

- (2) A possible economy in the value of the iron and fuel employed.
- (3) A decrease in the loss of iron carried off in the slag.
- (4) Cleaner castings and stronger metal.

APPARATUS. SEE FIG. 1. (This is the kind of cupola I used in all cases).

Underneath the air belt of the cupola a steam pipe is fixed, having connections opposite each tuyere from which small

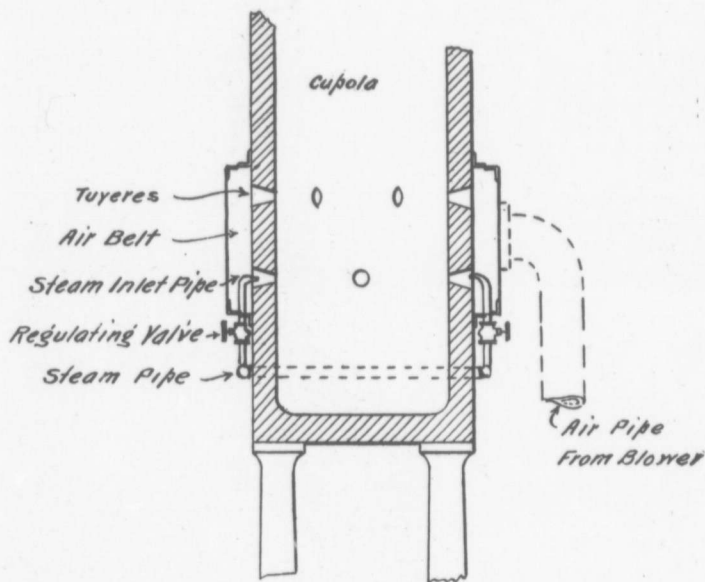


FIG. 2.

branch pipes of $\frac{1}{4}$ " bore are led into each tuyere, each branch having a wheel regulating valve to regulate the amount of steam introduced with the blast. (See Fig. 2). All exposed portions of steam pipe are covered with asbestos or other non-conducting material to prevent condensation; and as near to the cupola as possible, the steam passed through a simple superheated coil, the steam pressure being 80-90 lbs. and air pressure not exceeding $\frac{3}{4}$ lbs. per sq. in., i. e., $1\frac{1}{2}$ " of mercury or 21" of water.