

Canadian Railway and Marine World

July, 1920

The June Mechanical Conventions at Atlantic City.

The two great annual railway mechanical conventions of the American Railway Master Mechanics' Association and the Master Car Builders' Association, held principally at Atlantic City, N.J., for many years, were suspended after 1916, in consequence of the United States having entered the war, but meetings of the executive committees were held in Chicago in 1917 and 1918, at which reports of various committees were presented.

In 1919, the Director General of the U.S. Railroads decided to provide, during the period of federal control, a responsible channel through which he might obtain recommendations for the advancement of railway practice. The American Railway Association revised its organization, changed its name to the American Railroad Association, and enlarged its scope by covering the former activities

of a number of other railway associations, etc., including among others, the American Railway Master Mechanics' Association, and the Master Car Builders' Association. The American Railroad Association was divided into five sections, viz.: operating, engineering, mechanical, traffic and transportation, respectively. The mechanical section took over the former activities of the American Railway Master Mechanics' Association, and the Master Car Builders' Association, the committee consisting of three representatives of the U.S. Railroad Administration, two representatives of each of the operating regions into which the U.S. was divided and two representatives of Canadian railways. Under the mechanical section's management a convention was held at Atlantic City in June, 1919.

The re-organized American Railroad

Association has been continued as outlined above and the mechanical section held its annual convention at Atlantic City this year, June 9-16, the chairman of the general committee being W. J. Tollerton, General Mechanical Superintendent, Chicago, Rock Island & Pacific Rd., the vice chairman being J. Coleman, Assistant to General Superintendent Motive Power and Car Departments, G. T.R., Montreal. W. H. Winterrowd, Chief Mechanical Engineer, C.P.R., Montreal, was also a member of the committee. Locomotive matters were dealt with on June 9-11, the election of officers was held on June 14, and car matters were dealt with on June 14 to 16. The most important features of the convention were, as usual, reports of the standing and special committees, and individual papers presented. The principal ones are given on this and following pages, either in full or in abstract.

Scheduling and Routing Systems for Locomotive Repair Shops.

The committee, of which Henry Gardner, Supervisor of Apprentices and Shop Schedule Systems, Baltimore & Ohio Rd., was chairman, reported as follows:—Scheduling and routing in railway shops is not new. The first schedules recorded were used in the Chicago & Northwestern shops in 1904. These consisted simply of working sheets, and assigned dates made out and followed up by the shop supervision. Since that time more than 15 railways have adopted some form of schedule system for repairing locomotives, all of which are more or less alike in basic principles. Briefly, the locomotive is brought to the shop on a predetermined date or order, tank disconnected and engine forwarded to the stripping pit. Stripping is handled by a special gang in charge of a leader, and all parts are delivered to each department of the shop. Predetermined dates are then assigned for completing all parts in time to assemble the engine in best practical and logical sequence. These dates are obtained from master schedules which are compiled for each class of repair and for varying numbers of days required to complete the engine. All delays of material or operations are checked daily, and foremen are notified of the delays in their department. No definite time is given in which operations shall be performed and it is only necessary that the work shall be finished on a certain day or date. The result of scheduling the complete capacity of the shop will automatically develop for each operation a stated number of hours which will very closely approximate the minimum number of hours in which that operation can be performed.

The following items cover the necessary steps to be taken for installing an up-to-date and adequate scheduling and routing system as now in operation on some railways: 1—Supervisor of shop schedules and assistant. 2—Schedule office for supervisor. 3—Schedule and planning boards. 4—Shop or job black-

boards. 5—Printed forms, master sheets, etc. 6—Calendar slide rules. This list may be modified for smaller shops, but as the general methods and principles are the same, the above installation will be described. It is the committee's opinion that it is not advisable to introduce this shop system where less than 10 locomotives a month are given classified repairs. It is also found inadvisable to employ these methods in locomotive houses and shops making heavy running repairs exclusively. Details covering the above listed subject are given in order below:

1. Supervisor of shop schedules should be a man with practical experience, capable of handling men, and with sufficient technical education to make clear reports and records; preferably a man who has served an apprenticeship and is familiar with all trades. He should report to the superintendent or assistant superintendent of shops. At large shops an assistant may be required.

2. The schedule office should be located conveniently with respect to the machine and erecting shops, preferably in the general foreman's office, or leading from it. A room 10 x 12 ft. will be sufficient, but should be larger if possible. It is important to have this office so located that the supervision can frequently consult with the schedule supervisor and have ready access to and examine the records on the schedule boards.

3. Schedule boards are made to suit local conditions in shops and should be about 36 x 58 in. in size, or smaller. Two boards are necessary, one for current month and one for following months, continuing in succession from month to month. The planning board is used for assigning engines to the shop, with reference to adjusting the class of work to be done to the existing organization, and particularly to avoid overloading any department. This board simplifies the work of the schedule supervisor.

4. Small blackboards are used for con-

veying dates work is due finished, directly to the man on the job. These blackboard may be employed to the extent of 15 or 20, as may be found desirable. Foremen of gangs, or departments, are expected to keep up these blackboards, crossing out engines and dates when work is completed and delivered.

5. About 20 forms are used for operating this system to best advantage. These forms cover constant or master schedules, delay sheets, check sheets and shop sheets used for conveying dates directly to the department interested. All forms, excepting master schedules, should be printed.

6. The calendar slide rule is indispensable for transferring the constant intervals of time on the master schedules into actual dates on the shop sheets. By the use of this simple device a large number of dates can be assigned quickly and one setting of the rule is sufficient for one schedule on an engine. Items 3, 4, 5 and 6 are covered by figs. 1 to 9 appended to this report.

The above discussion contemplates only the handling of the locomotive and its parts after arriving at the shop and is not directly concerned with the assignment of engines to the shop and their selection for repairs. But this feature is important and has a decided bearing upon the success of the system. Overloading departments with too much boiler work, or too many broken cylinders or frames, will result in delays, and prevent schedules based upon evenly apportioned work from operating effectively. The shop superintendent should have absolute control over engines to be repaired, as he is in best position to adjust the incoming work to his organization and with relation to the work being performed in the shop.

It is not perhaps pertinent to this discussion to treat at length the subject of proper inspection of incoming engines, although this matter has considerable bearing upon successful operation. One