

Railway Mechanical Methods and Devices.

Device for Milling Teeth in Quadrants and Latches.

The accompanying fig. 1 shows a device for milling the teeth in quadrants and latches. The latch is clamped to the frame and the teeth are cut with a cutter of the desired shape. The radius bars are fastened to the same frame as the latch. The spacing is regulated by the teeth in the frame shown in fig. 1.

In cutting the quadrant the bars are fastened to the ends of the quadrant, which are clamped on top of a device in which there is a dog to engage in the tooth of the quadrant. This is clamped to the table of the miller. The first tooth is shaped by moving the table and for the succeeding teeth the dog is used. The clamp on the quadrant is loosened and the quadrant is moved to engage the dog.

Fig. 2 shows a jig for drilling the piston heads and follower plates, the proper holes and bushings being used corresponding to the different heads and followers.

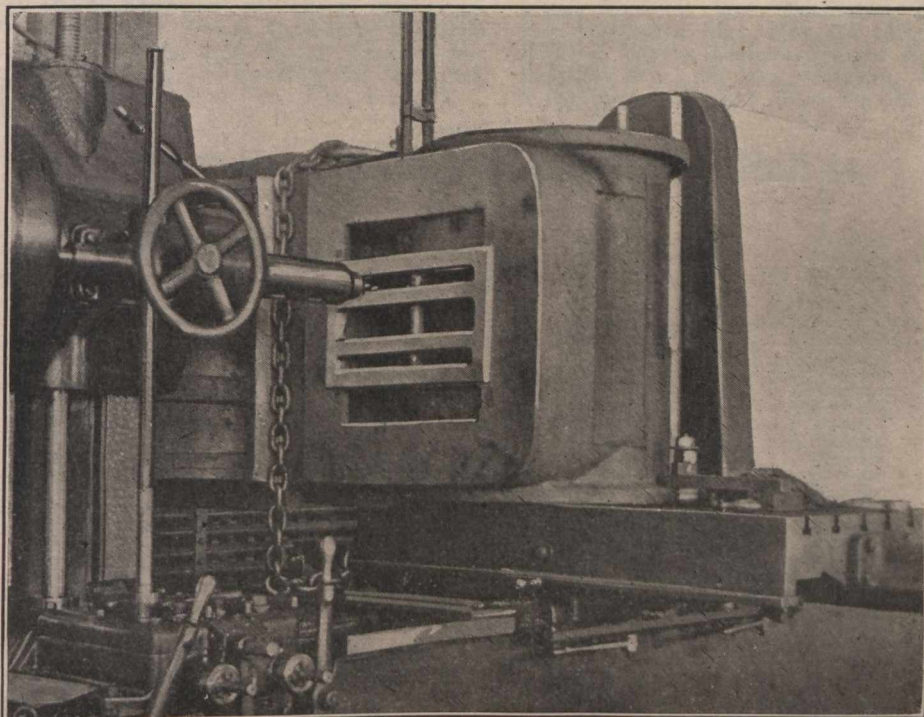
Milling Cylinder Ports.

One of the uses to which the horizontal boring machine is put in railway shops is shown in the accompanying illustration. Here a locomotive cylinder and half saddle are mounted on the table of a no. 32 Lucas horizontal boring machine, while the valve seat is being machined.

Extension Staybolt Tap.

All railway shops have use for staybolt taps, with pilots of sufficient length

purpose are required to be as much as 60 in. long and are only handled by the manufacturer as "special" it will be understood that the cost of such taps would be a matter worthy of consideration. The



Milling Ports in Locomotive Cylinder.

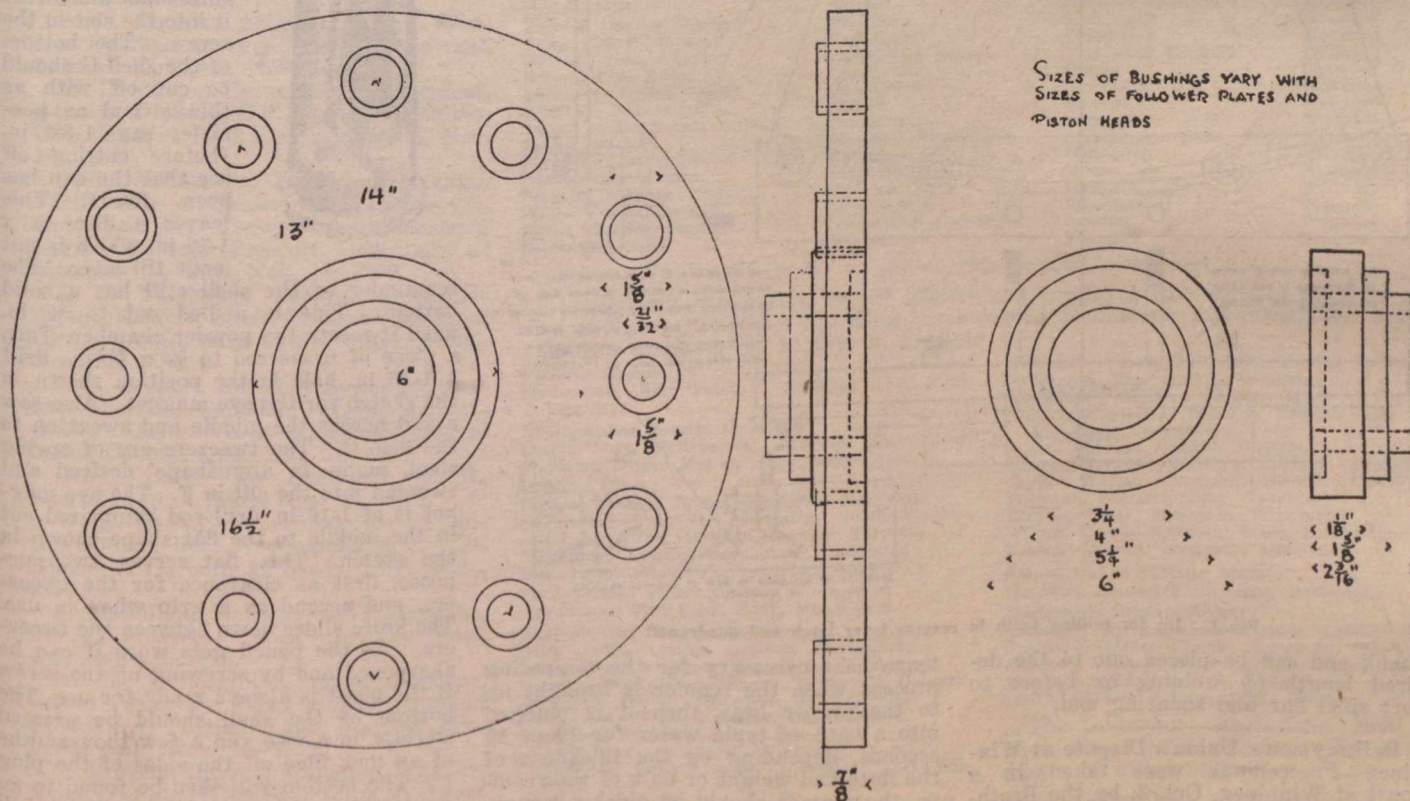


Fig. 2. Jig for drilling holes in follower plates and piston heads.

The valve seat itself is surfaced with a large inserted tooth milling cutter, while the small cutter shown is used to mill the outside of the raised portion forming the seat and also to clean out the valve ports as shown.—I. B. Rich, in American Machinist.

to extend through the water space and inside sheet of firebox, whilst thread is being cut on the outside sheet and then sufficient length of shank to permit the threading of inside sheet without removing the tap from the hole. When it is considered that taps for this

following practice is reported to have proved very satisfactory:

Take a standard staybolt tap 21 in. long, which is carried in stock, and with the aid of the electric welder, attach a connection 2 in. long without annealing the tap. The tap is then put on the