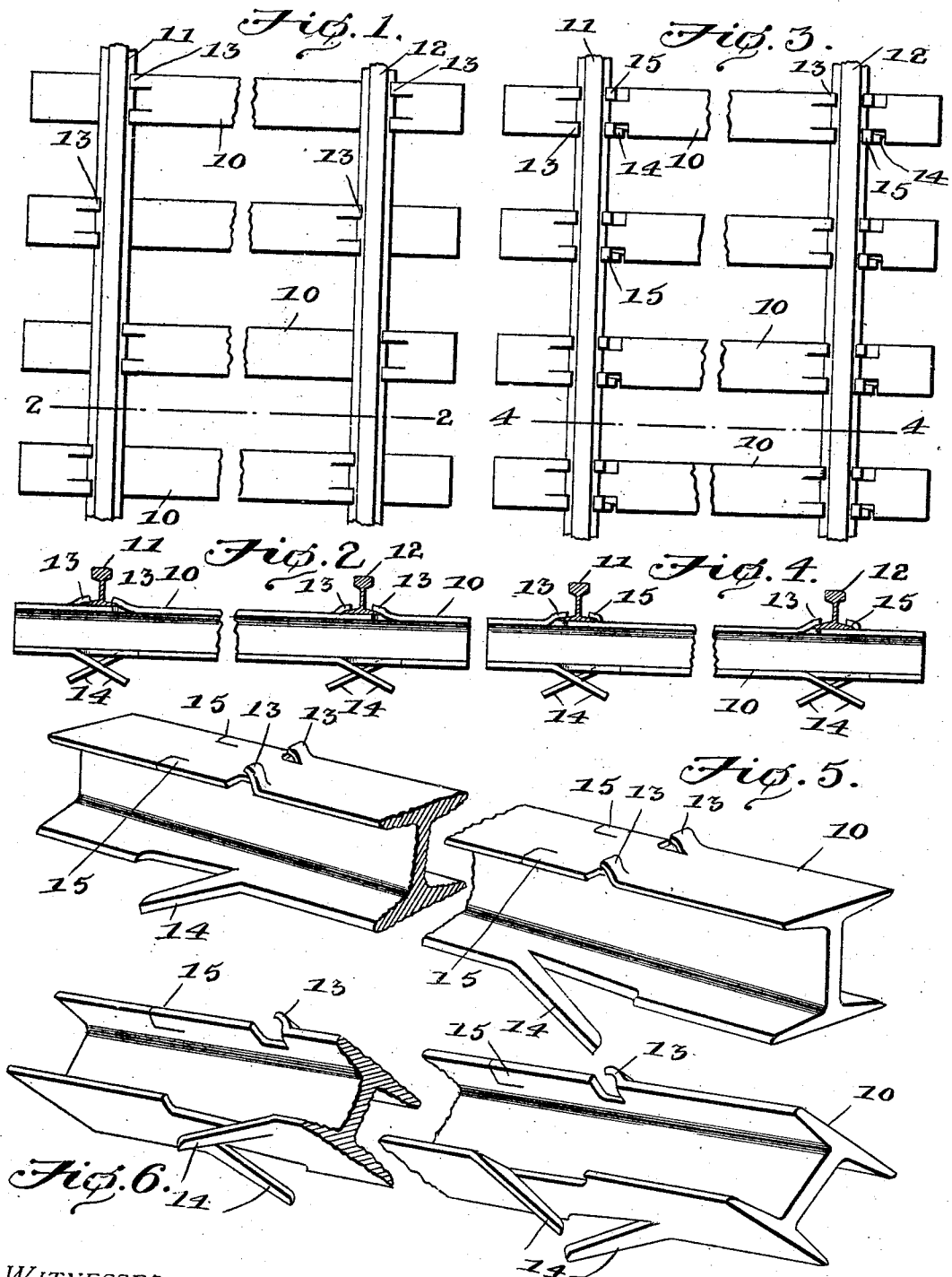


No. 828,479.

PATENTED AUG. 14, 1906.

C. S. HOWELL.  
RAILWAY TIE.

APPLICATION FILED MAY 12, 1906.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

CHARLES S. HOWELL, OF EASTON, PENNSYLVANIA.

## RAILWAY-TIE.

No. 828,479.

Specification of Letters Patent.

Patented Aug. 14, 1906.

Application filed May 12, 1906. Serial No. 316,543.

*To all whom it may concern:*

Be it known that I, CHARLES S. HOWELL, a citizen of the United States, residing at Easton, in the county of Northampton and State of Pennsylvania, have invented a new and useful Railway-Tie, of which the following is a specification.

This invention relates to metal railway-ties, and has for its object to provide a simply-constructed device of this character of increased efficiency and utility and by means of which the rails may be "gaged" when laid upon the ties and the ties anchored in position in the tamping or bed.

With these and other objects in view, which will appear as the nature of the invention is better understood, the invention consists in certain novel features of construction, as hereinafter fully described and claimed.

In the accompanying drawings, forming a part of this specification, and in which corresponding parts are denoted by like designating characters, is illustrated the preferred form of the embodiment of the invention capable of carrying the same into practical operation.

In the drawings, Figure 1 is a plan view of a portion of a railway-track with the improved ties in position beneath the rails. Fig. 2 is a transverse section on the line 2 2 of Fig. 1, the arrangement shown in Figs. 1 and 2 being that employed upon straight portions of track. Fig. 3 is a plan view, and Fig. 4 is a section on the line 4 4 of Fig. 3, illustrating the arrangement employed when applied to tracks upon which lateral strains are liable to occur—for instance, upon curved lines of track. Figs. 5 is a perspective view, enlarged, viewed from above, of one of the improved ties. Fig. 6 is a perspective view, enlarged, of one of the improved ties viewed from beneath.

The improved tie is constructed of an ordinary I-beam (represented at 10) of suitable strength, preferably about six inches high, more or less, and of the ordinary length of a tie, generally about eight feet. At the points where the rails 11 12 cross the ties, L-shaped clefts are formed therein and the portions released by the clefts bent upward, as at 13, to form clips for bearing against the tie-flanges or bases of the rails.

The clips will be so located that when the clips 13 are bent upwardly therefrom they will be spaced apart equal to the distances between the rails when placed thereon, and thus serve as gaging means to determine

the distances between the rails. By carefully bending the clips 13 and spacing them to fit the tie-flanges of the rails the gaging of the tracks by the ordinary means is dispensed with and the track-rails accurately spaced by disposing them with their tie-flanges against the clips 13.

The ties will be arranged with the supporting-clips 13 extending in the same direction, as shown in Figs. 1 and 5, and when employed upon straight portions of the track, every alternate tie will preferably be arranged with the bearing-clips 13 upon the outer sides of rail 12 and the inner sides of the rail 11 and the remaining ties arranged with the clips 13 bearing against the inner sides of the rail 12 and the outer sides of the rail 11, so that the rails are firmly supported from both sides.

Elongated clefts are formed in the lower webs of the ties upon opposite sides and preferably opposite the clips 13, and the portions 14 released by the clefts bent downwardly at an angle, as shown more clearly in Figs. 5 and 6, the angularly-disposed spurs 14 being preferably arranged at reversed angles, as shown in Figs. 2, 4, and 6.

The spurs 14 are designed to be embedded in the tamping or bed in which the ties are supported, and thus effectually prevent longitudinal movement of the ties and also effectually prevent lateral movement thereof or the creeping of the ties. When employed upon tracks which are liable to be subjected to lateral strains—for instance, tracks used upon curves and at switches and turnouts—additional clefts will be formed in the upper webs of the ties and spaced from the clips 13, to provide braces, as at 15, for bending over the opposite sides of the tie-flanges, and thus support each rail at its opposite sides upon each tie. The support of the rail is thus very materially increased and all tendency to lateral movement effectually prevented.

The device is simple in construction, can be readily applied, and requires no spikes or bolts or other similar holding means, the clips 13 being amply sufficient when arranged in alternate order for straight portions of track, as shown in Fig. 1, or when supplemented by the braces 15 when used upon tracks which are liable to be subjected to lateral strains.

Having thus described the invention, what is claimed as new is—

A metal railway-tie having means at the

upper sides for fastening the rails and with laterally-extending flanges at the lower sides, said flanges having oppositely-extending longitudinal clefts whereby tongues are released  
5 and adapted to be bent in opposite directions and at reversed angles to the longitudinal plane of the tie.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES S. HOWELL.

Witnesses:

WM. H. HOOKWAY,  
CHAS. B. BRUNER.