has made manifest to me. The bunches of strings of ore, gozzans, vugs and other indications, are found arranged in parallel layers, sometimes only a few inches, sometimes a foot or two distant from each other, dipping into the hill towards the N. W. about as represented, but having also another dip towards the S. W., so that their direction of dip is westerly. Large bunches of ore are frequently found detached from these layers, though usually connected with one of them by strings of ore. The layers themselves, as well as the strings and bunches of ore proceeding from them, will be found in some cases to penetrate beyond the foot-wall boundary of the Lode, into the talcose country beneath. These layers form a series of cleavage planes pervading the mass of the Lode, which will no doubt greatly facilitate the stoping and breaking out of the vein-stone; sometimes these planes pass through the horse, though usually displaced and distorted by it. The same system of planes was found strongly developed along the outcrop of Lode No. 2. It is extremely probable, therefore, that this curious and peculiar variety of vein-structure will be found to be a feature of the metal-bearing Lodes of this section.

I wish here to offer a few suggestions which seem peculiarly applicable to the case of your mining property. In operating upon such large lodes as these, it seems to me that a very favorable opportunity is presented to test the applicability (which, however, can scarcely be doubted) of the improved forms of *drilling machines*, now in such extensive use in tunnelling operations. Such machines, operated by compressed air, would be of peculiar value in mining operations on a large scale, for breaking out the galleries of the mine, as their use, besides the immense saving of labor and time, would obviate the heavy expense of sinking air shafts in many places for ventilation. This would be particularly the case, were the blasting accomplished by means of cartridges charged with gun-cotton, which makes no smoke, in lieu of the common blasting powder.