sets. Similar protection is also necessary when drifting through decomposed Diorite, locally known as " Soapstone."

The proposition which the timberman has to handle, now having been outlined, the respective applications of the different methods will be taken up in detail.

The timber is obtained, for the most part, from lumber camps, the furthest not being more than twenty miles from the mine. This timber is taken to the mine by rail and stocked near the main shaft. Second class logs are used, knots and slight crookedness not being objectionable. The logs, cut into either 5½′, 8′ 10′ or 16′ lengths, are lowered into the mine by means of chains attached to the bottom of the skip. The timber men land them at the level station below with the aid of a rope, ship them on to a tram and take them to a timber-dock, where they remain until required. Between the hours of twelve and one on the day shift the miners are on the surface for lunch, and advantage is taken of this fact to lower timber. In consequence the timbermen remain below and take out timber, thus postponing their lunch for one hour. Hemlock and white pine are used for the most part in the large timbering. Cedar is used for lagging. The captain is at present experimenting on hardwood. Squared timber is used only in the shaft and under certain special conditions elsewhere. In other places not only is timber used round, but also with the bark on. The life of a " stick " is very uncertain, depending upon the nature of the wood, the stress to which it is subjected and the temperature, hence the moisture. On the 7th and 8th levels, immediately above the pumps, which are on the 9th level, the timber lasts only five months, after which it is quite easy to force the point of a candle-stick six inches into the wood with the hand. This is exceptional, however. The average life of timber in the mine is *said* to be ten years. The timber is often crushed, due to the settling of ground, but there is little danger to life in this owing to the slowness of settling.

SHAFT TIMBERING.

The method of sinking the hoisting shaft is somewhat similar to that of raising a square set. A rectangular hole is stoped down to a depth of 10′, having a width of 10′ and a length of 18′, and in this hole is set up a double square set, 8′ x 8′ x 16′. This square set is suspended from the ore above by means of bolts. It is then wedged into place and lagged between the timber and rock. The shaft is then sunk another 8′ and another double square set placed and bolted to the bottom of the former, and so the sinking and timbering proceeds. The timber in the square sets used is from