



DRAWING NEWLY-CAST PIPES

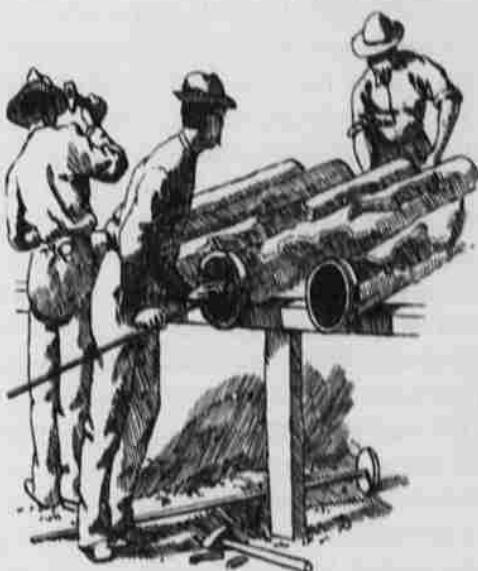
there being not even mud except near the entrance. In some places where the vein of ore was thin the excavated chamber is so low that one has to stoop very much to get through, and again where the vein was thicker the rooms are eight or nine feet high.

From the main slope there are numerous branches, known by the very ordinary name of rooms, extending into the ore stratum on either side. These excavated rooms are about eighteen feet wide, and the blocks of ore between them, left to sustain the roof, are about forty feet thick, so less than one-third of the ore body is removed as the mine is driven into the hill. When the slope has been worked as far as is profitable from one entrance, the miners take out the standing walls of ore, beginning at the farthest extremity so no ore will be lost by any caves that may occur as the supports are removed. When the roof appears weak the rooms are securely timbered to prevent caving, but where there is firm rock overhead it is left to support itself. As the miners have to do their own timbering, it would seem as though those in the rock-roofed chambers had an advantage over their fellow workers in the softer ore, but the difference in the ease of working fully compensates for the extra labor of putting in the timber supports. In the soft ore only pick and shovel are necessary working implements. In the harder portions of the stratum the miners have to do a good deal of drilling and blasting.

"But how is it ascertained in the mine just where the valuable and worthless rocks meet?" To the unsophisticated it all looks alike when no more brilliant light than that radiating from a miners lamp struggles with the pitchy darkness. For answer, the superintendent, who is an experienced, practical miner, took up a pick and hacked a little on the surrounding walls and roof. "There," said he, striking into some base rock, "notice the mark left by the pick here; it is whitish. But here is another pick mark very near that is a distinct red; that indicates good ore. The color of the pick bruises guides the miner in determining the limits of the ore vein. The experienced miner is also governed, to some extent, by the sound."

Generally two miners work a room together, and are paid \$1.00 a car for the ore loaded. Two men get out six loads a day, about twenty tons. They furnish their own light and powder, which costs each man about fifty cents a day. The daily output of the mine is about 150 tons of ore, which is a brown hematite.

When hauled out of the mine the ore is dumped into bunkers and is sifted into two grades, as regards fineness, as it falls. From the bunkers it is taken in cars to the furnace, where each car load is weighed and



CLEANING PIPES



DIPPING PIPE IN COAL TAR.