

The constructions is entirely of sawn lumber and is so very light that supplemental trusses and posts were afterwards put in to support the charging floor. The charging floor is 25 feet above ground and the eaves about 14 feet above this. The roof has a very flat pitch, and is covered with tar and gravel roofing. In this are already built two lead blast-furnaces 7 feet by 14 feet outside dimension, and 138 by 40 inches inside of jackets at the bosh. The bottoms of the furnaces are of standard type, cast-iron plates, with suitable attachments, lined with "Carr" Scotch firebrick. Above this are the sectional

with full equipment of settling pots, slag pots, moulds, etc., all made by the Union Iron Works, of Spokane. Whatever criticism the general arrangement may be open to, the furnaces, as such, are good and suitable to fit into any readjustment. In a small shed are two Connersville pressure blowers, in readiness to be put in place, also all necessary blast-pipe, etc.

CALCINERS AND SHED.—The calciner building is of rather unique and original design (as shown in engraving), having a wooden frame covered with corrugated iron roof, and of such a form as to make a series of inclined steps, 13 in number and cov-



Perry Creek Hydraulic Mine—Fort Steele M. D.

jackets, of cast-iron, 21 inches wide, and each having a 4-inch tuyere hole. They are provided with the usual and suitable water attachments. The upper part of the furnace is brick-work resting on iron girders supported by iron columns and independent of the lower construction. The charging openings are the length of the furnace on one side; they are level with the charging floor, and provided with counter balanced doors of wrought iron. The stacks are vertical continuations of the furnaces and are of brick, iron bound, to above the roof, which is as far as they are built. No provision has been made for dust chambers. The furnaces are modern, well built and are provided

with 6 calciners. The calciners are of the ordinary single hearth hand-worked type, 46 ft. long and 16 ft. wide, having 9 rabbling doors on each side and a double-doored fire box. These furnaces are built of red brick, with a second quality fire brick inside; they have a brick hearth laid on earth filled in between the walls, and are bound with iron rail buck-stays and 1-inch tie-rods. The furnaces were built when there was frost in the ground and also in the filling under the hearths, which has caused such settling as would necessitate the arches and hearths being all rebuilt.

POWER.—Water sufficient to supply power for all requirements of the smelter is obtained from Mar-