Railway Mechanical Methods and Devices.

Rivet Shears at Vancouver Shops, C.P.R.

Practically every railway shop has improvised some method of shearing off the rivets from coupler yokes, the prin-cipal method being to build up some sim-ple machine that is operated by com-pressed air. The accompany illustration remedied by autogenous welding. The crack was enlarged by the use of an air hammer, forming a V-groove, about 2 in. wide at the top, tapering down to a width of from ¼ to ½ in. at the bottom. After this preparation, the whole bot-tom of the evolution was heated to a

tom of the cylinder was heated to a cherry red, with a charcoal fire, and the weld made while in this condition. The V-groove was completely filled, and a



Air Operated Shear for Stripping Couplers.

shows such a machine, but has the advantage of being much more massively

built than usual. The whole is built up on a base of wooden beams, with a solid cast iron base. Most of the parts are specially made, but the use of scrap material has been used by the second scrap material has been embodied as far as possible. The whole arrangement is self-explanatory. The

Welding Cracked Cylinder, Grand Trunk Pacific Railway.

The G.T.P.R. had a locomotive with a cracked cylinder, the crack running

slight seam was left for truing up later. On the completion of the welding, an-other charcoal fire was built inside the cylinder, a specially prepared shield being made for the outside of the cylin-der, in order to hold the heat, and the whole cylinder was brought to a cherry heat, and held at this temperature for several hours, when the whole body was allowed to cool down slowly. 48 hours was then allowed to elapse before the boring bar was applied.

boring bar was applied. With this method, the whole cylinder cooled and contracted slowly and un-iformly, and there was no sign of a crack, either in the fracture or in any other part of the cylinder. Only the welding seam needed to be trued off after welding, as the cylinder did not

Tool for Grinding Superheater Joints.

The tool illustrated herewith, for grinding superheater joints, is made partly of steel and partly of babbitt. The same steel shank is used for both the male and female grinders, for the tube seatings, or tube ends. The method



Tool for Grinding Superheater Joints.

of forming both grinding tips, is shown clearly in the illustration. The manage-ment has found this tool to be very successful for locomotive house work.—A. Connell, Tool Foreman, Kansas City Southern Rd.

Chuck for Milling Wheel Lathe Forming Tools.

This chuck was designed in order that four tools might be milled at one setting, thus saving quite a lot of time where large quantities are to be milled. The greatest feature in using this style of cutter is keeping it cool. A con-stant stream of lubricant should be ap-plied, the quality of the lubricant not being of such great importance as compared to the way in which it removes



Cracked Cylinder Repaired by Welding. the full length of the cylinder, and it was decided that the defect could be



Chuck for Milling Wheel Lathe Forming Tools.

distort, but the cylinder expanded sufficiently to necessitate the truing down of each end about 1-32 in.

We are indebted to A. McTavish, formerly Master Mechanic, Transcona Shops, now Travelling Engineer, Dear-Transcona born Chemical Co., for the foregoing.

the heat. By keeping the cutter cool, very little resharpening is required. We very little resharpening is required. We use two cutters, one for road locomo-tives, and the other for switchers, this combination covering all the tires turn-ed. W. C. Stephens, Machine Foreman, Atlantic Coast Line Rd.