

generally in every direction, but for the most part at a considerable angle both to the perpendicular and horizontal. Certain peculiar arrangements of these veins are, however, noted in certain areas, as at the King Bros.' mine in Ireland, where the serpentine appears to be regularly stratified almost in the manner of sandstone or quartzite in layers dipping to the north-west, and the veins of asbestos apparently follow what, in sedimentary rocks, would be regarded as the bedding planes. In several other places the veins, few in number, cut the rock in an almost horizontal position, and when found in a knoll can be traced across from one side of the hill to the other nearly on the same plane, but as a rule the veins are irregularly placed. In size they range from mere threads up to a thickness of five or six inches, though the most of the workable veins in the principal mines do not, or but rarely, exceed two and a half inches in width or length of fibre, and such veins, where the asbestos is of good quality and unbroken by partings of iron, are regarded as extra No. 1 material. There are, however, generally more small veins of one inch or less than of the larger size. Serpentine associated with talc or with soapstone, where the latter is in quantity, rarely appear to carry veins of asbestos to any extent, and such stearitic rock is not usually considered good mining ground. The Broughton mine may possibly be cited as an exception to this principle, since at this place a vein of large size of very fine fibre was found lying between serpentine and soapstone walls. As the soapstone became more abundant, however, the size of the vein rapidly became less and finally split up into small strings and became useless, and it is a fact worthy of note that at the great and profitable mines in Thetford and at Black Lake soapstone is absent from the rock mass.

As for the origin of these veins in the serpentine several theories have been advanced. In composition the vein matter is, as already mentioned, apparently the same as the containing rock, and the chrysotile is simply a fibrous serpentine. Some have supposed the veins to be formed when the mass of the rock was in a pasty state and exposed to sundry strains or twistings which produced the fibrous nature of certain portions. That the rocks have been exposed to such violent action is very evident from their present faulted character.