

## Contributed Papers.

### SUCCESSFUL EXPERIMENT IN PRE-COOLED FRUIT SHIPPING BY NORTHERN PACIFIC.

The experiment of the Northern Pacific in shipping pre-cooled fruit from Washington to New York in a special refrigerator car having double flax fiber insulation and Bohn ice tanks was highly satisfactory. The car was loaded at North Yakima, Wash., on September 23 with 504 boxes of pears. It was iced the day before, and after loading was sent to the pre-cooling plant, the temperature being reduced to 38 deg. The car left North Yakima September 24 and arrived at St. Paul at 3 o'clock a.m. October 1. The temperature taken at St. Paul showed 34 deg. at the bottom of the car and 38 deg. on top of the load. There was, therefore, no change in the temperature of the car between North Yakima and St. Paul. The car passed Chicago October 3 and arrived at New York October 6. The temperature in the car at New York was 35 deg. on the floor and 38 deg. on top of the load.

The ice tanks contained 5 tons on leaving North Yakima, 4 tons passing St. Paul and 3½ tons upon arrival in New York. The car was not re-iced between North Yakima and New York. The pears were sold at auction in New York October 8 at an average price of \$2.46 per box.

R. P. Ober, General Agent Refrigerator Car Line of the Northern Pacific, states that while the cost of equipping such cars is considerably higher than for an ordinary refrigerator car, the results obtained from this test appear to justify the use of such cars by both railroads and shippers. Mr. Ober expects to make a test of the car in cold weather to see if the insulation will prevent the lading from freezing.

### WORK OF THE C., M. & ST. P. IN TACOMA AND SEATTLE.

The Pacific extension of the Chicago, Milwaukee & St. Paul is now extended within the city limits of both Tacoma and Seattle. Progress at Tacoma is such that A. M. Ingersoll, the new vice-president, has opened an office in the Bernice Building, of that city. The road will have two terminals in Tacoma—one at 25th and Pacific avenues, and the other on the tide flats at the mouth of the Puyallup river, for connections with coastwise and ocean vessels. The main line is built to the Puyallup river and rails are laid across the river on a wooden bridge and falsework. Work on the steel bridge for this crossing is about to begin. The road reaches its new station site in Tacoma, which is on a considerably higher level than the tide flat terminals, by means of a pile trestle on both sides of the Puyallup river. On the main line beyond the trestle the grade has settled or washed down considerably, and in some places the rails are about 2 ft. below the bridge level, necessitating refilling. On the tide flats progress is slow, but consistent. The tidewater branch has rails laid to the mouth of the Puyallup river. A large amount of bulkheading and piling is being put in, on which to build the wharves. Between the Puyallup river and the Union Depot site good progress is being made. About four blocks are being graded and a long, 30-ft. cut made through a hill. On the two blocks next the depot site nothing has been done. The Tacoma Eastern and the C., M. & St. P. are to have a union station at Pacific and 25th avenues, in a thickly settled part of Tacoma, which is now a considerable distance from any station. Excavation on the hill where the station is to be built is just started.

In Seattle nothing has been done on either the tide flats or the passenger station. The present end of the road is at Georgetown, a suburb of Seattle, four miles out, to which the grading has been recently finished.

The company recently filed articles of incorporation for the C., M. & St. P. Hospital Association, to establish a hospital at Seattle for the employees of the road. The association is to be

similar to that of the Northern Pacific, which has hospitals at Tacoma, Missoula and Brainerd. The officers are: Albert I. Bouffleur, Chicago, the chief surgeon of the road; H. H. Field, Seattle, general Western counsel, and D. H. Eugene Allen, surgeon for the Pacific division, which will cover all the territory in Washington west of the Columbia river. The association has divided the road into four divisions to facilitate the work. Temporarily, employees will be cared for at the Pacific Hospital at Seattle. Similar arrangements are being made at Tacoma. The association will have surgeons in all of the principal towns along the line. A board of managers is soon to be appointed, representing both the company and the employees.

The C., M. & St. P. has announced its intention to establish an Atlantic-Pacific service, arrangements having been made with the Pennsylvania to carry one car of the train from the coast through to New York.

### BRIDGES AND BUILDINGS CONVENTION.

The annual convention of the Association of Railway Superintendents of Bridges and Buildings was held in Washington, October 20-22, with more than 80 members present. On the first day the committee reports on reinforced concrete culverts and short span bridges and on fire protection were read. The latter was a progress report, the full report being promised for publication in the proceedings within a few weeks.

The report on the revision of the constitution was submitted on the following day and adopted. The name of the association is changed to American Railway Bridge and Building Association. Membership is divided into two classes, active and life members. Those eligible for active membership shall be those in responsible positions in charge of work connected with building or maintaining railroad bridges and other structures, as well as professors of engineering, government timber experts, and railroad architects. The executive committee is to hereafter include the vice-presidents, as well as the president, secretary, treasurer and six executive members. After the adoption of the constitution, O. J. Travis, first president of the association, and H. W. Phillips and L. H. Porter, of the New York, New Haven & Hartford, were made life members.

The next committee report was on the use of gasoline and kerosene engines for water supply, draw bridges, etc. The committee referred to a similar report submitted at the 1899 convention, reprinting from this report a table showing the comparative costs of pumping water with gasoline and other engines. Usually there is almost no saving in using gasoline engines instead of steam, gasoline engine pumping plants being preferable because of the simplicity and ease of operation. Kerosene is cheaper and has greater heat value, but such an engine requires more care and is not yet perfected. For draw bridges, it is evident that it is preferable to use an engine which is always ready for immediate operation, and which consumes no fuel during the periods the draw is closed. The report included several tables, contributed by members, showing comparative costs of pumping with different engines, and also letters concerning the use of kerosene.

The report on modern dwelling houses for section foremen and men in outlying districts was a progress report, the committee only taking up the subject of portable dwellings, that is, cars. It had gathered most of the material for a full report, and in the meantime submitted drawings and descriptions of a converted box car with sleeping, cooking and dining accommodations for four men; a sleeping car for 24 men; a dining and cooking car for a good-sized gang; a bunk car for 14 laborers, and a portable bunk house for four or eight men.

The report on the construction of cofferdams was a full report illustrated with a number of photographs and drawings. General recommendations as to the character of structures for certain requirements were given, including size of timbers