for the cold finishing department, were made by the Canada Foundry Co., Toronto. One roll lathe and some smaller ma-chinery were made by I. Matheson & Co., New Glasgow, N.S. All the rail straightening presses, cambering machine, hot saw machinery, hot bed, cold finishing beds, transfer arrangements and continuous heating furnace, etc., were manufactured in the company's own shops at Sydney and the erection of all the machinery was also done by the com-pany's own men. pany's own men.

Description of the Mill.

The steel rail mill is what is termed a "Three high, three stands, 28" mill," having three stands of roll housings three stands, 28'' mill," having three stands of roll housings with three 28'' diameter rolls in each, together with a pin-ion housing having three 28'' diameter pinions, all set in line with the engine shaft, and all driven by one 54'' diameter x 66'' stroke, horizontal Porter-Allen engine, using between 140 to 150 pounds initial steam pressure per square inch, and run at a speed of between 80 and 90 revolutions per minute. The engine drives the mill through a heavy cast steel spindle coupled direct to the crank shaft at one end, and to the middle pinion at the others. The first or roughing tram, has a lifting table on each side, which receives their up and down motion through a

apart. These "pull-up's" consist of a wire rope device, driven by rope drums, and operated in pairs by electric motor.

The run-out table at the upper end of hot bed is 3' 6"

wide, x 154' long. The cold rail storage, and transfer beds consist of four lines of skid rails and two drag chains with pull-up fingers, all motor driven through shafting, gearing, and sprocket wheels provided with chain tighteners, etc.

wheels provided with chain tighteners, etc. The cold finishing department has 5 electric driven straightening pressers, 75 feet apart, also 10 drilling ma-chines, and 4 rail enders, all electrically driven. The drills are placed in pairs—one right and one left, 37 feet between; there being one rail ender for each set of drills. There are 2 cold saws, also electrically driven. Between the straight-ener and driller beds, is a row of roller stands, 36 in num-ber, 10 feet apart; 3 roller stands between each set of drills. Between the drills and the inspection beds, and under the chids is a roller table to take the second and rejected rails Between the drills and the inspection beds, and under the skids, is a roller table to take the second and rejected rails away. This table is 402 feet long, 15 inches wide, motor driven through a line shaft and worm gearing. Each straigh-tening press has 3 skids on each side, which receive the rails from the transfer car, and each set of drills has 3 skids forming the drillers bed. The inspection beds have skids about 12 or 13 feet apart, running the whole length of the



View of Rail Mill from the Blooming Mill.

system of levers and rods, and a 16" heavy hydraulic cylin-der. The table rollers are driven through shafting and gearing, and a 10 inch by 12 inch reversing steam engine. The table is provided with bloom manipulators on both sides.

The intermediate train has swinging tables lifting only at the end nearest the train, being hinged at the other. The up and down motion is done by levers and rods and a hydraulic cylinder 16 inches diameter, which is placed under the back table. The table on the front side is 45 feet long, and on the back side 65 feet long; both have motor driven

table rollers. The finishing table, on the front side, is 95 feet long,

The saw table, at the back of the finishing rolls, is 24 inches wide, and has motor driven rollers 4 feet apart; the distance from the centre of tram to the saw blade being 109 feet. A similar table continues from the hot saw to the hot

bed. The receiving table for the hot bed is 5 feet, 4 inches wide and 76 feet long, and has motor driven rollers. The total length of hot bed is 144 feet, and the width between outside rails 63 feet. This bed is provided with 22 strings of skid rails about 3 feet apart; the four hot rail pull-up's, and four rail pull-up's for same, being 12 feet

building. The shipping track runs inside the building close to the wall and is depressed, so the rails can be loaded from the inspection skids direct on the cars. The continuous heating furnace is 15 feet wide inside

The continuous heating furnace is 15 feet wide inside x 36 feet 9 inches long from inlet door to push-door, and has 6 water-cooled skid pipes for the blooms to slide on. The stack is 60 feet high, by 5' 6" diameter inside the shell, with damper on top. The air is supplied by a motor driven blower. The blooms are fed to the furnace by a hydraulic pusher, which shoves the blooms from the approach table directly into the furnace. The blooms are pushed out of the furnace by an electric driven pusher on to a small table, from which they are picked up by a small specially designed overhead travelling crane, and delivered on the approach table, thence to the mill.

approach table, thence to the mill. The roll lathes—three in number—are belt driven through line shafts and clutches, power being furnished by

an electric motor. The rail mill building, starting from the blooming mill building, is 425 feet long, 54 feet, 3 inches wide 34 feet high, 22 feet 6 inches to top of runway rail and 52 feet from centre to centre of said rails.

The hot bed building is 190 feet long 85 feet wide, and 22 feet high. These buildings are made of structural steel framing, expanded metal, cementine walls, with corrugated