Industrial Archaeology Notes
1988 to 1990

FOSSDYKE FOOTBRIDGE, SAXILBY (SK 895752)
Stewart Squires

In the spring of 1988 work was completed on an environmental improvement scheme alongside the Fosdyke Navigation where it passes through Saxilby, alongside Bridge Street. The centrepiece of the scheme was the provision of a footbridge over the waterway to enable direct access to the village from moorings on the south side (Fig. 1).  

Fig. 1 Fosdyke Footbridge, Saxilby, March 1988 (Stewart Squires).

This footbridge has an interesting history. It was first constructed in 1883, by the Great Northern Railway. It crossed the main railway line, 250 yards north of Newark Northgate station, adjacent to the Lincoln Road level crossing, then called Northgate. It was a typical wrought iron girder bridge with lattice sides. Its span was 70', the sides being divided up into twelve sections, each of 5' 10". On either side it was reached by a flight of steps, in line with the main span, giving a total overall length of about 140'. The footway was 5' in width. The top and bottom girders of the main span were not parallel, the top girder being given a graceful curve from the centre to either end. The level crossing caused delays to road traffic, and as early as 1892 the local Council were asking the Great Northern Railway 'when they were likely to proceed with the erection of a bridge on the Lincoln Road'. Nothing happened until the London and North Eastern Railway, successor to the Great Northern, announced in November 1929 their proposal to replace the level crossing. Even then, work did not start until November 1934, and the new road, part bridge, part viaduct, opened on 29 July 1936. The footbridge was taken down on 4 October the same year, after forty-nine years of service.

In 1936 the London and North Eastern Railway obtained powers to increase the capacity of their main line by widening the route, increasing the number of tracks at a variety of places including Claypole, five miles south of Newark main line station. Loops to enable fast trains to overtake slower ones were constructed, one for northbound trains north of Claypole station, and one for southbound trains, to the south. A public footpath crossed the line to the north of the station, and it was probably felt that having three lines to cross increased the danger to walkers as they now had to pass over an additional track.

The now surplus Newark footbridge was re-erected here, the exact date unknown, but most likely in the winter of 1936/7. The bridge span was adequate to reach over the three lines of railway, but, because the rails ran in a shallow cutting, it was too short to reach the top at either side. In addition, steps would not be needed at either end, although there was a slight difference to make up between the ground and the bridge level. The answer was to construct two ramps to a matching design. Each ramp was 24' long, consisting of four 6' sections, again with lattice work sides, with a 1 in 7 gradient. The whole was supported on new steel stanchions.

In 1967 British Rail announced that because of the electrification of the East Coast Main Line the footpath was to be diverted over a nearby level crossing and the bridge removed. Regular maintenance had ensured that it was still sound, and British Rail offered it to Lincolnshire County Council. In turn, they offered it, together with the expertise to alter it and fit it in its new site as their contribution to the Saxilby scheme, an offer which was gratefully accepted. It was on the move again, after another fifty years. On Sunday 10 May 1987, British Rail engineers took the footbridge down and transported it to Newark. From there it was taken to Saxilby where it was altered and refurbished to fit its new site. The alterations included reducing the main span by one section at either end, taking off a total of 11' 8", and the reduction in length of the two approach ramps, one by half, the other by a quarter. It was lifted into its new home on Sunday, 22 November 1987.

Its new site was at the point where an earlier bridge crossed the waterway which was also built by the Great Northern Railway, and, coincidentally, removed fifty years before. It was a swing bridge built after 1846 when the GNR had taken over the Fosdyke Navigation.

The date this bridge was built is not known, but its railway origin cannot be disputed. It was a swing bridge, carrying a road over a canal, but it had some railway features. Railway level crossing gates closed across the road before it was swung, and standard railway cast iron warning notices were displayed at each end.

The bridge was about 35' long, carried on rollers set in an abutment on the south side of the Navigation. It was turned by hand, swinging anticlockwise, by a keeper who lived in a cottage adjacent to it. It opened a narrow gap through which the Humber Keels, a common sight on the Fosdyke, would just fit.

Adequate for nineteenth century horse-drawn traffic, the increasing amount and weight of road vehicles took their toll on the structure. So much so that in the 1960s many of the passengers had to alight and walk over, followed by the bus, before going on their way. Also, trains of barges, towed by steam tugs, had to navigate the narrow gap between the abutments very slowly, and the bridge could be kept open for up to thirty minutes, causing serious delays to road traffic. This situation could not continue, and on 15 September 1937, a new bridge, part of the Saxilby By-pass, replaced it. The old bridge was then demolished. The bridge keeper's house followed about twenty years later. All that was left was part of the southern abutment, gradually becoming overgrown.

As part of the environmental improvement scheme, the old abutment was uncovered and renovated; enough remained to show how the bridge once worked and this is now explained on an information board attached to it. Interestingly, included within the abutment, built mainly of nineteenth century bricks, are examples of earlier, eighteenth century bricks, showing how it had been rebuilt from a turnpike bridge at the same site two hundred years before.

NOTE
1. The work on the scheme was co-ordinated by West Lindsey District Council, with the help of Lincolnshire County Council, British Waterways, British Rail, the Countryside Commission, the Lincoln Community Enterprise Programme, and the Saxilby Parish Council.
IVY HOUSE FARM, EAST TORRINGTON (TF 147834)

Catherine M. Wilson

The hamlet of East Torrington lies in the parish of Legshy, between Wragby and Market Rasen. The earthworks of the medieval village lie adjacent to the church (rebuilt 1848 to 1850) and the rest of the hamlet consists of Ivy House Farm and its associated buildings, all of which date from the mid-nineteenth century when the land was part of the Turnor estates. Christopher Turnor (1809-1886) owned over 20,000 acres of land in Lincolnshire, with large blocks centred on Stoke Rochford in the south, Pantin in the centre and Binbrook in the north of the county. He had a passion for building which started with the rebuilding of Stoke Rochford Hall in 1841 and continued virtually for the rest of his life. During this time he built or rebuilt dozens of farm buildings, farm houses and cottages throughout his estates and left more of a physical mark on the landscape of Lincolnshire than almost any other single individual. East Torrington is one example of his work, and unlike some other parts of his estate, remains very much as Christopher Turnor left it. Whilst fortunately the buildings are not at the moment threatened in any way they were chosen for recording by the Industrial Archaeology Committee because they are so complete, and represent a good example of the planned farms of the period.

Despite the vast amount of activity on his estate, Christopher Turnor seems to have left little documentary evidence – one estate book survives from the period shortly after he inherited (L.A.O. 2 Turnor), but there are no drawings, no account books, not even any letters to the agent he must have had. It is therefore doubly important to learn as much as possible from the buildings themselves and to make a permanent record of them.

accurately. The majority of Turnor's buildings have a date stone with his initials and the date placed in a prominent position. At East Torrington this appears to have been the keystone of the largest bay of the wagon shed but the face of the stone has weathered so badly that no date or initials can be determined. However it is probable that they date from the decade 1855 to 1865.

The farm buildings themselves are all of red brick and pantile and there are three separate ranges. They are all substantially built and are in good condition, and parts at least are still in use.

The largest range is E-shaped, with two open crew-yards facing south (this orientation is the invariable rule for Turnor's buildings), a barn, wagon shed and granary (Fig. 3), described as a Cake Granary in 1917, on the north side, loose boxes and coach house on the west (Fig. 4), nearest the house, with cattle sheds on the east side. The scale of the buildings is substantial being some 190' by 116'. The design is plain and functional, with no ornamentation, and the layout is a very practical one.

Fig. 3 Ivy House Farm, East Torrington, coach house, now garages (J. Turner).

To the east of the main range is a smaller range of buildings again grouped round a crew yard. Here accommodation for eighteen heavy horses is provided round two sides, giving an idea of the amount of 'power' needed to operate a farm of this size (between 600 and 700 acres). On the north side is a wagon shed with granary over and there is a lean-to implement shed to the east.

Fig. 4 Ivy House Farm, East Torrington, wagon hovel and granary (J. Turner).

North of the main range is a row of buildings containing a smithy, a carpenters shop, cow house for six, lean-to poultry houses, and a trap house (Fig. 5). The only part of the original layout which has disappeared completely is the pigsty which was situated to the west of the smithy range but which has been replaced by some modern stables. The crew yards
of the main range have also been altered, having been roofed in to provide more suitable accommodation for the livestock. The modern roof is the most dominant feature from the road so that the delights of the rest of the buildings remain hidden to the casual passer-by.

Fig. 5 Ivy House Farm, East Torrington, blacksmith's shop (J. Turner).

Planned Victorian farms of the type described here are a rapidly disappearing feature of the Lincolnshire countryside. It is hoped that this brief article may help to stimulate others to photograph and record similar buildings in their area.

ACKNOWLEDGEMENTS
Sincere thanks are due to Mr. D. T. Todd for allowing free access to his buildings for the purposes of this survey, and whose grandfather bought the farm from the Turner family in the Panton Estate sale of 1917.

FISKERTON SLUICE (TF 089712)
Barry M. Barton and Catherine M. Wilson

In 1989 the original hand-winding gear for Fiskerton Sluice finally became redundant after 163 years service when, as part of a modernisation programme, electrically operated sluice gates were installed.

Fiskerton Sluice (Fig. 6), which lies one mile upstream of Bardney Lock, was constructed as part of John Rennie's major drainage and navigation scheme for the River Witham which was undertaken between 1812 and 1830. Part of this scheme involved constructing a new, embanked, high level navigable channel for the Witham between Lincoln and Bardney. The sluice at Fiskerton was built to enable high flows in this new channel to be diverted into the old meandering course of the Witham which ran via Short Ferry to rejoin the main river immediately below Bardney Lock (Fig. 7).

The Sluice consisted of a masonry structure set in the north bank of the new channel and parallel to it. It had three central 6' wide sluice openings and two flanking 8' wide spillway weirs. The overall size of the structure, in plan, was 76' wide and 45' deep. The three timber sluice gates were raised vertically by means of simple rack and pinion winding gear. The winding mechanism for two of the gates was made by the engineering firm of Howdens of Boston and had their name and the date 1826 cast into the cast iron casing (Fig. 8). The third set was of a different pattern with no makers name, though probably of similar vintage. Howden's were one of the oldest engineering firms in the county but examples of their work are rare and these winding mech-

Fig. 6 Fiskerton Sluice (B. M. J. Barton/Institution of Civil Engineers).

Fig. 7 River Witham in c.1830 showing location of Fiskerton Sluice.

Barlings Eau

North Delph

from Lincoln

SOUTH DELPH
(Sincil Dyke)

FISKERTON SLUICE

BARDNEY LOCK

R. WITHAM

to Boston

One Mile

Fig. 7 River Witham in c.1830 showing location of Fiskerton Sluice.
anisms are therefore of considerable interest.
The sluice remained unchanged until 1963 when, in order
to allow the gates to be raised clear of the water, all four
cours were extended vertically by 7' 9" with reinforced con-
crete. The operating platform and winding mechanisms were
then replaced at the highest level.

Society members first visited the site in 1987 when a
photographic survey was undertaken and the importance of
the Howden winding gear was realised. Anglian Water was
informed of this and subsequently when replacement was
planned in 1989 the National Rivers Authority, now owners
of the site, contacted the Society about the preservation of
these pieces. The outcome was that one mechanism is now
preserved at the Museum of Lincolnshire Life and the other
is in the care of Boston Borough Council, transport in both
cases being provided free by the National Rivers Authority.

ACKNOWLEDGEMENT
The authors thank the Institution of Civil Engineers Panel for Historical
Engineering Works for permission to use their material in the preparation
of this article.

MAUD FOSTER WINDMILL, BOSTON
Tom Waterfield

The mill (Fig. 9) was built in 1819 for the brothers Thomas
and Isaac Reckitt by the Hull millwrights Norman & Smithson
and by Pacey & Wattmough for the sum of £1,826.10s.6d.
Norman & Smithson's contract, here re-produced as an
appendix, is still in existence, along with their original plans
(Fig. 10). The Reckitt brothers carried on their business as
millers, cornfactors, and bakers. In 1827 they had a steam
engine installed by Tuxford's of Boston at a cost of £300,
to drive a cement and bone mill. After a succession of poor
harvests, the business failed in 1833. The mill was sold, and
the partnership dissolved.

Isaac Reckitt went to Nottingham and set himself up as
a cornfactor once more, but with little success. Subsequently
he moved to Hull and went into the starch business, which
was a much more profitable concern, eventually becoming
Reckitt & Sons of 'Blue' fame and now Reckitt & Colman
Ltd.

The mill was taken over by Jonathan Dent, and passed
through the hands of the Reynolds, Spurr and Jessup families
until in 1914 Alfred Ostler took over. The Ostler family ran
the business to 1948 when mechanical problems made the
windmill itself unusable. The business carried on for some
years using electrically driven equipment, but was wound
down and the premises sold in the late fifties. At that time
the site still housed an extensive mill-wrighting shop, and an
engine driven mill. These had originally been powered by the
steam engine through extensive line shafting, but in the early
years of the Ostler ownership this was replaced by a suction
gas plant. There was also a pattern shop containing a large
number of foundry patterns for the various mills worked on
by the millwright. All these soon disappeared under their
unsympathetic new owners and so a great deal of interesting
industrial archaeological material was lost forever.

However the windmill itself miraculously survived. The
fantail was lost, but all the basic interior machinery remained
intact. A great deal of damage was done to the lower floors
when they were put to uses for which they were never
intended. The survival of the mill owes much to Mr. Basil
Reckitt, great-grandson of Isaac, the original builder, because
in 1953 he was made aware of the mill's plight and arranged
for the two Reckitt Family Charitable Trusts to finance
essential repairs.

Fig. 8 Fiskerton Sluice, winding mechanism by William Howden,
Boston, 1826 (B. M. J. Burton/Institution of Civil Engineers).

Fig. 9 Maud Foster Windmill, Boston.
By 1987 the condition of the mill had deteriorated considerably, and was completely surrounded by derelict buildings and mountains of rubbish. Property developers were interested in the site, and had plans submitted by them succeeded, the mill would never have worked again. A local pressure group formed at the time probably delayed what seemed inevitable, long enough for the Waterfield family to move in and purchase the property, with the intention of restoring the mill to working order, and to use it.

It was decided to ask Messrs. Thompson & Son, millwrights of Alford to quote for the major repairs. James Waterfield would do the rest.

Most of the essential repairs that needed to be done were at the top of the mill. Three of the sails were known to be in a pretty rotten condition; in fact, had the full force of the October 1987 storms been felt in this area it is probable that these sails would have been ripped off. The front sheer planks were rotten and the rode baulk supporting the windshaft and sails had visibly sagged.

The first job was to remove all the sails for examination and overhaul where possible, also to lessen the weight on the front end in order to enable essential work to be done on the sheer planks.

The rode baulk was lifted by crane and the rotten planks removed. Supporting blocks were inserted until new sheer planks were made from 9' 6" x 12" x 11" oak. The front end was again lifted by crane and the new sheer planks fitted. The cast iron pigs on which the top has to rotate were refitted. New sections of cap ring and skirt boards were replaced.

A new sheer plank had also to be fitted at the rear of the cap frame, and this necessitated the complete removal of the fantail frame, which had to be lowered to the ground by crane, until the necessary repairs were made. The rear sheer plank was a piece of oak measuring 11" x 12" x 10". At this time the turning gear mechanism was overhauled. A new fan 12' in diameter was made, consisting of eight boards. This was craned into position on the new replaced fantail frame.

Three new sails were made by Thompson's using 37' x 14' x 14" new Honduras pitch pine logs. 110 canvas covered shades, 5 pitch pine striking rules, 5 foot irons, 5 reins, and 5 steel striking rods were made.

The sails were filled and the striking gear components fixed. The striking lever was repaired and replaced complete with a new striking chain. The sails were fixed to the cross using a crane, and the striking gear connected up. The sails were balanced up and the cloth set.

All the exterior woodwork was painted with two coats of genuine white lead paint, still the only effective paint for this type of usage.

Much other repair work had to be done. There was a considerable amount of defective timber in the balcony, for instance. Several windows had to be repaired, and one complete new one was fitted at the balcony floor, where the aperture had been bricked up. A new section of elm band was replaced, and a new endless sack-hoist chain fitted complete with 8 tails.

James Waterfield undertook the mammoth task of completely re-boarding all seven floors of the mill, 2,500 metres of 8" x 1 1/4" tongued and grooved board was used. This was specially made by a local firm. New corn bins were made to the full height of the floor. New stone cases and spouts were made. Sack hoist trap doors were replaced using elm.

As the mill was to be used as a commercial venture, other necessary machinery had to be installed. The flour dresser on the ground floor was originally acquired from Brant Broughton mill. This is fed directly from the French Burr stones by means of spouting passing through three floors. A Hurst frame complete with a 4' pair of French Burr stones was installed on the ground floor. Other machinery consists of a mixing machine and a Trieurs corn cleaner.

The sails turned again during the first week of July 1988 after an interval of forty years. Fittingly Mr. Basil Reckitt performed the official opening ceremony on 22 July.

The next major undertaking has been the restoration of the granary adjoining the mill. Unfortunately this building was 'butchered' by the previous owners. The first flour was removed and the original double-ridged roof was taken off and replaced with a flat asbestos one. Various doors and windows were blocked up or altered in some way. Work has now started and soon the granary should be looking as it originally was.

Meanwhile the mill continues to work daily, wind permitting. A wide variety of flours are produced, supplying bakers and wholefood specialists. These are also on sale at the mill. For those interested in seeing the mill working, it is open to visitors on Wednesdays 10am to 5pm and Sundays 2pm to 5pm all the year round.
APPENDIX

Original contract for building Maud Foster Windmill.

Mr Isaac Reckitts

Hull, March 19th 1819

Sir

We undertake to build you a Mill according to Plan and Refferance, and find all materials except brick work, that is all wood, iron, brasses, millstones, glazier work and labour, all the outside wood work to be painted with 3 coats of paint, the whole to be finished in a good workmanlike manner, and also at our expence convey all the aforesaid materials and fix them according to plan and refferance on the spot near Boston in Lincolnshire, for the sum of Twelve Hundred Pounds.

We are your obedient Servants

Norman & Smithson

Witness Jno Petchell

If the Wind axis weighs more than 70 Cwt, we to be paid for it at the rate of 21s. per Cwt, if less we to allow for it at the same rate.

The Payments to be as follows
300£ when the wall is up 300£ when roof is on 300£ when axis is up and the remaining 300£ when the mill is finished.

Boston 10th of 7th Mo. 1819

Received of Isaac Reckitt a Draft value Five Hundred & Ninety Five Pounds 12s.; this being nearly half the amount of the Mill we agree that the remainder shall be paid when the Mill is completed.

For Norman & Smithson
Robert Smithson

Boston 16th of 10 Mo. 1819

Received of T & J Reckitt two drafts value Four Hundred and Three Pounds 3/7 on a/c of a Mill builded by us for them in Skirbeck.

For Norman & Smithson
Robert Smithson