



Fig. 2.—Departmental Chiefs.

is the foundry, 300 feet long by 120 feet wide, consisting of 60 foot middle bay, two 30 foot wings, and gallery over the eastern wing. In this well lighted building, we found 342 men working on the moulding of castings large and small: huge 20 ton turbine intake castings for Niagara Falls were being made in loam; massive C. G. E. Dynamo fields and spiders, for Winnipeg, were being swept up in dry sand pits; bed plates and cylinders for air compressors, pumps, etc., were being moulded in cope and drag, on the middle and eastern floors; while overhead; on the gallery, hydrants, valves, and other small green sand duplicate castings were being hand-moulded in snap-flask and on follow-board by the hundred. The only labor saving devices we perceived in operation were pneumatic hand rammers, Fig. 6, pneumatic riddles for sifting sand, and a Sellers' centrifugal facing sand mixer, all saving common manual labor. Appliances as substitutes for skilled labor, such as gear moulding machines, pulley moulding machines, and devices for duplicate work, i.e., bends, branches, tees, valves, hydrants, etc., which one finds universally in the United States and the later foundries of England, we failed to find anywhere. In the centre bay are 2=20 ton "Morgan" electric travelling cranes, made by Canada Foundry Company, while on the main columns are fixed 6=5 ton electric jib cranes, capable of being moved from one post to another. Over the moulding floor in eastern wing are 2=15 ton electric travelling cranes.

The 5 core ovens grouped together, located outside the main building near the southwest end, are commodious, and the terra cotta hollow-bricked roof excellent; but the underground heating furnaces, fired inside the shop, the sliding doors, and truck axles on fixed centers, are manifestly behind the times. Three "Colliau" cupolas 66", 56" and 36" linings respectively, supply the metal for the moulds, and have a capacity of 40 tons daily. The blast is supplied to the cupolas from rotary pressure blowers, through pipes with numerous friction pro-

ducing bends; while the means adopted for delivering coke fuel to the charging floor is anything but an economical arrangement. A like criticism holds good with regard to the storing and handling of pig iron and scrap.

In the crowded casting cleaning section, at south-east end, are grinders, rumblers, and other modern appliances; but no pickling vats for effectively removing, by dissolving, the core sands in pump and engine cylinder ports, etc. At the opposite corner is a heating furnace and dipping tank, for coating hydrants and other waterworks castings with an antiseptic, rust preventing mixture of pitch, etc. On the gallery over these sections, we found a detachment of carpenters busy making and repairing flasks, and a feature of this part is the equipment of labor-saving wood-working machinery. About 170 feet of the western wing floor is reserved for the making of cores. Overhead, on runways, is

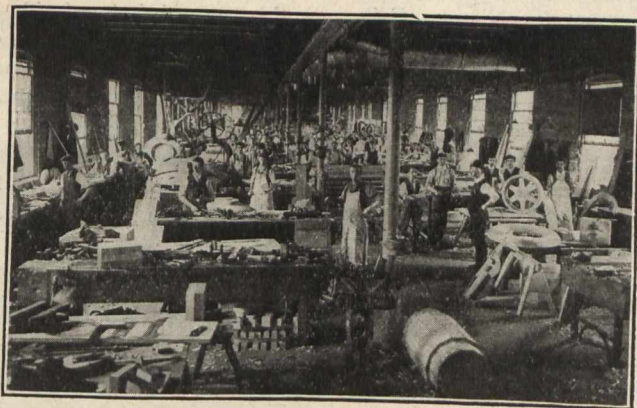


Fig. 4.—Pattern Shop.

a 3 ton air lift travelling crane. Here it was, as an aid to the 27 busy core-makers, that we found the centrifugal sand mixer, made by Wm. Sellers, of Philadelphia.

One feature of this foundry is the manner in which the comfort of the moulders has been considered; for behind the core room is a chamber, 60x30 feet, in charge of an attendant, in which is a double row of wash basins with 20 spigots, and around the walls we counted 95 lockers for the men's clothes; while over the cleanly lavatories is another room provided with 6 shower baths.

On the whole the foundry is an interesting department; and while we have pointed out one or two important details which we deem unmechanical and uneconomical, we have nothing but praise for the general layout and design. The minor defects indicated will doubtless be remedied when the necessary extensions are made.

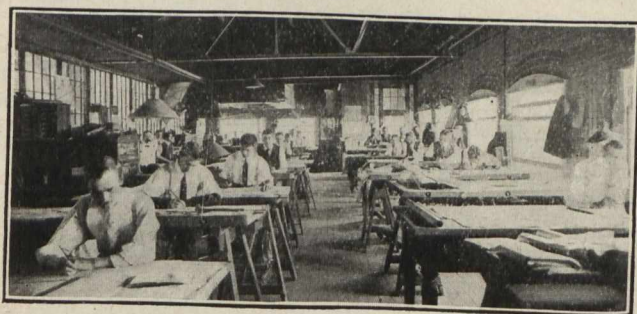


Fig. 3.—Drawing Office.