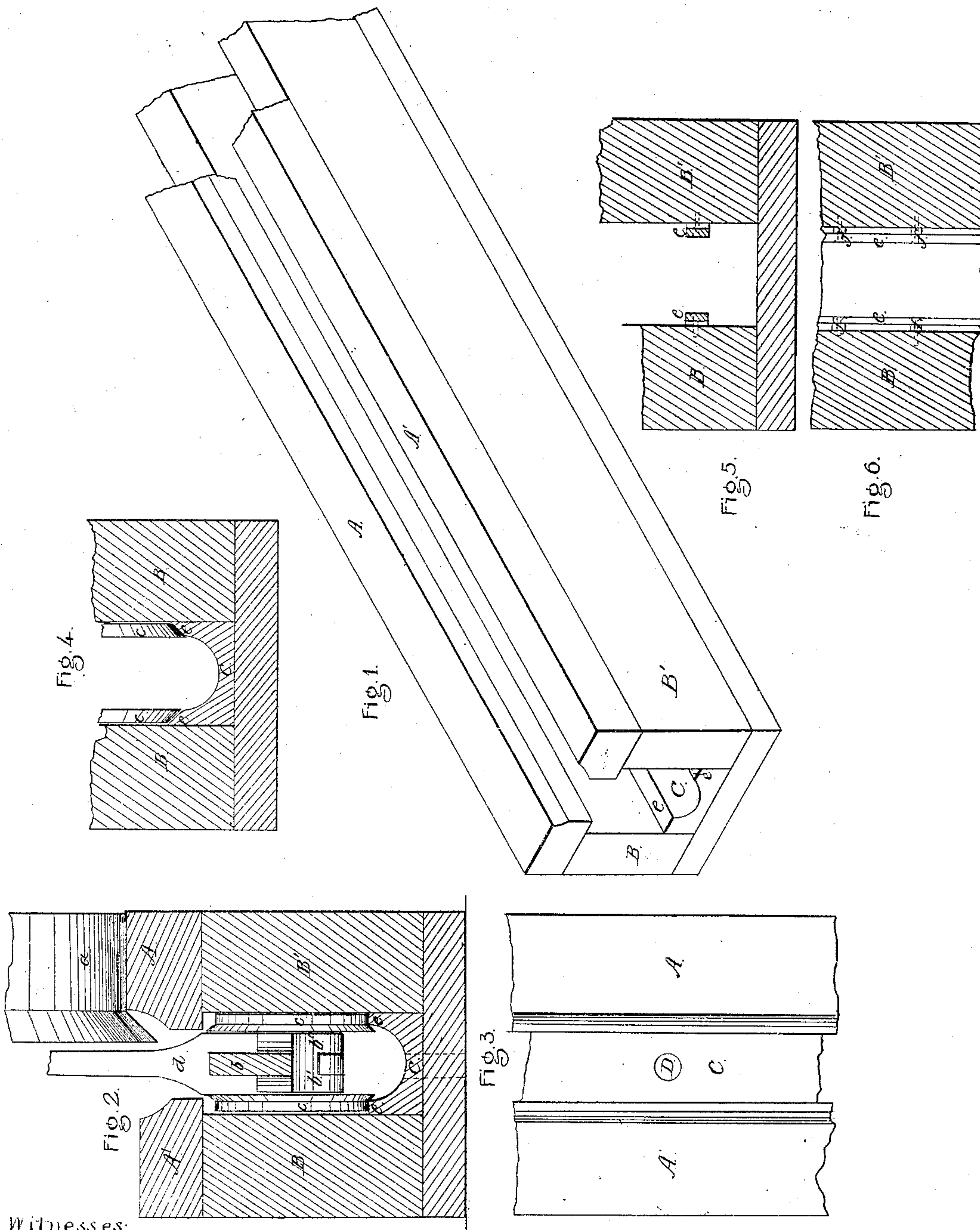


A. E. BEACH.  
RAILROAD TRACK.

No. 49,698.

Patented Sept. 5, 1865.



Witnesses:

*Peter Cooke*  
*Robert Bell*

Inventor:

*A. Ely Beach,*



# UNITED STATES PATENT OFFICE.

A. ELY BEACH, OF STRATFORD, CONNECTICUT.

## IMPROVEMENT IN TRACKS FOR RAILROADS.

Specification forming part of Letters Patent No. 49,698, dated September 5, 1865.

*To all whom it may concern:*

Be it known that I, A. ELY BEACH, of Stratford, Fairfield county, State of Connecticut, have invented a new and useful Improvement in Tracks for Railroads and Draft-Cables; and I do hereby declare that the following is a full and exact description of my invention, which will enable any person skilled in the art to make and use the same.

Reference is to be made to the drawings accompanying and forming a part of this specification, in which the same letters in the various figures indicate corresponding parts.

In Sheet 1, Figure 1 is a perspective view of my improved track. Fig. 2 is a cross-sectional elevation. Fig. 3 is a plan view. Figs. 4, 5, 6 are illustrations of modifications. In Sheet 2, Fig. 7 is a perspective view of my improvement as applied to curved tracks. Fig. 8 is a cross-sectional elevation of the same; Fig. 9, a horizontal plan section; Fig. 10, view of a modification.

The object of my invention is to facilitate the propulsion of railroad-cars and other vehicles by means of stationary engines, and in cities to dispense with the use of horses in the streets for drawing cars or vehicles. With this object I propel the cars or other vehicles by means of a traction or draft cable, which, in cities, I propose to arrange or cause to move below the surface of the ground in a narrow groove or channel made in the railroad-rail, or in a channel made either under the rail or at any other suitable position below the surface of the ground.

For operation in tunnels or in the open country it is not so necessary that the channel in which the cable moves shall be placed below the ground.

The channel or groove in which the cable works is intended to have so narrow an opening or communication with the ground that the wheels of vehicles cannot fall into the said channel and receive injury from the cable.

In applying my invention to the purposes of a city railroad, I use a rail similar in size and form to those now ordinarily employed. The only change that I make in the rail is to cut out the central or grooved portion thereof and entirely remove said central portion, thus dividing the rail into two portions, A A', upon one of which, A, the car-wheels  $\alpha$  run in the

usual manner. I also remove a portion of the center of the longitudinal wooden sleeper upon which the rails are commonly supported, which removal divides the sleeper into two portions, B B'. The space between these portions forms a narrow channel or groove intended to be below the surface of the ground, in which channel or groove, at the bottom thereof, I place a grooved or U-shaped rail, C. The sides or highest edges  $ee$  of the rail C form a track upon which the friction-wheels of the cable run, while the central or depressed portion of the rail C forms a gutter or receptacle for water and dirt.

In Fig. 2 the red lines indicate the cable and its wheels, showing their relative positions within the channel,  $b b'$  being the cable-links, and  $cc$  the wheels upon which it is mounted.  $d$  is the device which connects the car with the cable, the said device being lowered from the car in such a manner as to enter the channel between the rails A A' and connect with the links of the cable.

In order to prevent the lodgment of dirt or other substance upon the cable-rails  $ee$ , I make the said rails of inclined form, as shown in Fig. 4. Another modification consists in making the said rails  $ee$  of separate strips of iron fastened against the inner sides of the sleepers B B', the said rails being slightly separated from the sleepers, except at the points of fastening,  $f$ , so that any accumulating dirt or substance may pass between the adjacent sides of the sleepers and the rails  $ee$  and fall below the said rails. The space below the rails will form a gutter or receptacle for water, dirt, and foreign substances, from which it will be removed by means of openings D in the bottom of the channel, or by suitable separations left at the ends of the sleepers. All such foreign matters will be cleared and carried out of the channel by scrapers pendent from the moving cable.

When the cable runs or is mounted upon wheels which run singly instead of in pairs, as here shown, a rail, C', or groove will be formed in the center of the channel for such wheel F, and the dirt and water will pass off upon each side of said wheel. (See Fig. 10.)

At those places where the railroad-track makes a short curve—as, for example, in passing the corners of streets—the cable will be strained laterally against the side of its channel and

much friction will there ensue. To overcome this friction I arrange a series of friction-wheels in the sides of the sleepers, and the edges of these wheels E project into the channel between the sleepers, so that any lateral pressure upon or toward the sleepers by the cable will be sustained and overcome by the friction-wheels E.

The sleepers and other parts (here represented as made of wood) may be formed of metal, either separately or together.

I do not limit my improvements to any particular form of the parts, nor to any especial size thereof nor material.

When the cable is not located in or under the railroad-track then the rails A A' will be unnecessary, a track for the travel of the cable being only required.

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

The construction of tracks for railroads and draft-cables, or for draft-cables only, substantially as herein shown and described.

A. ELY BEACH.

Witnesses:

PETER COOKE,  
OCTAVIUS KNIGHT.