

PEAT: ITS USE AND MANUFACTURE

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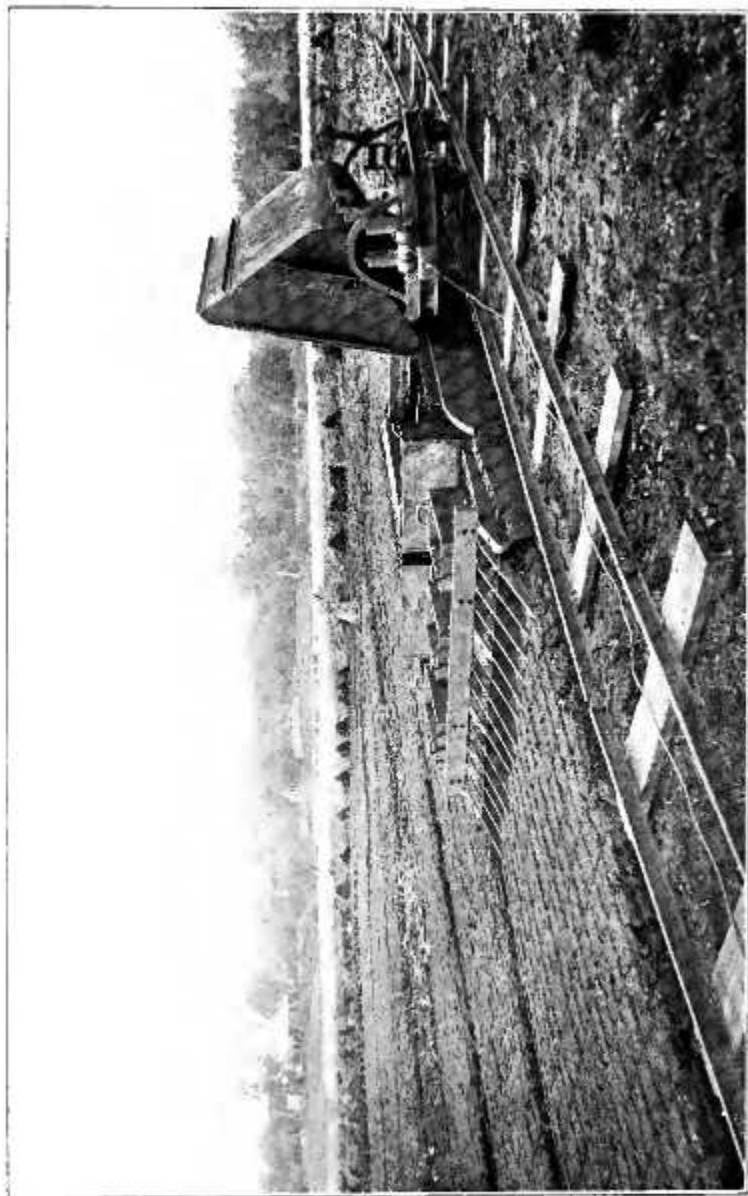
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PHILIP R. BJÖRLING & FREDERICK T. GISSING

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Jacobsson's Field Peat Press at work at St Olof's Peat Bog, Sweden. (For description see p. 39.)

Techno.

PEAT:

ITS USE AND MANUFACTURE.

BY

PHILIP R. BJÖRLING

AND

FREDERICK T. GISSING.

With Sixty Illustrations.

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PREFACE.

WHILST peat may be used for a great variety of purposes, all of which find place in this volume, its chief importance at the present time is as a source of fuel. Its great bulk as compared with coal and its high percentage of water have, however, hitherto proved obstacles to its extended use. For many years past endeavours have been made to find a practical means of overcoming these obstacles, and it is probable that some, at least, of the investigators who have been working at the problem will eventually prove successful in pointing out the way to utilise the immense quantities of energy now lying dormant in the form of peat.

In the preparation of this volume, which is the outcome of a suggestion made by the late Sir Clement Le Neve Foster, who placed valuable notes at our disposal, it has been the author's aim to describe the principal methods and classes of machinery that have from time to time been adopted for utilising peat, reference being made not only to the successful, or at least partially successful, methods, but also to several failures, with a view to prevent future investigators from working on similar lines.

It will be noticed that almost every method described is

based upon the principles of drying the peat by air, by artificial heat, or by pressure. Both in theory and in practice the application of these principles is open to the objections that the peat has to be handled too many times, which greatly increases the cost of treatment, and that the state of the weather at the time has considerable influence. If the peat is compressed after drying, the cost of production is further increased. The only satisfactory method for the economical conversion of peat into a fuel for domestic and manufacturing purposes appears to be to take it direct from the peat bog and on no account to handle it before it is ready for transport, burning, or charring, except by machinery of some description. In no case must artificial heat be employed in the drying. This operation has always proved the chief difficulty. On account of the evaporation of the volatile gases and of the bituminous matter contained in the peat, heat detrimentally affects its calorific value. Pressure has been tried, but without success, because it hardens the outside crust so that the centre of the block contains water that cannot be removed before the fuel is burned. It is perfectly easy to reduce the proportion of water to 20 per cent., but in order to produce a satisfactory fuel, it must be reduced to not more than 7 per cent.

A bibliography has been appended, giving a list of the various original sources of information consulted, and also a list of patents relating to peat since the year 1899.

The manuscript was nearly completed when Mr Björling died, and thanks are due to the publishers for their valuable help in carefully editing the uncompleted manuscript, to Mr E. H. Beckett, A.M.I.C.E., for examining the proofs of the

engineering portion of the work, to Mr William Dixon, and to the following firms, who have kindly supplied information and lent photographs or electros:—A. B. Lennox, C.E., the Åbjörn Anderssons Mekaniska Verkstads Aktieföretag, and the No. 1 Peat-Coal Syndicate, Ltd.

FREDERICK T. GISSING.

March 1907.

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