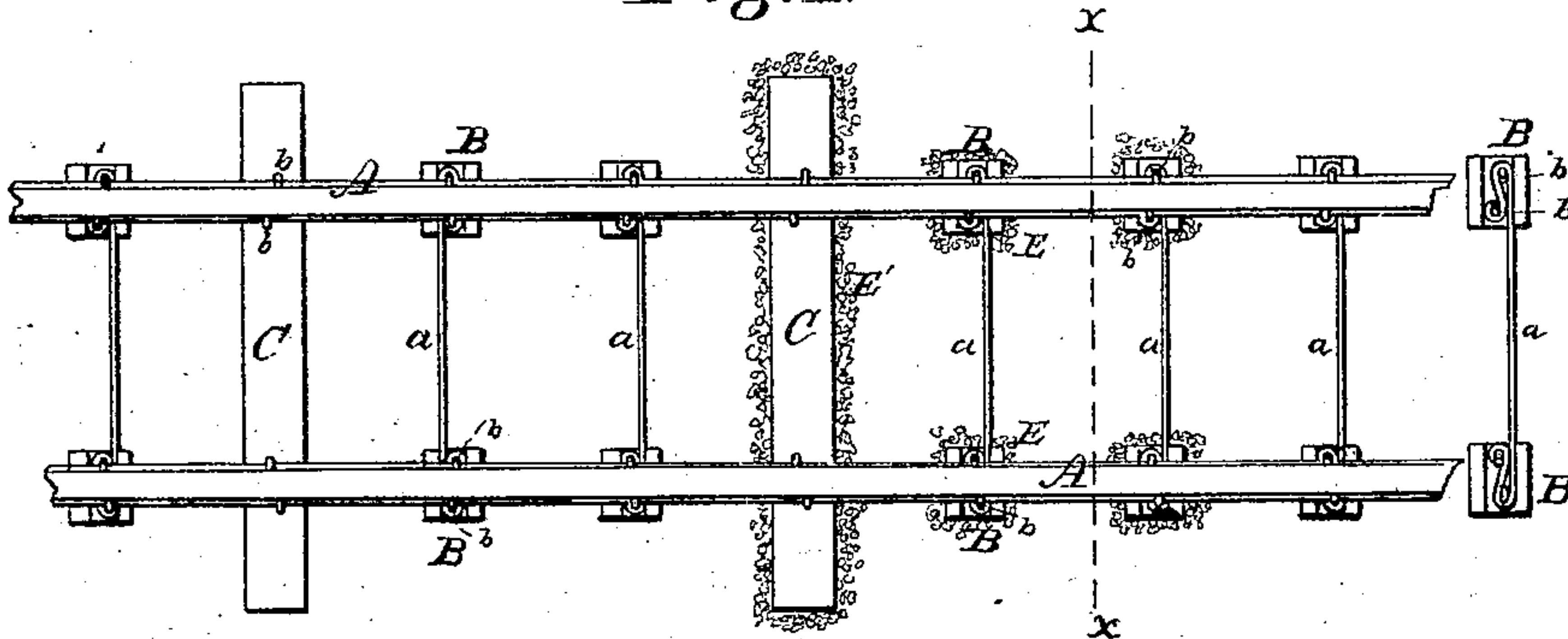


**A. DEHUFF.**  
**Railway-Tracks.**

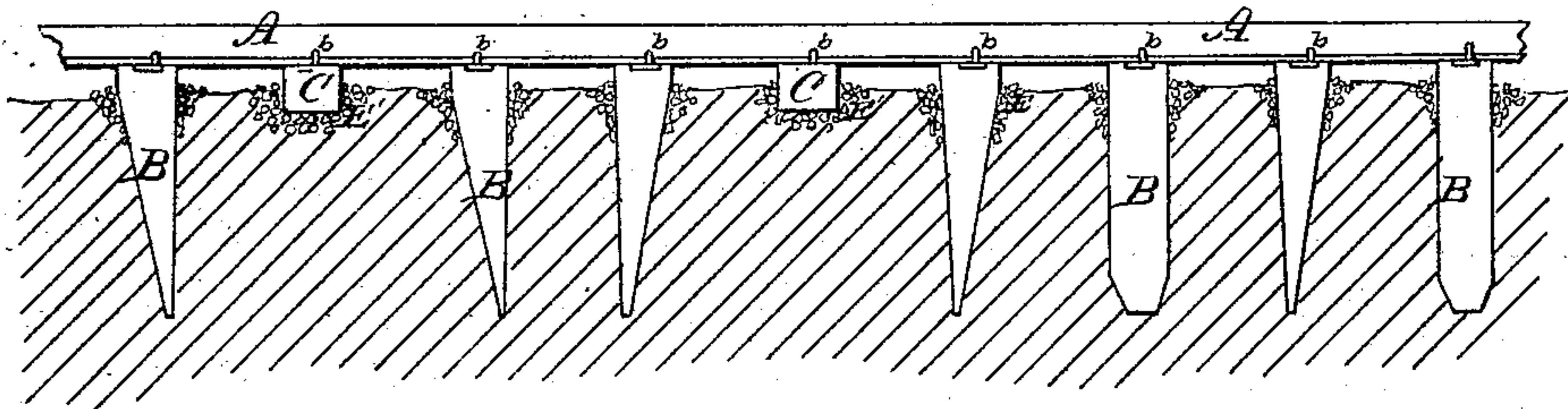
No. 152,469.

Patented June 30, 1874.

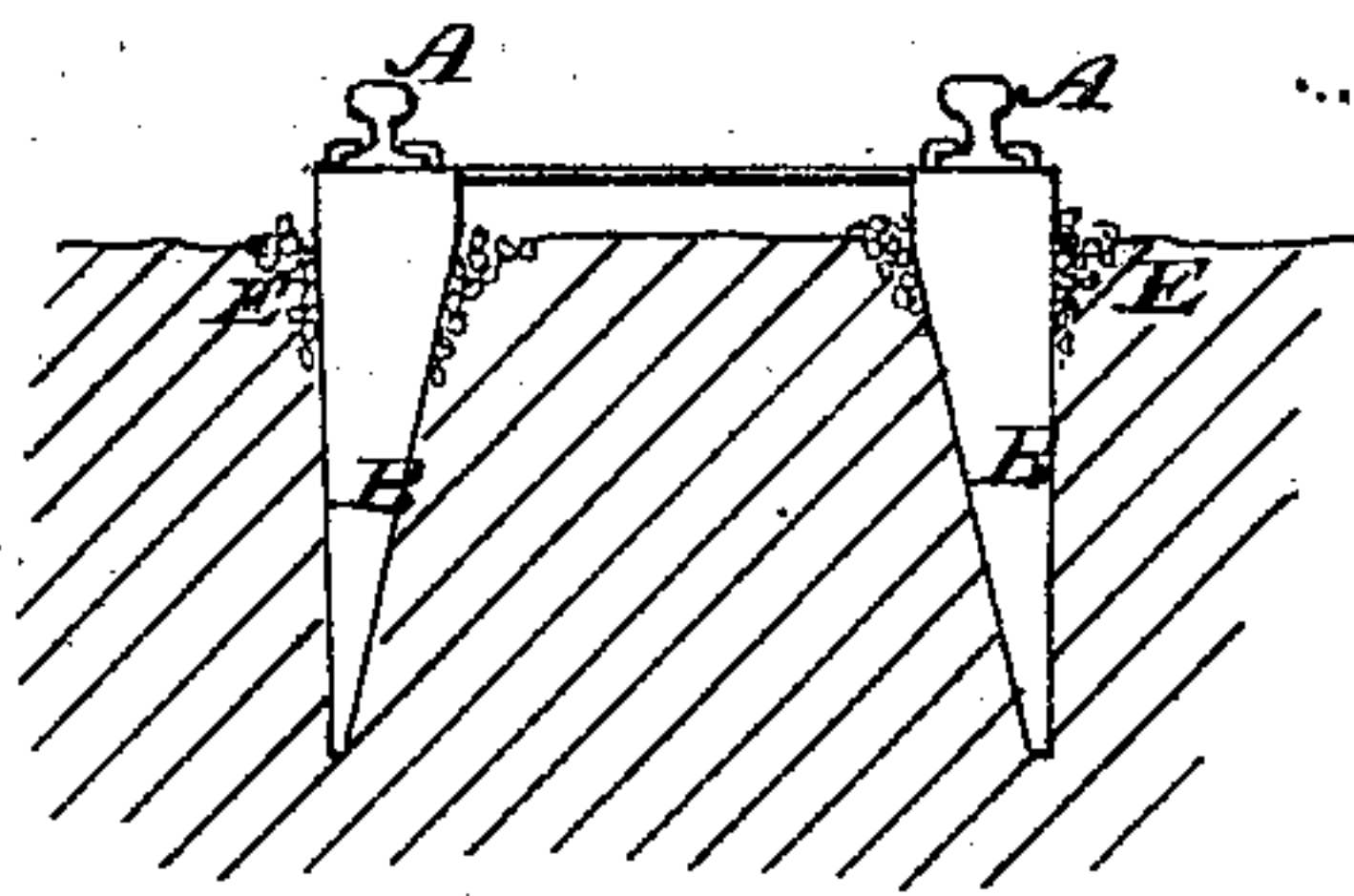
*Fig. 1.*



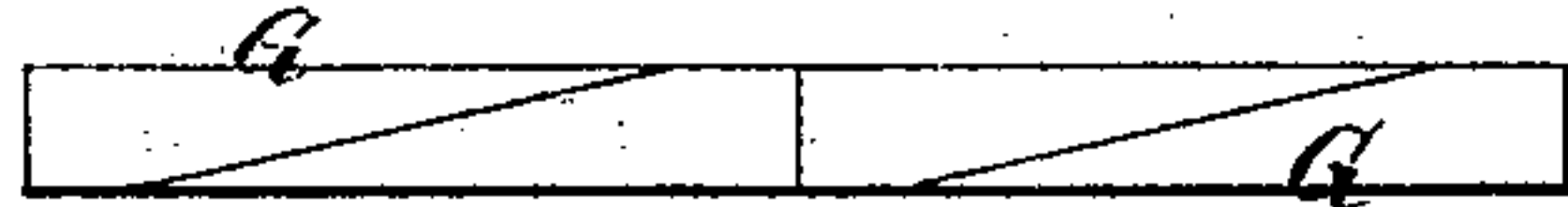
*Fig. 2.*



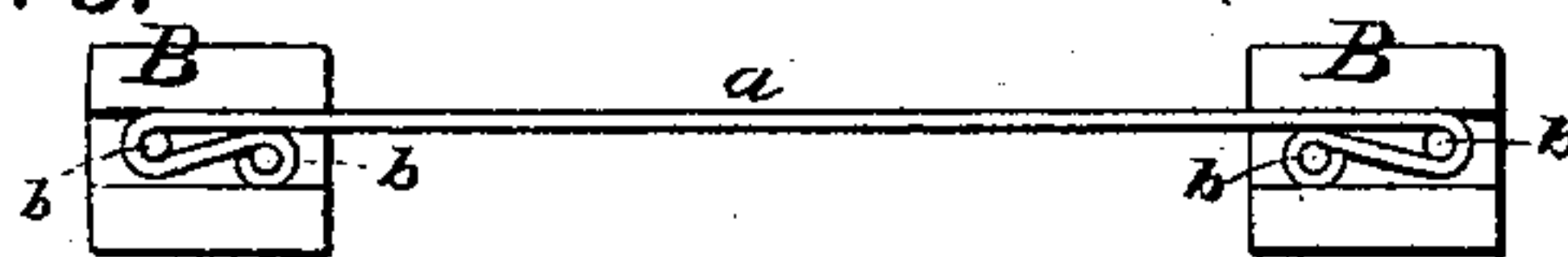
*Fig. 3.*



*Fig. 4.*



*Fig. 5.*



*Attest.*  
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*Abram Dehuff*

# UNITED STATES PATENT OFFICE.

ABRAM DEHUFF, OF YORK, PENNSYLVANIA.

## IMPROVEMENT IN RAILWAY-TRACKS.

Specification forming part of Letters Patent No. **152,469**, dated June 30, 1874; application filed May 19, 1874.

*To all whom it may concern:*

Be it known that I, ABRAM DEHUFF, of York, in the county of York and State of Pennsylvania, have invented certain Improvements in the mode of fastening rails and forming road-beds for track-laying on railroads, of which the following is a specification:

The object of my invention is to provide a firm and economical foundation for railway-tracks. To effect this I use short piles or stout stakes, driven perpendicularly into the ground, by means of a suitable pile-driver, at proper intervals, upon the top of which, when brought truly to the grade, the rails are fastened. I provide also a means of tying or holding the stakes and rails at the required distance apart by means of iron or steel rods, which at the same time bind or hold each rail firmly to its place on the head of the pile by forcing the heads of the spikes toward each other and against the flange of the rail on each side, as will be hereinafter shown and more particularly described.

In the accompanying drawing, Figure 1 represents a plan view of a section of a railway-track; Fig. 2, a longitudinal section through the ground, showing a side view of the railway foundation; Fig. 3, a transverse section on line *xx*; Fig. 4, a tie of ordinary shape cut into piles for use; Fig. 5, a tie-rod bent into the required shape.

A represents the rails; B, the piles; *aa*, the tie-rods; *b b*, the spikes to hold the rails in place; C C, ties such as are in ordinary use, which may be introduced at such points as, by reason of hard ground or other obstacle, it may be difficult to penetrate with wooden piles, or where for switch purposes they must necessarily be used. E shows the ballasting around the piles; E', the same around ordinary ties; G G, the pieces into which ordinary ties may be cut to be used as piles, showing the mode of dividing them in order to save material.

It is evident that the expenditure of material for this substitute for ties will be very much less than by the old method. One com-

mon tie can be cut into four stakes or short piles, making a saving of one-half the quantity of timber, as is seen in Fig. 4. This item is yearly becoming of more importance from the growing scarcity of suitable timber for railway purposes. The gage of the track is kept uniform and rigid by the steel or iron rods, which are bent into a loop around the spikes, as shown in Fig. 5, which tend to draw them together against the flange of the rail. To bring the rail to a solid bearing on the head of the pile the bent portions of the rods are sufficiently countersunk for the purpose. When the piles are driven in place, broken stone for ballasting is firmly rammed around them, deep enough to secure them from any danger of displacement. The flat sides of some of the piles are turned parallel to the track and others transverse to it, to aid in keeping the gage undisturbed and the track firm. As the rails, as well as the rail-joints and the chairs under them, rest on the ends of the wood fibers of the piles, instead of upon the sides of the tie, as is now the case, they will, of course, not be so readily depressed into the grain of the wood. This saves a great expense in constantly shimming up to keep the rail at grade, and in renewing the ties, which become channelled and grooved by the constant hammering and weight of passing trains.

Having thus described my invention, I claim—

1. The combination of upright piles, instead of ties, in a railway-track, with metallic tie-rods connecting the same, substantially as and for the purposes hereinbefore shown and described.

2. The method of fastening rails by spiking them through loops formed in tie-rods upon the heads of the sustaining-piles of a railway-track, substantially as and for the purposes hereinbefore set forth.

ABRAM DEHUFF.

Witnesses:

C. H. POOLE,

C. CLARENCE POOLE.