

which ingenious arrangement, a temperature of 800 or 900° is imparted to the blast. The same gas is also made to pass under the boilers, and thus saves the use of any fuel for obtaining steam. The average duration of each crucible and hearth is about twenty-four weeks, during which time an average production is attained of fifty tons per week. It is thought that this amount may in the future be somewhat increased.

I have stated that the number of men, employed in raising the ore, is on an average about forty, while ten pair of horses, each with a driver, are occupied in removing the ore from the quarries to the furnace. During the process of reduction, the number of men employed, only a single furnace being used, averages about fifty per day. The company have now in course of erection another furnace, which will necessitate an increase of two-thirds in the number of men employed. In addition to those employed in the various processes of raising, removing and reducing the ore, as above stated, a number of men and horses are also required, during the winter season, for cutting and hauling in the wood for the year's consumption. The following are Mr. Best's calculations upon this point. He says, "The wood is all cut during a space of five months. Last winter we had delivered to us, in sixteen weeks, nearly ten thousand cords, each cord containing one hundred and thirty-eight and eight tenths cubic feet. Assuming, then, that a man will cut, chop and split one cord per day, it would take eighty men twenty-four working days each month, for five months; and assuming that one span (two horses,) with a driver, bring on an average two and a half cords per day, it would give employment for seventeen weeks, (five working days to the week,) in round numbers, to fifty teams, or one hundred horses, and seventy-five men. This is some faint outline of present operations; of course another furnace will double the requirement." As at the Albert Mines, the proprietors invariably make full cash payments to all their employees.

The Woodstock iron has been long known and valued for its remarkable density and strength. I am indebted to the letter of Mr. Goodale, above referred to, and published in the Report of the Maine Scientific Survey, page 418, for the following interesting statement. "The English Admiralty instituted experiments at Shoeburyness, England, in order to test the resistance which iron plates would offer to the heavy ordnance of Sir William Armstrong. In that trial, every plate was shattered, except a triple plate made of Woodstock iron. This plate was indented by the shot, but not pierced, and immediately attracted considerable attention. The fine results obtained by the Woodstock plate determined the use of the iron in mail-plating the ships in the English navy. An interesting account of the experiments testing these plates can be found in "The Artizan." The paper was prepared by William Fairbairn, Esquire, F. R. S., and gives the following results:—

Tensile strength in tons per square inch, 24.80.

Scrap-iron plates were readily shattered by the shot.

In the same connection I find it stated by Professor C. H. Hitchcock, that