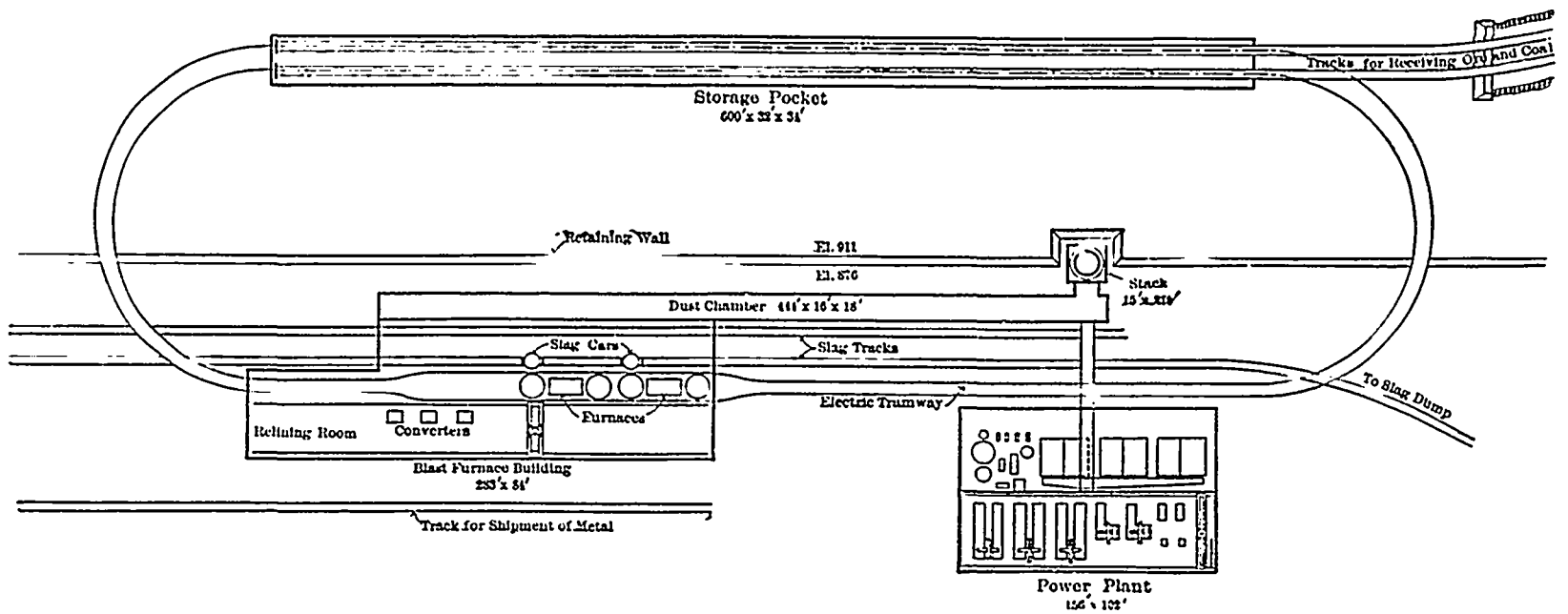




PLAN OF WORKS AT COPPER CLIFF.

city is installed in the engine-room for handling all this apparatus. A gravity oiling and oil filtration system is installed on all engines.

In the boiler room the present installation of boilers consists of four 400-h.p., 150-lb. pressure, horizontal water-tube boilers built by the Aultman & Taylor Machinery Company, of Mansfield, Ohio, and space is provided for two more boilers of the same size. The boiler furnaces are equipped with Tread-Kill shaking grates. The ashes are removed from the boiler ash-pit by opening a grate in the bottom, which permits them to fall into a bucket resting on a small flat car, which runs on a track in the ash tunnel under the boilers. The car is then run outside of the building and a hoist lifts the bucket and dumps the ashes into an ash-bin, from which it runs into cinder car.

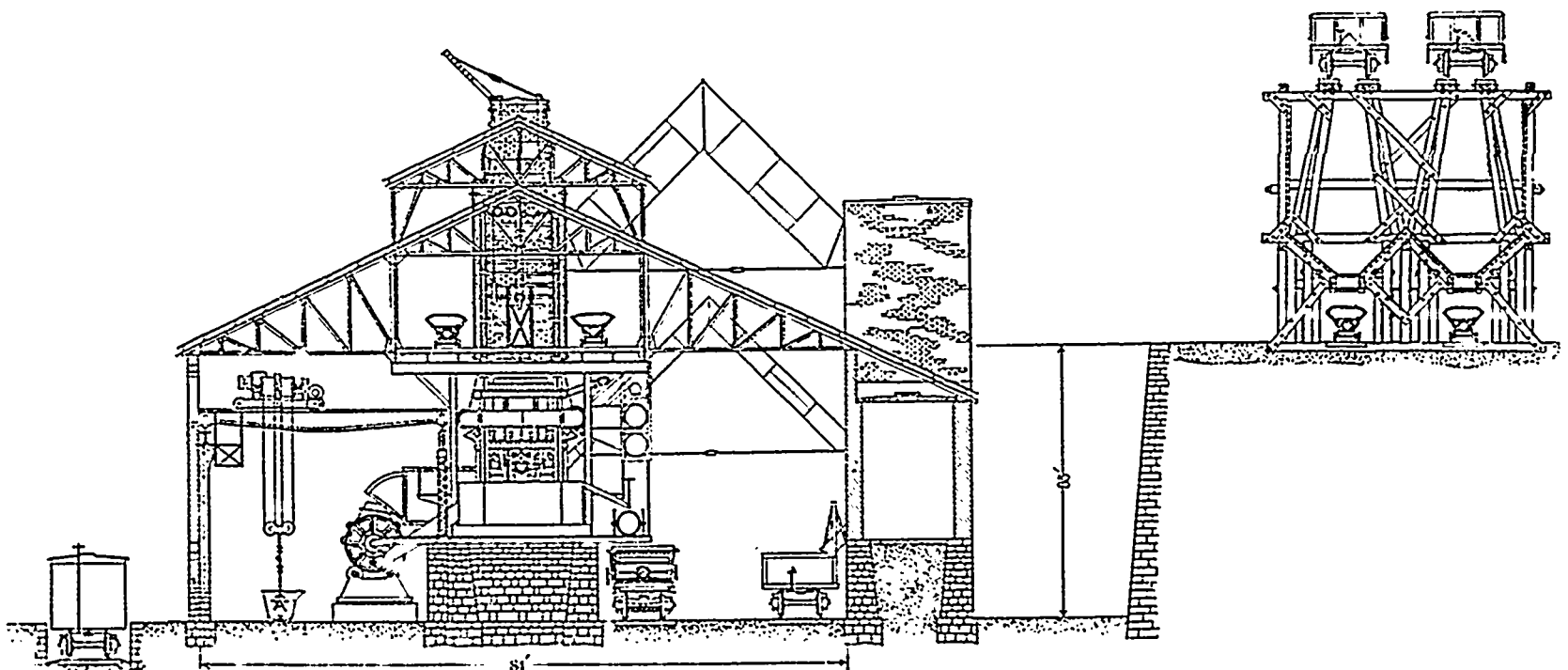
Coal is brought to the power plant by the electric locomotive train above referred to and dumped into bins built in trestle along the west side of building. Then it runs through coal chutes to one-half-ton coal cars in boiler room, from which cars it is shoveled into boiler furnaces.

The only available water for boiler use contains considerable sulphuric acid and scale-forming elements, and, to eliminate these, the

water is subjected to a chemical treatment and precipitation in a water purifying system built by the Industrial Water Company, of New-York. In this way the acid is neutralized and the scale-forming material is removed before the water enters the boilers. The condenser is of the elevated barometric type, built by the Alberger Condenser Company, of New-York.

The blast-furnace building contains two Holthoff copper blast-furnaces; three stands for Holthoff converters; one 40-ton electric crane; the necessary matte-settlers, clay mills, silica and clay storage bins, etc. Room is provided for expansion.

In operation the ore, coke and flux for blast-furnaces, silica and clay for lining converters, and coal for boilers is delivered into the top of the trestle pockets by standard-gauge cars—Ingoldsby side-dumping in the case of ore—and drawn from the bottom of the pockets into trains of six 2 ton, 36-in. gauge, side-dump Koppel cars, which are hauled to the blast-furnace, silica and clay storage bins or coal bins by 25 h.p. Canadian General Electric Company's electric locomotives. When feeding the blast-furnaces, a train of six cars will be made up of



SECTION OF SMELTER AT COPPER CLIFF.