

(No Model.)

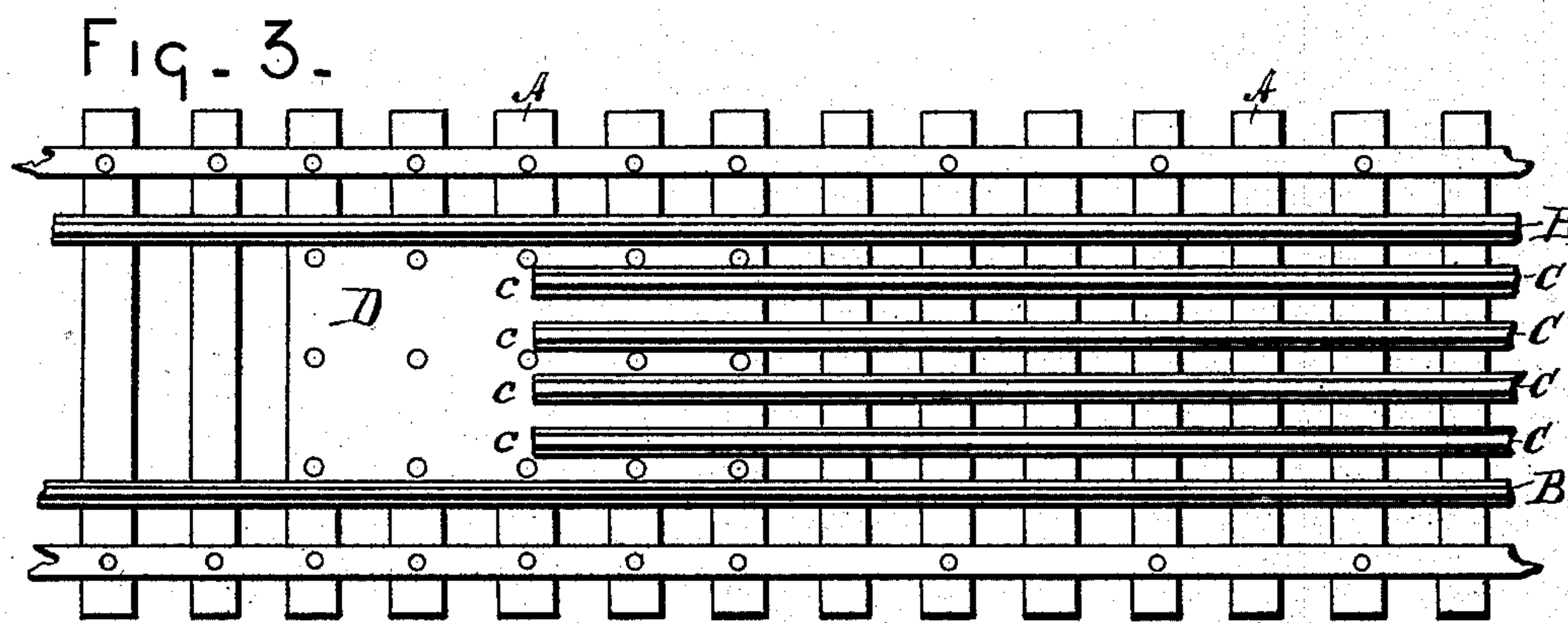
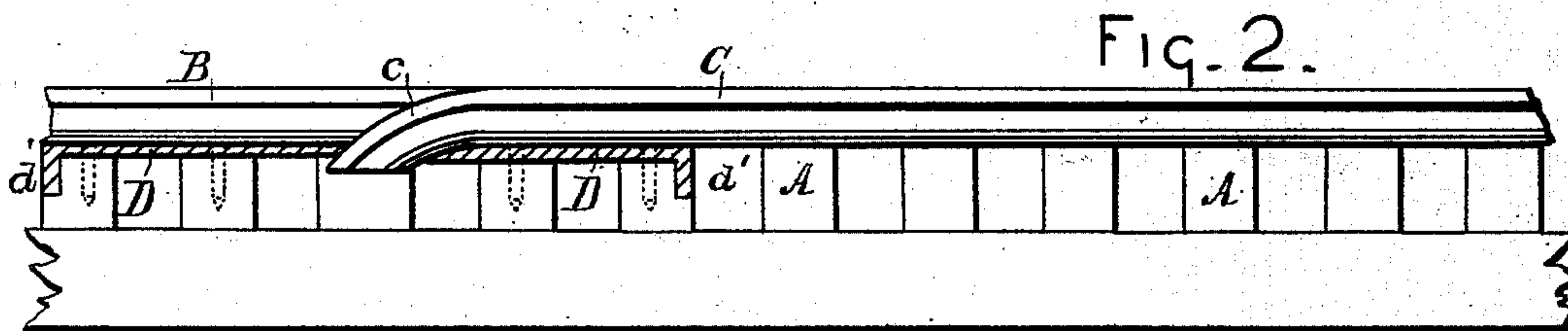
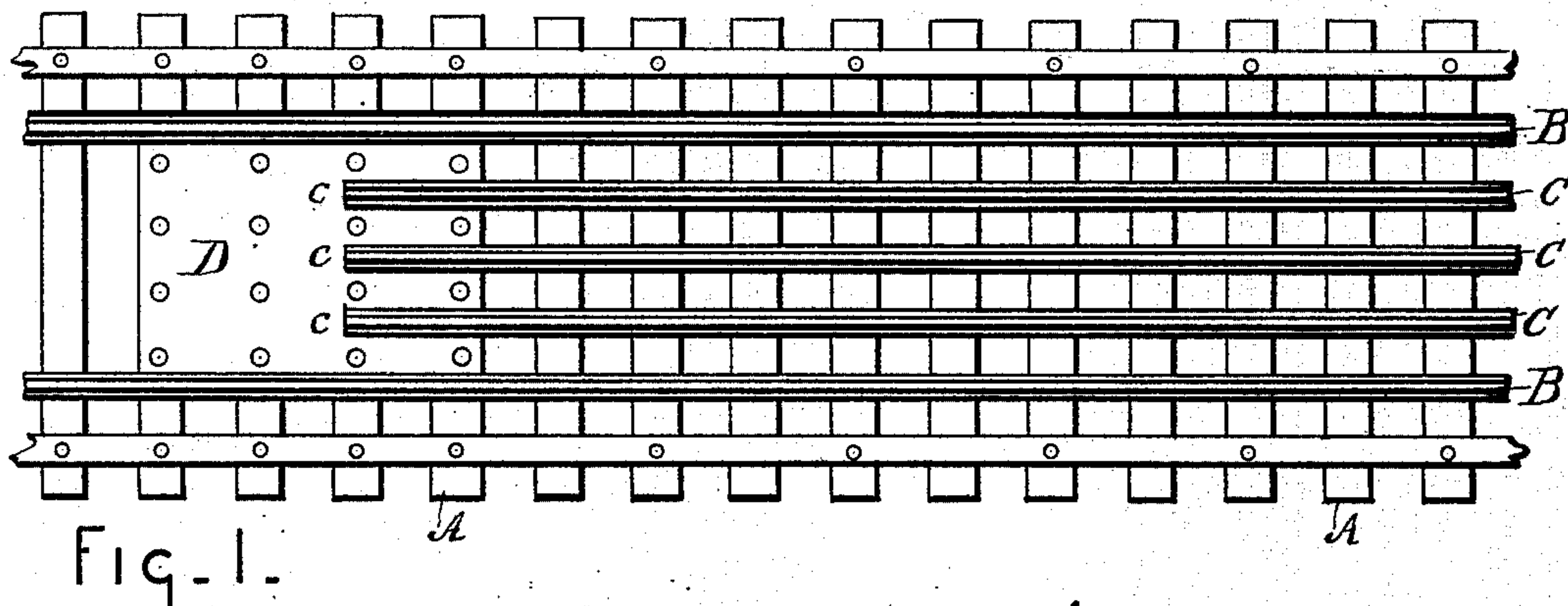
2 Sheets—Sheet 1.

O. F. JORDAN.

GUARD FOR RAILWAY BRIDGES.

No. 413,519.

Patented Oct. 22, 1889.



WITNESSES  
J. C. Lough  
C. J. Shipley

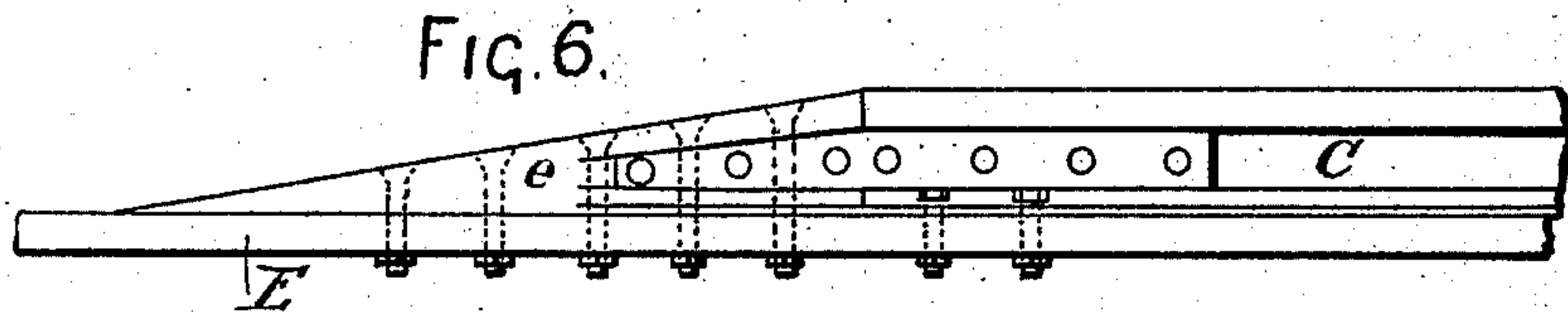
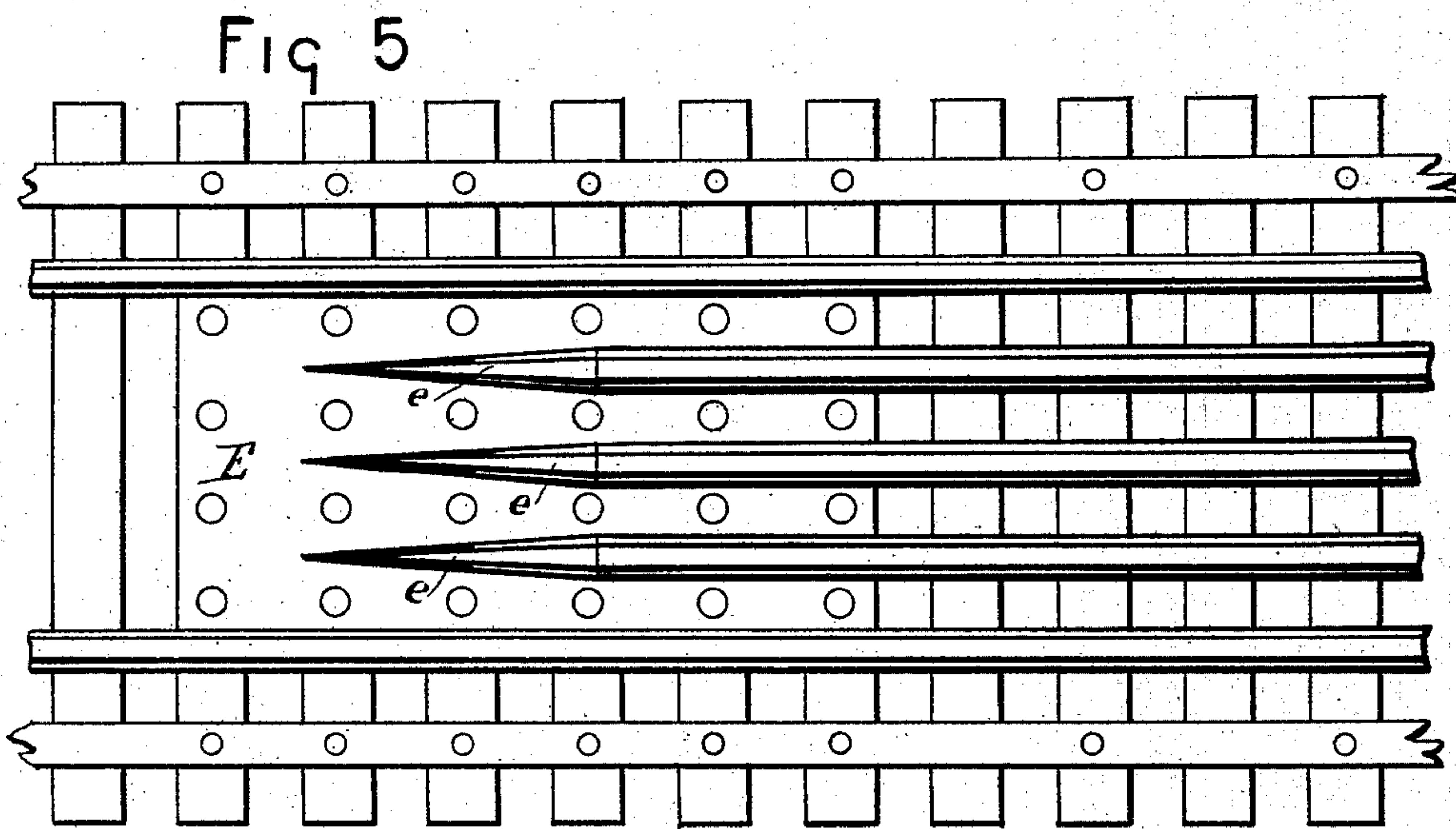
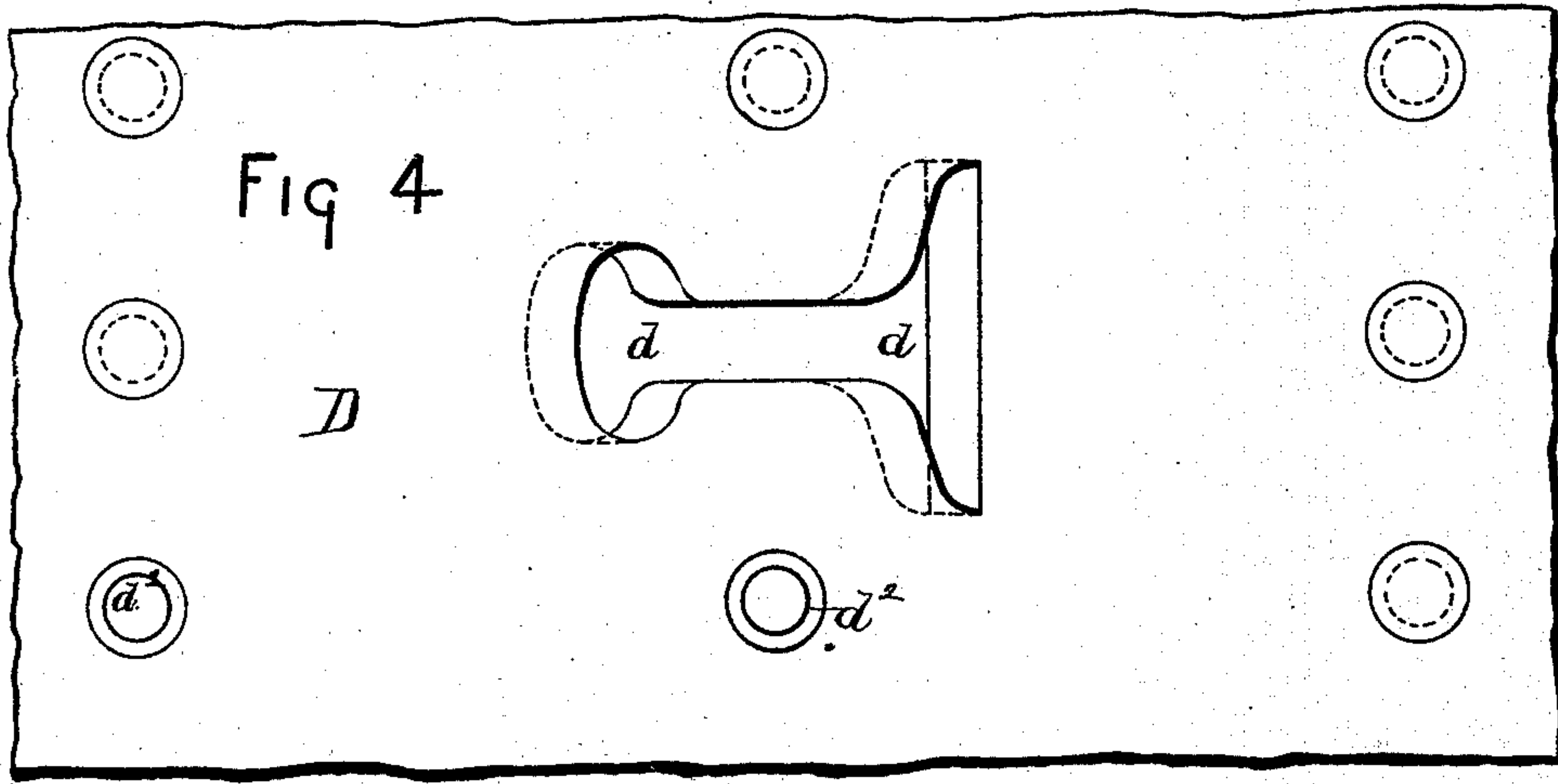
INVENTOR  
Oswald F. Jordan  
By Helle W. Leggett & Co.  
Attorneys.

O. F. JORDAN.

GUARD FOR RAILWAY BRIDGES.

No. 413,519.

Patented Oct. 22, 1889.



WITNESSES

H. Clough  
C. J. Shipley

INVENTOR

Oswald F. Jordan  
By Hille H. Leggett & Co.  
Attorneys.



# UNITED STATES PATENT OFFICE.

OSWALD F. JORDAN, OF ST. THOMAS, ONTARIO, CANADA.

## GUARD FOR RAILWAY-BRIDGES.

SPECIFICATION forming part of Letters Patent No. 413,519, dated October 22, 1889.

Application filed July 11, 1889. Serial No. 317,108. (No model.)

*To all whom it may concern:*

Be it known that I, OSWALD F. JORDAN, a subject of the Queen of Great Britain, residing at St. Thomas, county of Elgin, Province of Ontario, Canada, have invented a certain new and useful Improvement in Guards for Railway-Bridges; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention has for its object the production of a guard for railway-bridges which shall be at once simple in its construction and effective in its operation; and it consists, essentially, in placing between the main-track rails either two or three or four guard-rails evenly spaced between the main-track rails, and preferably having their ends bent down and fastened in an iron plate let into the ties; also, in certain other novel features of construction hereinafter more fully described and claimed.

In the drawings, Figure 1 is a plan view of a section of a railway-bridge with my improved guard located thereon. Fig. 2 is a sectional view showing the mode of fastening the ends of the rails. Fig. 3 shows a variation in which four guard-rails are used. Fig. 4 is a plan view of the fastening-plate. Fig. 5 is a view showing a variation in the mode of attaching the guard-rails. Fig. 6 is a detail side elevation, on an enlarged scale, of said variation.

In carrying out my invention, A represents the ties of the bridge, and B the main-track rails.

C are the guard-rails, and in practice I prefer to use the ordinary T-rail, although any form of rail might be used with equal facility. The number of these rails is optional. Of course the best results would be obtained where four or even more are used; but for ordinary use I prefer to use three, thus leaving a space of about twelve inches between each guard-rail and between the guard-rails and the main-track rails. If four guard-rails were used, a space of about nine inches would be left between the rails. At both ends *c* these rails are preferably bent downward and

fastened rigidly in place. A convenient and very effective mode of fastening them is by means of a plate D, which may be let into the ties so that it will be flush with them, and be spiked or bolted in. This plate is provided with orifices *d*, corresponding exactly with the shape of the rail as it enters the plate, so that the ball, neck, and flange are all embraced by the plate and the rail held firmly in position. If desired, the edge *d'* of the plate can be turned downward, and thus prevent anything which may be dragging from catching. Also, the orifices *d*<sup>2</sup> in the plate, through which the bolts or spikes pass, may be countersunk to receive the heads. Also, in the construction of my guard I prefer to rivet the guard-rails together, instead of bolting them, so that wheels or broken trucks will not catch on them.

In the use of the present style of guard-rails for bridges, in which two rails are placed between the main-track rails and are brought to a point at each end, an objection has been found in that, if the derailed truck, as it strikes the bridge, has worked past the center of the track or on the wrong side of the point of the guard, it is thrown still farther over, and will usually strike the side of the bridge and carry the latter away. By the use of my improved guard, however, this objection is entirely removed, since, no matter where the derailed truck strikes the bridge, it is carried or slid along in the same position as when it struck the bridge; and where three or more guard-rails are used, should a truck strike the guard sidewise, the latter would carry the wheels across without letting them strike the ties; also, should the wheels touch the ties, the guard-rails would prevent further twisting of the wheels and guide the truck over safely. Thus the danger of a broken truck or trucks which strike the bridge sidewise, carrying the ties away and letting the wreck through the bridge, is obviated.

In Figs. 5 and 6 I have shown a variation in the mode of fastening the ends of the guard-rails. In this variation E represents the plate which is attached to the ties, and *e* represent inclined blocks rigidly engaged to the plate and to which the ends of the guard-rails are rigidly attached. Thus the guard-rails terminate in a gradual slope, as is desired.



What I claim is—

1. A guard for railway-bridges, consisting of three or more guard-rails placed equidistant from the main-track rails and from each other, said guard-rails extending parallel with each other and with the main track throughout their length, substantially as described.

2. A guard for railway-bridges, consisting of a series of guard-rails extending parallel between the track-rails, the ends of said guard-rails sloped downward so as to terminate at or below the surface of the ties, substantially as described.

3. A guard for railway-bridges, consisting of a series of guard-rails placed equidistant from the main-track rails and from each other, said guard-rails extending parallel with each

other and with the main-track rails, and having their ends curved downward and held in position by an iron plate fastened to the ties, substantially as described.

4. In a guard for railway-bridges, an iron plate for holding the ends of the guard-rails in position, said plate bolted or otherwise fastened to the ties and having the ends of the rails passed through the same, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

OSWALD F. JORDAN.

Witnesses:

L. A. DOELTY,

W. H. CHAMBERLIN.