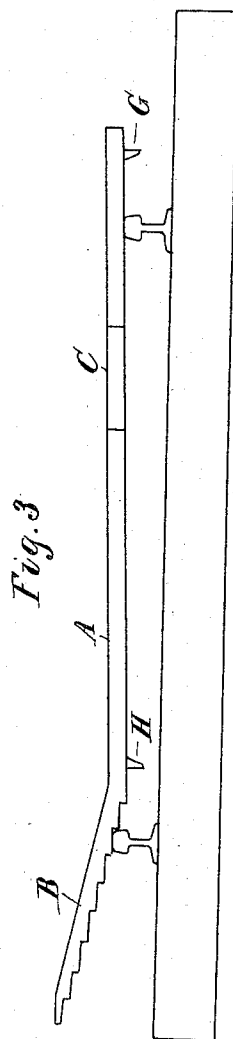
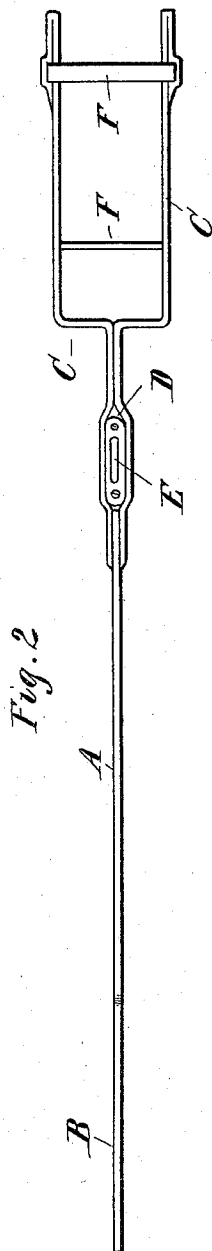
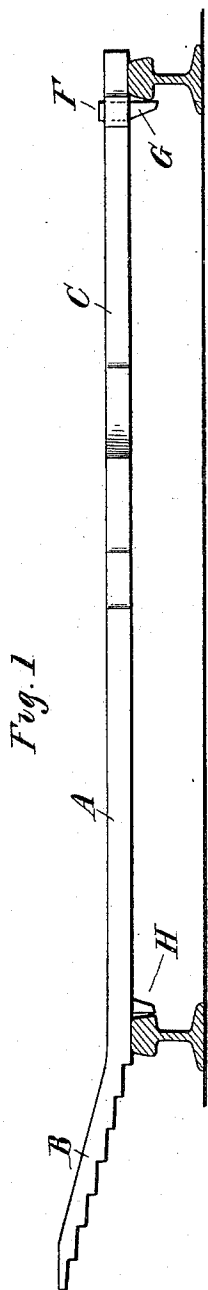


(No Model.)

C. ROBERTS.
TRACK GAGE AND LEVEL.

No. 474,646.

Patented May 10, 1892.



Witnesses:

V. M. Hulbert
J. B. Dougherty.

Inventor:

Cyrus Roberts
By *Thos. Sprague* For
Attys

UNITED STATES PATENT OFFICE.

CYRUS ROBERTS, OF THREE RIVERS, MICHIGAN.

TRACK GAGE AND LEVEL.

SPECIFICATION forming part of Letters Patent No. 474,646, dated May 10, 1892.

Application filed July 1, 1891. Serial No. 398,193. (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 a Track Gage and Level, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to new and useful improvements in a railway-track gage and level combined; and it consists in the peculiar construction of the gage-bar and of a level adapted to determine whether the track is level or the degree of elevation of one rail above the other upon a curve.

The invention further consists in the peculiar construction, arrangement, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of my improved gage and level, illustrating its use as a track-gage. Fig. 2 is a plan view thereof. Fig. 3 is a diagram elevation showing the device applied as a level for setting the outer rail of a curve at a higher elevation.

A is a straight bar, preferably a flat bar, formed at one end with the upwardly-inclined portion B and at the opposite end with a bifurcation, which is preferably formed of two like bars C, in the inner contiguous ends of which an aperture D is formed in which the level E is secured. All the parts are preferably secured together by welding to form one solid bar, and, if desired, one or more cross-bars F are secured between the bifurcated ends to unite them more rigidly. The bar thus formed has a straight lower edge longer than the width of the track with the inclined portion B, forming an extension at one end. The bars C at their outer ends are doubled upon them, and between these doubled ends are secured the downwardly-projecting gage-pins G, which are preferably formed integral with a cross-bar F and secured by welding between the doubled ends. A similar gage-pin H is secured to the opposite end of the bar A at such a distance from the gage-pins G that when the bar is laid at right angles across a track having the proper gage the

gage-pins G are in contact with one rail and the other gage-pin in contact with the other rail, as shown in Fig. 1. The distance from outside to outside is thus equal to the gage of the track. The end B is provided at its under side with an inclined series of steps or what are called "degrees," which, as ordinarily made, have one-half-inch rise each.

To use my device upon rails at a curve to fix the elevation of the outer rail, I engage that step or degree which has the desired elevation with the outer rail and lay the bar at right angles across the track unto the inner rail, as shown in Fig. 3. The outer rail is then raised or lowered until the level E indicates that the bar A is in horizontal position. In the drawings in Fig. 3, the elevation of the outer rail above the inner rail would then be one inch, provided that the bar A shows that it is level.

As the principle involved in the practical use of my device in the construction of tracks for railways or tramways is so simple and does not differ from that involved in the devices in ordinary use upon railways, I deem it unnecessary to further illustrate its practical application. The bifurcated end of the bar prevents its tipping or turning while using it upon the track or sliding it along the rails, as will be done in practical use, and to this end I make the bifurcation long enough to thus uphold the bar at any degree at which it may be used.

My construction gives me a combined gage and level, which is at once light and efficient, which can be used most expeditiously for all purposes of track-laying, and which does not require any skill or training for its use.

I have not herein broadly claimed the degrees arranged to engage with the track, as I have embodied and claimed the same in a concurrently-pending application filed July 1, 1891, Serial No. 398,194.

What I claim as my invention is—

1. In a track gage and level, a bar having a straight lower edge longer than the width of the track, gage-pins secured to the under side thereof at a distance from outside to outside equal to the gage of a track, an inclined longitudinal extension on one end of said bar, provided with a series of degrees on its un-

ler side, and a level secured to the bar, substantially as described.

2. In a track gage and level, the combination of the bar A, bifurcated at one end and
5 formed at the other end with an inclined series of degrees, the gage-pins projecting from the under side of the bar, and the level set into the bar, substantially as described.

3. In a track gage and level, the combination of the bar A, having the upwardly-inclined end B, provided with a series of degrees, the gage-pin H, the bars C, secured to
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and forming the bifurcated end of the bar A, the aperture D, formed between the bars C, the level E, secured in said aperture, and the
15 gage-pins G, secured to the bars C, 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.