meet cross veins the effect is to produce what is known in coal mines as a downthrow or an upthrow, and in a copper mine as heaves, a right or left heave. If I work on horizontally—that is, continue my drift on the level, as usual—if it is a downthrow, I would, as a consequence, be above it, and if an upthrow, below it. In the same way, if, on meeting a cross vein of copper, I kept straight ahead, if it is a right heave, I would, of course, be to the left of it, and if a left heave, to the right of it, thus failing to meet with the vein at all. As an instance in the Capelton mine, in one of the drifts, at the point where the vein meets the cross course, there is a left-hand heave of about 54 feet and, of course, if we had gone straight on, or to the right instead of the left, we should have been so much out, and would have probably imagined that the vein had disappeared.

By Mr. Baker;

Q. Do your remarks apply to the world generally?—Yes; there is a general rule even for the irregularity of veins. In districts they are similar and generally perhaps the world over Veins are also subject to dykes and slides and other important variations. A "horse" is a split in the vein occasioned by the intrusion of rock, The inclination of the vein and the angle at which they meet the cross-veins has a great deal to do with the throw or heave. The most instructive book I ever read on the subject was that of William Jory Henwood, in the Geology of Cornwall, Devon, and Summerset, England. These rules will apply to the whole world, of course varying in different districts, but there is a degree of uniformity to them, within the limits of particular districts, and it is important that the records of them should be obtained and preserved, so that wherever capital is isvested in the various districts it may have the advantage of the experience of those who have gone before.

By the Chairman:

Q. Do they keep records of mineral development and maps of mines in Great Britain?—Yes; each mine keeps a record of its production and a map of the mine, and I believe it is imperative now, by law, to keep maps of all the mines, on account of all the late accidents. For instance, when one mine is near the other, and the mines having been abandoned for 40 years, perhaps, and work is again resumed, unless maps are kept to show the extent of the working and their proximity to each other, the water from one might burst into the other and drown the men at work. I have known several such cases.

Q. So that you think, apart from the value of these plans and maps for economical purposes, they ought to be insisted upon for public safety?—Certainly.

Q. You would recommend that these maps should be published and placed somewhere where they would be matters of public record and easily accessible?—Yes; especially as the mines are assuming large proportions.

Q. What is your opinion as to the practical value to this country, of the establishment of sulphuric acid works and agricultural fertilizers in connection with it?—Very valuable. The thing is now under consideration and I believe a company will shortly be formed; in fact there is a company formed for that purpose, and they are looking round for a proper site, and of course they are considering the questions of detail.

Q. You think then, there is a market in this country for sulphuric acid, if its manufacture is encouraged?—Yes; I think there is a large demand for it in this country, besides manufactures from it might be exported.

By Mr. Baker:

Q. What kind of veins are there in Eastern Canada, from your point of view? I have heard the expressions "true fissure vein" "gash vein," and "segregated vein" —The whole answer turns on what you understand by a vein.

Q. It is a space, so to speak, of a certain width, in which the mineral deposit is continuous?—The real contention on these points is, are they parellel with the stratification or do they cut it?—A vein may cut the stratification at a very acute angle or at right angles. As a matter of fact, the veins in the Ascot district do cut the stratification at such a very acute angle that it might escape notice. The length of the vein in the Hartford mine and in the Albert and Crown mines is from