

efficiency in burning power would be increased, the dust in handling and using avoided, and shipments to a distance could be easily made.

Peat ignites easily, requires practically no draught when once the fire has taken hold, gives intense heat, and a banked fire will not burn out nor will it go out until the fuel is consumed. It burns with a flame for some time, and then for a longer period in red hot coals. The gases emitted in the initial stages of burning are not only innocuous but considered by some medicinal, especially against lung troubles. The percentage of ash will vary with the deposit from which the peat is taken. The following analysis was made of samples of compressed fuel made from the product of the Welland bog with the moisture reduced to a suitable amount:

Moisture .....	12
Volatile matter .....	58.20
Fixed carbon .....	26.
Ash .....	3.80

The absence of soot, clinkers and practically of smoke (when burned under proper conditions) are qualities which will appeal to all classes of consumers. Peat in its crude state varies very much in weight—about 600 lbs. to the cubic yard may be taken as a fair density. The fuel as consolidated by the Dickson press will weigh from slightly under soft coal to slightly over hard coal, neither frost nor a damp atmosphere will affect it, but it should be protected from rain.

The Dickson Press, which is the result of many years patient experimenting, and the expenditure of a large amount of money on the part of the inventor, A. A. Dickson, of Toronto, commends itself by its simplicity. The peat, after being broken to a powder in a breaker, is disposed automatically by gravitation towards the lower and stationary dies or moulds, which consist of two steel tubes about twelve inches long, of uniform bore and open at both ends, into which work two punches. Each charge of peat which flows in when the punch rises is compacted into a solid block on the top of the previously made blocks which occupy the lower two-thirds of the tube, and this column of blocks is forced down a distance equal to the depth of the block made, and thus each time one drops out at the bottom. The resistance thus obtained is yielding, and the formative pressure is always the same. These ideas presented themselves to Mr. Dickson after the failure to press the peat in a closed mould, as this substance offers more resistance and friction in a dry, cold, and disintegrated state than any other natural ligneous substance known; Processes which involve the consolidation of the crude peat in a wet or hot state leave it subject to disintegration upon drying or cooling.

It may be interesting to know that during the past summer factories have been erected at the following places in Ontario: Kirkfield on the Trent Valley Canal, Picton, Perth, Beaverton, Brockville, Galt, Barrie, and on the Ellice marsh north of Stratford, to manufacture compressed peat fuel with Dickson presses. It has been largely an experimental year in many ways. Some of the factories have not yet run, but the fuel placed upon the respective markets in small quantities has been very favorably received, and large factories would be required to meet the evident desire of the public for the fuel. Although much can be accomplished by natural drying in the wind, the question of artificial drying is being

speedily and satisfactorily solved, as the Trent Valley Peat Fuel Co. has installed a Cummer Dryer, which promises to render their manufacturing in a much larger degree independent of the weather. There are several other dryers to be installed elsewhere. Although for perhaps several years the fuel will be largely consumed domestically, yet as a steam-rising fuel it has proved its worth unequivocally.

The process of excavating and drying the peat as performed on the Ellice marsh last summer was as follows: Trenches were staked out 3' 8" wide, and at intervals two men, side by side, were set digging with the ordinary steel spades with lifting handles. The peat was dug out one spading deep at a time and spread along the bank, when this was dry on one side it was stacked in small stooks of four or five with the wet sides out, three or four pieces on end and one on top. Subsequently these stooks were gathered into larger piles to make way for the spreading of a second spading and so on. To gather in the dry peat, portable tracks were laid over the ditches and the peat thrown into trams carrying from  $\frac{3}{4}$  of a ton to one ton and conveyed to sheds or huge stacks to be thatched with lumber or moss.

The use of dredges and other machinery may reduce the cost of the operations up to this point. The peat will be either taken dry from the shed or dumped wet into the dryer. It will be pulverized before gravitating to the compressing machinery. It will be carried mechanically through all the processes before compression, and also from the machine to the railway car or store-house.

#### THE TORONTO MUDDLERS BUILD AGAIN.

The people of Toronto are about to spend money in printing the city by-laws. So far as concerns codifying and printing the building by-laws, the money would be better spent in publishing them in the daily papers, so that the people might notice that they are entirely without protection from many of the dangers which threaten the city dweller from the incapacity or crime of those entrusted with building operations, either as owners, architects, or contractors.

We showed, in a former article, that the building regulations of Toronto were a farce, and the office of building inspector a sinecure. The daily papers republished our statements and commented upon them, but no action was taken. The by-laws, which no one knows anything about, and which are entirely inapplicable to present day building, are still supposed to be in force, but in almost all buildings on the business streets these by-laws are entirely ignored.

We will repeat one statement from our former article which shows, as no argument could, the position of affairs: "There are no rules for steel construction in the building regulations of the city of Toronto."

An example of how the building inspector in Toronto guards the public safety is shown by the fact that the city finds its new market building at a standstill, because the steel contractor has refused to erect the roof upon the brick piers provided by the city's architect, and of necessity approved by the building inspector, without whose approval nothing could of course have been done.

If the Dominion Bridge Co., the steel contractors, had gone on with the work, and it had fallen, as they