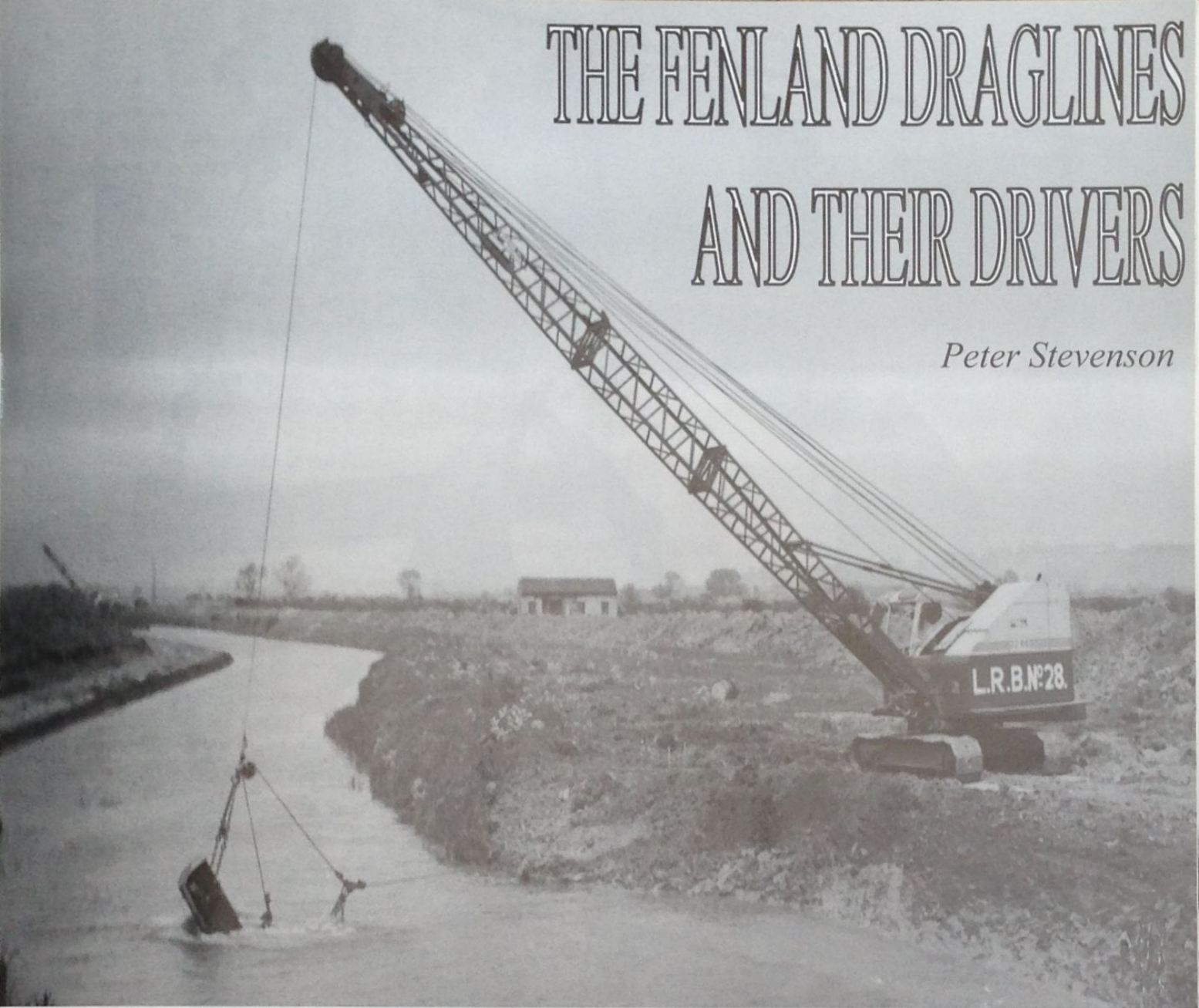


# THE FENLAND DRAGLINES AND THEIR DRIVERS

*Peter Stevenson*



Once the pioneering work of draining the fenland marshes and turning the rich soils then exposed into valuable farmland was completed, the largely itinerant 'navvies' moved on to build canals and then railways. Left behind were the weather and the 'locals'. Of course the former immediately started to do its best to return the newly won landscape back to marshland again and the latter had to devote increasingly valuable working hours to prevent it from doing so.

Much has been written and otherwise recorded telling the story of the windmill scoop-wheel pumps, the shaft driven pumps

which replaced them, the diesel pumping stations and today's electrically powered machinery, all of which in their turn have kept the water in check. Little, however, has been devoted to the ongoing story of how the water-courses themselves have been maintained. Left to their own devices, drains soon silt up and become choked with reeds; banks either collapse or become overgrown. Better flood control also calls for higher banks and the cutting of new drains.

Until the latter half of the nineteenth century the 'banksman' had little to help him beyond his pick, shovel, scythe, rake, barrow and his horse and cart. There is evi-

dence to show that the muscle power of either man or horse was frequently used to drag crude scoops and rakes through the deeper water, but the banks themselves had to be fashioned with hand tools. Needless to say, Leonardo da Vinci sketched out a mechanical excavator, but like most of his ideas it never left the drawing board.

#### **The Dragline: Steam and Diesel**

Thanks to Watt and the other pioneers of the steam age, the steam crane came into being, first into industry, commerce and civil engineering. Later, at work on the fenland drains, the skip crane could help a banksman heave his diggings over the bank and onto





Ruston Bucyrus dragline bucket

the adjacent fields, but he still had to fill the skip by hand. The idea of using the crane machinery to get the skip to fill itself was the next idea. Like most basic ideas of a similar nature, it is not clear whether the breakthrough originated in Europe or America.

Whichever it was, if the skip was attached to two ropes, one to lift it vertically and the other to drag it horizontally, the crane driver could not only fill the skip but also lift it and swing it over the bank and empty the load.

From such simple beginnings gradually emerged the 'Dragline' excavator. It still had a long way to go before it could emulate the accuracy of a good banksman, but at least it could do much of the donkey work.

Just as the basic machinery of the steam crane evolved in the course of time into the crawler mounted steam digger or 'face shovel', as it came to be known, parallel development of that same machinery evolved into the steam dragline. It was in the

design and development of the original skip into the dragline bucket that the most progress was made however.

The base machine now sported a long 'jib' or 'boom' (seafaring nations favoured the former term, whereas the Dutch influence in the States favoured 'boom' from the Dutch word for 'tree' – yes, the first jibs and booms were made of wood!)

By the end of the nineteenth century there were many quite respectable versions of the drag-



◀ line concept on both sides of the Atlantic. In Britain the pioneers were Ruston of Lincoln and Priestman of Hull. In the US there were many manufacturers with similar enterprise, many of whom eventually amalgamated into the Bucyrus Group of companies. Rustons already had a world-wide reputation for their face shovels and these were well developed into an equivalent range of draglines.

The early decades of the twentieth century had seen these increasingly likely to be crawler mounted (the early machines mostly ran on rails). Then came the diesel engine, so prestigiously pioneered and developed by the Ruston group, which had an immediate beneficial impact on the dragline ranges. These machines were not only sold all over the world but were increasingly used in waterway construction and maintenance in the British Fenlands and the Low Countries.

With the formation of Ruston Bucyrus in 1930, 'RB' machines were as prolific as the JCBs of today, and every drainage board had its fleet of 10-RBs, 19-RBs, 22-RBs and bigger, together with almost as many Priestman Cubs and other Priestman equivalents.

The windmill sails that had once peppered the fenland skyline were now replaced by a new phenomenon. Huge dragline booms swung round in endless working cycles, accompanied by the rumbles of engines and machinery, the squeal of clutches and brakes, the rattle of digging chains and splash of buckets in the water of the drains.

These 'clutch and cable' draglines were an integral part of the fenland agricultural scene for most of the twentieth century, only giving way to the long reach hydraulic 'back hoe' a few

decades ago. Whereas the former have direct associations with the local industrial heritage (Ruston Bucyrus in Lincoln and Priestman Bros in Hull), present day hydraulic machines have no such association.

### ***simple, robust, reliable and resistant to abuse and neglect***

These draglines had evolved into highly efficient machines but, like many such inventions of the time, were highly dependent upon the skilled operational and maintenance personnel.

### ***most draglines inevitably became 'she', whilst their modern replacements are usually referred to as 'it'***

The fact is that, once delivered to their place of work, which was frequently many miles away from main roads, they had to work in all weathers with little resort to the 'service van' backup which now accompanies so much of the mechanical plant of today.

Mechanically speaking, they were simple, robust, reliable and resistant to abuse and neglect. They could be left miles from anywhere for months on end and started with the minimum of fuss. In most cases they became beloved of their drivers. Most draglines inevitably became 'she', whilst their modern replacements are usually referred to as 'it'.

Invariably the drivers were twentieth century 'plodgers', as the fenlanders proudly claim to be. Their fathers and grandfathers would have been the valued 'horsemen' of earlier ages, with a mechanical bent to add to their ingrained rural attitudes.

Their work would be carried out with economy of action and if things went wrong they were natural 'fixits'.

The working cycle of the dragline in the hands of a skilled operator looks oh so simple, but it is a ballet of coordination and instant judgement.

It is knowing just how to set up the clutches and brakes; how to adjust the length of chains and ropes and where and how they should be attached to the bucket for given and changing working conditions; how to evaluate what needs to be done to achieve the end result; how to anticipate and avoid the possibility of danger to man and machine; and how to work for days on end, perhaps without supervision and no other company beyond skylarks and the occasional banksman.

Both the men and the old dragline machines have now almost completely disappeared, but there are still a few jobs that even the longest reach hydraulics cannot manage.

### ***dragline heritage centre***

In any case, neither the men nor their machines should be forgotten. They were both significant threads in the Fenland Tapestry.

Surely the time has come for us to have a Dragline Heritage Centre down in the fens where this important work can be chronicled and recorded along with a good display of surviving machines. ■