W. COLEY,

W. C. CROMBER.