

**TEN MINUTES' READING
OF PLAIN OBSERVATIONS
UPON CANALS AND
NAVIGABLE RIVERS**

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Ten minutes' reading of plain observations upon canals and navigable rivers by George Beadon

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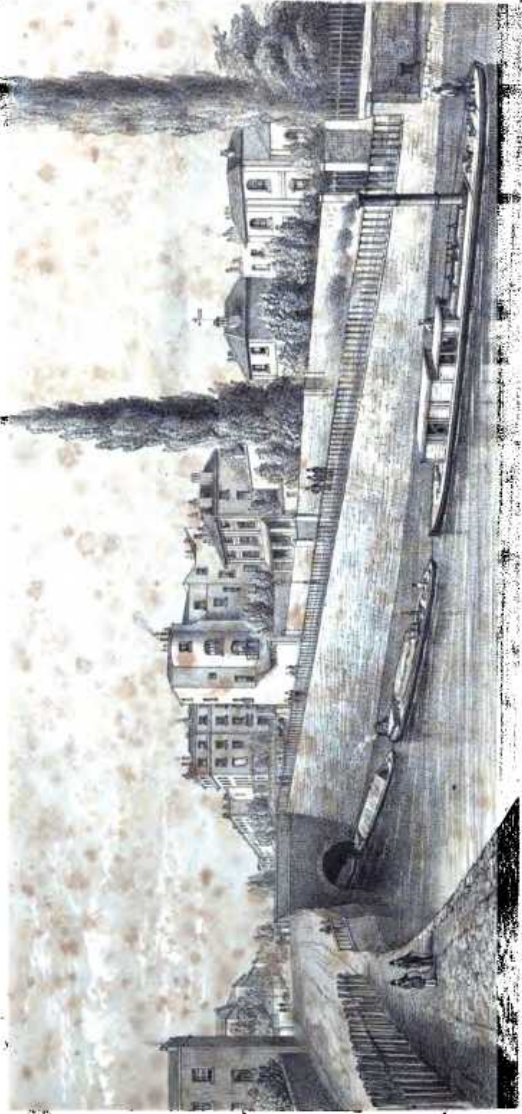
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GEORGE BEADON

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TEN MINUTES' READING
OF
PLAIN OBSERVATIONS
UPON
CANALS AND NAVIGABLE RIVERS;
SHOWING THEIR
Fast Importance, Agricultural, Political, & Commercial,
AND UPON THE QUESTION OF
THE NATIONAL DEFENCE OF GREAT BRITAIN
FROM FOREIGN INVASION.

"SOON SHALL THY ARM, GIANTIC STRAM, AFAR
DRAG THE SLOW MARGE, OR DRIVE THE RAPID CAR."

Dr. Darwin.

BY
GEORGE BEADON,
COMMANDER, ROYAL NAVY, CREECHBURY, NEAR TAUNTON.

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C. WHITING, BRADFORD HOUSE, STRAND.



THE
FOLLOWING PAGES ARE DEDICATED, BY PERMISSION,

TO THE
EARL OF ELLESMERE,
&c., &c., &c.,

AS A SLIGHT TRIBUTE OF ESTEEM AND RESPECT WHICH ALL ENGLISHMEN
ENTERTAIN FOR THE MEMORY OF
HIS LORDSHIP'S ILLUSTRIOUS ANCESTOR, WHO FIRST INTRODUCED
CANALS INTO ENGLAND.

CRECHBURY, *May 3rd*, 1848.

ERRATA.

Page 3, line 22, erase the words "as they presented themselves."
Page 12, line 15 read *instance* for "instances."
Page 20, line 35, read *seventy* for "sixty."
Page 20, line 36, read "47l. 3e." for "23l. 11a. 6d."

TEN MINUTES' READING, &c.

PART I.

THE following observations are written to awaken a sense of Introductory Observations. the necessity of renovating and adapting the inland Water Channels to a judicious application of Steam Power, for the transmission of merchandise and heavy goods generally, but more particularly for the transmission of agricultural produce,—manure, lime, cattle, coal, building materials—and the immediate productions of our soil and of our manufactories.

Independent of its patriotic relations, which, under a proper consideration will become fully apparent, it is hoped that the unparalleled and certain lucrative nature of the undertaking, hereafter proposed, will induce many to aid it with their influence and capital. The writer makes no pretensions to the elegancies of authorship, but being strongly impressed with the importance of his subject, he writes under a hope that the reader will view leniently his unstudied style and the somewhat scattered productions of his pen.

The surface of Great Britain is intersected by one hundred and Canals of Great Britain and the Colonies. ten distinct lines of canal, occupying in length two thousand four hundred miles, beside a great many shorter branches, and innumerable navigable rivers.

In our West Indies, and in other Colonies abroad, in various Of West Indian canals. parts of the world, our canals and watercourses are very numerous. These great thoroughfares of commerce are chiefly worked by horses; but in some parts, on the Sugar Estates in the West Indies, by our coloured farm servants. A gentleman from Demerara informed me that the plantations there are divided by dykes, which lead into each other, and finally into a large main canal. By these means the sugar growers carry their canes to the manufactory; and finally, the sugar and other produce

- Negroes employed to track boats. to the ship. Since the emancipation of the Africans from bondage, many of them naturally refuse to cross the succession of dykes, which present themselves at short intervals in the line of track-age. In such cases bullocks have to be sent to the head of every
- Destructive effects of trackage to men and cattle. dyke; so that the time occupied, and the destruction caused by so fatal a system to men and cattle, is enormous.
- Impossible to apply propellers or paddle-wheels to canals, in West Indies. Weeds, occasional narrowness of channel, and shallowness of water, render it impossible to apply the submerged propellers, or the cumbrous paddle-wheels *here*: Mud prevents their polling the boat; and every means have been resorted to, but the new method proposed, which is that of "*underrunning*" by *Steam power, a single warp of galvanized wire rope, or small chain, laid in the middle of the canal.* My informant said, that nothing could be more simple and efficacious, than this invention would be for the West Indian Sugar planters—that in Demerara they would employ a thousand such tugs; and that when introduced, the system would greatly aid their present laborious means of production. In the tunnels in our own country, Englishmen are employed, at high wages, to induce them to perform the dark, and laborious, and slow business of "*legging*," as practised for example, at the Blissworth tunnel. I am informed that forty men are constantly kept there, to push the boats through. They lie on their backs in the boats, and putting their feet against the bricked wall, thus propel themselves slowly through some miles of underground tunnel. These men are paid three shillings a day each, or, on the average 6*l.* a day which, (allowing 300 working days in the year) makes a sum total of 1800*l.* per annum. I will undertake to pass the boats *in a tenth part of the time, at a less cost*, including outlay, interest for capital, wear, tear, and wages, and every possible expense, by many hundreds. Inviting as this enterprise would be (and there are many such tunnels as the one above alluded to); and although it may be deriving a large increase of income to work them, these *bonnes bouches* are for those, and those only, who will embark their capital in demonstrating a short length of canal as an example to the world of the practical means of not only restoring the pristine vigour and utility of all inland channels, but of realising, to the fullest extent, the advantages set forth in the title, and of rendering them as beneficial as ever to their proprietors and to the public.
- New method described.
- Of legging through tunnels.
- Wages of leggers.
- Historical summary of canals. Canals known to the Egyptians and Chinese. It is recorded that canals were used by the Chinese, throughout their extensive empire, at a very early period. It was not, however, until a comparatively recent date that they were introduced into Lombardy, France, and other nations during the Middle Ages, although the advantage and economy of the system of