

No. 815,244.

PATENTED MAR. 13, 1906.

W. J. WILLIAMS.

TIE PLATE.

APPLICATION FILED MAR. 16, 1905.

Fig. 1.

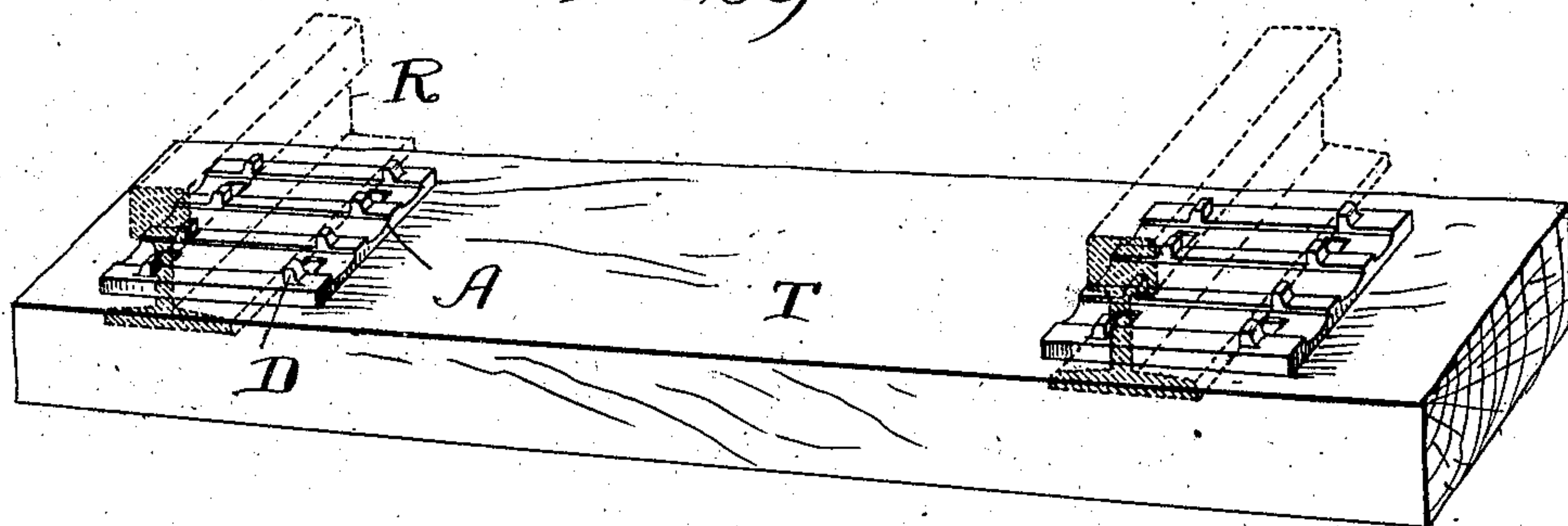


Fig. 2.

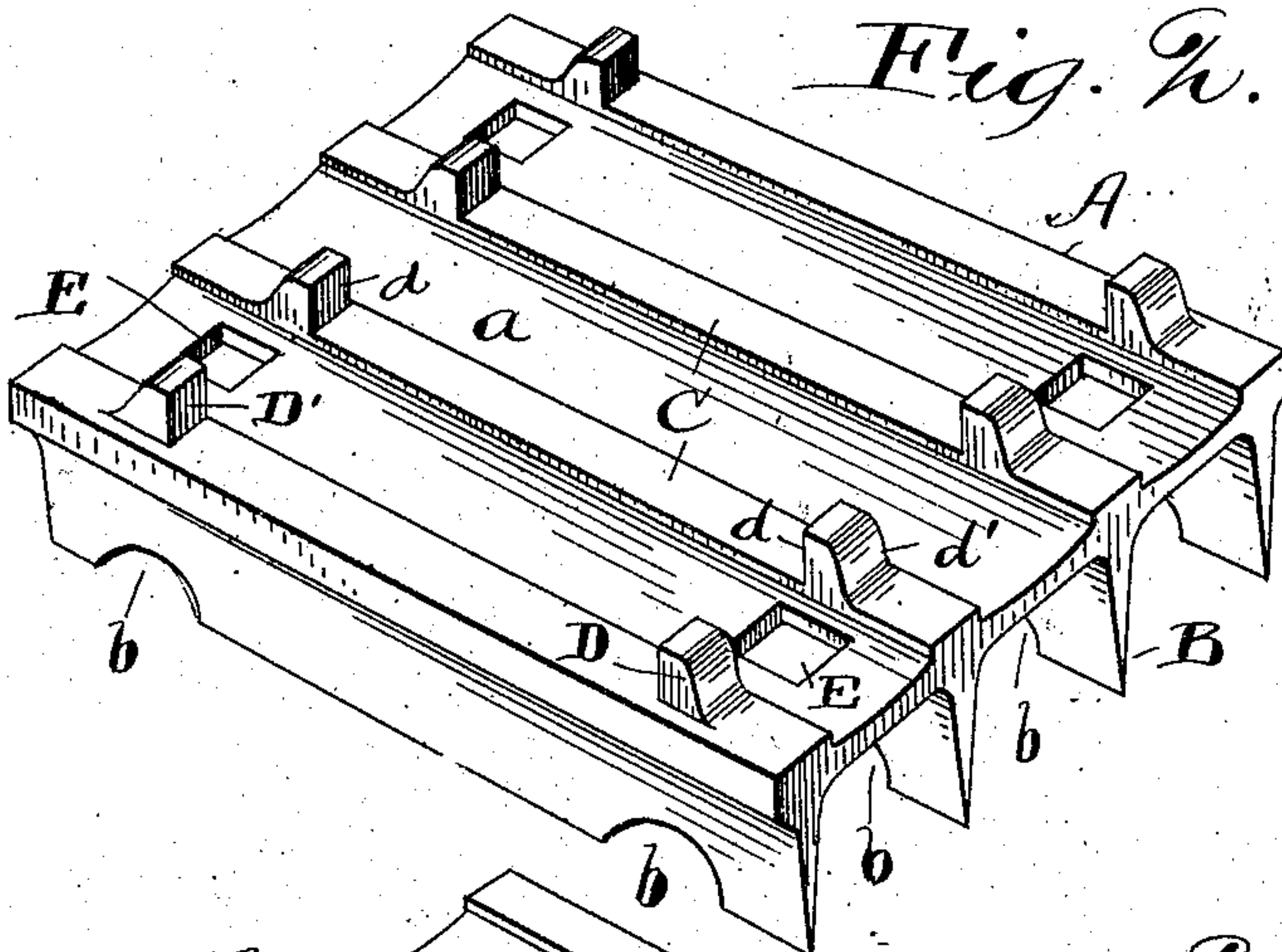
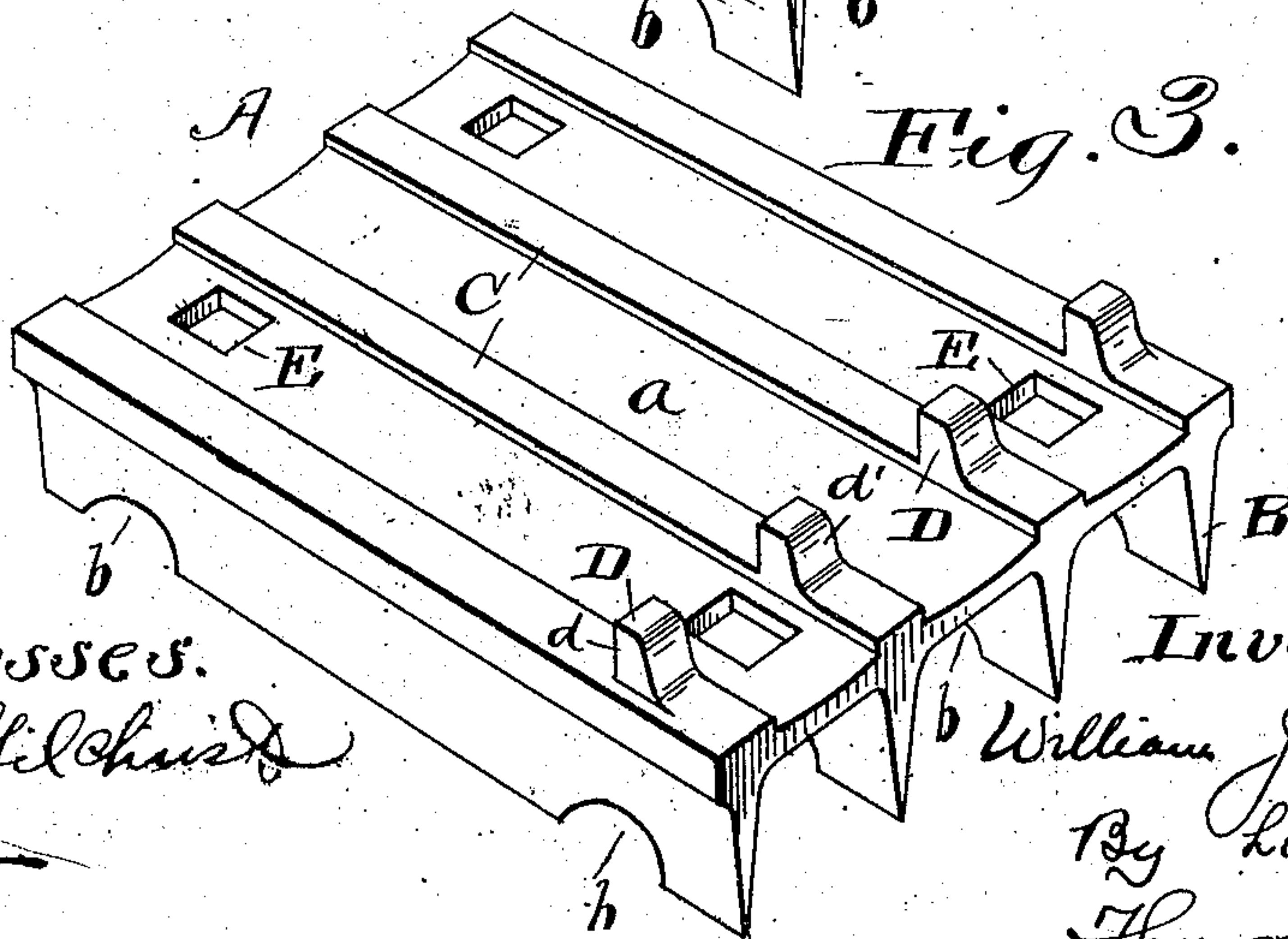


Fig. 3.



Witnesses.

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TIE-PLATE.

No. 815,244.

Specification of Letters Patent.

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Application filed March 16, 1905. Serial No. 250,393.

To all whom it may concern:

Be it known that I, WILLIAM J. WILLIAMS, a citizen of the United States, residing at Elyria, in the county of Lorain and State of Ohio, have invented a certain new and useful Improvement in Tie-Plates, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings.

10 The object of this invention is to provide a strong cheap railway tie-plate, made of wrought steel, which will automatically embed itself into a tie upon which it is placed and become thereby immovably fastened
15 thereto and which will have suitable studs for engaging with the flanges of the rails resting upon said plate, whereby the spreading of said rails is prevented.

Figure 1 represents a perspective view of a
20 railroad-tie with my improved tie-plate applied thereto and in dotted lines is shown the position which the rail occupies upon the plate. Fig. 2 represents a perspective view of the tie-plate, showing the means for engaging and holding the rail in position upon the
25 plate. Fig. 3 represents a slightly-modified form of the invention.

Referring to the parts by letters, A represents the plate or body, and B represents relatively long slender sharp-edged flanges
30 which depend from the lower surface of said plate and extend in parallel relations from one end thereof to the other. On the upper surface of the plate, over the flanges B, are longitudinally-extended ribs C, which are
35 slightly elevated above the intervening surfaces *a*, which depressed intervening surfaces serve as watercourses to prevent the accumulation of water between the engaging-
40 surfaces of the plate and rail. Near one end of the plate is a transverse row of studs D, which are integral with the plate and spring upward from said ribs C. The inner faces *d* of these studs are in the same vertical trans-
45 verse plane, while their outer faces *d'* are inclined, as shown, making the studs somewhat longer at their bases than at their tops.

When these tie-plates are put in their places on the ties, with the flanges B running

with the grain of the ties, the end of each
plate on which the studs D are formed is
nearest the adjacent end of the tie. The
rails are placed upon the plates with the outer
rail-flanges in contact with the vertical faces
of the studs. A plurality of spike-holes E,
55 are formed through the plates between the ribs C for holding the rails down upon the plates. The weight of the passing trains will
very soon embed the sharp-edged flanges B
completely into the wooden ties, whereby
60 any movement of the plates relative to the ties will be prevented, and the engagement
of the rail-flanges with the studs D will prevent any spreading of the rails. Through
each of the flanges B, near their ends, are
65 made a pair of notches *b*. The purpose of these is to allow the wood of the tie to preserve two continuous cross-ribs thereof beneath the plate, preventing water working in
from the ends of the plate, which would rot
70 the tie and rust the plate.

The described tie-plate is very strong, and it is also cheap, because it can be rolled from a bar and cut transversely to the proper
length. I have invented mechanism for so
75 rolling such bars and propose to make that mechanism the subject of another patent application.

In Fig. 2 a plate is shown whereon there is additionally a transverse row of studs D',
80 having vertical inner faces. The plate may be made with both sets of studs, as described, in which case the base of the rail will rest upon the ribs C and will engage with both sets of studs, and this will effectually
85 prevent any possible movement of the rails in either direction relative to each other after the tie-plate flanges have become embedded
in the tie.

Having described my invention, I claim— 90

1. A tie-plate having on its under side a plurality of extended narrow flanges having sharp lower edges and notches near the ends of said flanges, longitudinal ribs formed on the upper side of the plate in line with said
95 flanges, and studs formed near the ends of said ribs having inner vertical faces adapted to engage the foot of the rail.

2. A tie-plate having on its under side a plurality of extended narrow flanges having sharp lower edges and notches near the ends of said flanges, longitudinal ribs formed on the upper side of the plate in line with said flanges, and studs formed near the ends of said ribs having inner vertical faces adapted to engage the foot of the rail, said plate hav-

ing openings adapted to receive fastening means for securing the plate to the tie. 1c

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

WILLIAM J. WILLIAMS.

Witnesses:

CHAS. C. LORD,

W. J. SPEARS.