

civilization and progress. Just what part the engineers alone have played in the development of the country, or how much of its prosperity is due to their efforts is not for the writer to define, but the monuments said to be erected to themselves at the public expense are surely not idols standing in a desert, without usefulness and convenience to mankind. What we really do require is greater and unabated confidence, and if legislation should be enacted to enable the public to make a more careful choice of the men to be entrusted with their affairs the results would no doubt be gratifying. The engineering profession as a body are well organized to consider such legislation, but at present its members can only offer themselves as guardians of the public safety, when called upon to do so in a professional capacity, the selections being made invariably through outside influences.

Faithfully Yours,  
J. Grant MacGregor.

### MODERN AMATEUR MACHINE SHOPS.

By W. L. McLaren.

#### Part III.

The following pictures were taken in the private workshop of Dr. A. Martin, of Ottawa, Canada. For its size this is the finest and most completely equipped shop to be found. At the time the photos were taken the doctor was engaged in building two miniature locomotives, one (Fig. 1), about 3 feet long, and the other, about 2½ feet. The only variation between these and their relatives which pull the fast expresses, is that the smaller one has no tubes in the boiler and burns alcohol, but the larger one does not vary even in these particulars having charcoal for its fuel. They both have air brake pumps which break the tender, as in so small a machine it was found next to impossible to put on an exact copy of the brake on a regular engine. One point where they both differ from the standard, is the absence of injectors. To make an injector of the proper proportions would be to have a useless article so far as any inspiring went, so pumps had to be used instead. The larger engine has cylinders of 1½-inch diameter, with about the same stroke. The parts

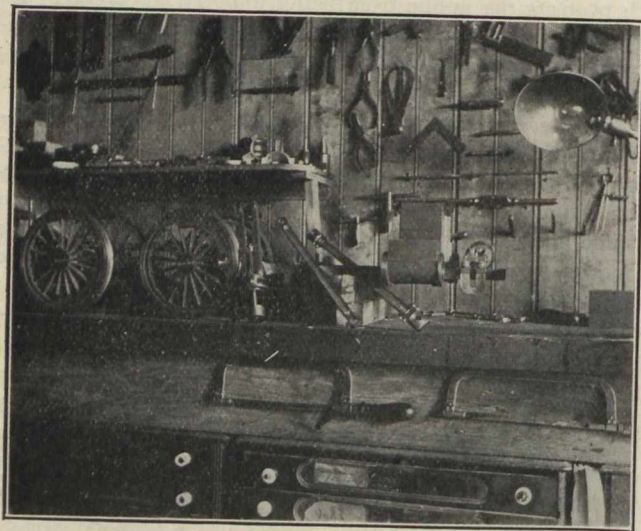


Fig. 1.

are all made as nearly as possible of the same material as in the large ones, this being carried so far as to have the cross heads, rods, etc., of steel. Even the brasses in the rods are made to take up wear. These can be plainly seen in Fig. 1, leaning against the frame. The maker's aim is to construct as nearly as possible a machine which shall resemble the ones in every day use, even as regards the finish on different parts. Fig. 2 shows a section of the shop, which outside of a store room, is contained in one room about 18 x 18 feet. In this picture can be seen part of a 11-inch Baldwin Lathe made over twenty-five years ago, in Laconia, N.H., the builder having since gone out of business. In the centre of the picture is a Hendry Norton 15-inch shaper, on the wall beside which can be seen a counter shaft, this is for

a special milling attachment which the doctor designed himself. The ordinary head of the shaper being removed this attachment is put in its place and belted to the counter-shaft shown, a swivel vice on the shaper table giving every solid adjustment imaginable. Besides the tools already mentioned there is a 14-inch Henry Norton lathe, a Boynton & Plumber upright drill, and a Barnes Friction Drill. These are driven by a 2 horse-power Canadian General Electric D. C. Motor. Fig. 1 gives a good idea of how the bench is arranged so as

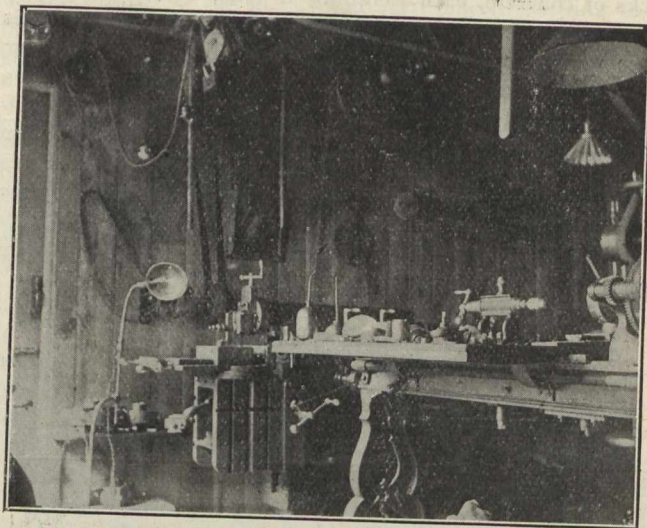


Fig. 2.

to use all available space. The doctor once got his hands on a 6 horse-power gas engine which was too heavy for his liking, so he proceeded to chip, file, and turn 43 lbs. of metal off the various parts without impairing the thing in the least. The doctor never lets his interest in his shop interfere with his practice, allowing only evenings and Sundays to his very interesting and instructive amusement, or hobby, as one may choose to call it.

### CATALOGUES AND CIRCULARS.

**Air Compressors.**—A catalogue having to do with air compressors has been issued by Broom & Wade, Limited, High Wycombe, with offices at London and Glasgow. Besides giving sizes and dimensions it also contains data of interest to engineers interested in compressors.

**Steam Engines.**—A very attractive catalogue has been issued by the Goldie & McCulloch Company, of Galt, Ont., treating with Ideal high-speed steam engines. Size, 6 x 9, pp. 55.

**Prairie Type Locomotives.**—The American Locomotive Company has just issued the tenth of their series of catalogue pamphlets, which illustrates and describes the Prairie type locomotives built for various roads. This pamphlet contains half-tone illustrations, and the principal dimensions in tabulated form of fifteen different designs of locomotives of this type, ranging in weights from 136,000 to 245,000 pounds. The usual style of pamphlet adopted by this company is followed, beginning with the description of this class of locomotives and presenting the advantages which it offers for fast freight and passenger service.

**Crushing and Road Machinery.**—The 1907 catalogue of the Climax Road Machine Company, of Marathon, N. Y., has been received. It describes and illustrates stone crushers, road machines, road rollers, and other kinds of machinery used in road making. Size, 8 x 10¼, pp. 24.

**Blow-off Valves.**—The Lunkenheimer Co., Cincinnati, Ohio. A pamphlet devoted exclusively to blow-off valves as manufactured by this company. Size, 3½ x 6, pp. 24.

**Electrical Supplies.**—Canadian General Electric Co., Toronto, Ont. Two circulars have been received from this company descriptive of electric specialties handled by this company, including gas lighters, pocket flash lights, battery connectors and batteries. Size, 3½ x 6, pp. 16.