

Editorial

CANADIAN FUELS.

In view of the shortage and price of imported coal, it seems an opportune moment to direct attention once more to the advantages and desirability of using our own fuel, thereby not only being independent of external sources of supply, but also providing more employment for our own people.

Canada possesses fuels ranging in quality from peat to semi-anthracite; and thanks to the researches made by the Mines Department at Ottawa, by the Saskatchewan Government and by certain private concerns, we have acquired valuable information as to their uses for various purposes. Peat has received considerable attention from the Mines Branch, and with the knowledge that it is used as fuel in other countries, it is somewhat surprising that peat has not been more largely utilized in Canada.

We have large tracts of peat awaiting economic development. This fuel involves a certain amount of treatment before it is useful. For example, the high percentage of entrained moisture must be reduced and the carbonaceous constituent must be compressed into a saleable briquet or other form. Peat is used in certain parts of Ireland as fuel for gas producers and is believed to be giving satisfactory results.

The next grade of fuel is lignite, of which there are said to be about twenty billion tons in the western provinces, practically all neglected with the exception of several small mines near Estevan and some larger ones in Alberta. Lignite is an ideal fuel for gas producers, as has often been proved by the Dominion and U.S. government authorities, yet the quantity consumed is exceedingly small in comparison with the requirements of the country. Mr. R. O. Wynne-Roberts, in his report (1912) on lignite in Saskatchewan, advocated the gasifying of lignite and the utilization of the gas under steam boilers and for gas engine power, the latter to be used for constant loads and the former for varying loads owing to greater flexibility.

It is interesting to note that in the development of power in Great Britain at the present time, the gasification of inferior coal and the use of the gas as fuel is being carried out,—with success, it is claimed.

Some grades of coal are not easily saleable owing to their size. Banff coal, for example, breaks up when mined, and much of it has to be briquetted. Banff briquettes are well known in the west and are used to a great extent. There is another way in which such grades of coal can be used, namely, as pulverized fuel. A battery of Bettington boilers is installed at Cape Breton which is heated by burning pulverized coal, and the results are reported to be good. What is believed to be the first large installation for burning pulverized coal under a complete battery of stationary steam boilers has been in operation since August 1st, 1916, at the shops of the Missouri, Kansas & Texas Railroad, at Parsons, Kan. According to the "Iron Age," there are eight 250 h.p. water-tube boilers; evaporation was obtained of 10.7 lbs. of water (from and at 212° Fahr.) per pound of combustible, with 16 per cent. carbon dioxide in the chimneys.

JOINTS IN CONCRETE ROADS.

"On account of the trouble that has been experienced in getting the joints truly vertical and in keeping the slabs from rising, numerous highway engineers in the United States have even reached the point where they are beginning to recommend the construction of concrete pavements without any joints, feeling that the trouble which may result from transverse cracks can be more readily taken care of than the trouble which may result from raised slabs."

The above quotation is from an editorial in *The Canadian Engineer*, September 21st, 1916, issue. Some further light upon this particular problem is afforded by a letter to the editor of *Engineering Record*, of New York, written by Mr. A. N. Johnson, a very well-known consulting highway engineer of Chicago. Mr. Johnson says:—

"The question of the width of joints has been discussed by a number of engineers, some of whom have expressed to me the opinion that they should be wider, especially on work done late in the season. My own opinion in the matter, however, is that the information now at hand is not sufficient to justify any conclusions at this time. The action of pavements where joints are built depends not only on the width of joints, but also on their spacing, and many factors must be considered.

"The Illinois Highway Department this past year has constructed a number of stretches of roads without joints. The question to be answered is whether in the long run there is less expense and no greater inconvenience to traffic by leaving out the joints, thus avoiding their first cost of construction and their subsequent maintenance as compared with the maintenance expense that may be incurred on roads where joints have been placed.

"These matters undoubtedly will be considered by the road committee of the American Concrete Institute, as well as by the sub-committee on tests for roads of the American Society for Testing Materials."

LETTER TO THE EDITOR.

Moving Pictures of Canada's Resources.

Sir,—In company with other members of the staff of this bureau, I have just completed a four months tour of Canada, travelling over all transcontinental lines from ocean to ocean and with teams and pack animals to the remotest parts of the Dominion. My purpose was a general survey of all conditions.

We were amazed at the wonderful undeveloped natural resources of the country and the untold opportunities afforded on all sides for home-making and safe investment.

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