(No Model.)

C. GARVIN.

RAILROAD TIE.

No. 584,546. Patented June 15, 1897.

FIG. 1.

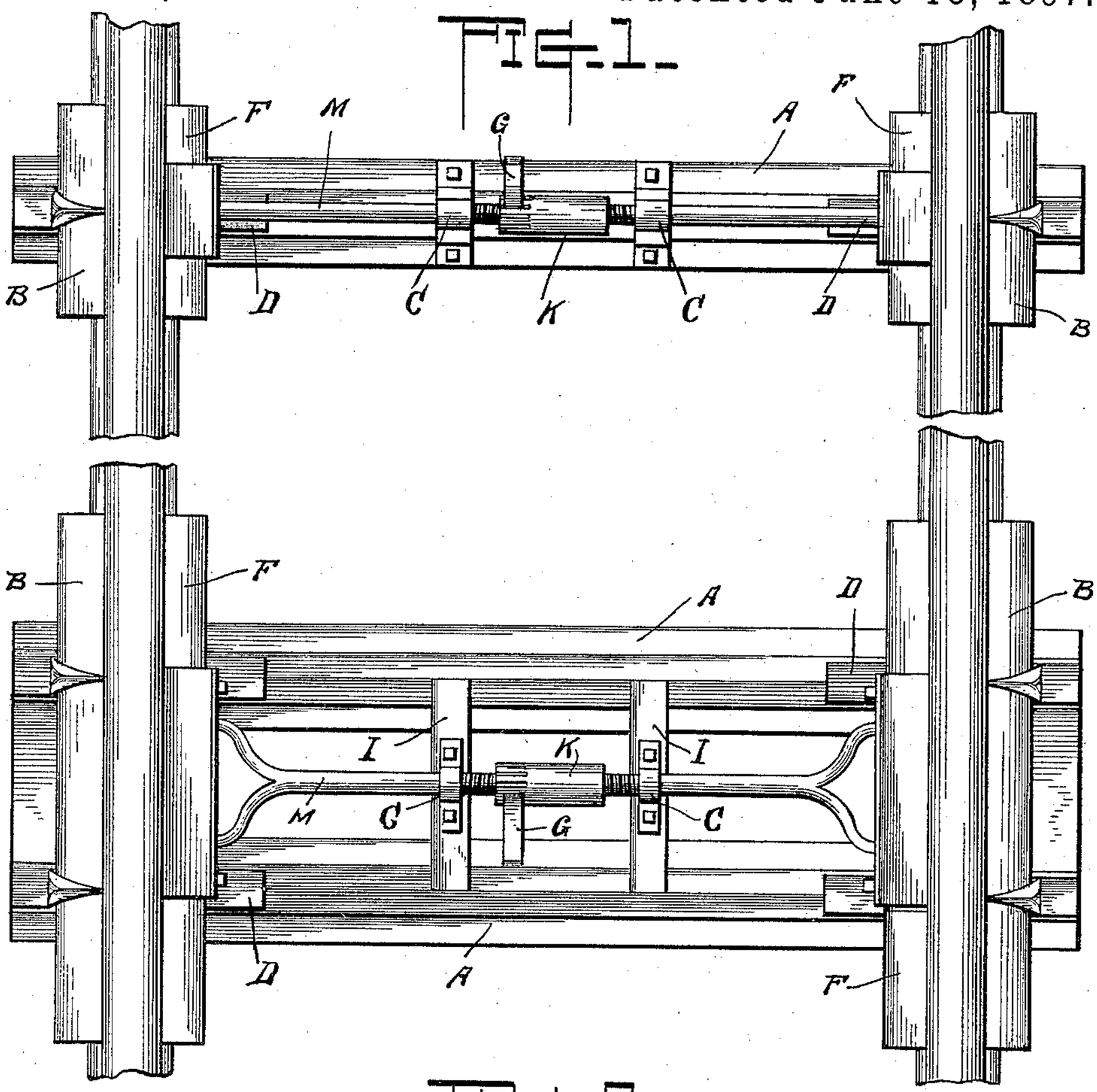


FIG. 2.

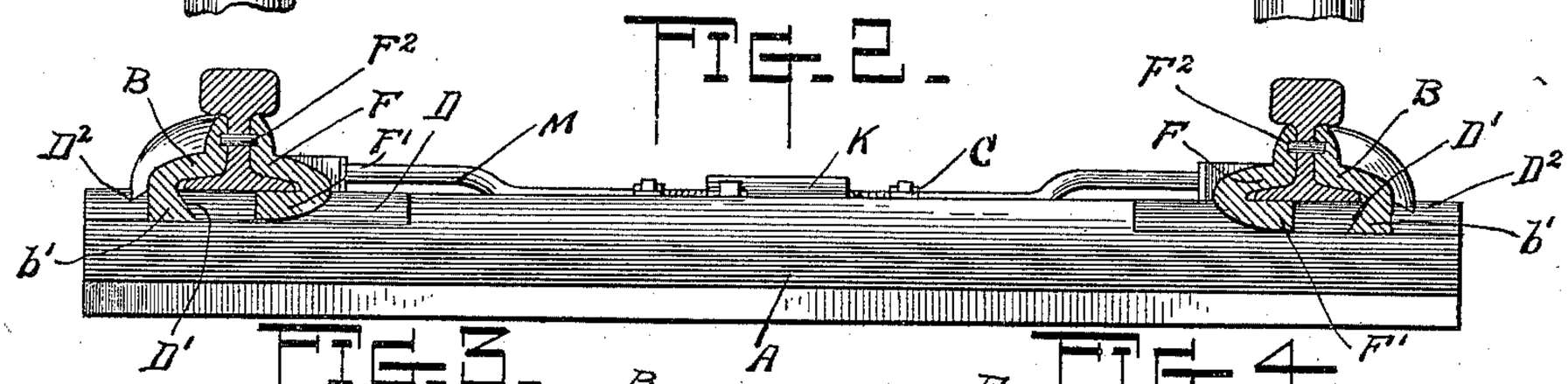


FIG. 3.

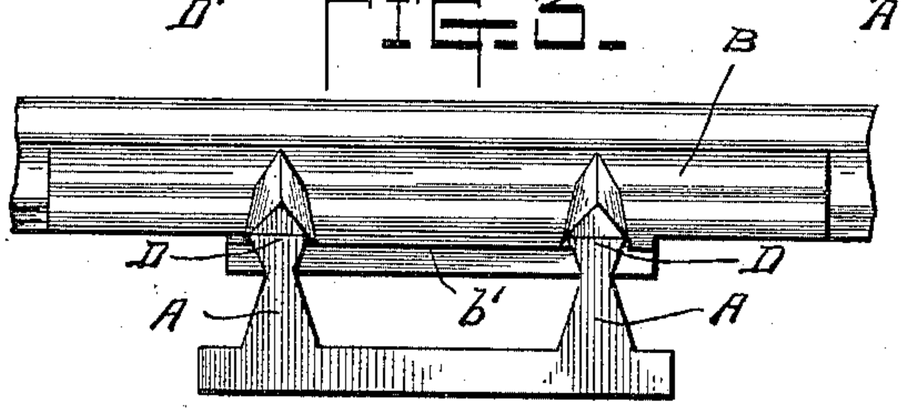
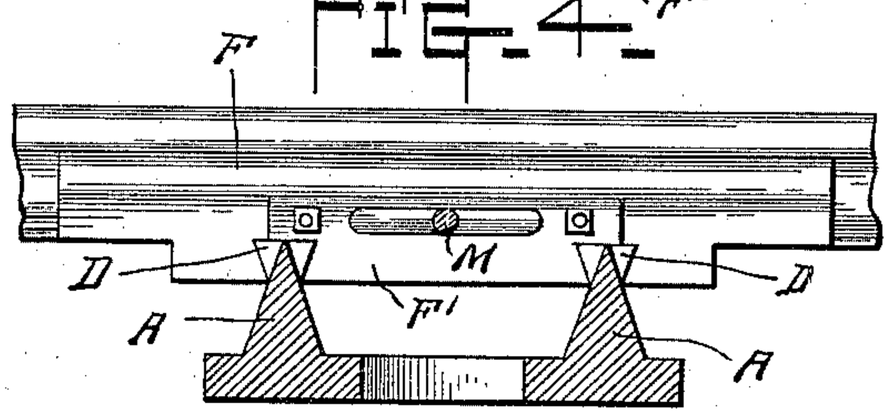


FIG. 4.



WITNESSES

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COLUMBUS GARVIN, OF HARPSTER, OHIO.

RAILROAD-TIE.

SPECIFICATION forming part of Letters Patent No. 584,546, dated June 15, 1897.

Application filed October 20, 1896. Serial No. 609,427. (No model.)

To all whom it may concern:

Be it known that I, COLUMBUS GARVIN, a citizen of the United States, residing at Harpster, in the county of Wyandot and State of Ohio, have invented certain new and useful Improvements in Railroad-Ties; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to railroad-ties and rail-joints.

It consists of a cast-iron tie which at the same time acts as a joint for the rail.

The parts and construction of my device will be pointed out more particularly in the specification following, reference being had to the accompanying drawings, forming a part thereof, in which—

Figure 1 is a plan view of my device, both the double and the single tie. Fig. 2 is a side elevation, the rail-joint being in sections. Fig. 3 is an end elevation, and Fig. 4 represents a vertical transverse section taken through my improved tie just inside of the rail.

The object of my device is to produce a metal tie which shall be firm and hold the track securely in place, and which may be quickly and surely operated to line up the track and which will be durable. These objects are secured as follows:

I will first describe the double tie and the rail-joint as combined with it. In this the body of the tie is represented by A. This consists of a casting in a general T shape, the stem of the T, however, being in the form of a wedge. This wedge portion is placed up and the top of the T down. Two of these sections are placed parallel and slightly removed from each other, with webs joining them in the center and with the ends joined by an extension I of the bottom of the tie. The space between the two bars of the double tie is about equal to the width of each section or bar. These double ties are calculated to be used at the rail-joints and are designed to give additional bearing-surface and stiffness at this point. The top or apex of the wedge portion of each bar is for a short distance from each end made in the form of a flat-top gib D, having undercut sides. Across the tie, just outside of the rail-bearing, is cut a dovetail groove D′. Just outside this is a somewhat smaller groove D^2, cut in the surface simply in the shape of a tooth.

A casting B, made as a fish-plate to fit the outer surface of the rail, has a downwardly-projecting flange b', made so as to fit snugly in the groove D′. It also has a central portion shaped as a tooth to fit the notch D^2 in the top of the tie. This fish-plate is slid into the tie from one side and the dovetail flange and groove lock it and the tie securely together, so that it will securely resist any side pressure upon the rail. Upon the opposite side of the rail is the other half of the fish-plate F. The top of this is made as the other to fit the side of the rail. It has a downwardly-projecting flange upon the inner side and extending somewhat under the rail. This downwardly-projecting portion F′ is grooved out across the same so as to fit snugly over the ways D. This fish-plate must thus be placed upon the ties by sliding it on their inner ends to the outer ends of the ways D. The rail has the usual holes punched as for fish-plates and the members of the fish-plates or rail-joints have recesses adapted to receive the ends of pins F^2, inserted through the rail and projecting beyond the sides of the same.

Connected to the inner edge of the inner fish-plate F by bolts fastened in the fish-plates, as shown, is a rod M. This rod extends to the center of the track. The two complementary rods from opposite sides are screw-threaded upon their inner sides, one being right-handed and the other left. A long right and left nut or turnbuckle K is placed upon these rods, and by turning the same the inner face of the rail-joint may be pressed firmly out against the rails. When it is necessary, they can also be turned in. The rods M are slightly bedded in the cross-webs I and are held from being removed therefrom by straps C.

In a single tie the construction is essentially the same, the only difference being that a single bar only is used to make the tie and the rail is not punched, nor do the fish-plates have pins for entering the said holes. The bearing-blocks against the side of the rail are, however, much shorter than the fish-plates at the rail-joints. Every part of construction

of a single tie is, however, the same as in a double tie.

My tie may be used exclusively under the rails or interspersed with common ties. In this case my tie should be placed under the rail-joint and in at least one or two positions between the ends of the rail. The remainder of the ties may be ordinary ones. This form of construction holds the rails securely and prevents the possibility of the rails spreading or loosening from any cause.

To prevent the nuts K from turning back, they are notched or fluted upon the outside at one end and a catch G is fastened to the rail and bears upon its head, engaging the flutes and preventing the turning backward of the nuts.

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

1. In a combined railroad-tie and rail-joint, the combination of a metal tie having undercut ways upon their outer upper edges and a dovetail slot across their ends, with a fish-plate having a dovetail flange fitting their cross-slot and shaped upon the side to fit the side of the rail, a complementary plate having dovetail slots to slide upon the undercut ways and shaped to fit the side of the rail and means for forcing said plate out against the rail, substantially as described.

2. In a combined railroad-tie and rail-joint, consisting of a T-shaped metal bar placed with the flat top down, an undercut way upon the top of the tie at each end, and a dovetail cross-groove near the inner end thereof, a block having a dovetail flange for fitting in said grooves and shaped to fit the outer side surface of the rail, a block shaped to fit the inner surface and having downwardly-projecting lugs adapted to engage the undercut sides of the way, a rod engaging the inner block and extending to the center of the track and a right and left threaded nut adapted to engage said rod, substantially as described.

In testimony whereof I have signed this specification in the presence of two subscribing witnesses.

COLUMBUS GARVIN.

Witnesses:
C. H. LEWIS,
CYRUS SEARS.