PRACTICAL SWITCH WORK: A HAND-BOOK FOR TRACK FOREMEN

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Practical Switch Work: A Hand-Book for Track Foremen by D. H. Lovell

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D. H. LOVELL

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PREFACE.

THERE is, perhaps, no part of track work in regard to which there are so many unimportant differences of opinion upon the part of trackmen as that which pertains to switch work. Trackmen naturally form their opinions from local conditions, and follow the practices of their predecessors or the instructions of their superiors, so it would be only natural for each one to think that his way is the best.

This book is intended for the trackman particularly, to give him, in a concise and comprehensive way, what is the best general track practice, from which he may select that which will best meet the requirements or conditions under which he may work.

There are, of necessity, in a book of this kind slight but unimportant departures from mathematical accuracy, also what may seem unnecessary detail of explanation, and also the use and frequent repetition of words or expressions which are common among trackmen, all of which are necessary to make it thoroughly understood and useful to this most worthy class of practical men.

It is not expected that the formulas will be intelligible to them, but, so far as possible, where it is necessary, the formula is accompanied by a simple mathematical demonstration, which, it is hoped, will not be beyond the clear understanding of all.

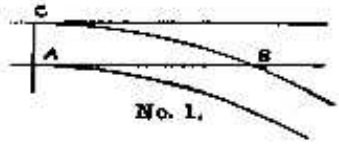
It is not claimed that this is something new and superior to anything hitherto published.

It is simply a combination of theory and practice, so far as possible, based upon common sense in track work and verified in the experience of hundreds of the best trackmen of the day. So there need be no hesitation to use what is in the book from a fear that it may not be correct, should it happen not to be in strict accord with local practices.

THE TURNOUT.

The single turnout from one track to another is the most simple of all switch connections, the more complicated ones being only developments of it, and what is true of it is also true of them.

The turnout curve, from a theoretical point of view, is most generally assumed to be a simple circular arc or curve, beginning at the point of the switch point or head-block, as C, and ending at the point of the frog B, as shown in diagram No. 1 :—



No. 1.

That portion of the turnout between the head-block and the frog point, as A to B, is called the lead, and its length for a point, or split switch, as it is most generally called, is the distance from the point of the turnout curve or, in this case, the head-block of the split switch, to the point of the frog measured along the main or straight rail, as A to B in diagram No. 1; and for a stub switch it is the distance to the frog

point from the head-block only, the former being called the "point lead" and the latter the "stub lead."

The turnout curve is from C to B, and although the difference in distance between it and the lead from A to B is only a few inches, it should not be mistaken for the lead, nor so regarded.

Whether the turnout is from a straight or curved track, or the switch is a point or a stub, the lead should be measured, as from A to B, along the main rail in which the frog is already or is to be placed.

Before any lead can be calculated or ascertained it is necessary to know the gauge of the track, the frog number, and, in the case of a stub switch, the throw also, as the lead and the degree of the turnout curve vary for every different frog, throw, and gauge.

Practically, the difference of a half inch between the two standard gauges—4 feet 8½ and 4 feet 9 inches—is so small that there need be no difference between them recognized, although it is well to do so where the distances or rules for each gauge are given to calculate the lead.

The "throw" is the distance the sliding or moving rails move at the head-block. The