

APPENDIX 3

THE 'SELF-ACTING' FLOOD-GATES ON THE PARRETT

The flood-gates at Langport and Stanmoor are of particular interest in any study of the history and development of land drainage and navigation in Somerset and consequently this Appendix discusses the summarised evidence.

Joseph Jones' original estimate in November 1835 stated that the proposed weirs were to have:

... proper hatches and buoys, to be so constructed that when the water is above four feet in the river, the hatches should fly open, and when it subsides the hatches to hove to, by the aid of capstans.¹

Nicholas Broadmead agreed an arrangement along these lines with Walter Long's agent in early December 1835, with an additional proviso that the waterway would not be reduced; the locks and weirs were to be so constructed that:

... as soon as the water swells in the river ... they shall open themselves & leave as great extent of waterway for the passing off of the floods as if there were no such locks or hatches placed in the river.²

Jones' final estimate dated 18 December 1835 incorporated the requirement that they should leave 'the full width of water way of the present river when they are open.'³

Brunel confirmed several times during his parliamentary examinations that the flood-gates at Langport and Stanmoor would be self-acting. Clause 33 of the Parrett Navigation Act, with which Gravatt would be bound to comply, directed that:

... all locks, floodgates, weirs and dams ... shall be made so as to open on a self-acting principle by means of buoys to lift out the bolts or fastenings thereof, or otherwise, so soon as the waters of the said rivers immediately above such locks, flood-gates, weirs or dams respectively shall be swollen six inches higher than [levels specified] ... and give as much waterway in the said rivers as if no locks, floodgates, weirs or dams had been erected.

In none of these cases was the self-acting mechanism described in detail, and it is therefore regrettable that no original drawings of the locks, weirs and flood-gates have

¹ SRO D/RA 3/3/10, 'The Report and Estimate of Joseph Jones Engineer on the line of the proposed Langport and Westmoor Canal', two drafts, undated [1835].

² SRO D/RA 3/3/2, minutes of meeting between Mr. Attwood and Nicholas Broadmead, 3 Dec 1835.

³ SRO D/RA 3/3/10, 'An Estimate of the Costs of improving the navigation of the River Parrett from Langport Bridge to the Junction of the River Isle ... ', Joseph Jones, 18 Dec 1835.

been found. The single piece of evidence found during this study that throws any light on the self-acting mechanism itself is an undated pencilled annotation against Clause 33 in a copy of the Act in the PNC collection at SRO, and it merely confirmed that there was such a mechanism:

The present Locks are on a self acting principle. The buoy principle was first tried, but did not answer - weeds prevented the buoys [rest illegible].⁴

However, the ready acceptance of a 'self-acting principle' suggests that the concept of automatic sluices and flood-gates was already prevalent. Indeed, when Henry Price was asked whether the flood-gates could be arranged to open automatically during freshes he replied, 'Yes, that is very easily arranged.'⁵ And it may also be significant that six years earlier John Easton had proposed the use of automatic sluices in a report on the practicability of making the King's Sedgemoor Drain navigable:

It may be asked how it is proposed to keep a free passage in the Navigation in Floods, on Account of the Locks on it, the answer is, that by fixing Weirs of considerable width, near the two Locks at Henly Corner, and Somerton Door, with proper Sluices to be drawn, or so constructed as to draw themselves when the least rise of Water is in the Navigation, and by deepening and widening at some parts, and embanking at others, there cannot be an overflow.⁶

⁴ SRO D/RA 3/3/1, copy of 6&7 Will. IV, c.101: An Act for improving the Navigation of a Portion of the River Parrett, and for making a Navigable Canal from the said River to Barrington [4 Jul 1836], annotation.

⁵ SRO D/RA 3/3/3, evidence taken before the Commons Committee on the Parrett Navigation Bill, Henry Haberley Price, 10 May 1836, p.80.

⁶ Easton J., 'Report on the practicability of forming a navigation, from the River Parrett at Dunball ... to or near the towns of Somerton, Ilchester and Yeovil,' 1 Mar 1829, printed as an appendix to: 'Prospectus of a plan for rendering navigable the King's Sedgemoor and other principal drains between the River Parrett and the town of Yeovil,' undated [1829] (copy in SRO D/RA 7/4/4), present writer's emphasis. John Easton was the second of Josiah Easton's twelve children: BDCE 1, pp.205-206.