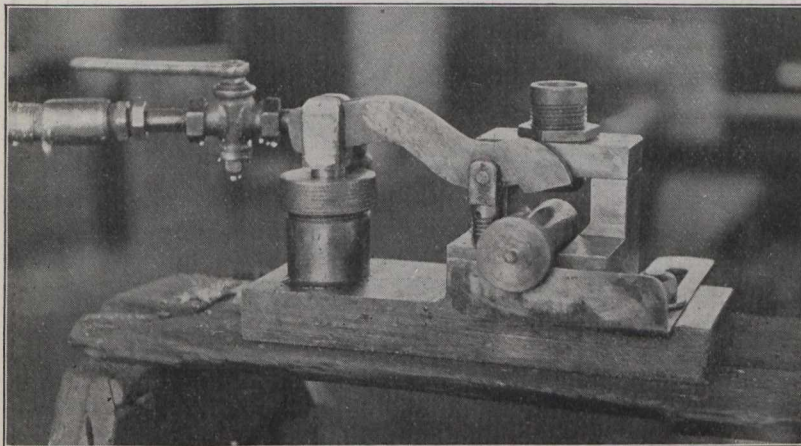


Railway Mechanical Methods and Devices.

Drilling Cotter Holes in Pins at Michigan Central Railroad Shops.

The jig shown in the accompanying illustration, with its auxiliary bushings, is in use in the Michigan Central Rd. locomotive shops, St. Thomas, Ont., for drilling cotter holes in the ends of such pins are held in place by cotters. It is very simple in

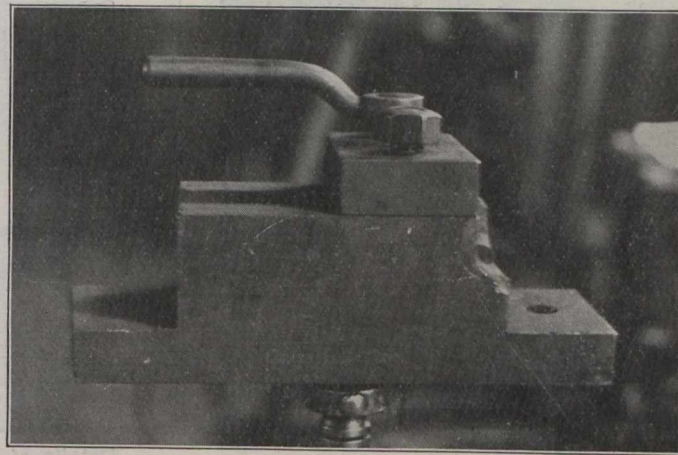


Drilling Cotter Holes in Pins.

design, and because of a simplicity of action is very rapid in turning out work. The jig consists of a forged base, machined all over. In the upper face there is a V block, bridged over top by a bar into which drill jig bushings of different diameters as required may be screwed. The pins to be drilled are set in this V block, and located longitudinally by the locating gauge in the foreground, against which the head of the pin is bearing. This locating gauge is held to the jig base by a bolt shown on the right, adjustment of the gauge being possible through the slot in the gauge. On the left end of the base there is a small vertical air cylinder,

Milling Slots in Crown Stays in Grand Trunk Railway Shops.

A simple jig for milling slots in crown stays is shown in the accompanying illustration, which shows the jig used in the G.T.R. shops, Stratford, Ont. It consists of a simple forged base, which can be bolted to the milling machine table. The upper face



Jig for Holding Crown Stays for Slotting.

of the base is grooved to receive the crown stays to be slotted, straddling which there is a holding on strip, secured by two nuts, one of which is plain, and the other a handle nut, the plain nut being run on by hand, the final tightening being by hand. The milling cutter is run on the head of the stay from the right.

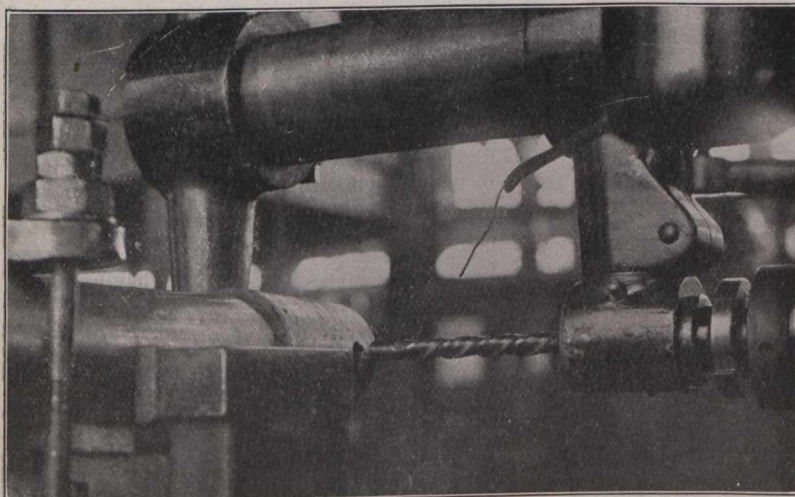
Cutting Crosshead Keyways in Piston Rods at Michigan Central Rd. Shops.

The method followed in the M.C.R. locomotive shops, St. Thomas, Ont., for cutting nut on the reverse side. The principal

of the keyway is placed in the milling machine spindle and the work lined up. The table with rod is run across so that the cutter projects through the drilled hole on the far side, where the cutter is supported by the milling arm. The feed of the machine carries the rod along the desired length of the keyway, forming it complete in one pass. The entire time for milling the keyway, including the setting up, is under 12 mins.

Heavy Boring Bar Head at Grand Trunk Railway Shops.

A heavy boring bar head which has a quick adjustment of the cutting tools is in use in the G.T.R. shops, Stratford, Ont. A front and side view of the head is shown in the accompanying illustration. In general appearance it resembles the usual boring bar head, consisting of a cast iron ring, with three projecting arms, slotted radially to receive the tools. These tools are held in place by a square ended eye bolt, with a

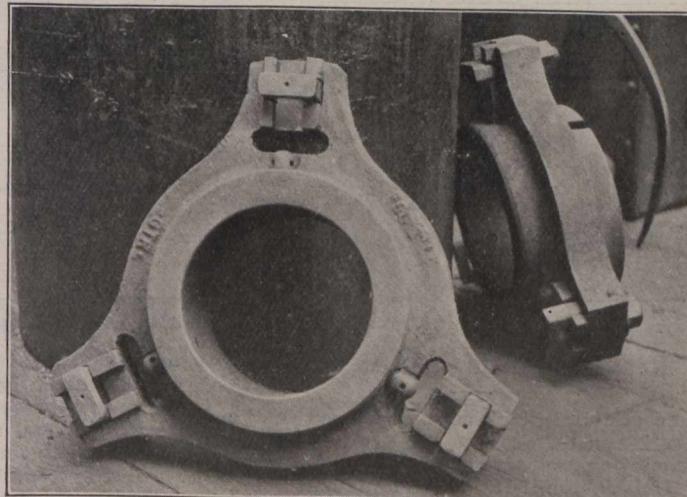


Cutting Crosshead Keyways in Piston Rods.

attached to the rear end of a fulcrum arm, pivoted beside the V block, the short arm of which bears down on the pin when the air is turned on. This provides a quick and ready method of securing the work while drilling.

Pere Marquette Rd.—The date on which the sale of this railway is to take place has been postponed to Dec. 6.

crosshead keyways in piston rods, is shown in the accompanying illustration. In the rod as it comes turned from the lathe, a drill hole is made through the crosshead end, at the end of where the keyway is to be located. The rod is then mounted in the vise on a milling machine table, and clamped down, with the drilled hole parallel to the table. A spiral milling cutter of diameter exactly the same as the thickness



Heavy Boring Bar Head with Tool Adjustment.

point of value in the head is the tool adjustment feature, which consists of a small radial screw bearing up under the base of each tool. Each of these adjustment screws has 4 radial holes for turning pins, by means of which the screw may be turned, forcing the tool out to its required cutting position. This head is used on the heavy boring bar of the horizontal boring mill, wherein the work is carried along on the