

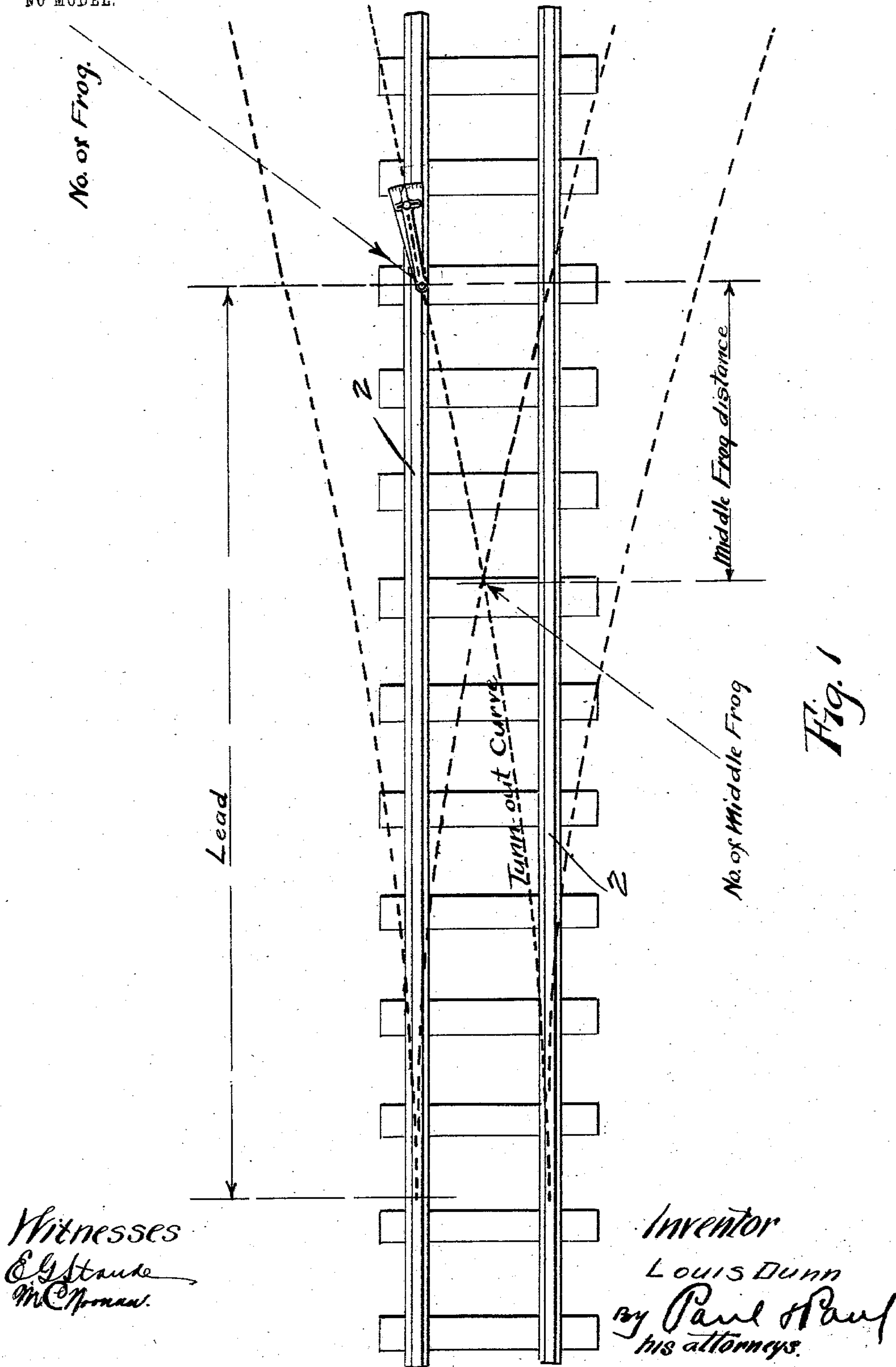
No. 740,408.

PATENTED OCT. 6, 1903.

L. DUNN.  
TRACK LAYING INDICATOR.  
APPLICATION FILED DEC. 3, 1902.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses  
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Inventor  
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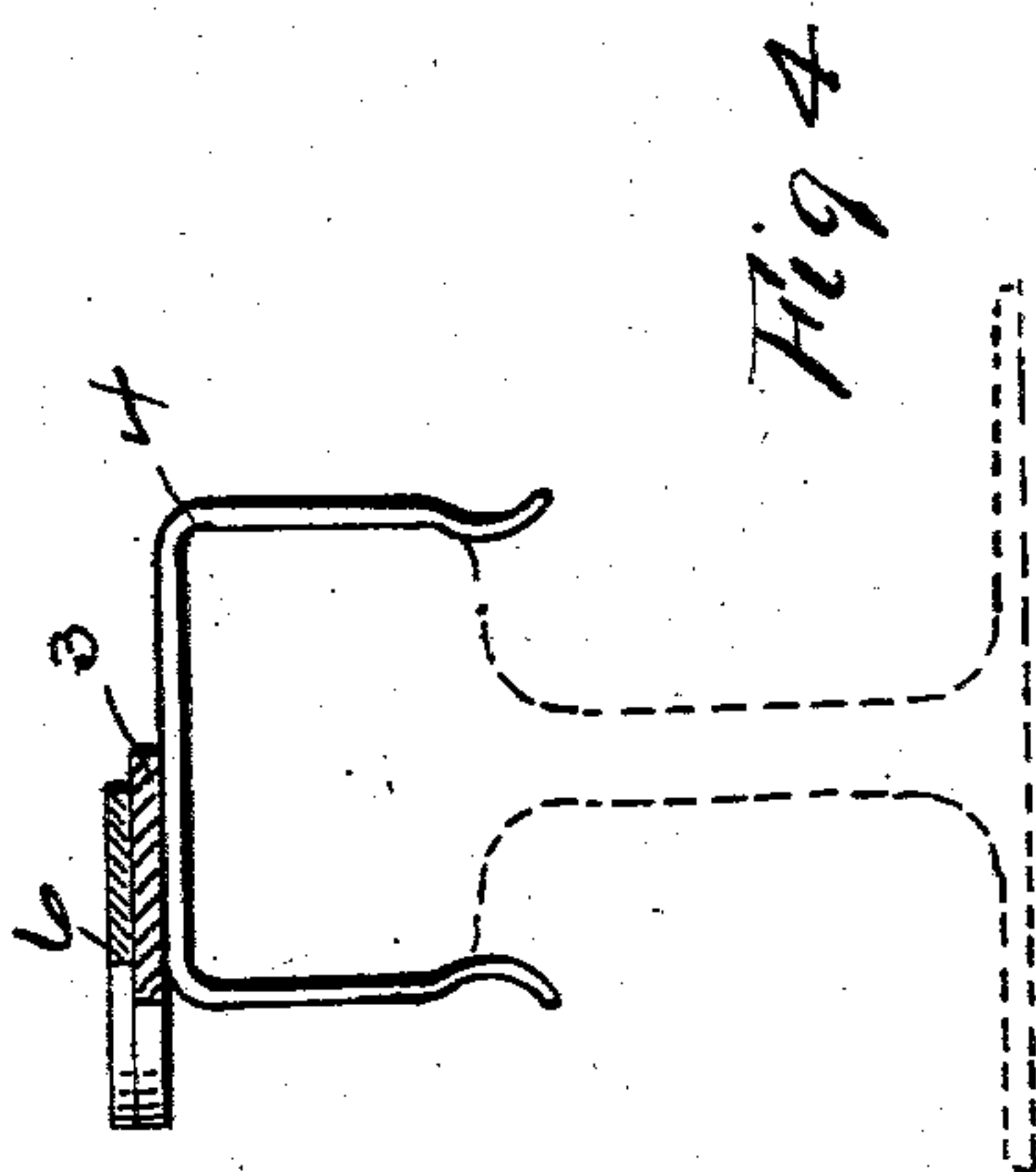
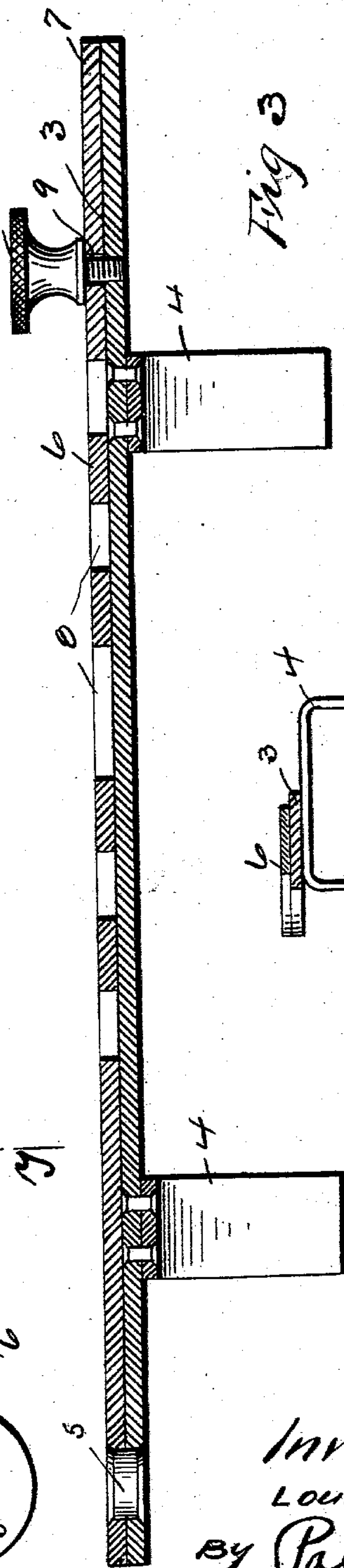
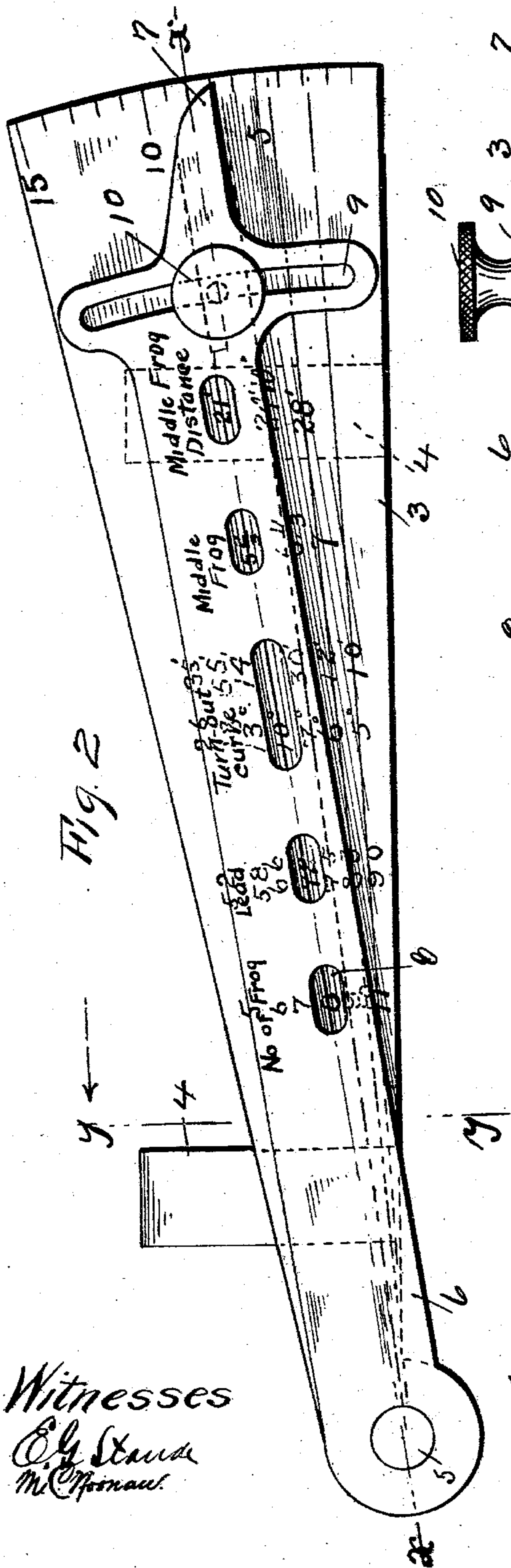
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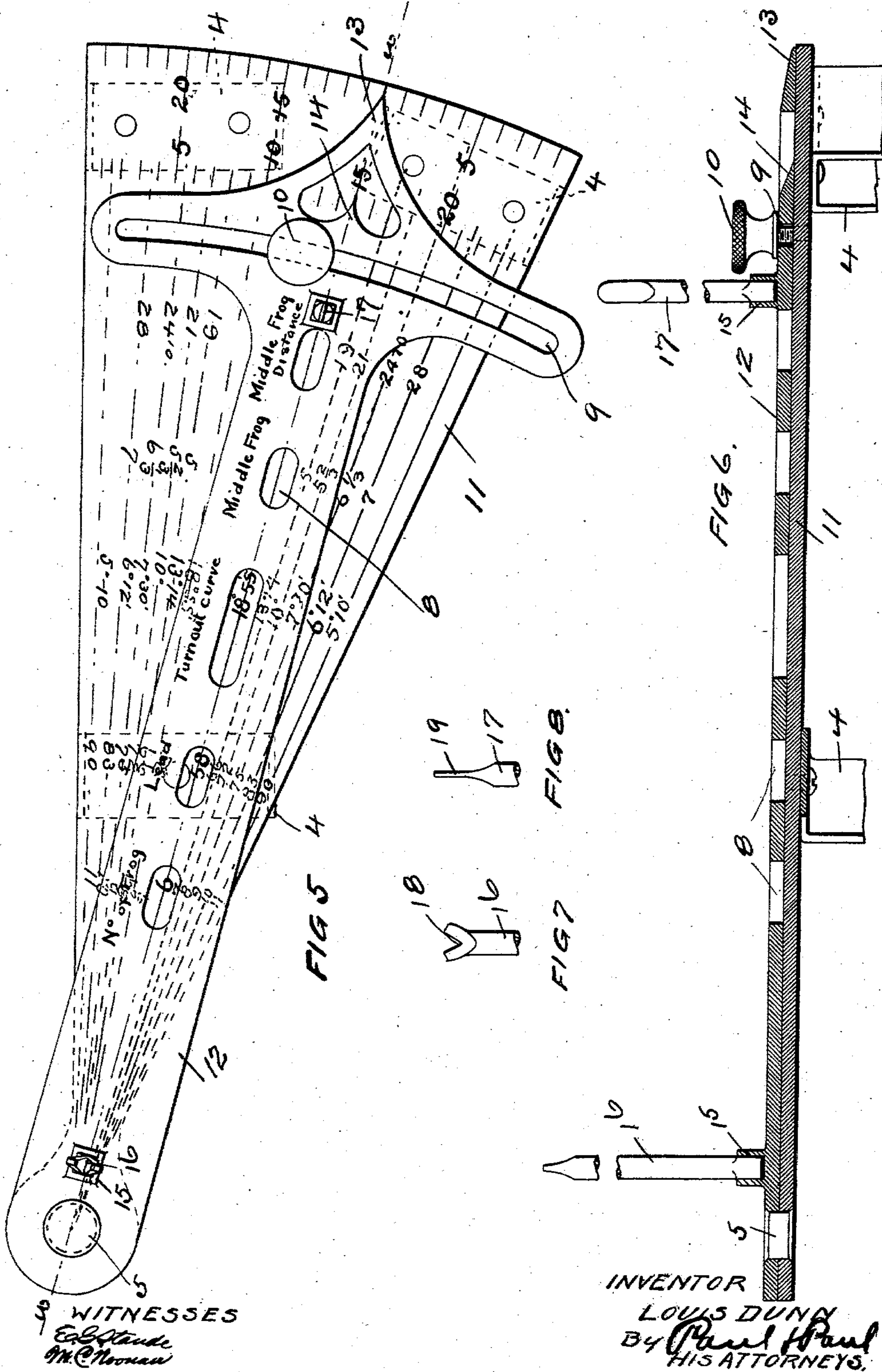
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NO MODEL.

3 SHEETS—SHEET 3.





# UNITED STATES PATENT OFFICE.

LOUIS DUNN, OF ST. PAUL, MINNESOTA.

## TRACK-LAYING INDICATOR.

SPECIFICATION forming part of Letters Patent No. 740,408, dated October 6, 1903.

Application filed December 3, 1902. Serial No. 133,719. (No model.)

*To all whom it may concern:*

Be it known that I, LOUIS DUNN, of St. Paul, Ramsey county, Minnesota, have invented certain new and useful Improvements in Track-Laying Indicators, of which the following is a specification.

My invention relates to track-laying appliances, and particularly those employed in putting in a siding or turnout from the main line.

The object of the invention is to provide a pocket indicating device by means of which a trackman or other person after determining the proper angle of divergence or turnout of a siding or spur from the main track can ascertain at a glance the frog-number required, the proper distance of the switch therefrom, the degree of the turnout-curve, the number of the crotch or middle frog and its distance from the main frog, and having this data before him can conveniently order the desired material from the shop or manufacturer.

The invention consists generally in a sector-shaped plate adapted to rest upon the rail of the main track and having on its surface marks representing degrees and data on radial lines opposite said marks and an indicating hand or pointer pivoted on said plate and movable thereover.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a railway main-line track, showing my invention applied thereto, the right and left hand sidings being indicated by dotted lines. Fig. 2 is a plan view of my track-laying indicator. Fig. 3 is a section on the line  $x x$  of Fig. 2. Fig. 4 is a transverse section on the line  $y y$  of Fig. 2, the rail whereon the device is supported being indicated by dotted lines. Fig. 5 is a plan view of the indicator adapted for use in laying out either right or left hand sidings. Fig. 6 is a section on the line  $w w$  of Fig. 5. Figs. 7 and 8 are details of sight standards or posts provided on the indicator hand or pointer.

In the drawings, 2 represents a main-line track of ordinary construction.

3 is a sector-shaped plate having clips 4 4,

that are adapted to clasp the head of the rail on each side and hold the plate securely thereon. The edges of the plate are straight, and the clips are so arranged that one edge of the plate will be above and parallel with the inner edge or face of the rail-head and will form the base-line for the angle of divergence of the turnout as it leaves the main track. The plate shown in Fig. 2 is adapted for use in laying out a left-hand siding; but, as will appear farther along in this specification, the device can be used with a slight modification for laying out either a right or left hand siding. The curved end of the plate 3 is appropriately marked to represent a certain number of degrees of a circle whose center coincides with the pivot 5 near the opposite end of the plate, and these degrees correspond to the degrees of the angles of divergence that are usually used. In this case I have shown the plate in Fig. 2 marked with degrees running from "five" to "fifteen," the latter being about the greatest angle of divergence that it is practicable to employ in laying a turnout-track for steam-railroads. The plate is also provided on its surface with a series of lines radiating from the pivot 5 to the marks representing degrees at the opposite end of the plate, and upon these radial lines I arrange data suitably spaced and appropriate to the degree opposite to which it is arranged.

Mounted on the pivot 5 is an indicator-hand 6, arranged to oscillate over the surface of the plate 3 and having a pointer 7, that is adapted to travel back and forth over the degree-marks as the indicator is oscillated. I prefer to provide the indicator-hand with a series of slots 8, through which as the hand is moved the data upon the radial lines beneath is visible and can be easily read by the person in charge of the instrument, and above the slots I prefer to provide lettering—such as "No. of frog," "Lead," &c.—descriptive of the data, that is visible through the respective slots. Near the pointer 7 the indicator-hand is provided with a transverse slot 9, and a thumb-screw 10 has a threaded shank adapted to pass through said slot and into said plate, and by turning up the screw the indicator can be locked in any desired position on the plate and readily released



whenever it is desired to set the indicator for another angle.

In Fig. 5 I have shown a modification in the indicating device to adapt it for laying both right and left hand turnouts, said modification consisting in providing a double row of marks representing degrees at one end of the plate 11, reading in opposite directions, and also providing double rows of data on a corresponding number of radial lines running from the pivot-point of the plate and the indicator-hand 12 to the marks representing degrees at the opposite end of the plate. The plate 11 corresponds to the one shown in Fig. 2 substantially, except that provision is made for laying out an angle of divergence of a greater degree, and the indicator-hand in addition to the pointer 13, that travels over the outer row of degree-marks, is also provided with a second pointer 14, that travels over the inner row of marks and is utilized when the device is employed to lay out a right-hand turnout, while the first-named pointer and scale is used in the same manner as described with reference to the device shown in Fig. 2. In laying a left-hand turnout one edge of the plate 11 is used as a base-line and runs parallel with the face of the rail-head, while in laying the opposite turnout the other edge of the plate is used in the same manner. The means employed for securing the plate to the rail corresponds to that already described, except that two clips 4 4 are employed at one end of the plate instead of one, as in Figs. 2 and 3. Where two clips are employed at one end of the plate, the single clip at the other end is pivoted to allow it to be oscillated and alined with either of the other clips. To enable the person using the appliance to adjust the indicator-hand at the proper angle to bring the side track a suitable distance from the building or object near which it is to be laid, I prefer to provide sockets 15 in the indicator-hand 12 and arrange sight-standards 16 and 17 therein, the former having a V-shaped notch 18 in its upper end and the latter tapering to a point 19. These standards are readily removable when the device is not in use; but when the plate is placed upon a rail the standards can be conveniently thrust into their sockets and a sight taken to the point where it is desired to run the siding or spur, and the indicator-hand may be moved back and forth until the standards are in line with a stake or other object located where the trackman desires to lay the rails.

The method of using my improved track-laying indicator is as follows: The trackman or operator having reached the spot on the main line where it is desired to construct a siding or spur and located the building or spot beside which it is desired to lay the track will walk down the main line to the point where his experience and judgment will dictate to be about the right place for the turnout to be made. At this point he will place

the indicator device on the left-hand rail, if the turnout is to be toward the left, with the inner edge of the plate flush with the inner face of the rail-head, then adjusting the sight-standards will move the indicator-hand back and forth on its pivot until said standards are in line with a stake placed at a suitable distance from the building near which it is desired to lay the track. As soon as the standards are in line the operator will lock the indicator-hand by means of the thumb-screw, and for illustration we will assume that it points to the mark representing seven degrees on the scale, as shown in Fig. 2. The slots in the indicator-hand will then be over the radial line running from the pivot of the indicator to said degree, and the data on said line will be visible through said slots. In this case the slot nearest the pivot will show the figure "8," being the number of the frog required for an angle of divergence of seven degrees from the main line. The next slot will disclose the figures "72," which represent the "lead" in feet or the proper distance of the switch from the frog. The third slot shows ten degrees, which is the proper curvature of the rail in the turnout-curve between the rails of the main line. The next slot makes visible the figures "5 $\frac{2}{3}$ ," which is the number of the middle or crotch frog required for this angle of divergence, and the last slot shows the figures "21" to indicate the proper distance of the middle frog from the main frog. The trackman is thus able without any further placing of stakes or calculations, having ascertained the proper angle of divergence, to determine at a glance the frogs required, the proper location of the switch, the turnout-curve, and the distance of one frog from the other and can then order all these parts from the shop or manufacturer.

I claim as my invention—

1. A track-laying indicator, comprising a sector-shaped plate having means for attachment to a rail and a straight edge to coincide with the edge of the rail-head and provided on its surface near one end with marks representing degrees on the arc of a circle, and data arranged on lines radiating to said marks from a fixed point near the opposite end of said plate, and a pointer pivoted at said fixed point to said plate and arranged to oscillate thereover.

2. A track-laying indicator, comprising a plate having a straight edge to coincide with the edge of the rail-head and provided on its surface with marks representing degrees and data arranged upon radial lines terminating with said marks, and an indicator-hand pivoted on said plate at the intersection of said radial lines and having a series of slots through which the data on each line is visible as the indicator-hand is moved over the same.

3. A track-laying indicator, comprising a plate having means for attachment to a rail-head and a straight edge parallel to the edge of the rail-head and provided on its surface



with marks representing degrees and data arranged opposite said marks, and an indicator-hand pivoted on said plate and movable back and forth over said marks, substantially as described.

4. The combination, with a sector-shaped plate having means for attachment to a rail-head and provided with a pivot near one end and marks representing degrees on the arc of a circle near the opposite end, and data provided on radial lines between said pivot and said marks, of an indicator-hand mounted on said pivot and having a pointer to travel over said marks and a series of slots through which said data is visible, and means for locking said indicator-hand, substantially as described.

5. The combination, with a plate having means for attachment to a rail-head and a straight edge to coincide with the inner face of the head and provided on its surface with a series of marks representing degrees less than forty-five, and data on lines radiating to said marks, of an indicator-hand pivoted on said plate and movable thereover, and means for locking said indicator-hand on said plate.

6. A track-laying indicator, comprising a sector-shaped plate having means for attachment to a rail-head and a straight edge to lie on said head flush with the inner edge there-

of, and provided near one end with a pivot and at its other with marks representing degrees on the arc of a circle whose center coincides with said pivot, said plate having data, such as the "Frog No." "Lead," &c., arranged on lines radiating from said pivot to said marks, an indicator-hand mounted on said pivot and having a series of slots through which the data on each line is visible as the hand is moved thereover, and means for locking said hand in any desired position on said plate.

7. A track-laying indicator, comprising a plate having means for attachment to a rail-head and a straight edge to lie flush with the inner edge of the rail-head and provided with a pivot near one end, and a series of marks near the other representing degrees of the arc of a circle whose center coincides with said pivot, said plate also having data arranged on lines radiating from said pivot to said marks, an indicator-hand mounted on said pivot and sight-standards mounted on said indicator-hand.

In witness whereof I have hereunto set my hand this 29th day of November, 1902.

LOUIS DUNN.

In presence of—

RICHARD PAUL,  
M. C. NOONAN.