everyone to purchase as cheaply as possible, and be constantly on the alert for the rare opportunities of great bargains which may present themselves, but as the engineer is most frequently called on to investigate claims in districts where the excitement and rush at the time is directed, where capital insists on going, and competition among buyers arises, and where prices are consequently high, it is important, if he is to do business at all, that he should be able to form some idea as to the actual value of the chance in any particular case.

Before going further, in order to explain the meaning of the expression "value of the chance," let us take an example. Suppose, for instance, that it is possible in some way to determine the chance of any particular claim, and to estimate the cost of development, and the probable value of the claim when that amount is expended, let the chance be $\frac{1}{10}$ the amount to be expended $2,500, and the value of the claim $500,000. Then the value of the chance is $500,000 × $\frac{1}{10}$ minus $25,000 and interest, or $25,000 less interest. That is, if one bought a large number of such claims at $25,000, he would come out exactly even, losing interest on money invested.

The question now naturally arises, is it possible to determine these factors with any degree of accuracy, or is the whole business of the purchase of claims as much a matter of chance as betting on a horse race, without having the slightest knowledge of the previous performances of a single horse in the race.

What is there now to guide one in forming an idea of the chance of any particular claim, and what factors of safety can be employed? First of all a careful examination, and noting of all there is to be seen on the surface. What values show and what appear to be the probabilities of permanency? Are the values uniform or erratic, and is the structure regular or not? Does a study of the rocks show any reason why the vein or deposit should be disturbed or terminated entirely? Two cases naturally arise, viz., that of a claim situated in an entirely new field and one in a district with a number of well developed mines. In the first case there is nothing to guide one but the information which can be obtained from the surface examination, and which may possibly be extremely indefinite. None of the three factors can be approximated, the chance especially being doubtful. One obvious safeguard is to put the chance very low, or, in other words, give only a small price; another, and probably better safeguard,