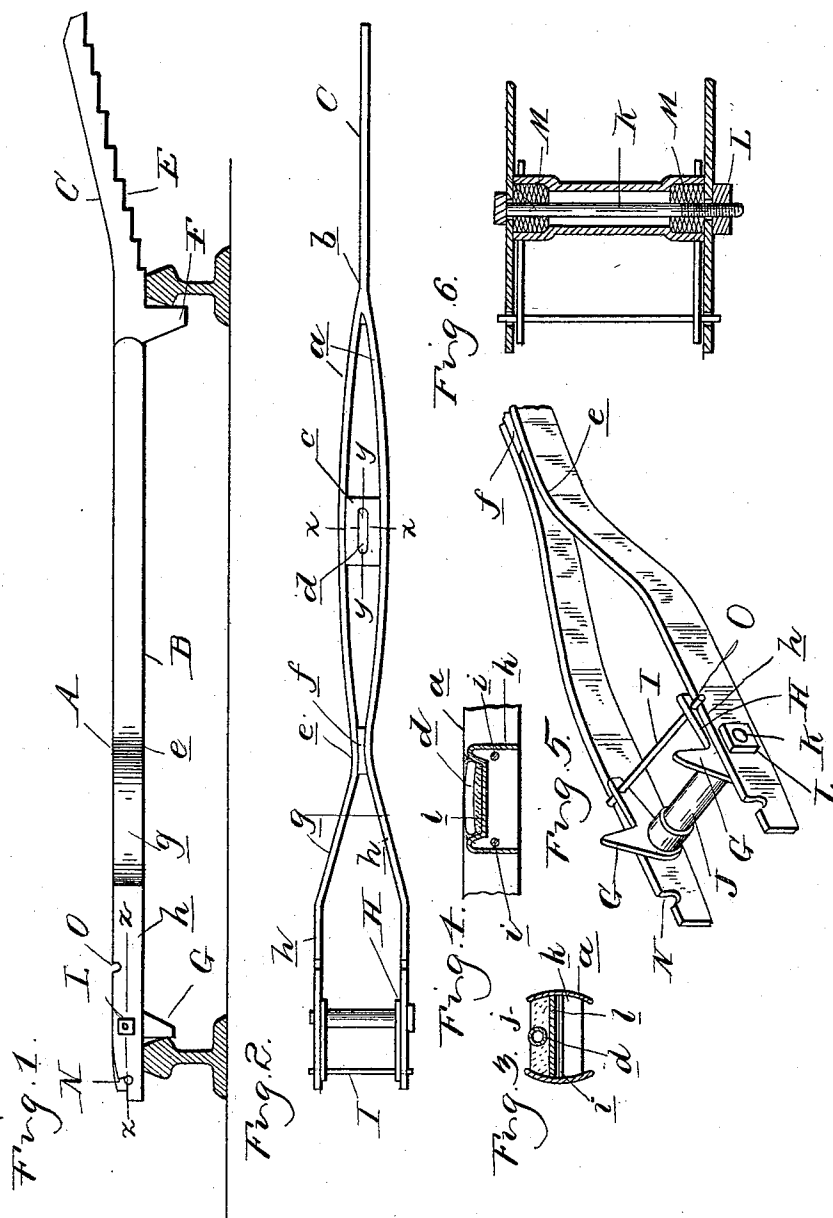


(No Model.)

C. ROBERTS.
TRACK GAGE AND LEVEL.

No. 472,229.

Patented Apr. 5, 1892.



Witnesses
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UNITED STATES PATENT OFFICE.

CYRUS ROBERTS, OF THREE RIVERS, MICHIGAN.

TRACK GAGE AND LEVEL.

SPECIFICATION forming part of Letters Patent No. 472,229, dated April 5, 1892.

Application filed December 28, 1891. Serial No. 416,344. (No model.)

To all whom it may concern:

Be it known that I, CYRUS ROBERTS, a citizen of the United States, residing at Three Rivers, in the county of St. Joseph and State of Michigan, have invented certain new and useful Improvements in Track Gages and Levels, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in railroad-track gages and levels combined; and the invention consists in the peculiar construction of the gage-bar having a straight-edge with gage-pins thereon, adapted to determine the gage of the track, and a graduated extension adapted to determine the degree of elevation of one rail above the other upon a curve or at other points.

The invention further consists in forming one of the gage-pins in such a manner that it may be removed or withdrawn from the edge, so as not to interfere with the action of the device when used in determining the elevation of the outer rail upon the curve.

The invention further consists in the peculiar construction, arrangement, and combination of the various parts, whereby a light but strong device is obtained, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved device, showing it applied as a gage to the rails of a railway. Fig. 2 is a plan view thereof. Fig. 3 is a cross-section on line *xx*. Fig. 4 is a longitudinal section on line *yy*. Fig. 5 is a detached perspective view of the bifurcated end, showing the gage-pins at that end withdrawn from the straight-edge. Fig. 6 is a horizontal section on line *zz* in Fig. 1.

A is a bar having a straight-edge B upon its under face and an extension C at one end, provided with a series of degrees or ledges E upon different planes parallel with the straight-edge to be used for determining the degree of elevation of one rail above the other, as will be more fully hereinafter described.

The bar A, I preferably construct of concavo-convex metal strips *a*, welded or otherwise secured at one end to the end *b* of the extension C. From this point toward the

middle they separate, and at the middle point between them is secured a block *c*, of any suitable construction, in which is secured a level *d*. From the middle toward the opposite end these two bars converge, until at *e* they approach, where they are separated a distance equal to the thickness of the extension C and are held apart by means of the block *f*. From this point they have divergent sections *g* and parallel sections *h* to the ends, forming a double bearing for the rail, so as to prevent the turning or twisting of the gage in applying it to the track. Suitable bolts, rivets, or screws may be used in securing the two parts together and to the blocks *f* and *c*, respectively.

F is a gage-pin secured at one end of the straight-edge, and G are two gage-pins, one for each of the sections *h* of the bifurcated end of the bar. These gage-pins have right-angled extensions H, which are connected together at their ends by the cross-bar I and by a hollow sleeve or hub J, sleeved over a bolt K, having a nut L for holding the parts together.

M are elastic washers within the hub surrounding the bolt K and forming a spring by means of which the cross-bar I is locked in its adjusted position in the notches N and O on the top of the bar.

The gage-pins G may be turned to project below the straight-edge, as shown in Fig. 1, in which position they are locked by engagement of the bar I in the notch N, or they may be turned to clear the straight-edge—for instance, extending upwardly, as shown in Fig. 5, being held in such position by engagement of the bar I in the notches O. The notches are so arranged that the elastic washer is under compression and holds the bar I in an undercut portion, preventing displacement.

The object of turning the gage-pins G out of the way is so that in using the device to determine the elevation of the upper rail on curves, &c., the bar may be slid along over the rail without danger of the gage-pins G striking frogs, switches, other tracks, or snow, ice, or dirt which may be beside the track to be gaged.

I preferably make the block *c* as shown in

Figs. 3 and 4, in which *j* is a thin metal plate bent to have vertical portions *k* and a horizontal cup-shaped portion *l*. The vertical portions *k* have convex edges corresponding to the concave surfaces of the bars *A* and adapted to fit between the same, and rivets *i*, arranged on either side, serve both to tightly clamp the bars *A* together, thus preventing vertical displacement of the level, and also to prevent longitudinal movement of the plate *j*.

What I claim as my invention is—

1. In a track gage and level, the combination of a bar having a straight-edge and gage-pins projecting therefrom, one of said pins being removable, substantially as described.

2. In a track gage and level, the combination, with the bar having a straight-edge, of an extension at one end, having a series of ledges on different levels, a removable gage-pin on the straight-edge at the opposite end of the bar for one rail, and a complementary pin for the other rail, substantially as described.

3. In a combined track gage and level, the combination, with the bar having a straight-edge, of an extension at one end, having a series of ledges on different levels, a gage-pin on the straight-edge adjacent to the extension, and a gage-pin for the opposite end pivoted to the bar and adapted to be turned to project below the straight-edge or to clear the same, substantially as described.

4. In a combined track gage and level, the

bar composed of two strips separated centrally to form a middle trussed section, a bifurcated portion at one end, and gage-pins projecting below a straight-edge formed on said bar, substantially as described.

5. In a combined track gage and level, the combination of two concavo-convex strips separated centrally to form a middle trussed section, a bifurcated end portion, and gage-pins on a straight-edge, substantially as described.

6. In a combined track gage and level, the bar having the straight-edge, the gage-pins, and the stepped extension of the bifurcated end portion, the cross-bar *I*, the gage-pins *G*, the extensions *H* on said pins, the hub *J*, to which they are secured, the elastic washers *M*, and notches *N*, substantially as described.

7. In a combined track gage and level, the combination, with the bars *A*, of a support for the level, consisting of a plate having vertical portions *k* and a horizontal cup-shaped portion *l*, said vertical portion having concave edges adapted to fit between the bars *A*, and rivets for securing said plates in position, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

CYRUS ROBERTS.

Witnesses:

M. B. O'DOHERTY,
N. L. LINDOP.