

which destroyed Fernie and entailed a heavy loss of life. Fire on Vancouver Island, it is estimated, caused the destruction of 24,000,000 feet of timber.

Engineers appreciate the loss such fires cause. They should be among the first to show great concern and care, and thus educate those they come in close touch with.

EDITORIAL NOTE.

Ontario's railway mileage was increased during 1908 by 679 miles. There are now in that Province 8,399 miles of steam road and 119 separate systems.

PRECIPITATION FOR AUGUST.

The amount of precipitation which fell during August varied greatly with the district. In the southern parts of Vancouver Island and the Central Valleys of British Columbia, throughout Alberta, in most districts of Ontario and locally in Quebec and the Maritime Provinces the amount was much less than the usual quantity, whereas in some of the remaining portions of the Dominion, the positive departure was very marked, especially so in the eastern portion of Quebec, the extreme southwestern portion of the Peninsula of Ontario and also in portions of Prince Edward Island.

In British Columbia, a nearly normal temperature in the south decreased northwards to the Cariboo District, where there were negative departures of from 3° to 7°. In the Peninsula of Ontario, the Ottawa and Upper St. Lawrence Valleys and throughout the Maritime Provinces the average was just, or not quite reached. Elsewhere in the Dominion the average was generally exceeded. Positive departures of from 3° to 5° were recorded from Saskatchewan to northwestern Ontario.

The table shows for fifteen stations included in the report of the Meteorological Office, Toronto, the total precipitation of these stations for the month.

Ten inches of snow is calculated as being the equivalent of one inch of rain.

Station.	Depth in inches.	Departure from the average of twenty years.
Calgary, Alta.	0.60	— 1.98
Edmonton, Alta.	0.90	— 1.06
Swift Current, Sask.	2.40	+ 0.62
Winnipeg, Man.	4.70	+ 2.16
Port Stanley, Ont.	4.20	+ 1.62
Toronto, Ont.	1.33	— 1.50
Parry Sound, Ont.	1.50	— 1.30
Ottawa, Ont.	3.20	+ 0.17
Kingston, Ont.	3.00	+ 0.55
Montreal, Que.	2.30	— 1.07
Quebec, Que.	5.20	+ 1.38
Chatham, N.B.	4.30	+ 0.29
Halifax, N.S.	3.40	— 0.93
Victoria, B.C.	0.50	— 0.11
Kamloops, B.C.	0.60	— 0.40

UNION OF NOVA SCOTIA MUNICIPALITIES.

The Union of Nova Scotia Municipalities met at Yarmouth, N.S., on Sept. 2nd, the report of the Committee on Resolutions was the first matter taken up. It made two recommendations, namely that voting by ratepayers in incorporated towns on extraordinary expenditures should be by ballot, and that the suggestions, as to improvements in the administration of justice as it affects towns and municipalities should be referred to the incoming executive. Both recommendations were adopted without dissent.

On motion of Arthur Roberts, of Bridgewater, and Mayor Richardson, of Sydney, the meeting decided that towns and municipalities should be given full control over the taxation,

and also the condensed steam chokes the small and tortuous passages about the valves; also the lubricant which is used, when once it wets the surfaces of the air operated tool, remains a long time, while when steam is used in a drill for only a few minutes, so that it is thoroughly heated if the drill is taken apart and the surfaces supposed to have been lubricated examined, no trace of oil will be found in them, and they will usually be reported "as dry as a bone." The favorable experience with the rock drill, as to the use of air in preference to steam as the operating fluid, is repeated with all other styles of normally driven machines. The air operated machine is always and instantly ready and only the throttle requires to be manipulated or thought of.

In driving the tunnels of the Pennsylvania Railroad under the Hudson River at New York, it is not conceivable how the work could have been done without the constant aid of compressed air; but for the enormous excavation required for the passenger station of the same company, which was all outdoor work, the use of compressed air was not imperative, but still air was adopted for the work entirely upon its merits by men who knew, and the results have fully proved the wisdom of the choice.

The similar and even more extensive work of excavation for the new station of the New York Central in the heart of New York City, this also entirely outdoor work, is similarly being done entirely with compressed air as the power transmitter.

For engineering works of large extent and the completion of which will require months or years, so as to make the installation of a suitable plant worth while, compressed air is becoming more and more the favorite, where formerly only steam would have been thought of. Some of the largest stone quarries which have promise of permanence of output are now operated entirely from central air compressing plants. The compressed air installations on the Barge Canal at Crescent, at Vischer's Ferry and on the contracts in the western sections are fully warranted by successful engineering experience.

As has happened before in engineering matters and other things having to do with the world's progress, it has not been the scientific investigators, the official testers of efficiencies, those whose function it is to explain the why of things, who have been the leaders and promoters in this extension of general outdoor compressed air practice. For appreciation and opportunity compressed air is indebted almost entirely to the practical men who have been most closely in touch with it, and now the theorists can pat them on the back and patronizingly assure them that "they inbuilt better than they knew." Perhaps so.

It is by no means difficult, after the practical man has established the practice, to find many cogent reasons which justify the extensive and permanent employment of compressed air. The general impression has been that, while compressed air has many things to recommend it in practice, it is still very wasteful of power, or that the amount of power ultimately realized at the extremities of the piping systems where the air is used is but a small fraction of that which is consumed in the initial compression of the air. The power losses in the use of compressed air have been harped upon until some persons have been able to think of nothing else in connection with it.

The truth is really in the other direction, when the use of air is compared with that of steam for the lines of work we are here considering. It is quite possible to show that the use of air compressed by steam at a central station, instead of using steam direct in the individual, widely distributed machines, effects a distinct saving at the coal pile and an enormous saving of operative labor in addition, besides securing the many accompanying minor advantages not generally enumerated and often not even thought of.

Of course it is an easy thing to cite cases showing how power is wasted by the employment of compressed air for power transmission. Some such occurred early in the compressed air experience of the writer himself. For nearly my first lesson, there was a straight-line, single-stage air