

makes, as it is possible to see every operation in the pit from any position in the shop, provided the view is unobstructed.

The machine tool layout has been planned with a view to ease in handling the parts from the erecting shop to the tools, and as a further analysis will show this idea has been well carried out, as all the departments where the members to be machined are heavy, are either near the erecting shop, or are adjacent to one of the shop tracks.

Back of the wheeling jack, is situated the general department, containing all the heavier tools. They consist of the following:

- 42 in. passenger car wheel lathe.
- 36 by 26 in. by 10 ft. planer.
- 80 in. driving wheel lathe.
- 51 in. boring mill.
- 10 ton driving wheel press.

These four tools are each separately motor driven. The planer and boring mill are served by a 15 ft. 1 ton jib crane, swinging over the central shop track, over which the work is forwarded to the machines. The passenger car wheel lathe, from the nature of its work, does not require a crane to the same degree, as its work can be

- 5 ft. radial drill.
- 16 in. slotter.
- Axle box press.
- Piston clamp.

This department also contains 3 work benches. It is located conveniently to the track from the erecting shop. Immediately to the north of this department is a battery of smaller tools for general work, consisting of the following:

- 36 in. gap lathe.
- Two 36 in. drills.
- 30 in. drill.
- 25 in. drill.
- Nut taper.
- 4 in. pipe threader.
- 2 spindle screw machine.
- Double emery wheel.

These tools are driven in a group, together with the last department, from a 20 h. p. motor. The motion department is

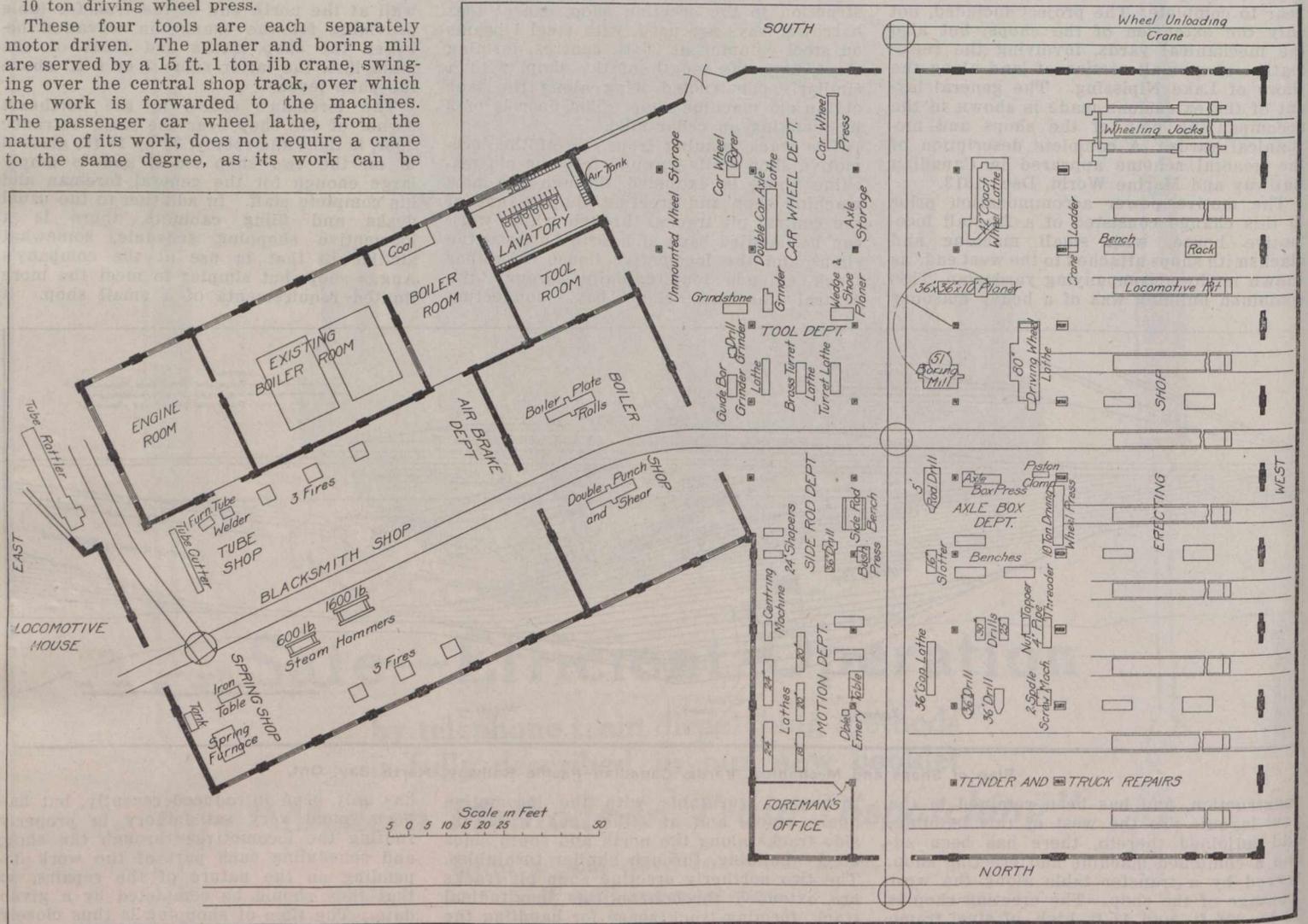
to the south of the locomotive house track, contains the following light equipment:

- Guide bar grinder.
- Drill grinder.
- 10 in. lathe.
- Grindstone.
- Brass turret lathe.
- Turret lathe.
- Landis grinder.

Adjoining this department, there is a small wedge and shoe planer, which belongs to the general group on the other side of the through service track. The car wheel department occupies the whole southeast corner of the shop, and contains the following equipment:

- Double car axle lathe.
- Car wheel borer.
- Car wheel press.

These three tools, in conjunction with



Plan of Locomotive Shop, with Machinery Location, Canadian Pacific Railway, North Bay, Ont.

rolled into the lathe. The space between it and the south wall is a small storage department for these wheels. The driving wheel lathe is directly opposite one of the erecting shop tracks, the track from which extends through to the lathe, over which the wheels are led into the lathe. From the wheeling jack in the end pit, the wheels are carried down the shop by the travelling crane to the lathe track. The driving wheel press is similarly situated to the driving wheel lathe, to the south of the locomotive house track, with the erecting shop track leading through to it. It is served the same as the driving wheel lathe.

The axle box and piston department is immediately to the north of the locomotive house track, and contains the following equipment:

directly south of the office, containing the following equipment:

- Two 24 in. lathes.
- Two 20 in. lathes.
- 18 in. lathe.
- Centring machine.
- Double emery wheel.
- Marking off table.

This work, being of a lighter nature than that on the other side of the shop, has not the handling facilities. Immediately adjoining this department to the south, is the side rod department, containing the following tools:

- Two 24 in. shapers.
- 36 in. drill.
- Bushing press.

There is in addition, a side rod bench. This department, in conjunction with the motion department, is operated as a group from a 20 h. p. motor. The tool department,

those of the tool department, are all driven in a group from a 30 h. p. motor. Wheels from the line are brought to the shop from outlying points on flat cars. Paralleling the run around track on the south side of the building, there is an adjoining track over which these cars of wheels are brought. Spanning these two tracks at the point indicated, is a light wooden hoist, which lifts the wheels from the car, and places them on the run around track, over which they are run into the shop. At the press they are dismembered, with the axles piled in the storage pile indicated, and the unmounted wheels along the east side as indicated, in piles at right angles to the wall. The completed wheels are run out over the same track to the transfer table, and stored on the southerly stub tracks on the op-