If, as the writer believes, the methods and principles enunciated above have never been used in connection with turnout problems except by himself, he thinks the maintenance of way engineer will be well repaid by a study of them, as he has himself been in the increased rapidity with which he can arrive at accurate results, and which is perhaps of more consequence in clean cut easy curves and turnouts.

Inasmuch as the equations often involve large numbers, squares and square roots, he can never be far astray in plotting the results afterwards as a check on the arithmetical work. It is much easier and takes less time to plot a result than to arrive at it graphically; and as an evidence of its being worth while to employ some means of locating frogs and switches before going to work, it is only necessary to point out one or two of the many clumsy, ill-fitting ones which any tyro can detect in almost any large yard as the result of haphazard work under no system whatever.

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