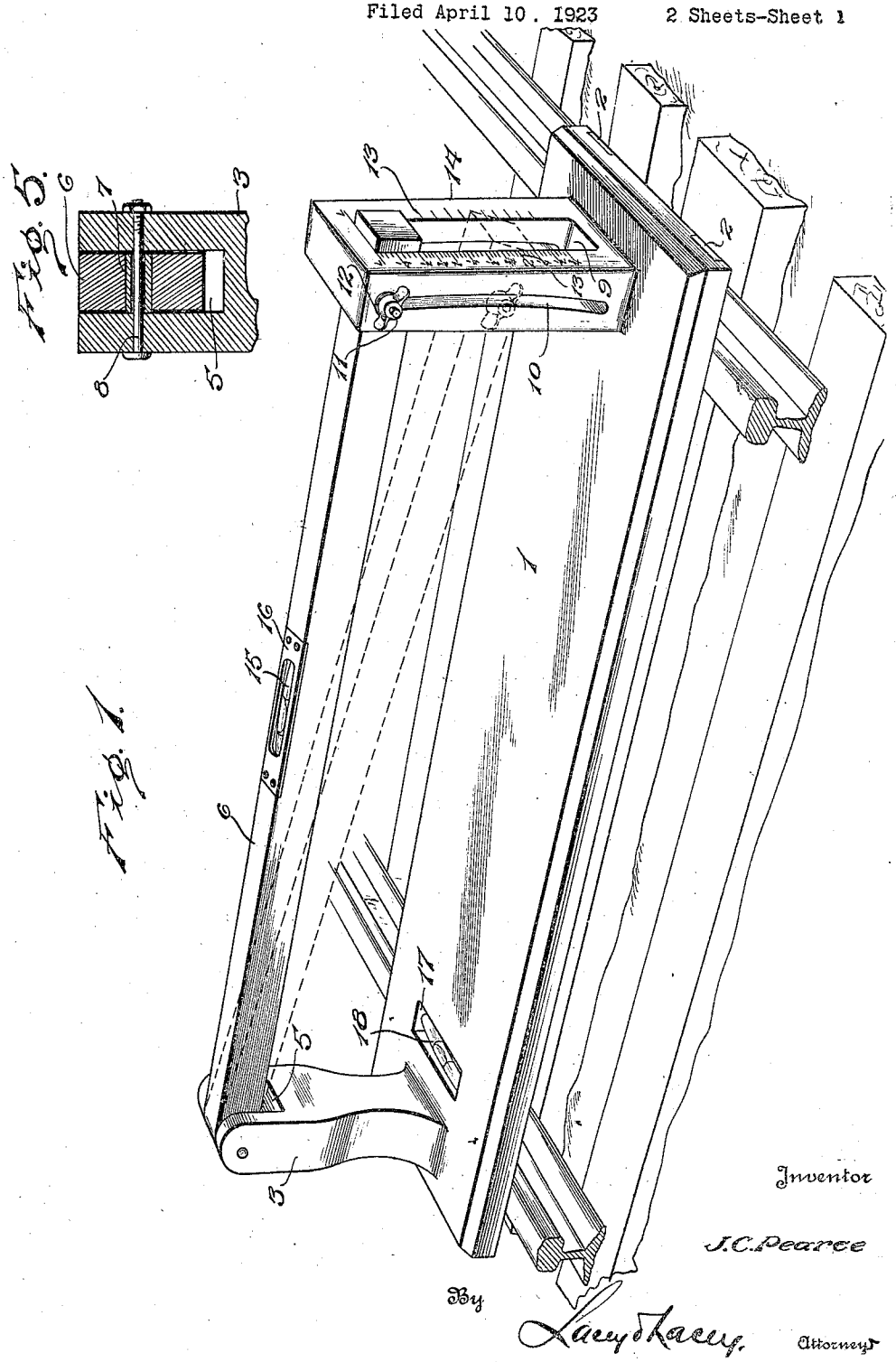
Feb. 12, 1924. 1,483,242

J. C. PEARCE

LEVEL

Filed April 10, 1923 2 Sheets-Sheet 1



Inventor

J. C. Pearce

By Lacey & Lacey. Attorneys

Feb. 12 , 1924. 1,483,242

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Fig. 2.

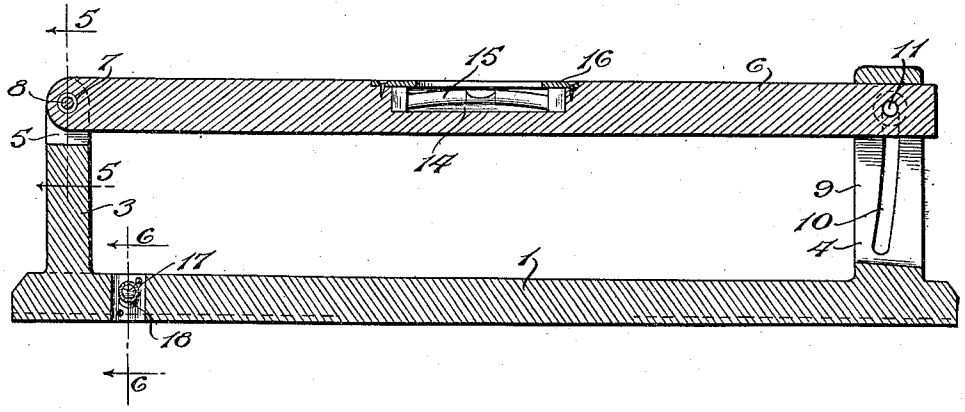


Fig. 3.

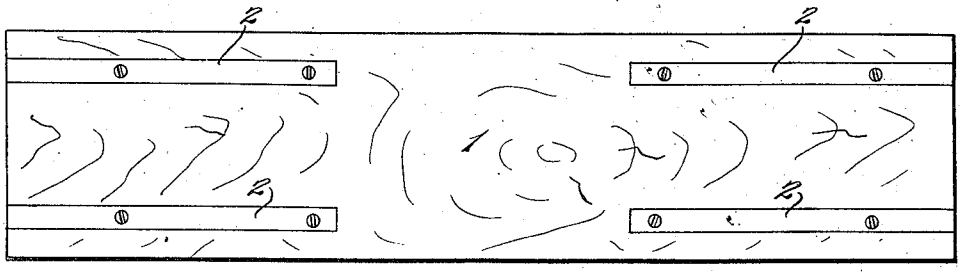


Fig. 4.

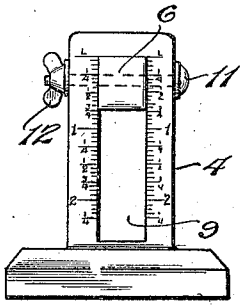
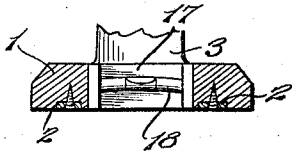


Fig. 6.



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UNITED STATES PATENT OFFICE.

JESSE C. PEARCE, OF SULLIVAN, ILLINOIS, ASSIGNOR OF ONE-HALF TO HENRY A. FREDERICK, OF KIRKSVILLE, ILLINOIS.

LEVEL.

Application filed April 10, 1923. Serial No. 631,136.

To all whom it may concern:

Be it known that I, JESSE C. PEARCE, a citizen of the United States, residing at Sullivan, in the county of Moultrie and State of Illinois, have invented certain new and useful Improvements in Levels, of which the following is a specification.

This invention is a level and is intended more particularly for use in laying railroad tracks but it may be advantageously employed in other work, such as building, and all operations performed by bricklayers, masons, carpenters or other artisans. The primary object of the invention is to produce a level of novel construction by the use of which any exact grade or pitch of track rails, or other elements which are being placed in a more or less permanent structure, may be readily ascertained and the elements placed at any desired elevation or inclination. The invention seeks to provide such a device which will be simple and inexpensive in construction and accurate in its results while it may be very easily operated.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the device illustrated in position upon track rails to aid in setting the rails at the proper pitch upon a curve;

Fig. 2 is a longitudinal vertical section of the device;

Fig. 3 is a bottom plan view thereof;

Fig. 4 is an end elevation, and

Figs. 5 and 6 are detail sectional views upon the lines 5—5 and 6—6 respectively of Fig. 2.

In carrying out my invention, I employ a base 1 which may be of any desired material and will preferably be constructed of wood as a matter of economy. When formed of wood, it will be cut with the grain and wear strips 2 will be set in the under side thereof to aid in preventing warping of the base and also to resist wear of the same through use. At the ends of the base, I erect thereon posts 3 and 4, the post 3 being constructed with a notch 5 in its upper end within which is pivoted one end of the level bar 6. The level bar 6 may be of wood or metal but will preferably be of metal inasmuch as it will thereby be better enabled to withstand the action of the weather and will prove more durable than wood or some cheaper material. To avoid wear in the level bar or beam, a bushing 7 is inserted through the pivoted end thereof and the pivot bolt 8 passes through the said bushing, as will be readily understood. The free end of the bar or beam 6 plays in a vertical slot 9 in the post 4, which slot opens through the front and rear faces of the post, and in the side walls of the said post are formed slots 10 which describe arcs having the pivot 8 as a center. A set bolt 11 is inserted through the free end of the bar or beam 6 and has its ends disposed within the arcuate slots 10, as will be readily understood, a set nut 12 being mounted upon the end of the said bolt and adapted to be turned home against the adjacent side of the post so as to secure the beam or bar 6 at any desired point in the height of the post. Upon the front face of the post 4, at the sides of the slot 9 therein, are marked graduations 13 which serve as gages to aid in securing the level bar or beam at the desired inclination in the use of the device. When the free end of the level beam or bar is at the upper end of the slot 9, the bar is parallel to the base 1 and it may be set at any desired inclination thereto and secured at said inclination by properly manipulating the nut 12 and the bolt 11. In the upper side of the level beam or bar 6 at the center thereof is a recess or chamber 14 in which is fitted a spirit level 15 of any preferred type. A slotted retaining plate 16 is secured upon the beam or bar over the recess or chamber 14 so that the position of the air bubble in the spirit level may be readily noted at any time.

In the base 1 adjacent the post 3 is provided a transverse slot or chamber 17 and a spirit level 18 is mounted in the said recess or chamber, as shown.

My improved level is capable of use wherever it is desired to ascertain whether a surface is level or to what extent it is out of a true horizontal plane, but it is intended more particularly for use in laying railroad tracks to set the track rails at a given inclination or at a given relative elevation when forming curves. In Fig. 1, I have shown the manner of using the device when laying track rails around a curve. The base 1 is set transversely to the track and rests upon the rails, as shown. Assuming that the outer

rail of the curve should be one and one-half inches higher than the inner rail of the curve, the level beam or bar 6 is set at an inclination, as indicated by the dotted lines, so that the upper surface of the said beam or bar will register with the graduation marked one and one-half inches upon the front face of the post 4 and it is secured in that position by the set nut 12 in an obvious manner. The free end of the beam is, of course, placed over the rail which is to be at the outer side of the curve and said rail is then raised in the usual manner of track laying until the level bar or beam 6 is horizontal which position will be denoted by the bubble of the spirit level 15, as is obvious. If it be desired to lay a rail at a given inclination, say one-half inch in thirty feet, the tool is placed longitudinally upon the rail and the beam or bar 6 is secured in an inclined position having the same ratio to the inclination required in the rail as the length of the base has to the length of the rail which is to have the given inclination. If the base is seven and one-half feet long, it is obviously one-fourth of the length of the rail (thirty feet) in which the given inclination is to be had and the beam will, therefore, be set at the graduation equivalent to one-fourth of one-half inch, which is one-eighth of an inch, and the pitch or inclination of the rail is then adjusted until the post 4 and the end of the lever or beam connected therewith has been raised to such point that the beam is horizontal, as will be indicated by the spirit level. The accuracy of the tool is enhanced by the provision of the transverse spirit level 18, and it will be noted that both spirit levels are completely housed within the members in which they are fitted so that accidental breakage of the levels is prevented.

My device is exceedingly simple in its construction, may be easily manipulated and will greatly facilitate the building of railroad tracks and will insure accuracy in the grade given the same.

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

A level comprising a base, posts rising from the base at the ends thereof, one of said posts being provided with a vertical slot opening through its front and rear faces and having arcuate slots in its side walls and provided upon its front face with graduations, a level indicator arranged transversely in the base adjacent the opposite post, a beam pivoted at one end in the upper end of the last-mentioned post and having its opposite end adapted to play in the vertical slot of the post having graduations and having its end arranged to co-operate with said graduations, a securing bolt carried by the last-mentioned end of the beam and adapted to play in the arcuate slots of said post, means carried by said bolt for securing the end of the beam at any desired position of the beam relative to the post, and a level indicator fitted in the upper side of the said beam at the center of the same.

In testimony whereof I affix my signature.

JESSE C. PEARCE. [L. S.]