

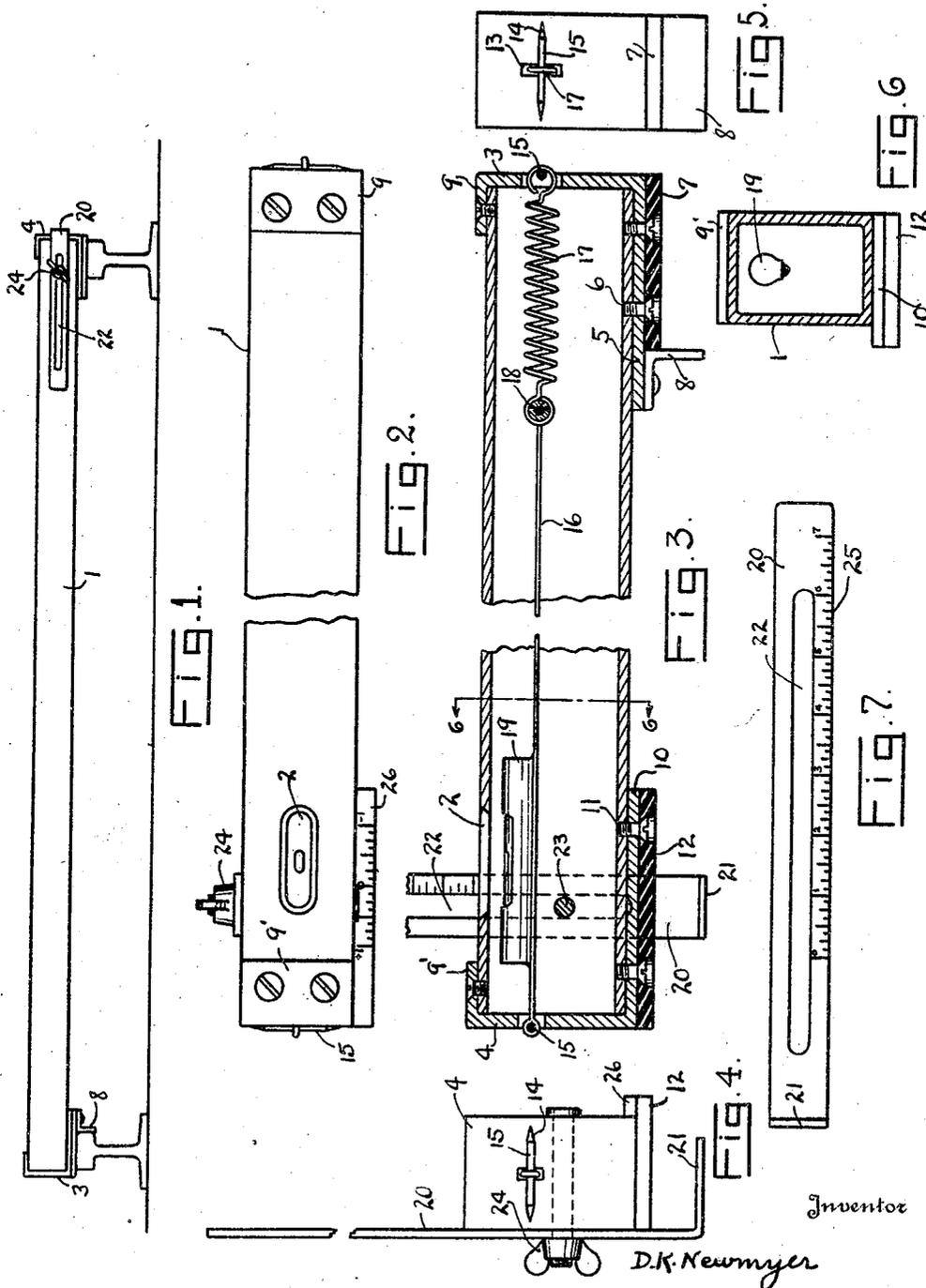
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TRACK LEVEL

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## UNITED STATES PATENT OFFICE.

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## TRACK LEVEL.

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My invention relates to track levels for use in railway construction and is adapted to show the level of the rails.

It is an object of my invention to provide a track level of metallic construction which is insulated so as not to electrically connect the rails and wherein the spirit level is supported in such manner that it may not easily get out of adjustment.

It is also an object to provide a supporting staff for one end of the level to indicate the difference in level between the two rails. It is also desired that the means for noting the space between the rails be placed in such position as to be readily readable by the user. Further objects and advantages arising from the particular construction and arrangement of the parts will be brought out with more particularity in the specification which follows.

Referring to the drawing herewith, Fig. 1 is a side elevation of a level embodying my construction shown in position upon the rails. Fig. 2 is a top plan view thereof. Fig. 3 is a central vertical section of the device. Fig. 4 is an end elevation thereof. Fig. 5 is an elevation of the end opposite to that shown in Fig. 4. Fig. 6 is a vertical section taken on the plane 6—6 of Fig. 3, and Fig. 7 is a side elevation of the measuring staff employed in connection with my invention. Like numerals of reference indicate like parts in all the views.

In constructing the body of my invention, I contemplate using a tubular metallic body 1, which is preferably made rectangular in cross-section. The interior of the body is thus left unobstructed and an opening 2 is formed on the upper side adjacent one end thereof to provide a view of the spirit level which is mounted within the tubular body.

The two ends of the tubular body are closed by end plates 3 and 4. These plates are formed to fit about the ends of the tube, the plate 3 having an upper portion 9 riveted or screwed to the body of the device and a lower extension 5 lying along the lower side of the body 1 and connected thereto by screws or rivets 6. Secured on the lower portion 5 of the end plate is a strip 7 of insulating material, adapted to rest upon the rail and thus prevent the passage of an electric current from one rail to the other where the tracks have been wired for electric block signals. A piece of rigid material 8, shaped like an angle iron, is connected to the plate 3 and has a

downwardly extending arm thereon adapted to rest against the inner side of the rail. This member is also made of some type of insulating material.

The plate 4 at the opposite end of the body has an upper member 9', similar to the opposite plate, resting upon the upper face of the body member. The plate closes the end of the tube and extends along the lower side at 10 for connection therewith, and is attached to the body by means of screws 11. A plate of insulating material 12 on the lower side of the member 10 is adapted to rest upon the rail and thus insulate the connection.

The two end plates are formed with vertical slots 13 therein at a point spaced somewhat above the middle thereof, and transversely of these slots the plate is recessed at 14 to receive a pin 15. A wire or rod 16 of resilient material is extended longitudinally of the interior of the level, the ends of said wire or rod being bent to connect about the pins 15. The said wire 16 has on the end adjacent the plate 3 a tension spring 17, which is connected to the wire 16 through the means of a button 18 of insulating material, the end of the spring being wound about the button and the wire 16 being connected through a central opening in said button. This spring tends to hold the wire 16 in a taut position on a line directly connecting the pins 15 which are uniformly spaced from the lower side of the body.

The spirit level 19 is secured to the wire 16 on the upper side of said wire and is preferably soldered or welded rigidly upon the wire. The level is open on the upper side so as to be viewed through an opening 2 by the operator.

In ascertaining the difference in level between the adjacent rails, an adjustable staff 20 is arranged at the end of the body opposite the stop member 8, and it is contemplated that the stop member 8 will be placed against the higher of the two rails and the staff 20 will be adjusted upon the lower rail until the body of the level is in a true level position. The said staff 20 is formed of a strip or plate of metal, the lower end of which is bent at right angles thereto to form a foot 21. The staff is slotted centrally at 22 to receive a cross bolt 23 having a thumb nut 24 thereon, which may be tightened against the staff to hold it in any vertically adjusted position. The staff along the main portion thereof is

graduated as shown at 25 in Fig. 7, so that the height of the level above the foot 21 of the staff may be indicated. This scale will be so graduated that the difference in height between the two rails may be read directly from the scale. When in use, the staff will be in a position indicated in Figs. 3 and 4, but when the level is used for ordinary purposes to level up the rails, the staff will not be of use and will be pivoted on the adjusting bolt 23 so that the foot 21 will be brought around against the end plate 4 and the staff will then be moved into close contact with the side and end, as indicated in Fig. 1, where it will be out of way until its use is desired.

To furnish a means whereby the distance between the rails may be adjusted to space the rails the desired distance apart, I have formed a scale, shown at 26, formed at one side of the plate extension 10, as indicated in Figs. 2 and 6. The scale formed thereon has a central zero point indicating the proper space between the rails, and plus and minus variations at each side thereof.

The particular advantages of my invention reside in the rigid construction furnished by the tubular metallic body and in the means for adjusting and ascertaining the levels through the use of the staff 20, in the manner described. The device is particularly convenient and durable and will withstand rough usage to which these devices are put for long periods of time. The particular manner in which the staff 20 is constructed

and adjusted is an important feature of my invention.

Having thus described my invention, what I claim as new and desire to protect by Letters Patents is:

1. In a track level a rigid body member, a stop member at one end on the lower side thereof, a staff at the opposite end on the vertical side thereof, said staff comprising an upright plate and a foot member extending beneath and transversely of the body member to engage the rail, said plate being adjustable vertically and also in various angular positions on said body, whereby said staff may lie parallel with said member, said foot engaging the end of said member, and a scale formed on one side of said staff in the manner described.

2. In a track level, a rigid body member, a staff adjacent one end thereof, said staff comprising a strip of rigid material slotted longitudinally to receive a bolt, said strip being bent at right angles beneath said member to form a foot thereon to contact with the rail, and a bolt securing said staff adjustably on one side of said rigid body member, whereby said staff may be turned into a position parallel with said level in the manner described, said foot then engaging the end of said member.

In testimony whereof I hereunto affix my signature this 12th day of February, A. D. 1926.

DAN K. NEWMYER: