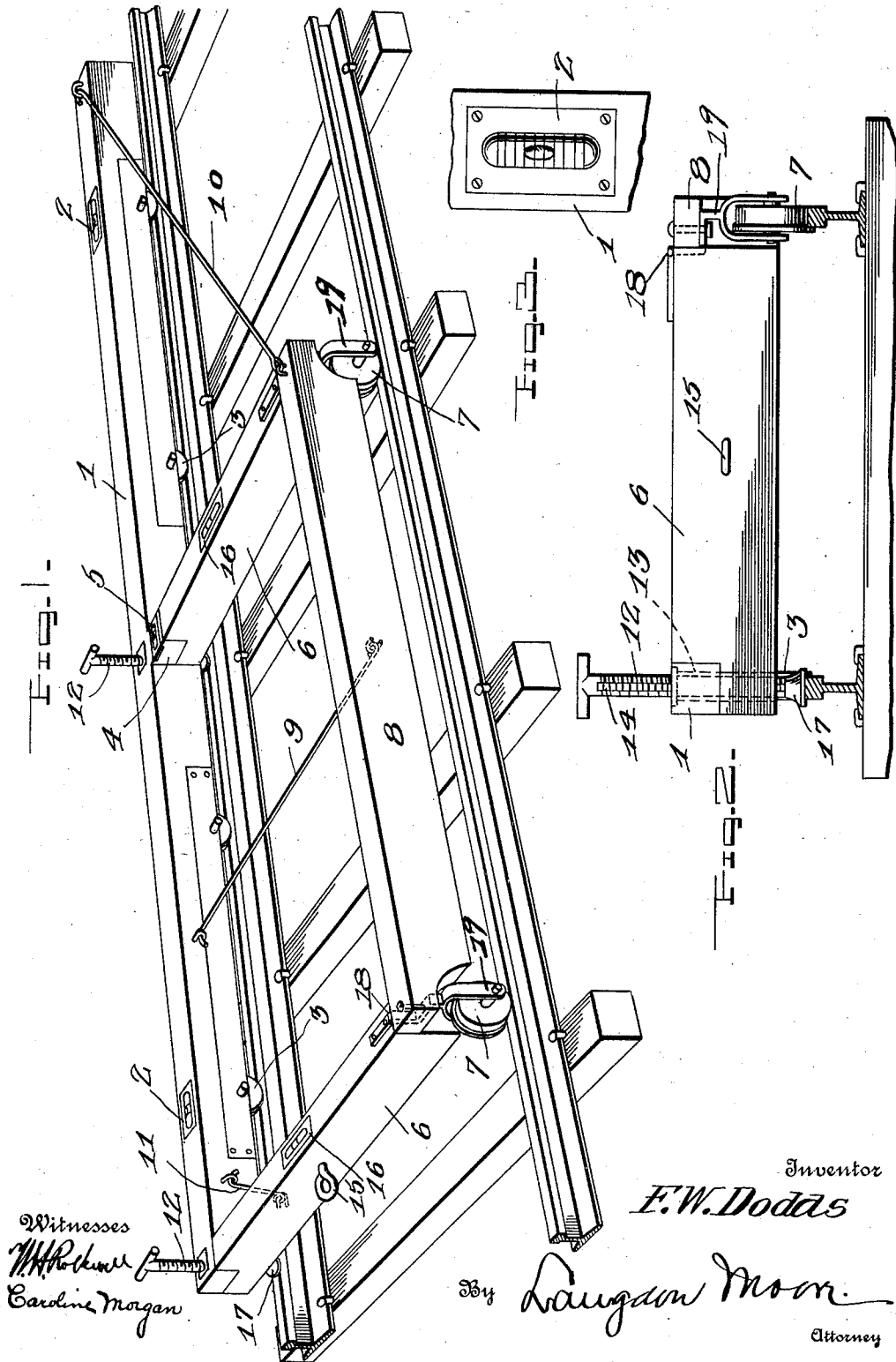


F. W. DODDS.
LEVEL.

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LEVEL.

1,016,254.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK W. DODDS, a citizen of the United States, resident at Fort Morgan, in the county of Morgan and State of Colorado, have invented new and useful Improvements in Levels, of which the following is a specification.

This invention relates to improvements in levels, and more particularly to a device for surfacing railroad tracks.

The object of this invention is to construct a device of the nature specified which will travel over the surface of the track and which will immediately indicate any unevenness therein.

The advantages of this invention are that it may be easily placed upon and removed from the track, it may be readily attached to the rear of a hand-car, it does away with the necessity of sighting, and, it only requires one person to take the record.

This device does not surface joints and centers, and is so constructed as to surface fifteen feet of track at one time. Up and down grades as well as curves may be readily surfaced by this device.

While the preferred form of this invention is illustrated in the accompanying sheet of drawing, yet it is to be understood that minor detail changes may be made without departing from the scope thereof.

Figure 1 is a view in perspective illustrating this device in position for operation upon a railroad track. Fig. 2 is a view in elevation of the forward end of this device. Fig. 3 is an enlarged detail view of one of the longitudinal spirit levels.

This track surfacing device consists of a framework supported upon flanged wheels to engage the track, and comprises two longitudinal members and two transverse members detachably secured together. One of the longitudinal members 1 is preferably twice as long as the other, and is provided upon its upper surface near each end with a spirit level 2 arranged in the longitudinal direction of the member, and these spirit levels are preferably 15 feet from center to center. Two pairs of wheels 3 are mounted on the under side of the longer member on each side of the center line and are preferably held in place by metal plates secured to the sides of the member. On the inner side of the longer member half way between the spirit levels 2 carried thereby an offset block 4 provides a support for a longitudinal

spirit level 5. The under side of the forward end of the longest member is cut away and the under side of the middle portion in line with the inwardly projecting middle spirit level block is also cut away. In these cut away portions are fitted transverse members 6 which carry upon their opposite extremities flanged wheels 7 to engage the other track. The free ends of these transverse members are connected by the shorter longitudinal member 8. The wheels carried by the transverse members are secured thereto by a bracket, and the joining longitudinal member is also secured to this bracket. The joining longitudinal member 8 is braced by a brace rod 9 preferably secured to the center of the inner side thereof and adapted to engage a staple on the inner side of the longer longitudinal member midway between the point of jointure of the transverse members, and another brace rod 10 is secured to the rear extremity of the shorter member 8, which is adapted to engage a staple in the rear extremity of the longer member 1. The front transverse member 6 is further braced by a brace rod 11 secured on the inner side in proximity to the longer longitudinal member 1 and adapted to engage a staple on the inner side thereof near the forward end. By this means of bracing, the transverse members are held at right angles to the longer longitudinal member.

Passing through the longer longitudinal member 1 and the ends of the transverse members 6 in engagement therewith is an adjustable bolt 12. It is preferable that this bolt be mounted within a metallic bushing 13 secured to the longitudinal member and the bolt adjustable therein. The bolt may be screw threaded to engage similar threads upon the interior of the bushing, and a flat surface 14 provided upon one side of the bolt displaying a scale, or the bolt may be provided with any other adjusting means such as by constructing the bolt to slide freely within the bushing and providing a plurality of holes extending transversely through the bolt adapted to be engaged by a pin to secure the bolt in the different positions of the scale.

The front side of the forward transverse member is provided with a coupling 15 adapted to be connected with a hand-car or other means of propelling device.

A spirit level 16 is centrally mounted on the upper side of each transverse member,

which will indicate any difference in level between the longitudinal members 1 and 8.

The elevation bolts 12 are provided with a swivel 17 on the lower end thereof adapted to engage the track. The elevation bolts
5 are used in surfacing curves to compensate for the banking of the outer track.

The longitudinal spirit levels upon the side member are graduated, as shown in
10 Fig. 3. When the spirit levels at each end of the longitudinal member are 15 feet apart, the graduation should be in a scale which will indicate each inch or fraction of an inch raised to 15 feet. Any unevenness in the track will be immediately indicated by the spirit level and the amount of unevenness will be immediately determined by the scale. In surfacing up or
15 down grades, the proper amount of rise or fall to each 15 feet of track may be first determined and allowance made therefor in reading the spirit level.

The brackets 19 securing the wheels 7 to the transverse members 6 are preferably
25 hinged at 18 to allow for the operation of the adjustable bolts 12. It is also preferable that the wheels 3 and 7 are on a line with the bottom of the frame.

When the frame is constructed of wood
30 the parts should be provided with steel bands upon the top and bottom and the bands upon the longitudinal member 1 should extend over and engage the forward transverse member 6 where it joins the
35 member 1.

What I claim is:—

1. In a track surfacing device, a longitudinal member mounted upon wheels to engage the track, spirit levels mounted thereon in proximity to each extremity
40 thereof and a definite distance apart having scales indicating the difference in level for that distance, transverse members attached to the front and middle portion of the longitudinal member having wheels
45 mounted upon their free ends to engage the track, spirit levels mounted centrally of each transverse member, and adjustable elevating means at the forward and middle portions of the longitudinal member. 50

2. A knock down track surfacing device, comprising a longitudinal member mounted on wheels to engage one track and having spirit levels with graduated scales to indicate the difference of level in known terms,
55 transverse members engaging the front and middle portions of the longitudinal member and provided at their free ends with wheels for engaging the other track and having upon their central portion spirit levels, elevating bolts passing through the longitudinal
60 member and transverse members at their points of connection, a second longitudinal member joining the free ends of the transverse member over the wheels carried
65 thereby, and tie rods bracing the framework and securing it in place.

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Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."