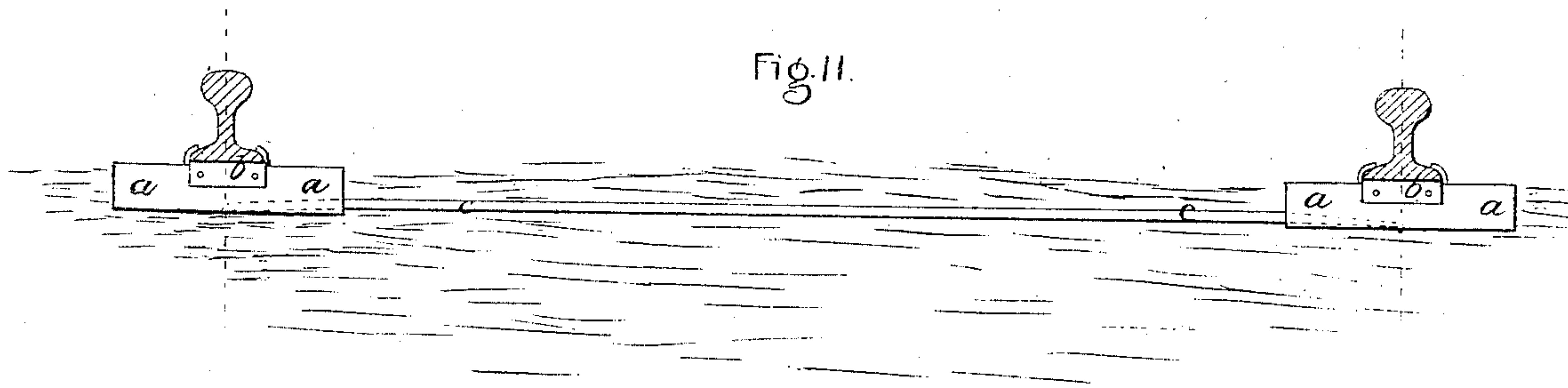
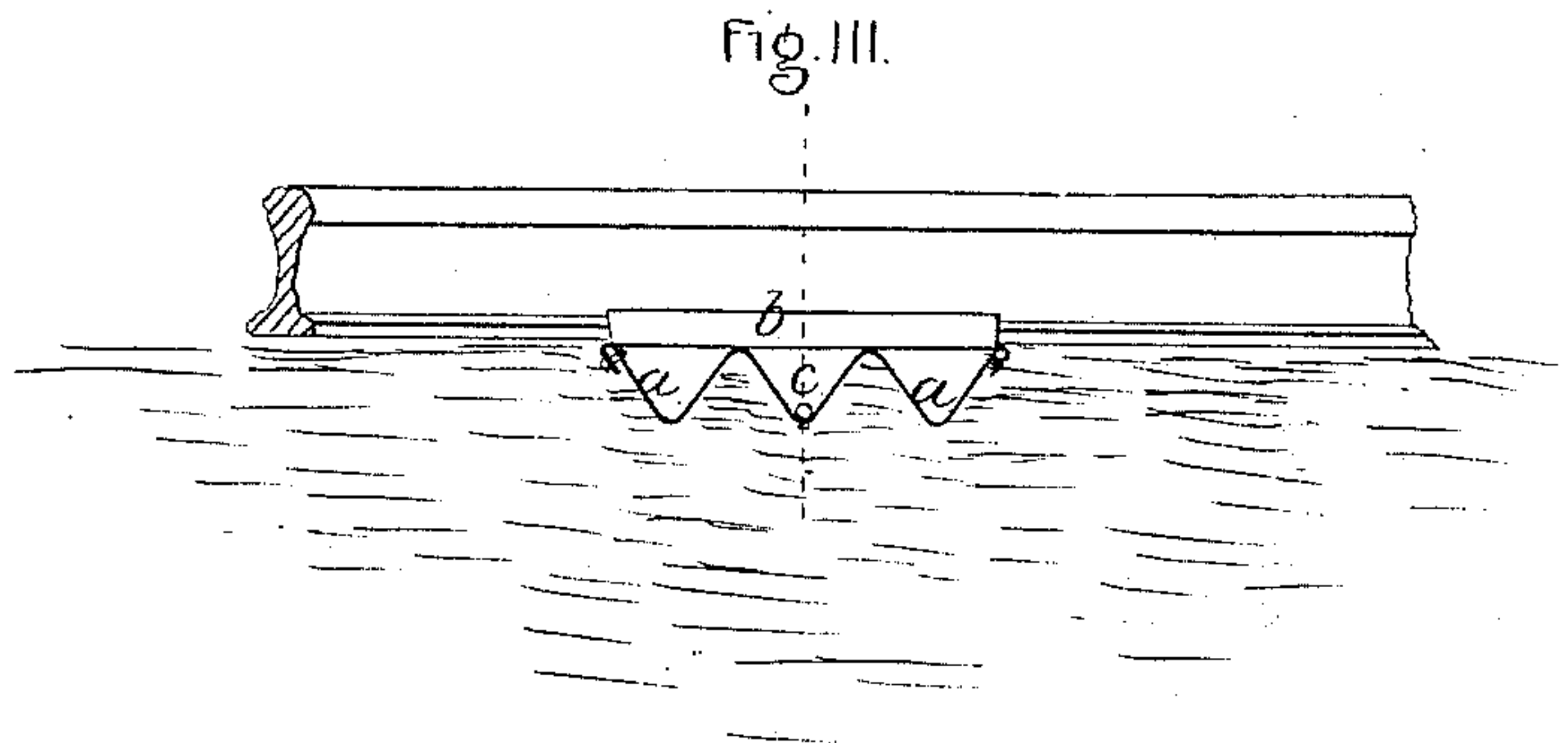
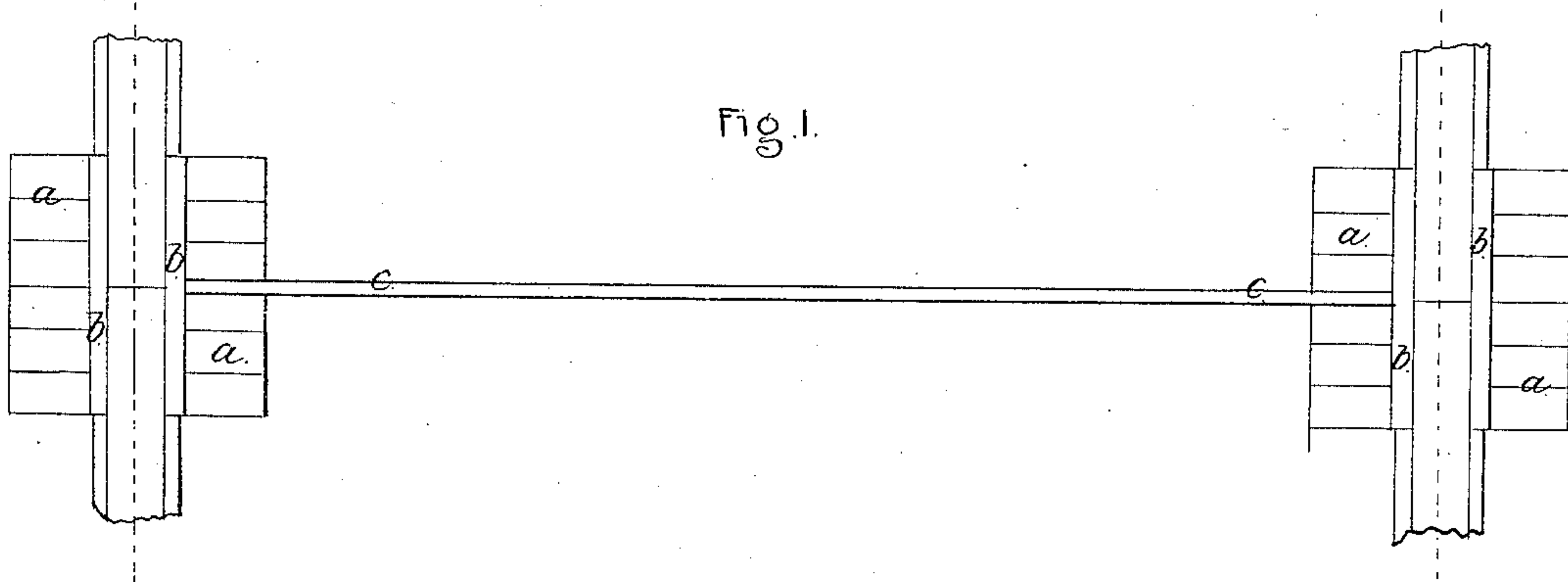


*S. Winkley.*

*Constructing Railroad Tracks.*

*N<sup>o</sup> 58,565.*

*Patented Oct. 2, 1866.*



Witnesses:

*Thomas A. Hay*  
*Wm. H. Hall*

Inventor:

*Sam Winkley*

# UNITED STATES PATENT OFFICE.

SWAIN WINKLEY, OF NEW YORK, N. Y., ASSIGNOR TO HIMSELF AND ASA BIGELOW, JR.

## IMPROVEMENT IN CONSTRUCTION OF RAILWAYS.

Specification forming part of Letters Patent No. 58,565, dated October 2, 1866.

*To all whom it may concern:*

Be it known that I, SWAIN WINKLEY, of New York, in the county and State of New York, have invented a certain new and useful Improvement in the Construction of Railways; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, and to the letters of reference marked thereon.

The object of my invention is to make an iron railway that will combine the elements of strength and elasticity, and be without the weight of metal that has hitherto rendered the cost of such structures so objectionable; and it consists in placing between the rails to be supported an extended base of corrugated sheet or plate iron, the sections of which are connected by light wrought-iron cross-ties to which they may be riveted, or otherwise secured. The ridges or corrugations of the said base-plates are arranged transversely across the track, and require no support in that direction; and, to prevent the crushing of the corrugations, or the destruction of the series of arches of which the base-plates may be considered as composed, the edges of the outside corrugations are connected by a cap-piece extending across them, which serves as a tie and prevents the spreading or flattening of the arches and consequent weakening of the base-plate in that direction. The same end may be effected by riveting the rails to the edges of the plates; but it is obvious that such an arrangement would be inconvenient to construct and difficult to repair.

The cap-piece is formed with lips that are turned up to grasp the foot of the rail on each side, or it may be clamped and keyed to the rail, as may be preferred, or otherwise secured by bolts or rivets. The base-plates may be made as large as may be required to sustain the pressure to which they will be subjected; and those under the joints of the rails may be made with advantage somewhat longer than the intermediate ones, so that they will serve effectually to splice and strengthen the rails at those points.

It is believed that the form of the corrugations will furnish sufficient elasticity to obviate

the necessity for making the special provision for the concussive action of passing trains that are usually required with metal or other rigid ties or supports. But it is apparent that felt or sheet rubber may be readily interposed, if desired, between the cap-pieces and the rails.

To enable others skilled in the arts to which it appertains to make and use my invention, I will proceed to describe its construction and operation with reference to the drawings.

Figure 1 is a plan of a section of a railway, constructed according to my invention, in the manner I have described. Fig. 2 is a transverse section of the same, and Fig. 3 is a side elevation of one of the base-plates and a portion of the rail it supports.

The outer edges of the base-plates *a* are connected and tied by the cap-pieces *b*, extending across the corrugations; and the sections or pairs of base-plates are connected across the roadway by the cross-ties *c*, that may be made of light wrought-iron, and have their ends bent through perforations in the base-plates into which they are riveted or clinched. By this means the exact length of the ties may be easily determined with precision when they are made, and the width of the gage of the rails will require no measurement or adjustment when being laid. The lips of the cap-pieces *b*, as shown in the drawings, merely embrace the foot of the rail sufficiently to hold it securely in its place; but they may, if desired, be extended up the sides of the rail, so as to obtain a bearing under the head on each side; or one side may be left open for the reception of a key, in the manner in which chairs are generally constructed.

The figures in the drawings illustrate the invention as applied to an ordinary T-rail, but the same system of construction may be adapted to the various patterns of rails employed on either steam or horse-roads.

The rails may be secured to the cap-pieces by a couple of small bolts passing through the foot of the rails; and the cap, in that case, may be made without lips and merely to sustain the rail in addition to its principal office of retaining the corrugations in the proper form, upon which their strength depends for most effectually sustaining the weight; and,



to accomplish this last purpose most satisfactorily, the base-plates may be made as large and spaced as far apart as may be considered best adapted to circumstances.

I am aware that longitudinal beams of corrugated iron have been applied to the construction of bridges and railways, and I therefore do not make a broad claim to the application of corrugated iron to the construction of railways.

I claim—

The construction of the corrugated base-plates *a*, combined with the cap-pieces *b*, and tie-rods *c*, when applied to railways, substantially in the manner herein described.

SWAIN WINKLEY.

Witnesses:

THOMAS DAY,

WM. KEMBLE HALL.