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Turnpikes to Hailsham and Eastbourne
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Cover illustration— A Creasey dual-draw pantechnicon, new to J & H Friend in 1905 and restored in 2010, in the Lord Mayor of London's Cart Marking Ceremony organised by the Worshipful Company of Carmen on 16 July 2014. It is being drawn by a Burrell 5-ton steam tractor supplied new in 1920 to Dorking Rural District Council and now in the Claude Jessett collection at Hadlow Down.

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TURNPIKES TO HAILSHAM AND EASTBOURNE

Brian Austen

Both Uckfield and Lewes had been connected to London by turnpike in 1752, but to the east of these towns at this time there was a complete lack of road improvements until the line of the London to Hastings road was reached, the southern section of which was turnpiked in 1753. The area of East Sussex between these two lines of road contained productive agricultural land which, once connected to the markets of London, would be additionally beneficial to landowners and farmers alike. Although the soils of this area varied considerably in quality, it was still able to support the grazing of cattle and sheep with some arable production. The development of the Southdown breed of sheep is associated with John Ellman of Glynde (1753-1832) who became Steward to the Trevor Estate (Glynde Place) and later a founder of the Sussex Agricultural Society. Slightly later in date is the work of Thomas Childs of Michelham who with others developed the local Sussex breed of cattle and exhibited them at national agricultural shows.

The only town of any size in this area was Hailsham, 13 miles east of Lewes, which maintained a market every second Wednesday and had two annual fairs. The country around the town was described in 1839 as "extremely fertile and productive" and its population had risen to 1,445 by the time of the 1831 census. It was also a centre for local justice and administration with meetings of the magistrates in the town every fortnight. To the south however, in the early nineteenth century, a parish with an even larger population was to emerge. This was Eastbourne, in the past a market town, but the market facility had been lost as the place declined in significance. The village was inland from the coast

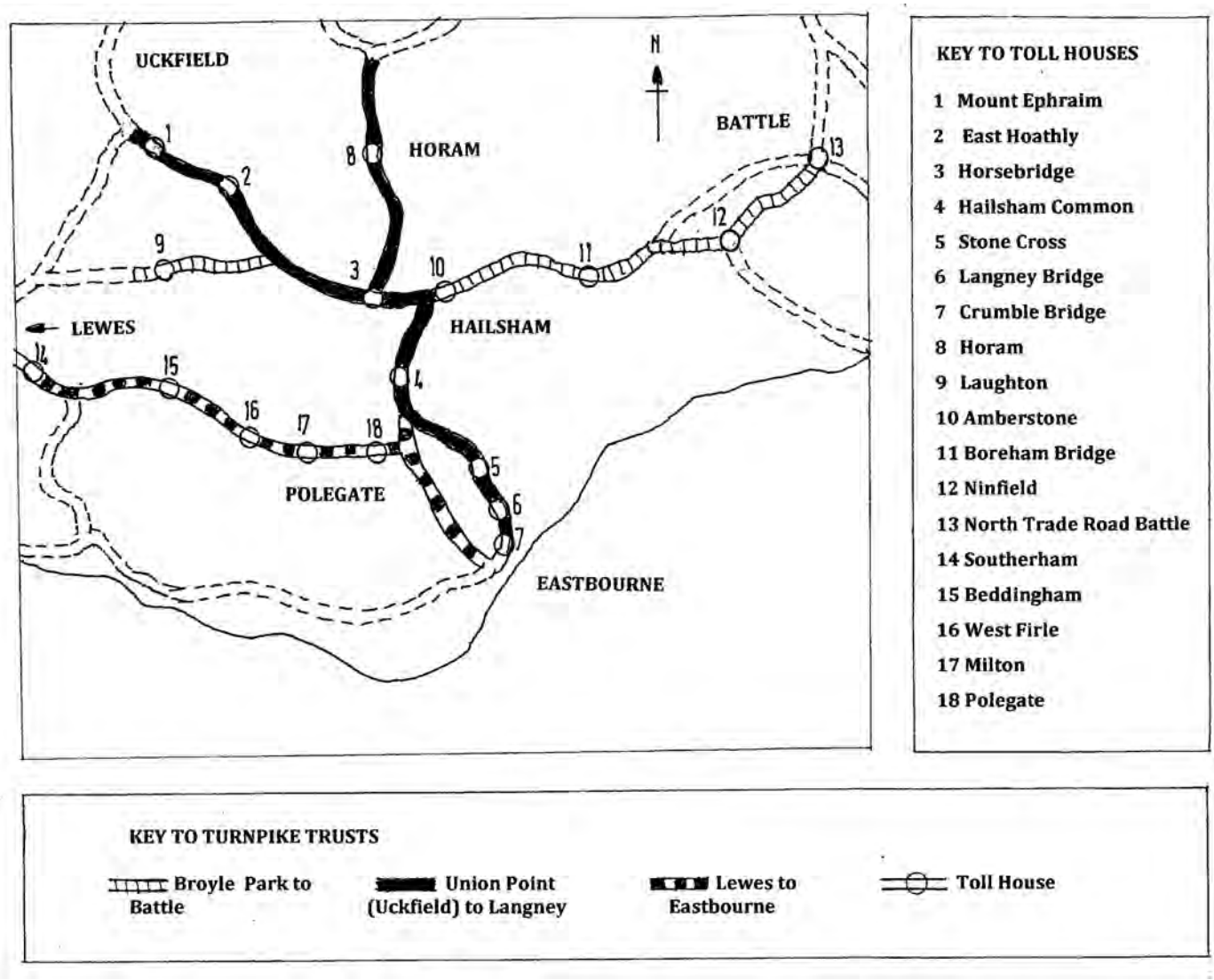

Fig. 1 Map of turnpikes to Hailsham and Eastbourne (*Philip Spells*)

but in the late eighteenth century was beginning to develop south of the old centre, attracting visitors in season for sea bathing. The first guide for visitors to that "village" was published in 1787 and by 1831 the population of the parish had risen to 2,726. The resort was promoted as suitable to "those who prefer retirement and rural scenery at a watering place"[1].

The Union Point (Uckfield) to Langney Trust 1754

This thrust to the south-east from Uckfield was authorised by the Act 27 Geo II c24. It commenced at the point a mile to the east of Uckfield where the junction of the A22 with the A26 towards Lewes occurred. The new turnpike then proceeded through Halland, East Hoathly, over Dicker Common and Horsebridge to reach the town of Hailsham. It did not however terminate here but proceeded another five miles to end at Langney Bridge in the parish of Westham (now the B2104). Modern road improvements have bypassed East Hoathly and diverted the A22 at Boship roundabout, the line of the turnpike from this point now being designated as the A267. It might at first sight seem strange for a turnpike to terminate on Pevensey Levels but this can be explained by the importance of this area of reclaimed marsh in the rural economy of the county. From the late eighteenth century the marsh had been much improved by drainage for which the landowners were "principally indebted to Davis Gilbert Esq. of Eastbourne". It proved valuable for the fattening of cattle, which were often driven considerable distances, and intended for the London market. Local landowners and farmers, such as the Ashburnham Estate, also used this area for fattening cattle from farmland owned in the Wealden area to the north. Sheep were also fattened here. To this original road was added in 1777 by the Act 17 Geo III c97 a branch from Horsebridge north to the line of the Ringmer to Hurst Green Trust which had opened in 1765. The branch passed through Horam to Heathfield to connect with the Hurst Green road just to the west of Heathfield Park. The branch is now designated the A267 and B2203. It was referred to as "The Horeham or Branch Turnpike" while the main line was known as the "Horsebridge Turnpike Road". It was not until 1823 under the powers granted by the Act 4 Geo IV c12 that the parish road from Langney Bridge along the coast to the growing resort of Eastbourne was added (the present A259) increasing the Trust's mileage by a further three miles to a total length of 26 miles, 4 furlongs and 33 perches, maintaining six toll locations[2].

It was on 5 December 1753 that the initial petition for the road was presented to the House of Commons and a committee set up to examine it which included Henry Pelham one of the MPs for Bramber. It reported in favour the next day and a bill was presented to the House on the 14th. It went to the House of Lords on 5 February and received Royal Assent on 5 March 1754. Among the Trustees named in the Act were Charles Sackville, the Earl of Middlesex, Lord Gage, John Fuller of Heathfield and John Fuller of Brightling. The Pelhams were represented by the Right Hon. Henry Pelham and five other members of the same family. The Act decreed that the income and expenditure of the Trust was to be accounted for separately for the sections Union Point to Dicker Common and Dicker Common to Langney. By 1789 the tolls were already being farmed and were advertised on the basis of the income for the year to 8 August of that year:

Mount Ephraim Gate	£67 13s 9½d
Horsebridge Gate	£142 4s 4d
Hailsham Common Gate	£47 19s 3d
Stone Cross Gate	£4 10s 10d
Langney Gate	£90 12s 4d
Horeham Gate	£78 10s 0d

Revenue must have continued to increase at all the gates on the Trust, for in September 1843 total revenue, including the recently-opened Crumble Bridge Gate on the Eastbourne extension, was stated in the previous year to have been £990. This was a fall from the year to Michaelmas 1829 when total toll revenue was declared in a Parliamentary Report to be £1,198 6s 8d. The only additional revenue for the Trust was derived from compensation for statute labour at a mere £12 7s 6d. Expenditure amounted to £941 0s 5d leaving the Treasurer £433 17s 7d from which to pay the 5% due to the mortgagees. A Parliamentary report eleven years later stated that "the present condition of the road is very good and there is not any part under indictment". The initial level of mortgage debt had been £500, but this was to rise to £1,500 Even so in January 1851 the trustees were easily able to cover this. Railway competition arrived by the late 1840s with both Eastbourne and Hailsham stations opening in 1849 and Uckfield in October 1858. This may have removed some freight traffic but increased passenger traffic to the stations on the lines. The road had never been heavily reliant on public coach traffic with only one regular

thrice weekly service from Eastbourne to London via Hailsham. Its powers were renewed periodically by Act of Parliament but finally expired on 1 November 1872 (35-36 Vic c85)[3].

Tollhouses

Mount Ephraim TQ 491191

In Framfield parish at a point immediately to the west of the junction of the original line of the A22 with a minor road leading north to Framfield. The road alignment of the A22 at this point appears to have been moved to the west. Only one gate was maintained at this point, across the Turnpike. The tollhouse was described in 1872 as being of brick construction with a slated roof and had a kitchen, wash house and pantry. It was valued, with the plot of land of 65 ft 8 in frontage and 106 feet deep, at £90. It was sold in the same year for £40 to Benjamin Burton, a farmer from Framfield for the land and part of the tollhouse. He already owned adjoining fields. It is clear that the front of the tollhouse had already been demolished to improve the junction with the Framfield village road[4].

East Hoathly TQ 524163

Fig. 2 East Hoathly tollhouse, late 1930s (*Frank Gregory*)

This toll gate was omitted from a list of gates published in 1789 and may have been a later addition. A substantial part of the tollhouse still survives just before the junction of the roads in the centre of the village, if approached from the Uckfield direction. In its remaining form it is a stuccoed bungalow attached to a more substantial Victorian house. It controlled two gates, one across the Turnpike and the other across the road leading north toward Waldron. One of the items on the agenda of a turnpike trustees meeting held at the King's Head, Horsebridge in September 1818 was the removal of this side bar. It was never implemented and is still shown in place on photographs taken just before the ending of the Trust in 1872. The toll house was valued in 1872 at £60, together with the two perches of land on which it stood. It was stated to be occupied by William Cornwall, possibly the last toll collector. The bungalow had a floor area of 37 by 58 feet and consisted of a bedroom, sitting room, kitchen and pantry. On 6 December of that year it was sold to Henry Colgate Holman, a surgeon of East Hoathly. Subsequently it was used by Rice Brothers who traded as "saddlers, harness makers, cycle and implement agents" and a photograph dating from about 1905 shows this use[5].

Horsebridge TQ 578115

Situated at the junction of the A22 with an access road to the A267 leading to Horam and in the parish of Hellingly. It was opposite the "King's Arms" public house. The tithe award map of 1842 shows the tollhouse built into the road with the road to Horam to the east and that to Hailsham to the south. A gate across the road is shown across the Hailsham road, controlling traffic. When valued in 1872 the frontage of the property was stated to be 60 ft and the extreme depth 16 ft. The gatehouse was of brick with a tiled roof and was to be pulled down on the expiry of the Trust. The building materials were valued at £15. On 12 November 1872 the site was sold to William Lamb Taylor of Summers Hill, Mayfield for £25. The property was stated to be late in the occupation of Stephen Dunn, probably the last toll collector. A plan which accompanies the sale details shows a frontage of 30 feet with the front of the tollhouse sliced away to ease the access from the Uckfield direction towards Horam. In January 1939 a searcher noted that the tollhouse at this location had gone. All of this throws doubt on the identification of a single-storey building on the north side of the road just west of the junction as the tollhouse. In publications of the 1970s and 1980s this was named as the tollhouse. This building was in August 1968 described as being in a poor state of repair but by 1972 was used as an antique shop and later as a fishing equipment supplier. By this date it had been extended to the rear and on the fascia bore the inscription "THE TOLLHOUSE" which had not been there earlier. Also a postcard of the road junction stated to be from 1929 does not appear to show this building[6].

Horam TQ 576167

This was the only gate on the branch turnpike from

Horsebridge to Heathfield of 1777. It was situated just to the south of the Waldron and Hellingly parish boundary on the west side of the road, slightly south of the turning east named as Harbeech Lane. The building was of two storeys and was brick-built, but by 1970 had been substantially increased in size and was named "Paygate". The original tollhouse had a kitchen, wash house and pantry on the ground floor with two bedrooms above. In 1842 when the Hellingly tithe map was drawn it was one of only three buildings in Horam, the other two being Horam Manor and Horam Manor Farm. The tollhouse was built at the south-east corner of a substantial plot of land with a frontage to the road of 125 feet and a depth of 170 feet. This accounts for the high purchase price of £90 paid in 1872 on the winding up of the Trust. It was bought by Sir Percival Hart-Dyke of Lullingstone Castle in Kent, who owned Horam Manor and land on two sides of the tollhouse plot. The occupier at the time of the sale was named as David Haselden[7].

Hailsham Common TQ 586090

Situated south of Hailsham town centre at a point where the B2104 diverges from the A295. The tollhouse was on the west side of the A295 on a plot of 34 perches with gates across the roads. The tollhouse, of which no evidence remains, was a two-storey building with a kitchen, wash house, pantry and a stove on the ground floor and two bedrooms above, a similar arrangement to Horam tollhouse. The plot had a frontage of 107 feet to the turnpike and a depth of 96 feet. The house and garden was valued at £150 in 1872 and on 12 December was purchased by James Ingram of Chailey, who owned the land to the rear to the site. The last occupier before the sale was James Button.

A **Salt Marsh Toll Bar** is listed in the valuations made in 1872 but no location is mentioned, no record of a tollhouse and no indication of the amount of toll taken.

Stone Cross TQ 614044

Situated at the point where the A27 road crosses the B2104. The tithe award map of 1839 shows it on the east side of the road immediately to the south east of the crossroads. It was a two-storey cottage of three bays with a central door and a tiled roof. The road junction has been widened in recent years and the site of the tollhouse may well be beneath the present road surface. In May 1969 it was still standing, but

Fig. 3 Stone Cross tollhouse, 1969, demolished the following year (*H.A. Gordon*)

threatened with demolition, but survived until the spring of the next year.

Langney Bridge TQ 630016

The termination of the original line of the Turnpike from Uckfield, but when the turnpike extension to Eastbourne was authorised in 1823 it was deemed necessary to close this toll and establish one on the line of road leading from Pevensey Bay into the town to increase the toll revenue. As a result the tollhouse was sold on 23 January 1827 to the Hon. C. Jenkinson of Buxted Park for £112.5s. Although no further tolls were taken at the cottage and it remained merely a dwelling, it survived until August 1968. By this date however the doors and windows were thrown open and it did not survive for much longer[8].

Crumble Bridge TQ 627012

The tollhouse was built between 1823 and 1827 in the parish of Willingdon, on the new extension of the Trust to Eastbourne. In 1872 this single-storey dwelling was stated to be constructed with flint and brick walls which were stuccoed and had a slate roof. Internally it had a bedroom, a sitting room with a wash house. The plot on which it was built had a frontage of 116 feet, a rear boundary of 120 feet and a depth of 38 feet 6 inches. In that year it was valued at £90. It faced south beside the Turnpike and on the Eastbourne side was close to a drainage sewer. In November 1872, when the Trust was wound up, the property was sold for £100 to the Duke of Devonshire who owned property immediately to the east of the site. Edwin Barker appears to have been the last toll collector. The house continued to be used as a dwelling until March 1969 when it was demolished in connection

with the construction of a roundabout at the junction of Seaside and Lottridge Drove. A new block of flats constructed close by, soon after, was named "Tollgate".

Fig. 4 Crumble Bridge tollhouse just before demolition in early 1964

Milestones

The initial act for this Trust required the turnpike to measure its road and "erect "Stones, Posts or other marks thereon… one mile each from the other, and on which shall be denoted the Distance of any One Town or Place from any other", a common legal requirement for all Trusts. We do not know the nature of these early mile markers but about c1820 the Trust adopted the Bow Bell pattern mileposts which were at the same date introduced by other Surrey and Sussex Turnpikes responsible for the line of the roads from London to Lewes and to Hailsham. The ones that flank the Union Point to Langney Trust show distances to London and are:

44	TQ 480198	Uckfield
45	TQ 489184	Framfield
46	TQ 494174	Halland
47	TQ 505165	Halland
48	TQ 522164	East Hoathly
49	TQ 518150	East Hoathly
50	TQ 527140	Whitesmith
51	TQ 534126	Golden Cross
52	TQ 550119	Lower Dicker
53	TQ 564114	Lower Dicker
54	TQ 579113	Horsebridge
55	TQ 590097	Hailsham

The posts differ from those used on the Lewes road and nearer London on the A22. These have a raised circular disc above the figure of mileage, which is substituted by this Trust with the badge of the Pelham family consisting of a buckle. The Pelhams, large landowners in these areas of East Sussex, had already displayed this device in carved stone on Chiddingly church and their house at Laughton. Mile plates 47 and 52, replacements supplied by H. & E. Lintott Ltd of Horsham, differ slightly from the others as they display a different style in the figures for the mileage and also three lines within the Pelham buckle shield. In 1972, when the Sussex Industrial Archaeology Society first conducted a survey of these posts, number 55 in Hailsham was missing. It has since been replaced with another replica outside 56 High Street though it is claimed that the original position was in London Road near the junction with Grovelands Road. A measured drawing of 1960 in The East Sussex County Surveyor's Department of post 49 shows it to be 2 ft 6½ ins tall, 10 ins wide at the base tapering to 7 ins at the top and designed to be fixed to a building or a stout oak post. The others were uniform in size. A replica of 53 was made in 1969 and was shown at the Sussex Ironmasters Exhibition at Batemans from 29 April 1969 to 31 October 1970 then displayed in the Gun Garden of Lewes Castle and later in Anne of Cleves House Museum in Southover and in Tunbridge Wells Museum.

Fig. 5 Bow bells milestone 51 with Pelham buckle at Golden Cross

On the extension towards Langney Bridge a smaller and simpler type of marker was in use. This was a small metal plate with the number of miles to London in the centre. Only one of these survives at TQ 586084 near the entrance to Hailsham Cemetery.

Fig. 6 Hailsham cemetery milestone

Further plates of this pattern were reproduced by the Phoenix Works in Lewes and inserted in 1973 at:

57	TQ 590069	Hailsham
58	TQ 604062	Stone Cross
59	TQ 613049	Stone Cross
60	TQ 622037	Friday Street
61	TQ 630024	Langney

A survey conducted in 2006 only located 57, 58 and 59[9]

Broyle Park to Battle Trust 1766

This was an attempt to connect Lewes with the London to Hastings Turnpike at Battle. Already in 1752 the road from Lewes to Malling had been turnpiked as part of the Wych Cross to Malling Turnpike and in 1765 the Act for the Ringmer to Hurst Green Trust had extended this connection as far as Broyle Park Gate some four miles from Lewes. A similar distance would make a connection with the Union Point to Langney Trust of 1754 at Golden Cross by way of Laughton, the present B2124. The date of this Act clearly is connected to the Act of 1767 to enclose the Broyle, the first Sussex enclosure act. The main beneficiaries of the enclosure of the deer park and common land known as the Broyle, included Dr Richard Trevor, Bishop of Durham and inheritor of the Glynde Place Estate and Viscount Gage of Firle. The starting point of the Turnpike was where Broyle Park Gate lately stood and its proprietors benefitted from the ability to drive a straight road through the former Park. After reaching the Dicker the new road would then take advantage of the existing turnpike as far as Horsebridge before striking west through Magham Down, Herstmonceux, Boreham Street and Ninfield to reach the town of Battle, the present A271 and A269. The total length of new road from Horsebridge was stated to be 8 miles, 3 furlongs and 11 poles. This Trust is also known as the Laughton Trust. Its history is closely connected with the other turnpikes with which it made connections. In the Act 8 Geo III c 65 (1768) it was added to the two turnpikes connecting Wych Cross to Lewes but by the Act 1-2 Geo IV cap 27 of 19 April 1821 appears to have been recognised as an independent trust. The powers of both the Broyle Park to Dicker section and the Battle road expired on 1 November 1871. Tollhouses were maintained at Laughton, Amberstone (Hailsham), Boreham Bridge, Ninfield and Battle (North Trade Road). The one at Ninfield also had a weighing engine to check that waggons were complying with the regulations regarding weights and wheel widths laid down in the general road acts.

Figures detailing the finances of the Trust are not easy to find in parliamentary returns. A return of 1829 showed no mortgage debt, though it is likely that sums had been borrowed to improve the road when it was initially turnpiked. In 1851 it stated that its total borrowings had been only £1,000 and that the whole of this had been paid off. Of the gates, those at the eastern end brought the greatest income and in July 1820 the revenue at Laughton was given as £251 p.a. and Amberstone at £227 p.a. Further east Ninfield with its weighting engine raised £189 and North Trade Battle £178. Boreham Bridge toll raised only £124 and a decision was made soon thereafter to close it entirely. Like other trusts at this period, road improvements were considered and in some cases carried out in the late 1830s and early 1840s. Boreham Bridge was widened in 1837 at a cost of £72 10s 4d, at the Battle end of the road improvements were carried out at the same period as those on the main London road at Watch Oak and

in 1842 land was bought at Magham Down in connection with improvements at this point. Toll revenue did fall away later in the nineteenth century and in 1861 was declared to be only £489 12s 6d, rising to £541 5s two years later. Direct rail competition was only experienced at Battle where the station opened in January 1852, Hailsham in May 1849 and Lewes in June 1846. No direct railway line followed the line of the Trust road which in many cases it would have benefitted from traffic heading for the stations. The Trust also used railways to supply road building materials, and in 1857 the London, Brighton and South Coast Railway was paid £6 for the conveyance of beach and in 1859 the South Eastern Railway also for the conveyance of beach to the Battle end of the line. The Trust was wound up and the tollhouses sold off in November 1871[10].

Tollhouses

Laughton TQ 482128

Situated on the south side of the B2124 at a point where a minor road runs south to Laughton Place, at this time a Pelham family house. As early as 24 July 1772 the new trustees considered at their meeting at the Woolpack Inn, Gardner Street, Herstmonceux the building of a tollhouse and the appointment of a toll collector at Laughton. This gate was to prove the most effective on the Trust in collecting tolls, with an income of £201 in 1820, 1821 and 1823, £203 in 1824 but then falling to £156 in 1829, £174 in 1831 and 1832 and £217 10s in 1841. The tollhouse survives in an enlarged and much altered state. It is today named "The Tollgate Cottage" and has a two-storey centre with single-storey extensions to both right and left, all in brick with tiled roofs. There have been changes in the elevation of the road and the present house is below the level of the carriageway. The original plot on which it was built extended to only 10 perches. When the Trust was wound up in 1871 the house and much of the land was sold to John Willett of Lewes, but 25 perches of the garden was sold to John Attree of Ditchling for £15[11].

Fig. 7 Laughton tollhouse, July 1939 (*Frank Gregory*)

Fig. 8 Amberstone tollhouse, late 1930s (*Frank Gregory*)

Amberstone TQ 599114

Today known as "Paygate Cottage" and situated on the south side of the A271 road to the west of its junction with the A295 which leads into Hailsham, in which parish it stands. The single-storey bungalow was built on a plot of 25 perches with a stream to its west and on a sloping site. Originally it displayed to the road a central doorway flanked by a window on each side, these having subsequently been enlarged. It was of brick construction and was 22ft 2 in in length. The side walls were 12ft 5 in long and all the walls were 8 in thick. The roof was tiled. It stood in this form for many decades, and when surveyed by Gavin Flood in April 1970 had a modern extension to the rear which two years later was reported as "small". The original part at the front was a single room with a fireplace on the east wall and an additional window on the west from which approaching traffic could be viewed. This was possibly a common pattern for all the original tollhouses on the Trust. An elderly lady living in the tollhouse in 1970 stated that some George III coins had been found in the stream beside the tollhouse. A recent owner has applied false timber-framing to the surface of the front facing the road and the extensions to the rear are now considerable. Revenue at this gate was high and second only to Laughton. In 1820 it was £227 and in 1821 was £204 though income fell away later in this decade with

£132 in 1826 and £168 in the next year. It was to increase again later and in 1863 was £228 for the nine months to October. On 9 October 1820 the sudden death of William Hollands, the collector, was announced, but earlier the most dramatic event in its history occurred on 7 February 1805 when Lt. Thomas Donald Webb of the 39th Regiment, riding a spirited horse given to him recently by his young wife, collided with the gate, was thrown from the horse and as a consequence was killed. A monument recording this accident is to be found in Hailsham parish church. At the termination of the Trust on 22 November 1871 the house and ground was sold to Sir James Duke of Laughton Lodge in the parish of Laughton for £90. At this date George King, probably the last collector of tolls, was the occupant[12].

Boreham Bridge TQ 677119

The tollhouse was built just to the west of the stream that flows under the road at this point, and on the south side of the road. The building is shown on the Wartling tithe award map of 1844 with a small garden plot of 19 perches, and projected forward into the road. It appears to have been one of the original tollhouses built for the Trust but also one of the least productive in toll revenue. In the nine months to 23 June 1797 tolls collected amounted to only £48. Thereafter it improved and in the year to 29 September 1822 they were £140 rising to £145 in the following year. Even at these later higher figures the income was lower than from other gates on the Trust. A decision was therefore taken by the Trustees to close the gate. The house was leased to Wartling parish for an annual rent of £3. This arrangement continued until 1837 when the Trustees took a decision to widen the road over the bridge at a cost of £72 13s 4d, the parish providing £14 16s 1d. As a consequence the house was demolished. The remainder of the site was sold to the Earl of Ashburnham for £10.

Ninfield TQ 708124

Situated at the junction of the A271 (to Battle) and A269 (to Bexhill) on the north side of the road and almost opposite the "Kings Arms" inn. Gates were across both roads and the tollhouse was situated on a small plot of 3 perches in extent. A weighting engine was also located here, bringing in a small additional income from those not complying with the provisions of the general road Acts. Receipts for the six months to June 1797 were £49 10s but by the 1820s were substantially higher at £200 in 1822, £230 in the next year and £231 in 1824. From this peak they fell away to £120 in 1832 with very similar levels into the later decades of the nineteenth century. The building was of brick with a tiled roof and was not demolished until 1928 when the road was widened and the junction improved. It was photographed in its later form as a five-bay brick bungalow with tiled roof, with a central doorway, but had probably been enlarged since its disposal in October 1871 for £30 to Roger Montague North of Hastings, lately a major in the Indian Army[13]

North Trade Road, Battle TQ 737159

On the south side of the A271 and about half a mile from Battle town centre. The single-storey tollhouse is of brick construction with a tiled roof and of four bays. Originally it would have been a three-bay structure with a central doorway but has been extended a further bay to the west. A small observation window to the east is still in situ. The plot on which it was built was triangular and substantial, amounting to 24 perches. The location of this gate was influenced by a clause inserted in the original act of 1766 which indicated that no gates were "to be set up within half a mile of the Road leading from the parish of Brightling to the Town of Battle". Toll revenue appears to have been at its height in the second to third decades of the nineteenth century with £162 in 1818 and £133 in 1822. After this date however income went into decline. By 1825 was down to £109 and was to continue at similar levels into the mid-1860s. The last tolls at this gate were collected on 1 November 1871, and the closeness of this date to the Gunpowder Plot celebrations dictated the fate of the

Fig. 9 North Trade Road, Battle, tollhouse, late 1930s (*Frank Gregory*)

gate. The size of the garden plot enhanced the price when the tollhouse was sold in October 1871 to the Duke of Cleveland for £94[14].

Milestones

None located or marked on twentieth century 1" OS maps.

The Glyndebridge Trust 1759

The Broyle Park to Battle Trust of 1754 had made the agricultural lands to the east of Lewes accessible to wider markets, but the landowners exploiting the lands at the foot of the scarp of the Downs and the Downs themselves were prepared to support another road to the East of Lewes nearer to their places of production. They therefore promoted another line further south connecting the town more directly to the Trevor estates at Glynde and the Gage Estates at Firle. The parish roads to be improved included the road following the east bank of the River Ouse with Mount Caburn to the left, then to Glynde village and south to West Firle. From this point the road would follow close to the scarp of the South Downs connecting the spring-line settlement of Bopeep (Alciston) with Alfriston. In the mid-eighteenth century Alfriston could still be referred to as a town, despite the fact that at the time of the census in 1801 the population was only 576. The area was renowned for its barley, and the head of navigation of the Cuckmere was at Longbridge, two miles north of the "town". But from its Haven this river was shallow and fit only for small barge traffic conveying sea-beach, sand and coals, the latter being brought by barge from Newhaven.

The Act of Parliament which set up this Trust (32 Geo II c67) of 1759 included the names of the first Trustees, and not surprisingly these included the major landowners in the area such as Lord Viscount Gage, the Hon. Charles Sackville, Earl of Middlesex and Thomas Pelham of Stanmer. Funds raised to improve the line of road amounted to £4,950 with interest due at 5% but some of the Trustees showed a reluctance to invest. Only one tollhouse was mentioned in the Act, to be set up at Glynde. The income from this was soon seen to be insufficient to raise the funds to keep the road in good repair and to enable the mortagees to receive their interest. The road only carried local traffic and its line at the foot of the Downs was narrow, windy and circuitous with no real potential for expansion. Powers were due to be renewed in 1780 and the Act 20 Geo III c83 reflected the anxieties of the Trustees to remedy the deficiencies in the original act which were now all too clear. Powers were included to set up additional toll gates and the deficiencies of Alfriston as a terminus were recognised by the clause enabling them to abandon the section from Bopeep to the "town" and to construct an extension to Chilver Bridge from which branches would be provided to Hailsham in one direction and to Eastbourne in the other. No further mortgage debt could be raised as the income was not sufficient to pay the interest to the present holders of mortgage stock, so the new road improvement on the extensions would have to be funded by loans. The cost of the new works was estimated at £1,818 from Bopeep to Eastbourne and from Swines Hill (Polegate) to Hailsham Common as a further £408 16s 11d. The income to be derived from these additional works was also suspect. Hailsham could be reached from Lewes by the use of the Broyle Gate to Battle Trust over a more direct and better graded route. Eastbourne, as a marine resort, was in its infancy and was largely seasonal in its traffic. Tolls on the extensions could not be collected from travellers until the works had been completed. It is uncertain how much of these were actually done. Income continued at an unsatisfactory rate and was only £408 16s 11d in the year from 11 November 1814 to 22 November 1815, and from the latter date to 2 January 1817 had fallen to £372 0s 11d.

Salvation of a sort did eventually come in the form of a project for a largely new line of road from Lewes to Eastbourne with possible extensions to Hastings, which was promoted in 1817. The dire state of the finances of the Glyndebridge Trust were reflected in the price that the newly proposed Trust was willing to offer to buy out the mortgages of the earlier Trust – a mere 40% of their 1752 cost. The Glyndebridge Trust also faced the need to have their powers renewed by Parliament in 1821 when they expired. In 1817, of the fifteen holders of Glyndebridge mortgages the largest were Jon Boys Esq with £800, the executors of C. Gilbert Esq .and J. Thomas Esq. each with £600 and Mr Henry Pawson with £500[15]

Tollhouses

Glynde TQ 457085

Situated at the point, south of the present railway station, where the minor roads to Beddingham and Firle diverge, the former being the turnpike. This was the only tollhouse prior to 1780, and marked on the William Gardner and Thomas Gream map of

1795, the first edition 1" Ordnance Survey map of 1813 and an undated map in the East Sussex Record Office. Receipts at this gate are shown as £193 1s in the period 4 November 1814 to 22 November 1815 and £177 6s from then to 2 January 1817. The Trustees of the Turnpike appear to have used the nearby Trevor Arms Inn for meetings.

Bopeep TQ 499055

This was situated at the junction of the Turnpike with a minor road to the north-east avoiding Alciston and today connecting with the line of the A27. It is marked on the Gardner and Gream map of 1795 and also the first edition Ordnance Survey map of 1813. Tolls collected at this gate were £71 14s 4d in the period 4 November 1814 to 22 November 1815 and £67 2s 6d from then to 2 January 1817.

Swines Hill, Polegate TQ 582053

At the northern end of Polegate High Street where it makes a junction with the Hailsham to Stone Cross road. An illustration of the cottage dated to before 1910 is known. It is not of the same type as the other tollhouses built for the new Lewes to Eastbourne Trust and thus may predate 1819, even though this date is given for its construction in one secondary source. Tolls were certainly collected by the Glyndebridge Trust at this point before 1819 and amounted to £199 2s 1d in the period 4 November 1814 and 22 November 1815 and £177 15s 11d in the period from this date to 2 January 1817.

A list of gates on the Trust dating from before 1819 lists them as Ranscombe or Glynde, near Breakhurst Bridge, Selmeston and Park Gate. Selmeston is likely to be Bopeep.

Course of the Turnpike

Parts of the course of the Glyndebridge Turnpike were repaired between 2004 and 2005 with funds provided jointly by East Sussex County Council and the European Union intended as part of the "Franco-British Cycle Plan"[16].

Lewes to Eastbourne Trust 1819

The end of the eighteenth century and the early decades of the nineteenth century were to see an interest in turnpike improvement to enable more direct and faster travel to take place. Public coach departures were increasing in number, and coach networks expanding. This was particularly true in central and east Sussex. A number of factors came together which were to result in the rise of this new Trust. It was quite clear that the Glyndebridge Trust was in a position where it could never redeem its earlier mistakes. The route was circuitous and poorly graded, and its finances were inadequate to undertake even day-to-day repairs. If Edward Ellman is to be believed, the Trustees showed little interest, and had almost given it up as a lost cause; although only recently appointed, he was left with the task of winding up its affairs. At the same time other Trusts in the Lewes area were active in promoting improvements. Through the patronage of Thomas Pelham, Earl of Chichester of Stanmer Park, John Loudon McAdam was introduced into the Sussex turnpike scene. The energetic Earl was Postmaster General from 1807 to 1826, and as such was active in promoting road improvement at a time when McAdam was spreading his ideas through evidence to Parliamentary Committees of enquiry. The year 1817 was to see the formation of a loose union of nine turnpike trusts mainly based on Lewes of which the Glyndebridge Trust was one. McAdam provided advice and surveys when required and was able to recommend persons trained by him as general surveyors and superintendents. McAdam was in Lewes several times in 1817 and addressed meetings. As a result J. Campbell, who had trained under McAdam at Bristol, was appointed on 15 September 1817 to supervise and manage the maintenance of the roads within the union at an agreed salary of £150 p.a., raised to £300 on 28 September 1818[17].

The plan for a new turnpike from Lewes to Eastbourne, with the additional aim of extending the line of road to Hastings, was under discussion early in 1817 and on 1 September the promoters placed an advertisement in the *Sussex Weekly Advertiser* stating that a bill to authorise the scheme and repeal the powers granted to the Glyndebridge Trust would be introduced into Parliament in the next session. Many of the Trustees and officers of the Glyndebridge Trust, such as the Earl of Chichester and Davies Gilbert, were promoting the new scheme, and public notices were issued in the name of Edward Verral, then Clerk to the Glyndebridge Trust and soon to have that position with the new Trust. The route had been surveyed by James McAdam assisted by William Figg, the Lewes land surveyor. The first 1¾ miles from Lewes was identical to that of the Glyndebridge Trust as the road was hemmed in by the River Ouse to the west and the Downs to the east, but from

Ranscombe onward the bold plans of the surveyors were in evidence. Much of the old route was entirely abandoned and the shortest distance taken despite the fact that this avoided direct contact with the villages along the route. The new road avoided contact with Glynde to the north and Firle to the south, both served by the old Glyndebridge road, soon to revert to parish control. A straight, direct line brought it close to Beddingham instead. It pushed east to Selmeston using improved parish roads (now 7 miles from Lewes), and then took an entirely new alignment which bypassed Berwick and Wilmington to reach Polegate, where the road changed direction south to Eastbourne. The intended road forward to Hastings used, in the main, improved existing parish roads. No major works were involved, but new bridges would be required over Glynde Reach and the River Cuckmere, and on the Hastings section a bridge over a sluice draining Pevensey Marshes. Attempts by villages close to the new line to have it deviated to serve them were resisted in the interest of keeping the distance down to the minimum. The new line from Lewes to Eastbourne was stated to be 14 miles compared with 21 miles by the former route.

A meeting was held at the Star Inn, Lewes on 20 December 1817 to receive a report on the project prepared by Inigo Thomas of Wilmington, who chaired the meeting. Other committee members were The Earl of Chichester, Davies Gilbert, Thomas Partington (of Offham Place), John Hoper of Beddingham, also a Lewes attorney, and the Rev. James Capper, Vicar of Wilmington. The cost of the line to Eastbourne was estimated to be £10,330 5s 4d and mortgage stock issued was to yield 5%. In addition a sinking fund of 2½%, subsequently reduced to 1%, was envisaged, calculated to extinguish the mortgage debt in 21 years. The scheme was generally approved, though attempts were made by a group representing Alfriston and Willmington interests to move the line of road to the south. Although McAdam was opposed to the change as it would make the route less direct, the proposers of the new turnpike felt it worth appeasing the objectors. Charles Ade of Arlington and four of his supporters were added to the Committee and the line of road altered in the Selmeston and Wilmington areas to satisfy them. This forced the projectors to submit a new deposited plan which delayed approval. The new survey submitted on 30 January 1819 no longer contained the plan for a road from Pevensey to Hastings but did include the incorporation of the parish road from Hailsham Common to Polegate. Progress was also delayed by the mortgage holders of Glyndebridge Trust who proved initially reluctant to accept the offer of selling the stock at 40% of its original value. They had demanded 50%. A bill to repeal the powers of the Glyndebridge Trust passed through the Houses of Parliament in March 1819 largely due to the efforts of Davies Gilbert[18].

Parliamentary approval had been given in March 1819 and work commenced under the direction of J.W. Campbell on 10 April. Progress was relatively fast as the road had been divided into nine sections on which work would progress simultaneously. The cost of the road works, lowering hills, widening the width of existing roads, making causeways and carrying and laying flints, were estimated at £9,242 1s 1d but to be added was £1,010 10s 6d for land purchase, £526 for the two bridges and £358 for tollhouses and gates. By March 1821, when the work was complete, the total cost amounted to £14,121 9s 7d because of the failure to include salaries in the original estimate, as well as extra fencing work and cost overruns not forecast. Funds raised at the time of the passing of the Act amounted to £11,000 and an extra £2,800 was obtained from the existing holders of mortgage stock.

The Act setting up the Trust contained a clause to stop up roads, including the Glyndebridge Trust line of roads to prevent travellers from evading tolls on the new road. The sections named to be closed were:

> Beddingham Lane near Glynde toll gate to the east end of Blind Lane.
>
> Beddingham Preston to Lord Gage's Lodges and the cross way from Ley Beddingham via New Elm to the upper part of Firle Street.
>
> Upper part of Firle Street to Bopeep, Alciston, Thornwell and Wilmington to Swines Hill (Hailsham).
>
> The bridleway from Monkinpoin, Wilmington via Wootton to Wannock Lane, Jevington.

These roads and trackways were transferred to the owners of adjacent land and where possible in exchange for land required for the new line of road. The new turnpike was sufficiently finished for a meeting to be held at the County Hall in Lewes on 9

August 1820, and the tolls were to be let from 1 September for the year ahead. Tolls had been withdrawn on the old road on 15 July 1820 and gradually introduced on the new road when sections were deemed ready. Tolls were let for the year from 1 September 1820 at £802.

From 1823 detailed accounts for this Trust survive and are continuous until 1871. They show that the belief of those who provided the funds was fully justified. The main source of income was the tolls collected at the various gates, but composition payments in lieu of statute labour were negotiated with the parishes through which the road passed. These contributed £274 8s 4d in 1824, before settling down to £131 4s 10d by 1831 and disappearing altogether by 1837, though reappearing in 1852. In most years income and expenditure roughly balanced and there was sufficient surplus for £138 per annum to be transferred to the Sinking Fund.

Railway competition came with the building of the Lewes to Hastings line with branches to Eastbourne and Hailsham, much of which closely paralleled the Turnpike and would have siphoned off traffic. This line opened throughout in May 1849. This undoubtedly damaged the Trust, but not immediately. Toll revenue peaked in 1845 to £1,651 12s 10d but then fell steeply until by 1849 it was only £684 5s 4d and reached a plateau around this level until 1856. Thereafter it rose again, reaching above £700 by 1857 and to over £800 until 1872, after which it fell away again to some degree. Expenditure reduced from 1848. In 1847 it had been £1,402 3s 7d but in the next year was only £920 3s 11d and from 1849 to 1851 and in 1854 and 1856 was below £700. Labour and materials were the main areas of reduction. Some revival came later and from 1858 onwards expenditure was above £800 per annum, rising to above £900 from 1863 and in a few years topping £1,000. From 1872 until the ending of the Trust expenditure fell away with under £600 recorded for 1873 and 1875. Those holding the Trust's mortgage stock did reasonably well. The Sinking Fund operated until 1835 and this enabled the stock to be redeemed at par up to 1849. The remainder was extinguished at between 80% and 90% of their face value. After the winding up of the Trust in 1879, and the selling of its assets, there was a credit balance remaining which was divided amongst the parishes through which the road ran.

The powers of the Trust expired on 1 November 1878 (Act 40-41 Vict c64 confirmed by Act 41-42 Vict c62) but the legacy of McAdam and those who supported the scheme lives on. Although improvements have been made in recent years, the line of the A27 trunk road is still essentially that which McAdam surveyed in 1817 and Campbell supervised the construction of, and this also applies to the A22 from Polegate to Eastbourne[19].

Tollhouses

Southeram TQ 425093

The Trust commenced at the south end of South Street, St. Thomas at the Cliffe, Lewes, and this gate, in the parish of South Malling, was about a mile south of the town. It was along this stretch of the road that in 1839 a dramatic closure was caused by an avalanche of snow falling from the Downs above, which destroyed a group of houses called Boulters Row. Fifteen peoples were buried and of these eight died. The event is still commemorated in the name of The Snowdrop Inn (formerly the Schooner). This is the most disastrous event of its kind recorded in Britain. A photograph of the Southeram tollhouse and gates taken c1870, before the closure of the Trust, shows a three-bay stuccoed bungalow with two front windows and the door at the north end, the roof is slated and a tall chimney rises from the ridge. An account was received from John Cowper dated 6 August 1819 for its building amounting to £96. The same amount was charged for building the next tollhouse along the Turnpike at Beddingham, and a common pattern appears to have been used

Fig. 10 Southeram tollhouse, July 1937 (*Frank Gregory*)

for all the new tollhouses. Tolls were being taken as early as the week ending 29 July 1819 when £3 11s was collected with similar sums in the weeks that followed. The photograph of c1870 shows the gate in open countryside with the Downs and a chalk pit immediately to the east. The tollhouse was sold to Viscount Gage when the Trust was wound up, together with the West Firle tollhouse for £140. The date of its destruction is unknown but may have been connected with the subsequent development of the cement works on the opposite side of the road. A survey suggests that the house was at the point of access of a railway siding from the works. The present road from Lewes to the A27 has been diverted away from the site in connection with the A27 road improvements[20].

Beddingham TQ 463081

One of the most attractive and original of the Sussex tollhouses. It was set up at the point where Blind Lane running south from Glynde village makes a junction with the Turnpike on a site of 11 perches. It also had a garden plot on the opposite side of the Lane with a frontage of 130 feet, altogether 24 perches. Initially it was intended to place the toll at Beddingham Cross (TQ 458080), this location listed in the original Act, but by 9 August 1820 it was agreed to move it to its present location. It was intended as a replacement for the Glynde gate on the old Glyndebridge Trust. It also controlled traffic flowing north from Firle village. The building is of brick, has walls 6ft 6in high, with a slated roof and its east front faces the lane, and that to the south, the Turnpike. This provides good vision for traffic from the Eastbourne direction. The two front windows are sliding (Yorkshire sashes) and, like the door at the Glynde end, are replacements. A smaller window on the south front was installed to observe traffic from the Lewes and Firle directions. Internally there is one large room, 20 feet by 12 feet. At the rear of the building a long narrow room was added with thinner walls after its use as a tollhouse.

Fig. 11 Beddngham tollhouse, July 1938, when used as a shop in connection with a filling station opposite (*Frank Gregory*)

At the winding up of the Trust in February 1879 the building was sold to Henry Bouverie William Brand of Firle Place for £65. No doubt it was initially used as a dwelling for one of the Estate workers, but by early in the twentieth century it was used as a shop and later by September 1969 a tea room in connection with the garage built opposite. There is still evidence of this latter use in the interior[21].

West Firle TQ 485081

This was also known as Stanford Pound. Built on a site of 24 perches at the crossroads where a road diverges from the Turnpike heading north-east towards Ripe and another road south flanking the grounds of Firle Place. Improvements to the A27T road in recent years have taken the modern road south of the site of the tollhouse site. It faced the Turpike to the south and Ripe Lane to the east. The tollhouse was originally similar in style and construction to Southeram and Beddingham but, after the ending of the Trust, had been extended to the east by a further bay. It was demolished in November 1956. In the original Act of Parliament this was described as a side gate "at entrance of RIPE LANE leading to STANFORD POUND". Viscount Gage was the purchaser of the house in February 1879 which, together with Southeram, cost him £140. In 1858 it was mentioned that the pedestal of a wayside cross was still in place in the garden of the tollhouse and this was still present in 1969 [22].

Fig. 12 West Firle tollhouse, June 1939
(*Frank Gregory*)

Milton TQ 537050

Situated in the parish of Arlington at the point where a road from Milton Street to the south crossed the Turnpike. This road beyond the intersection towards Arlington is now blocked, and the road diverted to the west following the line north from Wilmington village. The tollhouse was built on a site of 13 perches on the south side of the Turnpike and had a frontage of 20 feet 3 inches and a depth of 15 foot 6 inches. Initially the gate had been set up to the west at the point where the Turnpike crossed the River Cuckmere, but by August 1820 a decision had been made to move the gate to "Milton Lane" where a tollhouse had been recently built. No illustrations of this tollhouse have been found[23], but it was built at the same time as the other tollhouses at Southeram, Beddingham and West Firle, and is likely to have been of the same pattern. The lack of a photograph can be attributed to the early date of its demolition. When the Trust was wound up in 1879, parts of the site, including part of the tollhouse, were ordered to be taken for road improvement access at the junction. As a result the remaining land was sold on 18 February of that year to John Alexander Manley Cope of Victoria Street, Westminster, John Alexander of Dundas Street and Ross Graham Wiseart of 26 Wilton Crescent for a mere £5. It is unclear why these three London gentlemen required this small plot of land[24].

Polegate TQ 580046

Initially tolls were taken at the Swines Hill gate of the Glyndebridge Trust but in 1841 the gate was moved to a new location in Polegate at the south end of the High Street. This may have been because of improvements to the road alignment which allowed through-traffic to avoid the centre of Polegate. A new tollhouse would have been required. When sold for £50 on 18 July 1879, the purchaser was Caleb Diplock of Eastbourne, wine and spirit merchant and brewer. He owned an adjacent inn and wanted the extra land, for in 1881 the tollhouse was demolished[25] .

<u>Milestones</u>

None located. Ordnance Survey maps of the inter-war years show a nearly full set of mileage markers giving distances from Lewes to Eastbourne. Numbers 1 to 3, 5 to 11 and 13 were in place with the addition of 6 and 4 on the Hailsham Common to Polegate road. These were removed in 1940 to hinder possible German invaders and do not

reappear on post-war maps, suggesting that they were not replaced.

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References

1. Brian Short, "Agricultural Regions, Improvements and Land Use c1840" in Kim Leslie & Brian Short, *An Historical Atlas of Sussex* (Chichester 1999) pp96-97; Pigot & Co's *Directory of Sussex (1839); East-Bourne, being a Descriptive Account* (2nd edn 1799); John Farrant, "Arthur Young and the Board of Agriculture's Reports on Sussex" *SAC Vol* 130 (1992) p130.
2. Short *op cit p97; Thomas Horsfield, The History, Antiquities and Topography of the County of Sussex* (Lewes 1835) Vol 1 p26.
3. *BPP. Journal of the House of Commons* Vol 26, 1833(703) xv 409, 1840 (280) xxvii 15; C.H. Nichol, "The Sussex Election of 1741" *SAC* Vol 91(1953) pp 105,112; Les Smith, *A History of the Dicker* (Hailsham 2003) p41; *Sussex Advertiser* 19 Sept. 1843.
4. ESRO QDD/EW5/372, BUR/2/1/215/44.
5. ESRO TD/E48, QDD/EW5/387-9, BUR/2/1/215/43; *Sussex Weekly Advertiser* 19 Sept 1843; Smith *op. cit.;* Barry K. Russell, *From Heathfield to East Hoathly in Old Photographs* (Leyburn 2004) p154; Liz Clarehugh & Jane Seabrook, *Chiddingly & East Hoathly* (East Hoathly 2000) p72.
6. ESRO TD/E/48,BUR/2/1215/45,QDD/EW5/381/3, A.J. Haselfoot, *The Industrial Archaeology of South-East England* (1978) P99; Brian Austen, Don Cox and John Upton, *Sussex Industrial Archaeology: A Field Guide* (Chichester 1985) pp 57-58; Barry K. Russell and Alan Gillet, *Around Hailsham in Old Photographs* (Stroud 1991) p118.
7. ESRO QDD/EW5/378-80, TD/E5; Correspondence R.J. Goulden 26 Dec 1970.
8. ESRO QDD/EW5/375-80, 384-86, TD/E40, TD/E84, BUR/2/1/215/44-48; Correspondence with Hugh Gordon 13 June 1970, Margaret Ash 17 March 1969, 11 April 1969.
9. ESRO BUR/2/1/25/46, QDD/EW5/375-77; Correspondence with Margaret Ash 17 March and 11 April 1969; Brian Austen and John Upton, "East Sussex Milestones – A Survey", *SIH 5* (Chichester 1972) pp 3, 6-7; Brian Austen and John Upton, "East Sussex Milestones – Further Notes" *SIH* 7 (1976) p 23; Glenda Law, *Follow the Bow Bells Toll* (Lingfield 2006); Brian Short, *The String Town – Hailsham 1870-1914* (Brighton 1980) p 7
10. John L. Kaye, "The Boyle Enclosure, 1767-71" *SAC* Vol 138 (2000) pp 165-175; BPP (18) xlviii, 1833 (703) xv 409; ESRO Acc 2449/1/2.
11. *Sussex Weekly Advertiser* 13 July 1772, 17 July 1820, 24 July 1820; ESRO Acc2449/1/1-4, AMS 5622/3/1, QDD/EW5.
12. ESRO TD/E140, Acc2449/1/2, AMS5622/3/1 ; *Sussex Weekly Advertiser* 9 October 1820; L.F. Salzman, *A History of the Parish of Hailsham* (1901) p100.
13. ESRO TD/E88, 107, Acc 291/7/3/53, Acc 2449/1/1-3, AMS 5622/3/1, QDD/EW5; *Sussex Weekly Advertiser* 24 July 1820; Barry G. Symes, *Olde Ninfield* (Cheddar & Edinburgh 1986) pl 28, 87.
14. ESRO TD/E158, AMS 5622/3/1, Acc 2449/1/2-3, QDD/EW5.
15. Horsfield *op cit.* Vol 1 p6; Brian Austen, "John Loudon Mc Adam and the Lewes to Eastbourne Turnpike" *Transport History* Vol 7 No. 1 March 1974 pp42-43; ESRO Acc 3622/box 19/50
16. ESRO Acc 3622/box 19/9, Peter Longstaff-Tyrell, *Turnpike Territory* (Eastbourne 2007) pp 8,22,25; Maureen D. Reeves, *Polegate Past* (Eastbourne 2007) p9.
17. Edward Boys Ellman, *Recollections of a Sussex Parson* (Hove 1925) p180; Austen *op cit.*pp43-45.
18. Austen *op cit* pp 49-50; ESRO Acc 3622/box 19; *Sussex Weekly Advertiser* 26 October 1817.
19. Austen *op cit* pp 52-55; ESRO Acc 3622/box 19, AMS 6005/45.
20. ESRO Acc 3622/SAS box 19, QDD/EW5/486-88.
21. ESRO Acc 3622/SAS box 19, TDE/36, QDD/EW5/489-91.
22. ESRO TDE/36, QDD/EW5/486-88; *SAC* Vol X p152.
23. A photograph exists in the SAS library identified as Milton but this is unlikely.
24. ESRO TDE/5, QDD/EW5/499, Acc 3622/SAS Box 19
25. ESRO QDD/EW5/422; Reeves *op cit* ; Tyrell *op cit.* p19 map showing tollhouse location.

GEORGE ALLEN, IRONMONGER, THE FORGE, HURSTPIERPOINT, 1946

Geoffrey Mead

I was recently passed a bundle of ephemera, over 60 receipts and invoices, all of which related to George Allen, an ironmonger of Hurstpierpoint and, apart from a couple dated 1932, are all from the autumn of 1946. These documents—unreferenced here—are in the process of being catalogued at West Sussex Record Office. All measurements, quantities and prices have been left as recorded; there are many websites available to enable conversion.

I have only had time to do a cursory background to the business, but the *Kelly's Directory* 1927 shows George Allen to be in business as an ironmonger. The Forge is the address on some of the invoices and that was in Pitt Lane on the south side of the High Street, with a simple telephone number '9' in 1927. The few weeks' worth of paperwork allow a glimpse of the stock of a post-war ironmonger and shows the wide range of both goods sold and the geographical distribution of some British industries. At that time it was still possible to employ a staple of geography lessons—'regional specialisation of industry', whereby certain locations are forever associated with specific trades [ships on the Clyde, cotton goods from Lancashire, etc].

Metalwork from the Black Country starts the sequence on 28th August: *William Hunt & Sons, Brades steel works near Birmingham*; the goods were priced at per dozen; 21/- for 6" W.H.S. Pointing Trowels, with six being ordered; 37/- for Brades Scaffolding Hammers, only one ordered and 21/- for Brades Canterbury Hoes with four ordered. A total of £2 8s 1d with a whopping surcharge of 65% [purchase tax?] adding £1 11s 3d making a total of £3 19s 4d.

On 24th September *Ideal Boilers & Radiators, Hull,* sent one Summer Grate for a LH [left hand?] oven, 5/1d plus one damper 7d, with a postage fee of 7d, totalling 6/3d.

On 3rd October the *Rawlplug Co Ltd, Cromwell Rd SW7*, dispatched a whole consignment of 10 various products, plugs, holders, bits and wire totalling £6 17s 0d with a discount of 331/3% making £4 11s 4d. A few days later *Tilley Lamps, Hendon NW4,* sent one burner at 12/6d with postage of 7d. Two days later from further afield at Stretford, Manchester, *D. Anderson Roofing Felt and Paint Manufacturers* supplied various rolls of differentially graded roofing felt and 2 x 1 gallon cans of Black Siderosthen paint, a large account for £16 11s 2d [including a variety of assorted discounts].

On 15th October *Milners Safe Company Ltd, head office EC1,* billed £2 19s 6d for:

> "Opening paper Box, repairing hinges and Lock, altering combination of Lock, supplying 2 new keys and repairing fittings. Man's time etc."

The receipt was signed over an Edward VIII stamp.

On 30th October *James Neill & Co (Sheffield) Ltd* supplied 4 x hack-saw frames @ 4/- each, an uncompleted order balance to follow per parcel post.

On 1st November *Gibbons, Skinner & Co Ltd., Wharf Road N1,* supplied Fine Blued Cut Tacks; these were priced in the imperial quantities of hundredweights, quarters and pounds [cwt. qtrs., lbs] and this order was for 1 qtr. priced at 100/6d thus £1 5s 2d [rounded up ½d!]. On the same day *Smith & Wellstood Ltd., Bonnybridge, Stirlingshire, Scotland,* supplied 3 eclipse stoves for £7 17s 4d with a strange discount of 27½ % and *General Electric Co Ltd* sent 106 assorted Osram lamps, £5 18s 2d.

5th November saw a Brighton firm, *E.G. Brown Ltd, builders merchants* [telegraph address 'Reliable Brighton'] providing '½" Black Mall Tees and galvanised ½" Mall Elbows, 4/-'.

While most invoices indicate postage charges, a consignment of bolts, nuts and screws from *George Hatch Ltd EC4* — £2 13s 8d—came via the railway with a carriage of 2/8d. The same day the *James Neill* part consignment of 30th October was completed and a parcel arrived of 6 pairs of No 14 gloves — £1 7s 7d — from *JVFJ Baker, Colyton, Devon, 'English oak bark tanners, curriers and leather merchants'.*

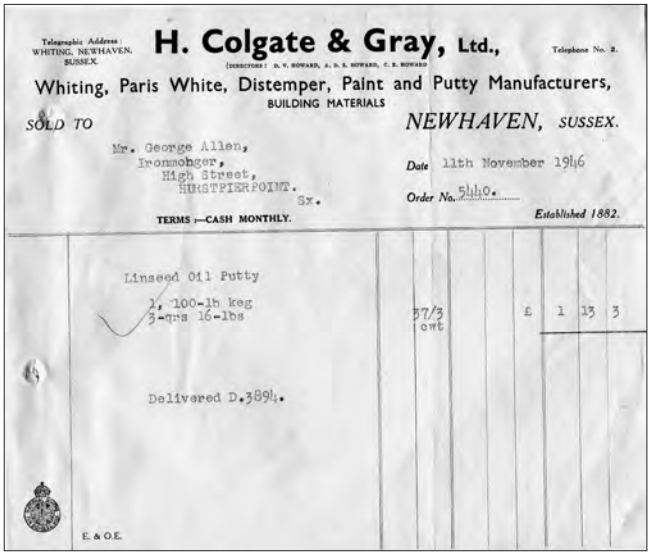
'Goods Inward' for George Allen was continuous, as the following day another *George Hatch* consignment arrived of 8" and 10" Tinmans snips, 8" pliers, 1 pint Paraffin blowlamps, 9" Hacksaw blades from Eclipse and 10" from 'Ding Dong' [½ gross of each]. Not all Allen's goods came from a distance. Not far away at Hailsham ['The String Town'] *Burfield & Son Ltd - 'manufacturers of twines, rope, cocoa matting, mats, tarpaulins, brushes, etc.,* were providers of '7lbs of red coir and 7lbs of blue coir' but also a complex assortment of Bass brooms ranging from a number '0' @ 25/6d a dozen to number 3 @ 41/6d. Curious

quantities were ordered: '1/3 dozen for number 2 and 1/6 dozen for number 3'; a separate invoice indicated a very rural commodity, being one gross of 'Rabbit wire snares' for 11/-, all delivered through Hassocks station.

More basic needs for rural accommodation was satisfied by a delivery on 7th November of 10 x gallon tins of Elsanol chemical from the *Elsan Manufacturing Company SW9*.

Presumably not for the door of a chemical toilet, Brighton's *E.G. Brown* sent an invoice for cutting '2 Yale cylinder keys to pattern' [2/6d plus 3d postage].

Four days later another Sussex firm, *H. Colgate & Gray Ltd, 'Whiting, Paris White, Distemper, Paint and Putty Manufacturers, Building Materials, established 1882, Newhaven'* delivered a quantity of linseed oil putty in the form of 1x 100 keg, 3qrs and 16lbs costing £1 13s 3d; *Gibbons, Skinner* forwarded 'per our motor' an order of '20 sheets of galvanised corrugated sheets 8' x 8'3" x 24g'. The given weight of 3cwts 3qrs 14lbs was priced @ £36 10s 0d per ton. There was a rider added that 'Extra carriage in excess of 20/- per ton as authorised by the Iron & Steel Control'.



Telegraphic Address: WHITING, NEWHAVEN, SUSSEX.

H. Colgate & Gray, Ltd.,

Telephone No. 2.

(DIRECTORS: D. V. HOWARD, A. D. S. HOWARD, C. E. HOWARD)

Whiting, Paris White, Distemper, Paint and Putty Manufacturers,

BUILDING MATERIALS

SOLD TO

NEWHAVEN, SUSSEX.

Mr. George Allen,
Ironmonger,
High Street,
HURSTPIERPOINT.
Sx.

Date 11th November 1946

Order No. 51440.

TERMS:—CASH MONTHLY.

Established 1882.

Linseed Oil Putty 1, 100-lb keg 3-qrs 16-lbs	37/3 cwt	£	1	13	3
Delivered D.3894.					

E & O.E.

Fig. 1 Invoice from H Colgate & Gray, Ltd., 1946

On the 13th *Fletcher hardware Co Ltd, Edgbaston, Birmingham*, posted 1 dozen galvanised padlocks, £1 10s 0d plus 10d postage.

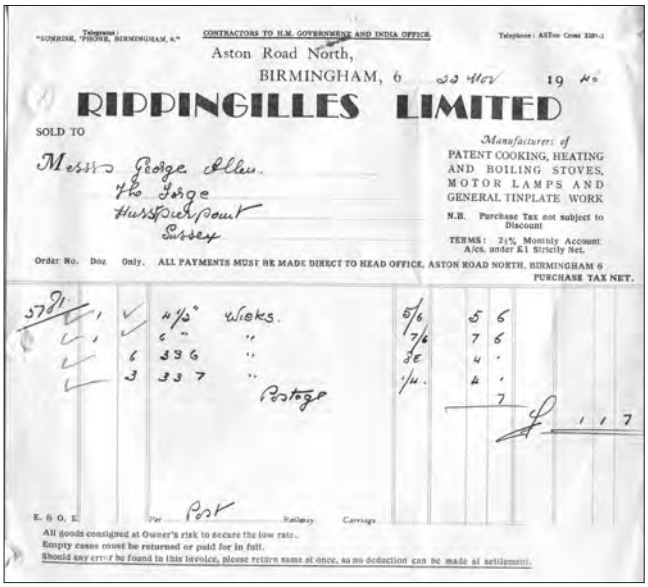
The following day *Clay & Son Ltd Stratford E15* were supplying a consignment of 'Clay's Fertilizer': 1 x ½ cwt, plus 12 x 7lbs bags, 4 dozen 1/- bags and 4 dozen 6d packets [2 x ¼ cwts to follow] — a total of £4 12s 3d, sent from Bricklayers Arms Station 'per Southern Railway to Hassocks Station'. The same day *Falks, Stadelmann & Co Ltd, EC1, 'manufacturers of lighting, heating and cooking appliances'* submitted a very simple invoice for a 'Spreader' which cost the princely sum of 8d plus 3d postage; and *British Oxygen Co Ltd, Greenwich SE10*, 1 cylinder of oxygen, 165 cubic feet @ 50/- per 1000 cubic feet - 8/3d. A 40 gallon galvanised tank manufactured by *Frederick Braby & Co Ltd, Ida Works, Deptford SE8*, and costing £5 7s 10d had a pencil insert stating 'For Mansion House where wanted'.

Ideal Boilers who we encountered on 24th September, sent on 15th November a smokehood, a 4ft length of 4½" smokepipe and a 4½" square bend for an 'open fire dome boiler'. *British Oxygen* sent two more cylinders of oxygen, 165 and 211 cubic feet, arrived 'ex our Brighton store', which were dispatched four days before another 2 cylinder consignment on the 19th. This would have been another busy day at George Allen's 'Goods Inward' as *Nettlefold & Sons Ltd, 'hardware merchants and manufacturers'*, delivered '1 dozen yards twisted link chain Ja-panned…Rufflette hooks [3 gross]…hex black set screws [½ gross]…3 barrows de luxe…1 dozen yards standard link coil chain'. A typewritten note at the bottom state- 'regret all we can do' presumably indicating an unfulfilled part of the order.

Stock constantly entered the retail chain with the following day *Burfield & Son* supplying 1 dozen 'No 1 scavenger brooms' [£3 8s 0d] on the 20th and *Elsan* delivering '1 inner container for model no 33' [12/6d]. The same day a new supplier appears: *Entwhistle & Kenyon Ltd Accrington*, makers of Ewbank sweepers: '6 x Ewbank Dainty Carpet Sweepers'.

Some of the orders seem surprisingly tiny for the effort and paperwork involved in the process, witness *GE*C sending 30 assorted light bulbs that day [10/8d] but also that day *Rylands Brothers Ltd. Warrington* providing '1 x roll of 48" Galvanised wire netting hexagon mesh' and '1 x roll 72" Galvanised wire netting hexagon mesh' paid per L.M.S.R. Hassocks Station.

By 21st November the remainder of *Clay & Son's* fertiliser order was completed with 2 x ¼ cwt bags dispatched on the Southern Railway; this order would have arrived with more mesh material, this time from *S. Ramsey & Co Ltd, EC1*: '1 piece iron wire gauge 16 mesh 18ft x 3ft'' [£2 9s 6d]. The 22nd saw a number of assorted lamp wicks arrive, two dozen



"SUNRISE, 'PHONE, BIRMINGHAM, 6." CONTRACTORS TO H.M. GOVERNMENT AND INDIA OFFICE. Telephone: ASTon Cross 3201-3

Aston Road North,
BIRMINGHAM, 6 19 No

RIPPINGILLES LIMITED

SOLD TO

Messrs George Allen.
The Forge
Hurstpierpoint
Sussex

Manufacturers of
PATENT COOKING, HEATING AND BOILING STOVES, MOTOR LAMPS AND GENERAL TINPLATE WORK

N.B. Purchase Tax not subject to Discount

TERMS: 2½% Monthly Account A/cs. under £1 Strictly Net.

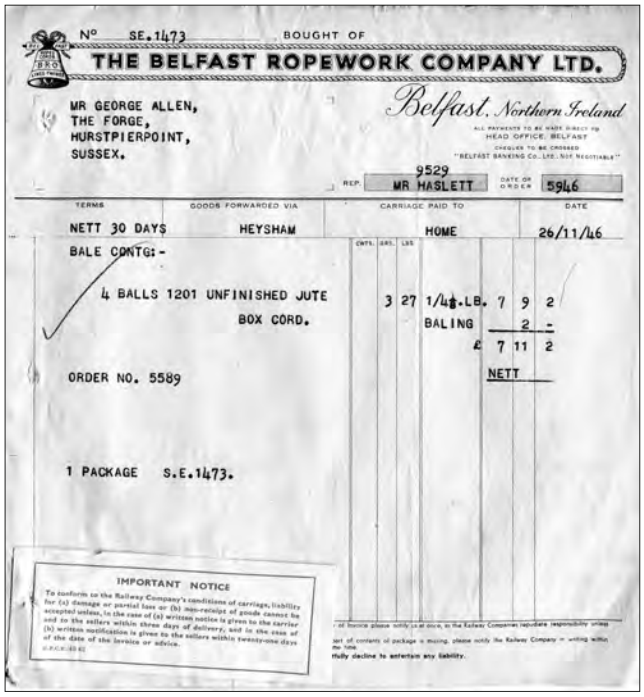
Order No. Doz. Only. ALL PAYMENTS MUST BE MADE DIRECT TO HEAD OFFICE, ASTON ROAD NORTH, BIRMINGHAM 6 PURCHASE TAX NET.

1	✓	4½"	Wicks.	5/6	5 6
1	✓	6 "	"	7/6	7 6
6		336	"	8d	4 .
3		337	"	¼.	4 .
			Postage		7
					£ 1 1 7

E. & O. E. Per Post Railway Carriage

All goods consigned at Owner's risk to secure the low rate.
Empty cases must be returned or paid for in full.
Should any error be found in this invoice, please return same at once, as no deduction can be made at settlement.

Fig. 2 Invoice from Rippingilles Limited, 1946



N° SE.1473 BOUGHT OF

THE BELFAST ROPEWORK COMPANY LTD.

Belfast, Northern Ireland

MR GEORGE ALLEN,
THE FORGE,
HURSTPIERPOINT,
SUSSEX.

REP. 9529 MR HASLETT DATE OF ORDER 5946

TERMS	GOODS FORWARDED VIA	CARRIAGE PAID TO	DATE
NETT 30 DAYS	HEYSHAM	HOME	26/11/46

BALE CONTG:-

	CWTS.	QRS.	LBS.		
4 BALLS 1201 UNFINISHED JUTE BOX CORD.	3	27	1/4 LB.	7	9 2
BALING				2	-
				£ 7	11 2

ORDER NO. 5589 NETT

1 PACKAGE S.E.1473.

IMPORTANT NOTICE

To conform to the Railway Company's conditions of carriage, liability for (a) damage or partial loss or (b) non-receipt of goods cannot be accepted unless, in the case of (a) written notice is given to the carrier and to the sellers within three days of delivery, and in the case of (b) written notification is given to the sellers within twenty-one days of the date of the invoice or advice.

Fig. 3 Invoice from Belfast Ropework Company Ltd., 1946

plus nine singles from *Rippingilles Ltd, Aston Road, Birmingham, 'manufacturers of patent cooking, heating and boiling stoves, motor lamps and general tinplate work'*, with a separate invoice for a 'wick rack' which cost 6d, postage 4d.

William H. Hotton & Co Ltd, 'general sheet metal workers', Studley, Worcestershire, provided 2 x ½ dozen mixing bowls at 7/6d and 6/8d to arrive by 'passenger train'. This invoice is dated 24th November and was followed the next day by *Gilkes & Son*, *Reading,* who had engraved a 'Bronze plate-Smallfields' [18/6d]. That day also another *British Oxyge*n cylinder came and also from *Rippingilles* – 'a spreader' [1/2d].

A new manufacturer makes an appearance on 26th November when *The Turnbridge Mfg & Supply Co. Ltd., Balham SW17,* 'despatched by rail' '3 dozen 7 ½d Stixin Cement, 1 dozen 1/6d Gold Lustre Paint, 1 dozen 1/3d Plastic Wood.' In spite of the relative proximity of Hailsham's rope makers, *Burfield*, a large order for 'Unfinished jute box cord 4 balls' [£7 11s 2d] was ordered from *The Belfast Ropework Company Ltd.*

The final few days of November brought a flurry of invoices for the usual minor sums of money; an exception was the £12 18s 10d sum demanded for *Joseph Tyzack & Sons Ltd*, *Meersbrook works, Sheffield*, who sent a single carton 'consigned per LMS' consisting of 3½ dozen hoes of various sizes, 1 dozen forks, ½ dozen shears, ½ dozen hatchets, ½ dozen 3" knives, ½ dozen 5" trowels and ½ dozen 11" trowels. Closer to home was the 10/4d for 2,000 tag labels from *Walter Gillette, Manufacturing Stationers and Printers, Account Book Makers, Paper Merchants, Office Appliance Specialists of Market Street, Brighton.*

£5 19s 9d secured 6 pressure stoves at 28/- from *Anglo-American Oil Company Ltd, SW1*, but a pencilled note recorded '1 damaged'.

The last day of November brought another *Gilkes & Son* engravers invoice for a brass plate for a Mr DL Willett and one from *Nettlefold & Son* for 3 x 'barrow de luxe' [£7 17s 6d]. Finally *Falk, Stadelmann* completed the sequence of invoices with a long list of lamp equipment and fittings; 1½ dozen Veritas Lamp Chimneys, ½ dozen Beatrice Old Pattern Burners, ½ dozen Short Slip Bulge Chimneys, 1 dozen x 15" Wizard Chimneys, 2 rolls of Duplex Wicks and ¼ dozen Famos wicks. The entire order cost £3 2s 6d for the stock, 2/5d carriage and 10/- for a 'T' chest; total £3 14s 5d.

As an accompanying section to these invoices were a few credit notes; from *George Hatch* for the return of 3 x Kent axes at 9/9d each, 3 x canvas tool bags @ 69/- per dozen, 1 x empty box @ 2/-; from *Smith & Wellstead* for a Shaking Bottom Bar No 2 Contessa stove [4/7d]; *ICI Metals Division* 'empty boxes returned' 3 x 5/- and *Clay & Son* 1 x large, 1 x small packing bag returned.

What does this small temporal range of a few weeks of autumn paperwork tell us about the ironmongers' trade in a small Mid-Sussex community? Clearly the

extensive range of products comes over well, but that is not a revelation of great import, as a cursory glance in almost any such 21st century establishment would show; a good example being Dockerills of Church Street, Brighton. Nearly 70 years later nearly all of the products can be seen as 'known' commodities, with very few strangers in the 21st century; possibly *Rippingilles* or *Falk, Stadelmann's* could be the odd ones out with their collection of lamp accessories, chimneys and wicks and I do not recall seeing too many rabbit wire snares these days, but as I live in the city of Brighton & Hove that is not surprising. The rural ironmonger survives in the 21st century; George Allen would know most of the stock of today and the modern lines of mastic tubes, plastic garden trugs, propane gas bottles and aerosol sprays would all have had their 1940s forbears in his charge. Surely his greatest surprise would be in discovering seemingly familiar products that were not British. What would he have made of the vast geographical catchment from countries little or unknown in his day? Of the use of metric measurements and the death of the 'gross'? What indeed of the demise of British brands and loss of the manufacturing and distribution networks that defined so many British communities?—the greatest number of firms lost from Allen's day being from Greater London.

This eclectic group of products and firms, filtered through the mesh of George Allen's emporium, gives a glimpse of both the local and national trends; it could be mirrored throughout the country and reveal similar trading patterns with presumably the rich variety of British settlement characteristics to give regional variation.

Fig. 4 Extract from the Ironmongers' Standard Catalogue, 1936-7, showing dolly tubs and a wringer, still common items of stock in 1946

A STUDY OF WINDMILL CAPS IN SUSSEX

Philip Hicks

A diverse range in shape and design of caps on smock and tower mills in Sussex has greatly contributed to the unique character of the county's windmills. This contrasts with many other counties where there is little variety. For example, most Kentish windmill caps resembled a post mill's roof, while in Lincolnshire most were of the distinctive elegant white ogee type (onion shape).

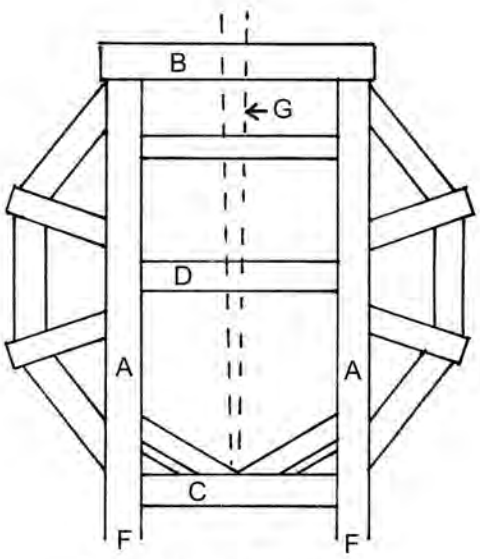
The term 'cap' is given to the top section of a smock and tower mill, which carries the sweeps, windshaft and fantail, and is capable of revolving independently of the tower in order to continually face into the wind. The basic construction comprises the horizontal 'cap frame' and the roof. There were significant variations in designs of cap frame (see figs. 1 and 14) but they generally included two stout longitudinal beams called 'sheers' and at least three stout transverse beams, namely the 'breast beam' (also known as 'weather beam'), 'sprattle beam' and 'tail beam'. The breast, sprattle and tail beams carried the windshaft neck bearing, the top bearing of the upright shaft and windshaft tail bearing respectively. The transverse beams were normally connected to the sheers with double mortice and tenon joints although sometimes the breast beam was attached to the top face of the sheers with lapped dovetails. The mortice and tenon joints were secured with long iron tie rods spanning the width of the cap frame. A nut at each end of the rod was tightened against the outside face of each sheer. In the neighbouring county of Kent, oak was universally used for the cap frame members but in Sussex the use of pine and softwood was just as common.

The cap roof (see fig. 15) comprises a set of rafters, called 'ribs', covered by an external weatherproof skin of wooden boards and/or metal sheets. The skin was extended below the cap frame at the front and sides to provide a 'skirt' protecting the curb at the top of the tower from the weather. The ribs were normally curved, giving the roof a convex shape to accommodate the large brakewheel inside. In terms of strength it was important for the grain of the timber to follow the shape of the rib. This was traditionally achieved by selecting trees which had grown to a suitable shape rather than by laminating or steam bending straight timbers. As there were limits to the shape of naturally grown trees, the extreme curves of many roofs often required each rib to be made in two or more pieces which were connected by halving or scarfing joints. The ribs were either carried directly on top of the cap frame, or a segmented timber roof plate called the 'cap circle'. There was usually a small removable hatch called the 'storm hatch' situated at the front of the cap directly above the windshaft for access to the canister, and a small hinged door in the tail of the cap for access to the fanstage. With beehive, domed and conical shaped caps the door was traditionally set in a projecting dormer canopy with a slightly arched roof.

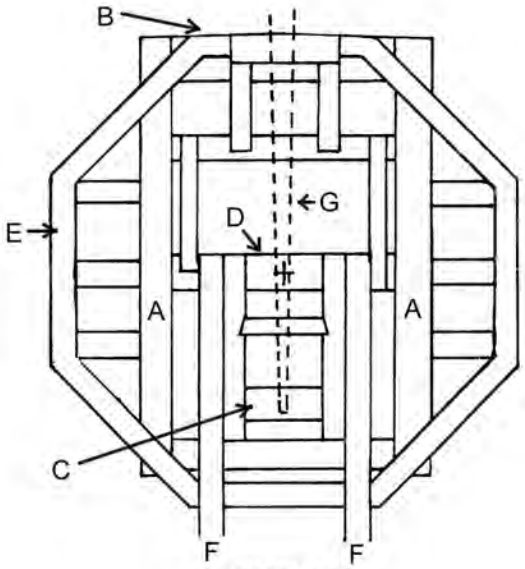
Before the availability of mobile cranes in the mid twentieth century, a cap could not be raised to the top of the mill as a single item. Millwrights would construct the cap on the ground, or perhaps at their workshop, then dismantle it and use ropes and pulleys to raise each piece to the top of the mill for the final assembly. Maintenance and repainting was normally undertaken using a cradle or ladder hooked over the ridge of the roof or the ball finial. An original wooden ladder for this purpose still survives at *Waterhall Mill*. Nowadays it is common practice for millwrights to remove an entire cap by crane and transport it by lorry to their workshop for renovation.

The main types of cap are described below with some examples of Sussex windmills, which once boasted them. However, there are two points to be noted about this study - it is not comprehensive of every known mill in the county and it focuses on an era when mills were still working commercially. The present caps at *Arundel, Chailey, Halnaker, Nyetimber, Punnetts Town, Rye* and *Washington* have been altered in recent reconstructions and differ significantly from when the mills were in working order.

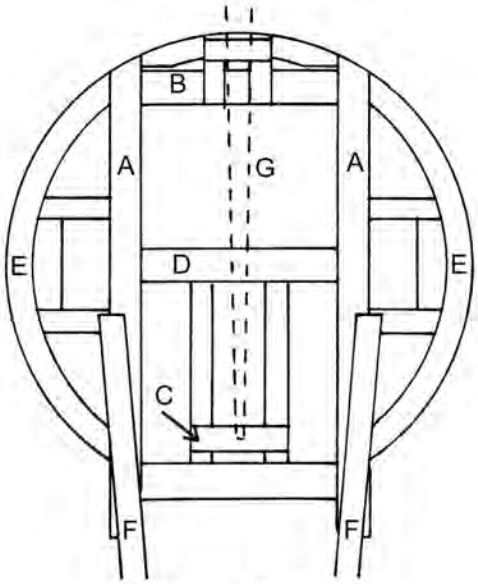
Beehive and Domed – there has been some disagreement regarding whether these two terms refer to the same type of cap. They are generally shaped like a dome and/or an old-fashioned straw beehive and are either circular or multi-sided (usually hexadecagonal) in plan. Examples of circular beehive and domed caps were at *Highdown Mill* at Angmering, *South Marsh Mill* at Arundel, *Barnham, Billingshurst, Hodson's Mill* at Brighton, *Jack Mill* at Clayton, *East Blatchington, Hurst's Mill* at Eastbourne, *Hamlin's Mill* at Hailsham, *Shelley's Mill* at Lewes, *Nutbourne, Ocklynge, Polegate, Selsey, Stone Cross, Rock Mill* at Washington, *Waterhall, Wisborough Green*, and *Navarino Smock Mill* at Worthing. Examples of multi-



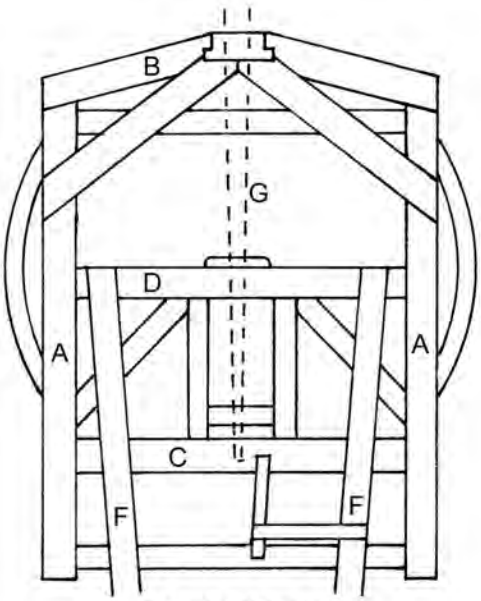
HALNAKER (Pre-1934).



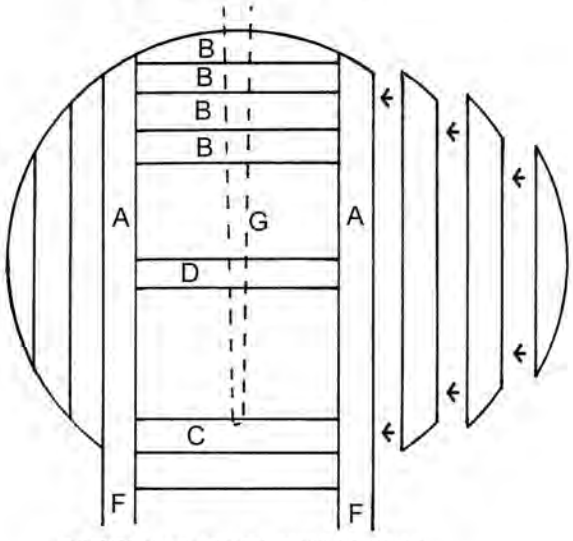
SHIPLEY



CLAYTON, JACK MILL



ROTTINGDEAN



PATCHAM, WATERHALL MILL

A - Sheers
B - Breast Beam
C - Tail Beam
D - Sprattle Beam
E - Cap Circle
F - Fanstage
G - Windshaft

Not to scale.
Ribs and certain other minor features omitted for clarity.

Fig. 1 Plans of various Sussex windmill cap frames

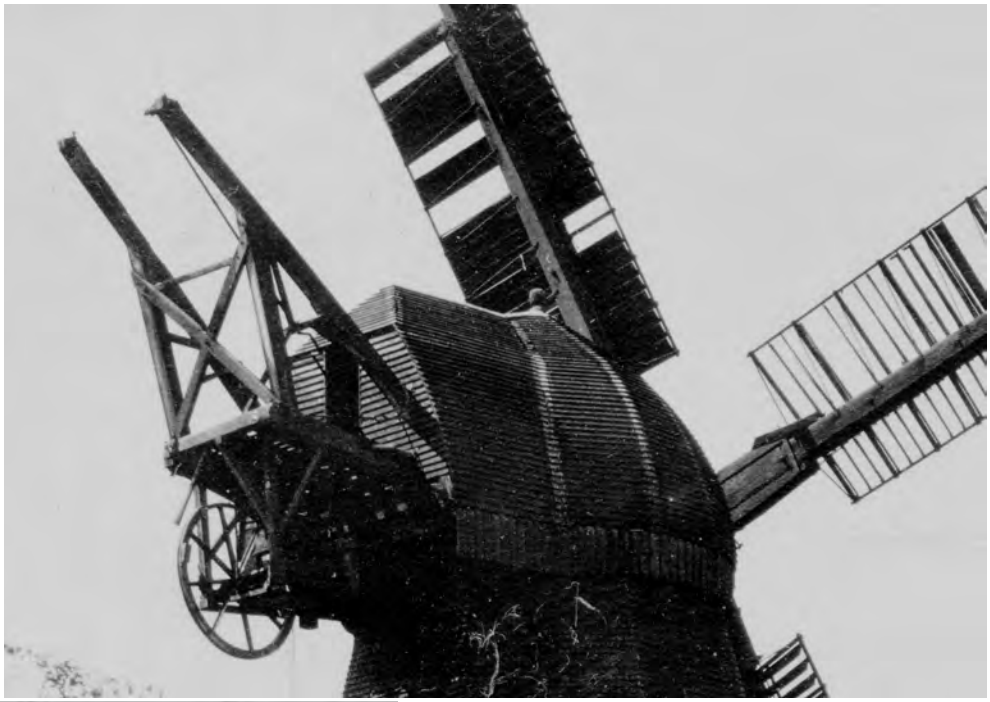


Fig. 2 Jolesfield Mill, 1929

Fig. 3 Rottingdean Mill, early 19th century

Fig. 4 Littlehampton Mill

sided caps were at *Alfriston, Climping, East Wittering, Earnley, White Mill* at Felpham, *Hunston, Jolesfield Mill* at Littleworth and *Ocklynge. Jolesfield* and *Washington* had large dormer-style 'extensions' in the tail of the cap, a feature more commonly found in Essex and West Midlands. At *Jolesfield* the extension had a half-hipped roof with curved ribs (fig. 2).

Conical – circular or multi-sided in plan and shaped like a cone with straight ribs. *Shipley* is now the only surviving example.

Kentish – rectangular in plan with a pitched roof and curved ribs resembling that of a post mill. The exterior is covered with horizontal weatherboarding from the ridge of the roof to the bottom of the skirt. Examples were at *Baldslow, Battle, Bishopstone, Black Mill* at Bognor, *Cowbeech, Crowborough, Dallington, Guestling, Telegraph Hill Mill* at Icklesham, *Kingston, Lunsford Cross, Black and White Mills* at Ore, *Ballard's Mill* at Patcham, *Peasmarsh, Saw Mill* and *Dallaway's Mill* at Punnetts Town, *Rye, Sidley, Silverhill* and *Staple Cross*. A subtle variation on this type was also common in Sussex. The overall width of the cap frame was smaller than the external diameter of the curb so the skirt was extended outwards at the sides (fig. 3). The boarding on the skirts was vertical rather than horizontal. Examples were at *North Common* and *South Common Mills* at Chailey, *Cuckfield, Mark Cross, Beacon Hill Mill* at Rottingdean, *Selsfield Common, West Blatchington,* and *West Chiltington*.

Ogee – circular or multi-sided in plan with a double-curved roof (convex below and concave above) resembling the shape of an onion. The multi-sided caps at *Earnley, Halnaker* (fig. 10), *Littlehampton, Nyetimber, Navarino Tower Mill* at Worthing, and circular cap at *Round Hill Mill* at Brighton, all complied with the definition of ogee type although their shapes were more subtle than those in Lincolnshire (fig. 4).

Pent - similar to Kentish construction but with straight ribs and roof line. The best known example was at *Bolney*.

Oddities – a small proportion of mill caps did not comply with a specific type and were sometimes unique in design. Two of the best known examples were the *Cement Mill* at Arundel (fig. 5), and *Portfield Mill* at Chichester (fig. 6).

Roof coverings. Many caps of all shapes were covered with feather-edged horizontal weather boards which were painted white or tarred on the exterior. There were numerous examples including *Arundel, Jack Mill* at Clayton, *Chailey, Earnley, Halnaker* and *Rottingdean. Stone Cross* and *Hamlins Mill* at Hailsham had tapered vertical boards. Several caps were covered with metal sheeting, viz. *Wisborough Green, Nutbourne* and *Crowborough* are believed to have been iron. *Waterhall* is believed to have been zinc, *Selsey* and *Nyetimber* were copper, and *Barnham* was lead.

Fanstages. These also varied considerably and could easily be the subject of a separate study. Some were steeply inclined resembling those typical of Kent (although proportionally longer) including *Baldslow, Cowbeech, Hailsham, Lunsford Cross, Ore, Peasmarsh* (fig. 7), *Punnetts Town, Rye* and *Stone Cross* (fig. 21). Some were horizontal including *Arundel, Barnham, Eastbourne, Nutbourne, Polegate, Selsey, Shipley, Waterhall, West Chiltington* and *Worthing*. A proportion of 'horizontal' fanstages actually had a slight insignificant incline - examples were at *North Common Mill* at Chailey, *Clayton, Crowborough, Jolesfield, Mark Cross, Rottingdean* and *West Blatchington.* At *Nutbourne,* the long horizontal fan supports had developed an alarming sag under the weight of the fantail. At *Jolesfield* an attempt was made to prevent sagging with the addition of inclined iron tie rods and turnbuckles which were anchored to the inside of the cap frame and passed over short iron columns to the far end of the fanstage – a principle similar to the suspension bridge. *Earnley, Halnaker, Hunston, East Wittering, Littlehampton* and *Nyetimber* had a set of steps with handrail rising up the sides of the steeply inclined fan braces providing a rather 'deadly' means of access to the fan shaft and bearings. At *Polegate* there is an additional timber platform with a slight incline which extends out beyond the fanstage (see fig. 8).

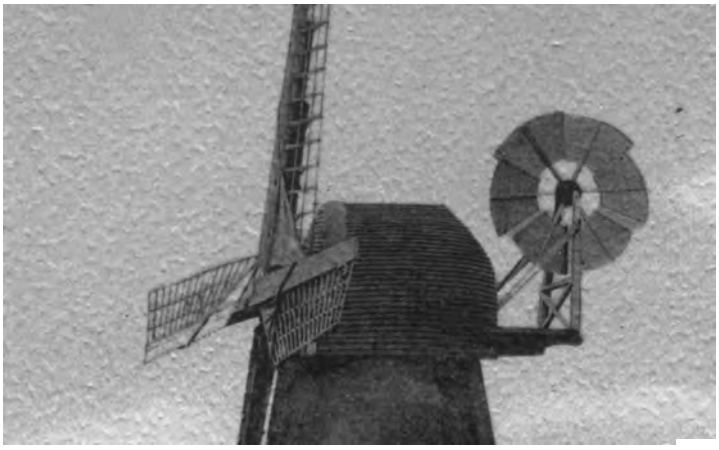


Fig. 5 Arundel Cement Mill

Fig. 7 Peasmarsh Mill

Fig. 6 Portfield Mill at Chichester (*Image courtesy of Eileen Finch*)

Fig. 8 Polegate Mill, 2011 (*Photo by P. Hicks*)

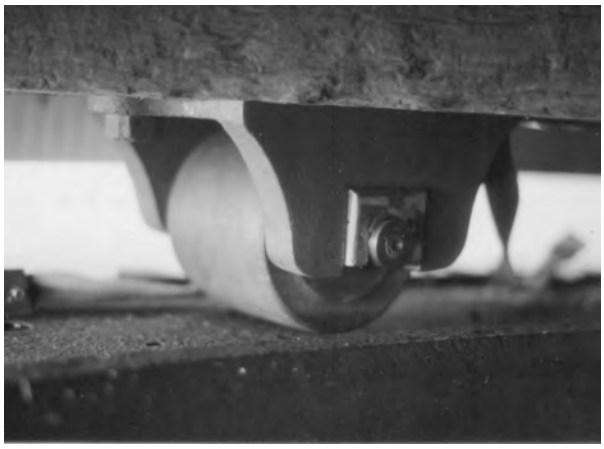


Fig. 9 Barnham Mill, roller under the cap

Fig. 10 Halnaker Mill, original cap, c1910

Curbs. A cap sits upon the 'curb' at the top of the windmill tower which comprises a perfectly horizontal circular ring of timber and/or iron. It was kept concentric to the curb by a set of horizontal 'truck wheels' spaced round the bottom of the cap frame. Both live curbs (where the cap has rollers mounted underneath) and dead curbs (where the cap has skids of wood, iron or brass underneath instead of rollers) were common in Sussex - unlike Kent where dead curbs were dominant. *Shipley* has the only surviving workable example of a dead curb. The friction between the cap and curb was beneficial in preventing the cap rocking or yawing from turbulence or the action of the revolving sweeps, but was also adverse in notoriously making it difficult to turn the cap (as anyone who has manually winded Shipley mill will know!). Manually turning a cap on a live curb is considerably easier. The best surviving examples of live curbs can be found at *Barnham, Clayton, Stone Cross* and *Waterhall*. Most surviving examples such as *Barnham* (fig. 9) and *Waterhall* had conical iron rollers carried in iron castings fixed under the cap frame with coach screws. At *Halnaker* (fig. 10) the wheel-shaped rollers were set into vertical mortices in the

Fig. 11 Clayton Mill cap, 1930s

Fig. 12 Wisborough Green Mill tail-winded
(*Image courtesy of Eileen Finch*)

cap frame timbers. Some curbs had a feature known as a 'keep flange' which was a lip protruding from the inside of the iron track above the cap's truck wheels. In the event of the cap becoming tail-winded the flange stopped the tail of the cap tilting upwards by preventing the truck wheels rising. An original surviving example can be seen at *Clayton* (fig. 11) and the feature was added to *Polegate* in the restoration of the 1970s. It could have benefitted many other Sussex windmills. *Billingshurst* and *Chailey* were both tail-winded which sent their caps crashing to the ground. At *Lunsford Cross* and *Wisborough Green* tail winds left the caps perched precariously over the curb (fig. 12).

To conclude, the following examples of surviving windmill caps are worthy of a detailed description.

BARNHAM TOWER MILL

The present design is believed to date from an overhaul of the mill by John Holloway (millwright) in 1890. In 1958, the defective lead roof was replaced with copper, the fantail and ball finial were removed, the tail ends of the sheers were sawn off and the access door to the fantail was replaced with a smaller window. In 1997-1999, the cap was partially reconstructed and many of the missing features reinstated as part of a project intended to restore the mill to full working order. The cap frame comprises substantial pine beams of fairly conventional design. The breast beams and tail beams are attached to the sheers with double mortice and tenon joints. The front ends of the sheers and breast beams protrude through the cap exterior and the tail ends of the sheers are cantilevered outwards by about 4ft. The reason is unclear as they do not provide any direct support to the fanstage. The sprattle beam is carried in two cast iron brackets bolted under the sheers. Twenty-three curved pine ribs are carried on a segmented pine cap circle secured to the top of the cap frame. Each rib is made in two pieces secured with a short halving joint and coach bolts. Five evenly spaced horizontal studs span the bays between each pair of ribs to which the vertical match boarding (which was replaced in 1998 with plywood sheets) was fixed. The outside of the match boarding (or plywood) is covered with lead sheets.

Fig. 13 Barnham, original cap, c1940

Fig. 15 Barnham, restored caps with new ribs, 1999 (*Photo by P. Hicks*)

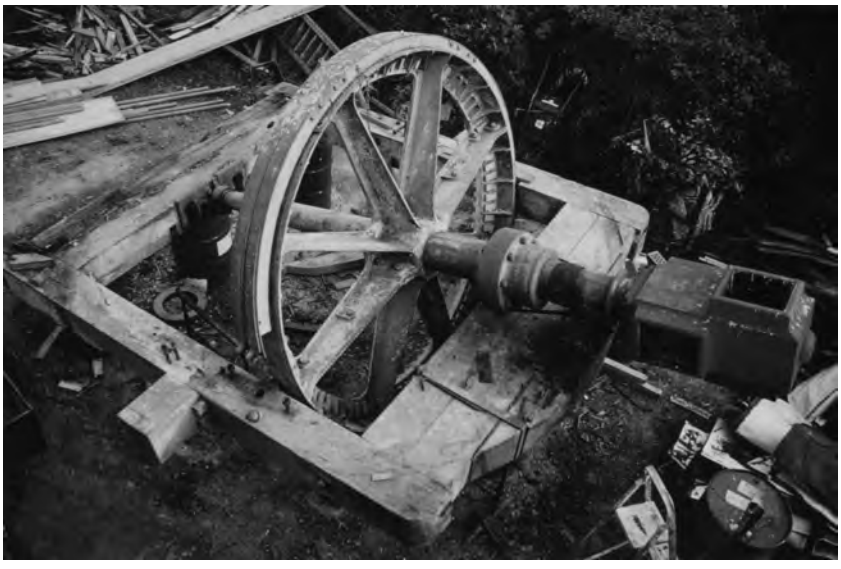


Fig. 14 Barnham, original cap frame with roof dismantled, 1998 (*Photo by P. Hicks)*

CLAYTON, JACK TOWER MILL

The cap is believed to be contemporary with the erection of the mill in 1866 and still retains the original structural timbers, fanstage and roof. As part of routine maintenance during the twentieth century, the tail ends of both sheers have been splice repaired with new timber as have parts of the fanstage. At the time of writing, the cap is situated on the ground awaiting a major renovation following several years of neglect. The cap frame is of fairly conventional construction but for a few subtle details. The breast beams are oak, whereas the sheers, sprattle beam, tail beam and other minor cap frame members are pine (the same species was used for the floor joists and girders throughout the mill). The front ends of the sheers and breast beams do not protrude through the exterior of the cap. The method of securing the double mortice and tenon joints is very unusual (see fig. 16) - there are no tie rods, instead conventional iron bolts pass through the sheers into the ends of the transverse beams (sprattle beams, tail beams etc.) and engage with nuts buried within them. The square nuts were inserted into deep narrow horizontal slots in the side face of each transverse beam which prevented the nuts rotating when the bolts were tightened. The position of one bolt coincides with the rebate for the brake and brakewheel, therefore its head has been recessed into the sheer to prevent rotation and the slot in the transverse beam has been enlarged to allow the nut to be tightened. Cast iron webbed L-brackets fitted to the inside of the cap frame are believed to be a later addition. The elm 'cap circle' is not a complete circle but consists of two arcs at the sides of the cap - the ribs were carried directly on the cap frame at the front and back. The right-hand side of the cap circle was replaced with oak in the mid-twentieth century. There are twenty-eight curved oak ribs, each made in two pieces joined with a basic scarfing joint. It has been suggested they may have been reclaimed from the roof of Jack Mill's predecessor, Duncton post mill. Only 50% of the ribs span the full height of the roof as alternate ribs terminate at a ring of horizontal studs at about 2/3rds of the height. On the inside face of many ribs there is a single mysterious dovetail-shaped recess filled with an oak wedge which may have been a crude attempt to alter them from their natural shape. The style of weatherboarding is another feature of special interest (fig. 17). The boards were cut to short lengths spanning three ribs with the joins alternating between rows. The bottom (thick) edge of every board was planed to create a convex curve which must have been very time consuming! As a consequence, when viewed from the inside, each row of boards slope slightly in the opposite direction to its neighbours. The skirt is covered with vertical tongued and grooved boards.

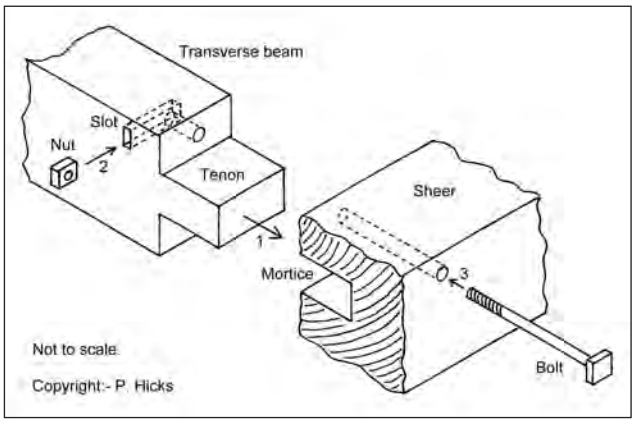


Fig.16 Clayton method of securing mortice and tenon joints

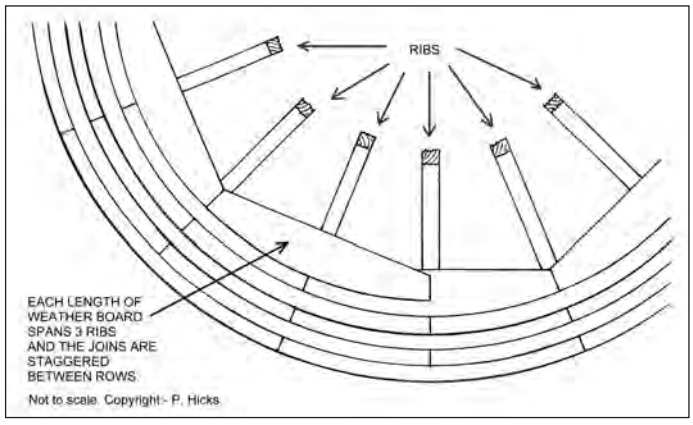


Fig. 17 Clayton details of weather boarding on roof

SELSEY, MEDMERRY TOWER MILL

This mill once boasted a multi-sided ogee cap, covered with tarred weatherboarding resembling those at *Earnley, East Wittering, Littlehampton,* and *Halnaker*. It was replaced in 1907-8 by millwright, John Holloway, with the present cap which was later altered and simplified during renovation in the 1960s by removing all external features including the fanstage, gallery and tail ends of the sheers. The plain dome was then covered with copper sheeting. The door to the fanstage was replaced with a large panoramic window overlooking the adjoining caravan park and the cap frame was enclosed in thick concrete! The basic design of the cap frame resembles that at Barnham but the cast iron inverted T-section

sprattle beam is a very rare feature. The front ends of the sheers protrude through the cap exterior and the tail ends were formerly cantilevered outwards to support the fanstage. Two more features of special interest were the external gallery (the only known example in Sussex, excluding Punnetts Town) (fig. 18) and an internal access ladder (fig.19). The latter comprised a short set of wooden steps attached to the tail beam and suspended a few inches above the top floor of the mill. Hence it could travel round with the cap providing a convenient means of access to the cap and fanstage. The twenty-four curved ribs are each made in two pieces joined with a short halving joint and coach bolts. The exterior is covered with vertical boards and metal sheeting, formerly painted white.

Fig.18 Selsey Mill c1935

Fig. 19 Selsey Mill, internal ladder (next to tail of windshaft) which travelled round with cap (*Photo by P. Hicks*)

SHIPLEY SMOCK MILL

The cap is believed to be contemporary with the erection of the mill in 1879 and retains much of the original fabric. Parts of the fanstage and cap frame, including the sheers, were renewed in the restorations of 1958 and 1989-1990. The cap is unusual in being octagonal and having straight ribs. The cap frame is mainly of oak including the sheers, sprattle beam, tail beam and other minor cap frame members. Steel L-brackets were added during the twentieth century in an effort to prevent the cap twisting and jamming when being turned into the wind due to the friction of the dead curb. A feature of special interest is the screw mechanism for pushing the windshaft forward to disengage the brakewheel cogs from the wallower when the steam engine was in use. It comprises a large iron U-bracket with a central screw handle mounted in front of the tail beam which could be used to pull the bearing forward. Each of the eight sides of the roof has five oak ribs spaced between the hip rafters, carried on a segmented oak roof plate. The exterior is covered with horizontal weatherboarding, painted white. The skirt is notable for its elegance, comprising vertical tongued-and-grooved boards each with its lower end cut to a convex curve creating a 'scalloped' edge. The boards covering the front ends of the sheers and breast beam were considerably shorter than the rest of the skirt but this feature was lost during the aforementioned renovation.

STONE CROSS

The cap is believed to be contemporary with the erection of the mill in 1876 and major renovations were undertaken in 1999 and 2011-12. The original pine fanstage was rebuilt with oak sometime during the twentieth century and rebuilt again with pine in 1999. The cap is highly unusual in having a cast iron cap frame (fig.20). There are no full-length timber sheers or breast beam, instead the windshaft neck bearing, pine sprattle beam, ribs and fanstage are carried on a segmented ring of iron. Two short transverse beams span the sprattle beam and tail of the cap frame which carry the short timber tail beam. Each of the twenty-four curved ribs comprise two laminates bolted side by side. Only 50% of the

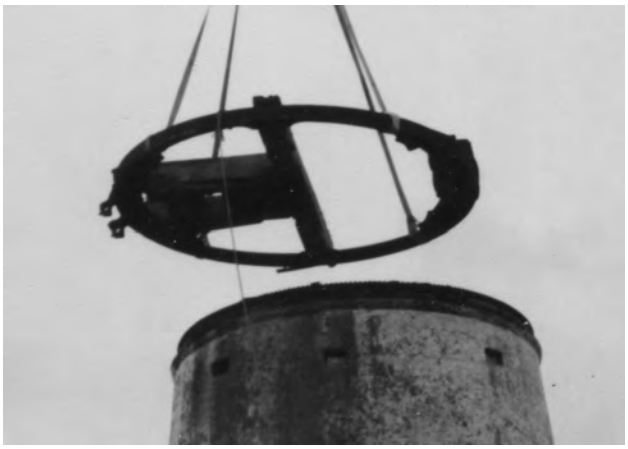


Fig.20 Stone Cross, removal of iron cap frame in 1998 (*Photo by P. Hicks*)

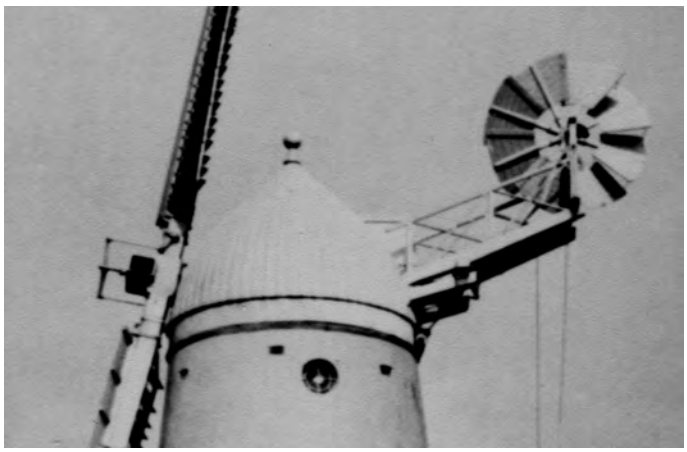


Fig. 21 Stone Cross cap, 1958

ribs span the full height of the roof, alternate ribs terminate at a ring of horizontal studs situated at approximately 7/8th of the roof height. As previously mentioned, the exterior is covered with tapered vertical boards which were originally pine but have recently been replaced with cedar. The skirt is of wrought iron sheets originally painted white but has been painted black since 1999. The external shape closely resembled that at *Hamlin's Mill* at Hailsham, although the latter had a timber cap frame with the ends of the sheers and breast beam protruding through the exterior and a skirt of vertical wooden boards.

WATERHALL

The cap is contemporary with the mill, built by John Holloway (millwright) in 1884-5. The breast beam was renewed in the early twentieth century and a major renovation of the cap was undertaken in 1991. The cap frame is of very unorthodox construction and differs considerably from the millwright's work at Barnham and Selsey (fig. 22). Three substantial pine laminates were bolted to the outside face of each sheer creating solid segments to carry the ribs (see fig. 1). The sheers, breast beams and tail beams were all of pine, although the frame was completely rebuilt in 1991 using laminated softwood replicating the double mortice and tenon joints between the sheers and transverse timbers. The sprattle beam is carried in two cast-iron brackets bolted under the sheers. The pine ribs were connected to the top of the cap frame by single mortice and tenon joints. Roman numerals were inscribed on the outside face of each rib and the cap frame for the final assembly but observations prior to dismantling in 1991 revealed three ribs had been placed in the wrong position! The roof is covered with horizontal softwood matchboarding which was formerly covered with metal sheets, painted white, but were replaced with felt tiles in the 1950s.

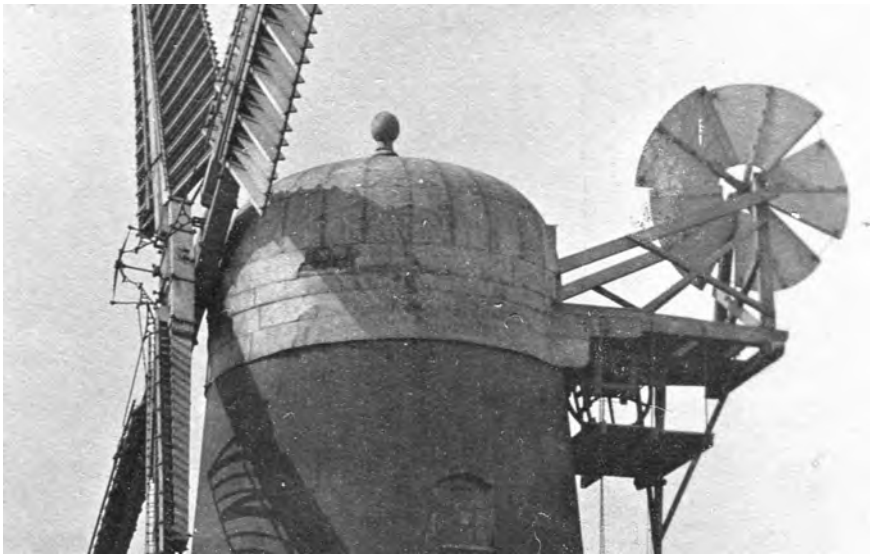


Fig. 22 Waterhall Mill, Patcham, c1926

All historic pictures are from the author's collection unless otherwise stated.

JOHN EVERY'S PHOENIX IRON WORKS, LEWES

John Blackwell

Early Days

John Every, the founder of the iron works, was born at Fair Oak in Hampshire in 1796 and baptised at North Stoneham, Hampshire on 8 January 1797. His parents are shown on his birth certificate as Robert Avery and Millicent Ford. The family name was originally 'Avery', and it was by this name that he was baptised. It is unclear why it changed to Every (maybe due to the vagaries of phonetic spelling); siblings of John also changed their name to Every. John served an apprenticeship as a moulder starting at the age of eleven in an iron foundry. A moulder 'rammed' the sand around a wooden pattern—a skilled task. A 19th-century text described the importance of ramming:

> "The success of making the mould to obtain a good casting is mainly dependent upon the ramming ..... Hard spots in the sand cause scabs and soft spots cause swells. Uneven ramming causes similar unevenness in the casting. Ramming is a very important operation and the art should be learned thoroughly, as no amount of finishing will rectify faulty ramming"
>
> (Simpson Bollan. The Ironfounder, New York 1892.)

John married Ann Davies on 29 January 1818 in Bishop Waltham, Hampshire. They had two children: John William, born on the 3 November 1819 in Gosport and baptised at St Mary's Portsea on 8 November with the surname 'Avery', and Ann, born about 1822 and also baptised at St Mary's Portsea on 21 June but with the surname 'Every'. John's wife Ann died on 1 May 1830 and was buried at St John's churchyard in Waterloo Road London, indicating that the family was living in London at this time. Southwark was then an industrial suburb, with many iron and brass foundries; we can assume John learnt his trade here. By late 1830, or possibly 1831, John Every moved to Lewes with his family. At least two of John's siblings were living in the Brighton area by this time: Isabella, born 1802 in North Stoneham, was married to John Bowell in Brighton on 29 Oct 1825; and William, born 1804, also in North Stoneham, was married to Ann Gavin in Brighton on 3 September 1826. Their many children were all born in Brighton[1]. John came to Lewes to "work at a foundry in the district", that of Ebenezer Morris in what is now Foundry Street in Cliffe, "and after some little trouble had arisen thought he would start a business for himself"[2].

The Phoenix Foundry

Advertisements during March 1835 inform us that

> "John Every begs leave most respectfully to inform his Friends and the Public that he has commenced business as a Iron and Brassfounder at the Phoenix Foundery [sic] North Street, Lewes..... J.E. invites inspection of his foundery which is replete with every convenience for conducting the business in all its branches"[3].

The business appears to have been a success as a similar advertisement in June 1836 refers to "the very liberal support he has already experienced"[4].

Phoenix was a common and apt name for a foundry at the time and in this instance appears to have no direct connection with the mythical bird rising from the ashes, i.e., following a fire. It is to this, or an earlier foundry possibly established in 1832 and also in North Street, that the oft-repeated story refers, namely that he procured a sugar hog's head (a large barrel) banded with iron and lined with bricks which formed the furnace. A horse attached to a wheel walked round (inside the wheel) and propelled a home-made fan which blew air into the furnace, while the crane with which heavy weights were lifted was of a type that could be used by a woman. The author has found no documentary evidence of the story until 1910[5], and it could be that the then well-established Every family sought to enhance their humble beginnings. However, the 1835 advertisement implies something better than a basic foundry, thus supporting the possibility of an earlier works. The family income was no doubt precarious and a newspaper report in 1837 describes John as an "iron founder and retailer of beer"[6]. Work produced would typically be ornamental railings, domestic ovens, etc., and builders' items. Tenders for blacksmithing work for the poor house and gaols are also reported as being submitted.

By 1839 the foundry had moved to High Street behind the Tabernacle—a Congregational church demolished in the 1950s—the site of which is now occupied by 'Superdrug' in the pedestrian precinct[7]. Disaster struck on 1 June 1844 when a fire destroyed the foundry but fortunately did not reach the valuable pattern store. A newspaper report of the fire details the layout of the building:

> "The building is divided into four parts: the engine room (where the fire started), the 'shed'-room erected

over the machinery, the foundry, and a room where nearly the whole of Mr Every's valuable models and patterns etc are stored. The damage is estimated at considerably upwards of £100, exclusive of the building and we regret to state Mr Every was not insured. The building itself, which is the property of H Blackman Esq, is insured"[8].

On 3 June Every thanks the gentlemen friends and neighbours "whose strenuous exertions in subduing the flames saved his extensive stock of Models, Machinery Tools etc" and "enabled at once to proceed with his business as usual"[9]. The fire and lack of insurance probably did affect business for in July 1848 the London Gazette announced the bankruptcy of John Every sen. Ironfounder of Lewes, Sussex. The resultant notice of a sale by auction of the assets of the foundry gives a useful list of a typical equipment – 2 h.p. beam engine with boiler, blowing machine, three large iron furnaces, crane complete with pulleys and chains, lathe, two blacksmith's forges, flasks (moulding boxes), several tons of wrought and cast iron, numerous stoves and iron doors, patterns, iron pipe and guttering and a variety of other effects connected with the manufacturing department. The sale particulars also reference an extensive stock of agricultural machinery and implements as well as household furniture[10]. The repair, manufacture and supply of agricultural equipment would have been an important part of the foundry's business at this date. The sale, however, did not take place, the stock in trade having been disposed by private contract[11]. The purchaser was presumably John Every jun. who had been working with his father since 1835 and is described in the 1851 census as an iron and brass founder employing seven men (including his father) and twelve boys. It seems unlikely that John jun. had sufficient capital of his own (he was living with his father in the 1841 census) so he could have been loaned money by Henry Blackman or other local businessmen or the local Oddfellows Lodge which raised a subscription of £5 following the fire.

The next decade was a period of consolidation for John jun., who had taken over the running of the business following his father's bankruptcy, and thirty years later he recalled:

"Low wages, long hours, and hard work was the lot of any workman who had to support a family, but soon after railways were started, and it was in the midst of the great trade caused thereby that he found himself doing well"[12].

By 1856 the workforce had risen to 30 men[13]. In 1857 there were two events of note: a son, John Henry, was born on 26 March; and an order was placed for the supply of the ground tank for a new gasometer for the Lewes Gas Light Co[14], of which his son was later to become managing director.

The Phoenix Iron Works: Expanding the Business

A major development in the company's history occurred in November 1861 when the Phoenix Iron Works, as it now became, moved. The newspaper announcement read:

"Mr John Every having completed his extensive Foundry and Iron Works on the Wharf near the bottom of North-street has removed from his old works near the Railway Station which have long been too small for his constantly increasing business"[15].

The large triangular site (eventually) stretched from Eastgate Street where Waitrose now stands and was bounded by the River Ouse to the north and east and the historic Green Wall to the west. In 1863 Every purchased the freehold[16]. Whether this was for the complete site is not stated. A plan, dated 1863, for the re-routing of the Lewes to Uckfield line to cross the High Street at the foot of School Hill, instead of branching off from the London line at Hamsey, and the consequent enlargement of the Lewes goods yard, shows Every's new works[17]. They were situated alongside a creek off the River Ouse about 50 yards in length which then made a right-angled turn to serve a sawmill operated by Edward Chatfield adjacent to the foundry[18]. Three buildings are shown, plus a cottage, all owned by Every and described as a foundry, smiths' workshops, warehouses, engine house, shaft (chimney), yards, counting house and outbuildings. The plans do not easily correlate with later ones but the creek

Fig. 1 A c.1870 view with houses in Bath Place on the left and the entrance to the creek above the bridge support on the right

occupies what is now the open space marked '2' on fig. 10, previously the site of the later engine and boiler house. Although the business was still dependent on the agricultural community around Lewes with the manufacture and repair of agricultural implements, Every jun. sought to build up his business in the expanding town of Brighton. In 1855 he had set up a branch at 26 & 27 Station Street, Brighton, as a stove and grate warehouse, and in 1859 with his business partner there, a Mr Newman, he sought to expand his business with local ironmongers, builders and contractors[19]. In this he was singularly successful and the Phoenix Iron Works began a period of rebuilding and expansion including a handsome two-storey frontage with a central entrance arch in 1875, facing what is now Phoenix Place but was then inside the works perimeter. A smith's shop for general wrought-iron work was added in 1884 on the other side of the creek which must have been filled in between 1873, when it was shown on the O.S. map, and 1884.

Fig. 2 Entrance to Phoenix Iron Works, Lewes

On 13 November 1887 John Every sen. died, aged 91, and was interred in the churchyard of St John Sub-Castro where his gravestone can be seen today. His son, John Every jun., had been joined in the business by his son John Henry in c1872. The Phoenix Institute (now demolished) was opened in November 1896 within the works area to the south of what is now Phoenix Place. This was a recreational club including a hall seating 200, a billiards room, a bar and two bathrooms for the workers who by now numbered 150. In 1899 the baths were used on 1,436 occasions[20].

At the opening concert John Every jun., as a patriarchal Victorian employer, praised his workers who "by being careful and turning out good work in reasonable time, became naturally thrifty and

Fig. 3 A riverside view c 1905 with the 1902 smith's shop on the right and the former creek entrance where the two men are standing.

industrious and carelessness was almost an impossibility". He stated "beer would be provided but also tea and coffee" and he asked them "in playing cards to avoid gambling". His son John Henry, who had been instrumental in advising during construction work, said it was provided to "promote the social, moral, physical, and intellectual welfare of the whole of those employed"[21].

About this date John Every jun. "discerned that the conduct of the business in the building trade was changing such that the contractor required his iron and steel material from one source and he decided to commence business as a steel constructional engineer which needed a comprehensive stock of steel joists, angles, tees and channels"[22].

John (William) Every died on 13 November 1900 and his son John Henry Every took over the business and continued the expansion his father had started with a new smith's and erecting shop in 1902 which was equipped with five overhead travellers, steam hammer, and hydraulic riveting machine (this building survives, stretching from the fire station at the bottom of North Street to the river). At the same time a pattern shop, where the wooden patterns for castings were made, and a machine shop, equipped with lathes, planers and shapers, drilling and boring machines, was constructed. These later became Market Lane Garage and are currently known as the Foundry Gallery. Developments at the east end of the works included a new non-ferrous foundry for brass and aluminium casting, the building survives, with a date stone of 1911. A surviving range of three large sheds with a longer one at the eastern end, near the 1868 railway embankment of the Lewes to

Fig. 4 The 1911 Non-Ferrous Foundry and Sheds 3–6 in 1934 (*Edward Reeves, Lewes*)

Uckfield railway (removed in 1970) were constructed to serve the expanding business. Sheds 3 & 4 being pre WW1 with 5 & 6 built by 1934. They were used as engineering shops or for iron and steel storage and were erected using stock items from Every's extensive catalogue. In 1914 a large bar iron store adjoining the pattern and machine shops (Market Lane Garage) was erected with a glazed setting-out floor above (this became the Phoenix Theatre until destroyed by fire in April 2014)

The Indian Tramcars

An interesting contract was completed in 1909 for J D Abbott, the Resident Executive Engineer of the East India Tramways Company (EIT), which ran horse tramway services in Karachi. Abbott had invented the first reliable gearbox which allowed two speeds in either direction, enabling practical petrol-driven double-ended tramcars to be built. (The invention was later patented as the Simplex gear box). The engines and transmission units were bought in from elsewhere with Every's fabricating the chassis and body and assembling the cars at the Phoenix Iron Works. The Motor Rail and Tram Car Company (MR&T) was formed by the father of J D Abbott, who lived at Eastbourne, in 1911. A total of 30 cars were constructed for EIT plus six 'rail coaches', three for the South Indian Railway, two for the Lombardy Road-Rail Co and one for the Bhavnagar State Railway, between 1909 and 1915. "Meanwhile war had broken out and it was reported that great difficulty was being experienced in completing contracts because of many staff (presumably at Lewes), being reservists, were being called up for military service"[23]. MR&T relocated their business to Bedford and prospered during the war with their 'Petrol Trench Tractors' built for the War Office.

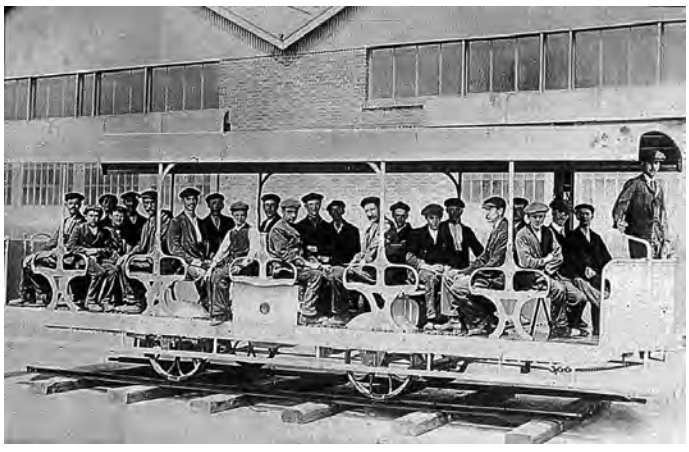


Fig. 5 The Bhavanagar open tramcar outside Sheds 3 & 4

1920-1940

John H Every was a prominent Lewesian and civic leader, serving on the borough council from 1901 to 1934, as mayor from 1903-05, and was elected an alderman in 1906. He was created the second (of two) honorary freeman of the borough in 1926. Like his father he was a non-conformist, a member of the Unitarian church, tolerant to other religions, a pacifist (although he provided accommodation for soldiers and horses at the Phoenix Iron Works in 1914) and opposed to capital punishment. He paid for the remodelling of the Westgate Chapel 1912 and commissioned the restoration of Bull House in 1922, vesting this property with the Sussex Archaeological Society (SAS) in 1936. Following his death in 1941 he bequeathed his impressive collections, including Wealden firebacks and other ironwork to the SAS. Some are now exhibited at Anne of Cleves House. Previously they were all displayed in a private museum in six rooms occupying the upper floor of

Fig. 6 A casting by J.H.Every of an original 18th century fireback depicting a milkmaid tipping a pail of milk over her suitor who is making improper advances towards her.

the entrance range of the Phoenix Iron Works.

By c1935 there were two furnaces making up to 25 tons of casting per day. Molten iron and heavy castings were moved around the works by six overhead travelling cranes. A steam-driven lift, dating from 1884 and designed by J H Every, carried raw materials to the furnace floor. The moulding sand mixing machines and associated core ovens were also designed by him. Steam plant consisted of two Lancashire boilers and two 70 hp condensing steam engines (replacing the 50hp and the 25hp shown on an 1897 plan). Several pumps drew water from artesian wells sunk in the chalk. On the outskirts of the site a huge shop 200 feet wide and 150 feet in length stored 2,000 tons of steel joists etc. The wharf on the river was mainly used for import — moulding sand from Erith in the early 1900s and some cargoes of scrap iron — but, as draught was restricted to seven feet six inches on a spring tide, little was exported. Between 1935 and 1938 small sailing barges off loaded 2,545 tons of pig iron and steel joists[24].

Fire and Resurrection. East Sussex Engineering

Following John H Every's death on 18 October 1941, the business passed to his son John Morris Every (1886-1964) who had assisted his father since the early 1900s and from 1936 had effectively managed the works as his father's health declined. In 1943 he transferred his ownership of the business into a new limited liability company John Every (Lewes) Ltd. This was a private company with a share capital of £60,000, the directors being named as J M Every and his wife Jean.

During the war years the company made parts for mines, and in 1947 were producing castings for pre-fabricated housing (pre-fabs) with two steam engines providing "practically all the power"— this during a period of coal shortage[25]. Modernisation of the works was urgently needed and to this end a new mechanised foundry was purchased. This was installed in the combined Nos. 3 & 4 sheds and automated the sand-moulding process using high pressure moulding machines to compact the sand supplied from large hoppers around the pattern in the mould box with a conveyor system taking these boxes to the casting area. Whether the furnaces (cupolas) for this plant were electrically powered is unknown.

Fig. 7 The entrance range following the 1948 fire with rescued patterns in the foreground (*Edward Reeves, Lewes)*

On Thursday 20 May 1948 a disastrous fire which started in the pattern loft on the upper floor of the 1875 entrance range destroyed the roof and upper floor and many irreplaceable wooden patterns, causing damage estimated at £25,000. Beneath the pattern loft on the ground floor was an electrical power house and for nearly two years staff had been busily converting from steam to electrical power. It was reported that the new electrical distribution equipment was slightly damaged but it was hoped that by working all night the new mechanised foundry would be working by the following day and none of the 450 men employed would be out of work[26]. However it transpired that the switchgear to the mechanical foundry "was damaged by water and would take a long time to repair; "it is now entirely out of commission"[27]. The upper floor and

Fig. 8 The Mechanised Foundry with high pressure moulding machine to the left with sand hoppers above. (*Edward Reeves, Lewes)*

the entrance archway were never rebuilt. The mechanised foundry proved to be an expensive 'white elephant' probably because it was capable of producing large numbers of identical castings (for which demand was lessening) and this type of production had become established in the Midlands and North of England near to the factories that required such items. It was however still shown on plans dated 1962[28].

In March 1951 a Notice of a Creditors Meeting was published but before this could take place the directors put the company into voluntary liquidation and it was bought by a Mr Burchell who renamed it East Sussex Engineering Co Ltd but retained the Phoenix Iron Works name. The new company prospered with numerous small ads for skilled staff in the early fifties and for the 'Phoenix' an all night domestic fire-grate popular at the time, which will burn anything including 'off the ration slack'. Other much larger items were manufactured of which two such items were Doyle Scrubbers, which separated the fine solids from gases and were used by the oil industry and Komline-Sanderson Rotary Drum Coil Filters used for separating slurries in the waste water treatment industry. These large pieces of equipment could be seen traversing Lewes's narrow streets aboard a low loader on a Sunday morning during the late 1950s. By the end of the decade iron casting had all but finished and smith shop work declined, hot forgings being no longer needed. The machine shop transferred to the much larger smith shop and remained busy with sub contract work, including Molins, Merryweather, Dungeness B Power Station, Royal Observatory, APV and Dorr Oliver. The space released by moving the machine shop was taken by a large two-bay fitting shop and it was this that later became Market Lane Garage.

One of the work's last jobs in the 1970s was the design and fabrication of the gangways for the cruise liner SS Canberra's visit to Hong Kong's Kowloon Wharf (it was the responsibility of the shipping line to provide these). In 1976, two years after Mr Burchell's death, Aurora Holdings owned the works. They sold off the assets piecemeal and most of the employees lost their jobs. In 1978 GKS Coxhead bought the non-ferrous metal side and in April 1986 the last casting was made, appropriately an alloy phoenix bird, and the remaining four men were made redundant.

The Products

Every's made hundreds of household and construction castings including fire grates, foot scrapers, drain and gulley gratings, railings, manhole and coal-hole covers, cisterns, truck trolley and barrow wheels, and skid pans for carts[29]. In 1900 one quarter of the foundry space was allocated solely to producing chairs (for securing railway track to sleepers) and sash weights. Today the Phoenix Iron Works is remembered for its decorative cast iron work, which can be found on all of Sussex's piers, but particularly lining the sea front of Brighton and Hove. The railings fronting Marine Parade, Madeira Drive, Kings Road and Kingsway are their products. Madeira Terrace is supported by iron columns and delicate latticed arches adorned with alternate figureheads of Neptune and Aphrodite, cast at the Phoenix Iron Works. The Hove seafront shelters sporting a ship decoration from the borough's coat of arms are Every's work but possibly the finest of all are the 28-feet-high intricately patterned Brighton seafront lamp standards of 1893 (with later, 1930s, twin pendant lamps). Lamp posts formed a significant output from the works and examples can be found not only in Brighton but in Worthing, Eastbourne and Ditchling and many other Sussex towns and villages. The London Brighton and South Coast Railway was an important customer with ironwork still to be seen at Lewes station and stations on the Lewes to East Grinstead Railway, now in part the Bluebell Railway, and as far afield as Baynards station on the now closed Horsham to Guildford line. The above records only a fraction of what still remains in the county and obviously there is much elsewhere. Most but not all of the ironwork carries the name in one form or another of J Every - Ironfounder - Lewes but this can be difficult to find being often situated at the base of the item and covered in a century of paint.

The Casting Process

These late-nineteenth-century castings are each impressive in scale and beautiful in execution. One can only admire the skill of the workforce. So how were they made? In summary: firstly a wooden pattern has to be made. These were normally made in two halves and if the centre of the completed casting was hollow, such as for lamp posts, a baked sand core was also prepared again from a wooden pattern. Many such patterns were all tragically

destroyed in the 1948 fire. Moulding (green) sand is put into a cast-iron moulding box, also comprising two halves into which each half of the wooden pattern is impressed and sand rammed around it, the pattern is removed and any core inserted, then the top and bottom of the moulding box are latched together. If the casting is long, several moulding boxes would be half buried in the sand floor and latched together. Meanwhile the furnaces or cupolas (of which there were two) had been top loaded with layers of coke, limestone, pig iron, and scrap iron and a powerful blast of air applied to melt the iron. The molten iron was run off into a crucible which was craned and poured into a spout hole in the moulding box. After cooling the moulding box was opened, the casting removed and the sand core knocked out; finally the casting was fettled. The skilled workmen were the pattern makers and the sand moulders.

The Site Today (see Fig. 11)

Unit 1. Comprises three linear gabled structures forming an open-plan workshop. The two ranges to the east were the 1884 smith's shop whilst the clerestoried western range, with the brick wall with recessed panels, extending from North Street to the river is the 1902 extension. The two-storey flat-roofed cottage extending into the yard was a later office. The 1902/3 pattern and machine shop marked *** became Market Lane Garage in the late 1950s when the machine shop transferred to the smiths shop. The premises are now the Foundry Gallery. Inset into the 1884 smiths shop is a two-storey structure with a steeply pitched roof marked ** which originally was an extension to the pattern shop and used for storing patterns and the wood, pine and mahogany, used for making the patterns. At the north-east corner is the brick base of the former boiler house chimney.

Open Space 2. This is the position of the creek shown on the 1863 plan and the 1873 O.S. map It was some 35 feet wide and would have flowed down the eastern side of the later Unit 1 before turning a right angle at the southern end of the ** building to serve a sawmill. It was filled in between 1873 and 1884 and the engine room and boiler house were built on the infill, both have since been demolished.

Units 3 and 4. This is the oldest building on the site, possibly dating in part from 1861. The roof comprises substantial timber tie beams with queen posts and raking struts to the principle rafters and with timber cross bracing between the trusses. This was the 'floor foundry' which had a deep sand floor.

Units 5a and b. This pair of units are attached to the east side of unit 4 and have similar timber trusses but with iron king rods. This was the (railway) chair and sash weight foundry.

Unit 6. The western bay was originally an open area, later roofed over, the eastern bay being the return wing of the 1875 frontage. The original stables marked * retain cast iron columns with housings for stable door fittings. The floor is Staffordshire blue paviors. To the north of the stables were open-fronted storage areas.

Unit 6a. The remaining part of the fire-ravaged 1875 frontage to the east of the central arch, now reduced to a single storey.

Unit 7. This is the 1910/11 Non-Ferrous Foundry. (Every's Shed No 2) The projecting two-storey brick-built southern end has a 1911 date stone with bays to each side containing a pair of ornate metal window frames, almost certainly of Every manufacture. The original parapet with the incised words "Phoenix Iron and Steel Works" has been removed.

Units 8 and 9. (Every's Sheds Nos 3 and 4) were constructed pre 1915 with angle iron roof trusses and partially glazed corrugated roofs supported on 'I' section columns. These were originally used for storage and construction but from 1948 housed the 'Mechanical Foundry'.

Units 10 and 11 (Every's Sheds Nos 5 and 6) are similar in design to 3 and 4 but constructed later (by 1934). Shed 6 originally extended further south with a compressor house attached to the eastern side. It contains the sole surviving lifting mechanism, stamped with 'Every Lewes' and comprising rope and chain pulley systems attached to I-girders spanning the width of the building. By 1962 these two sheds housed the fabrication or welding shop. Units 9 and 10 have large sliding timber doors with glazed panels, possibly original.

The site, part of the North Street Quarter, is to be redeveloped with a mix of housing, business and retail use. Currently two plans are under consideration. One would bulldoze the existing buildings, the new development giving a nod to the previous industrial use. The other would renovate the existing buildings and hopefully retain the present occupants of primarily creative artists.

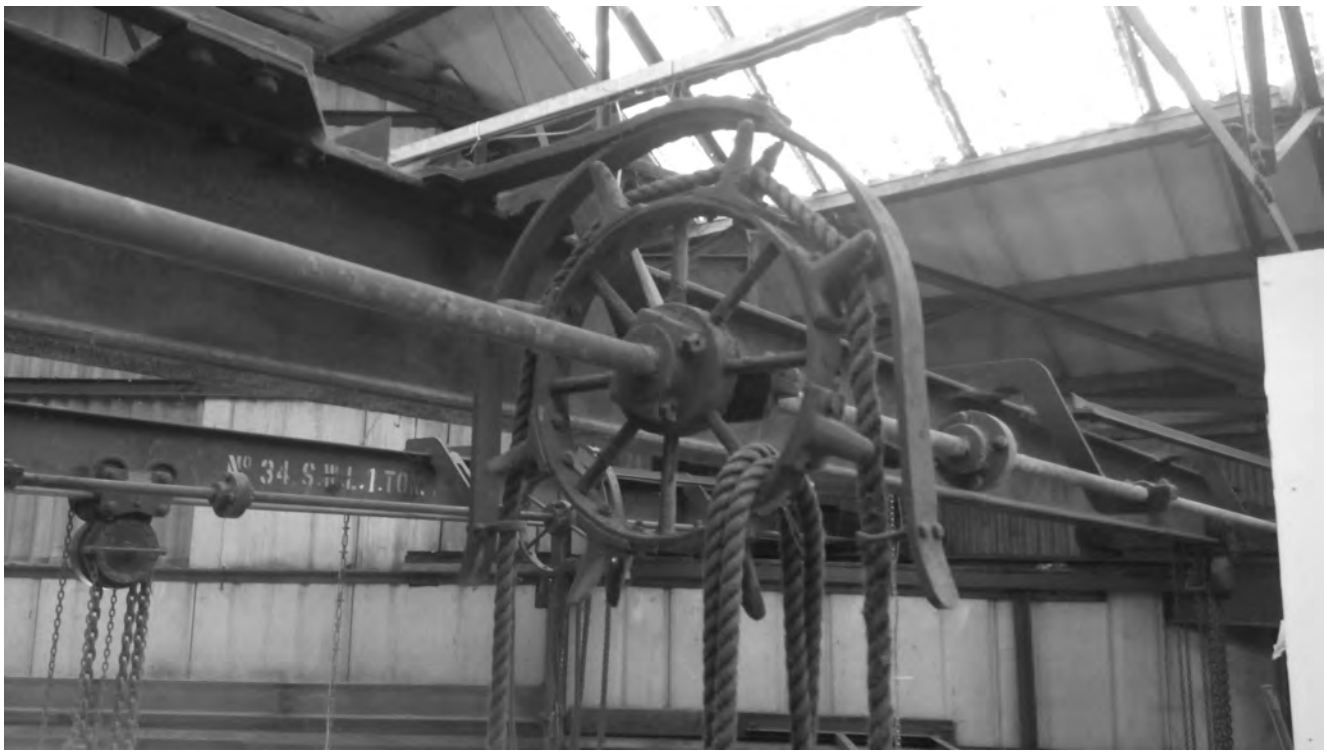


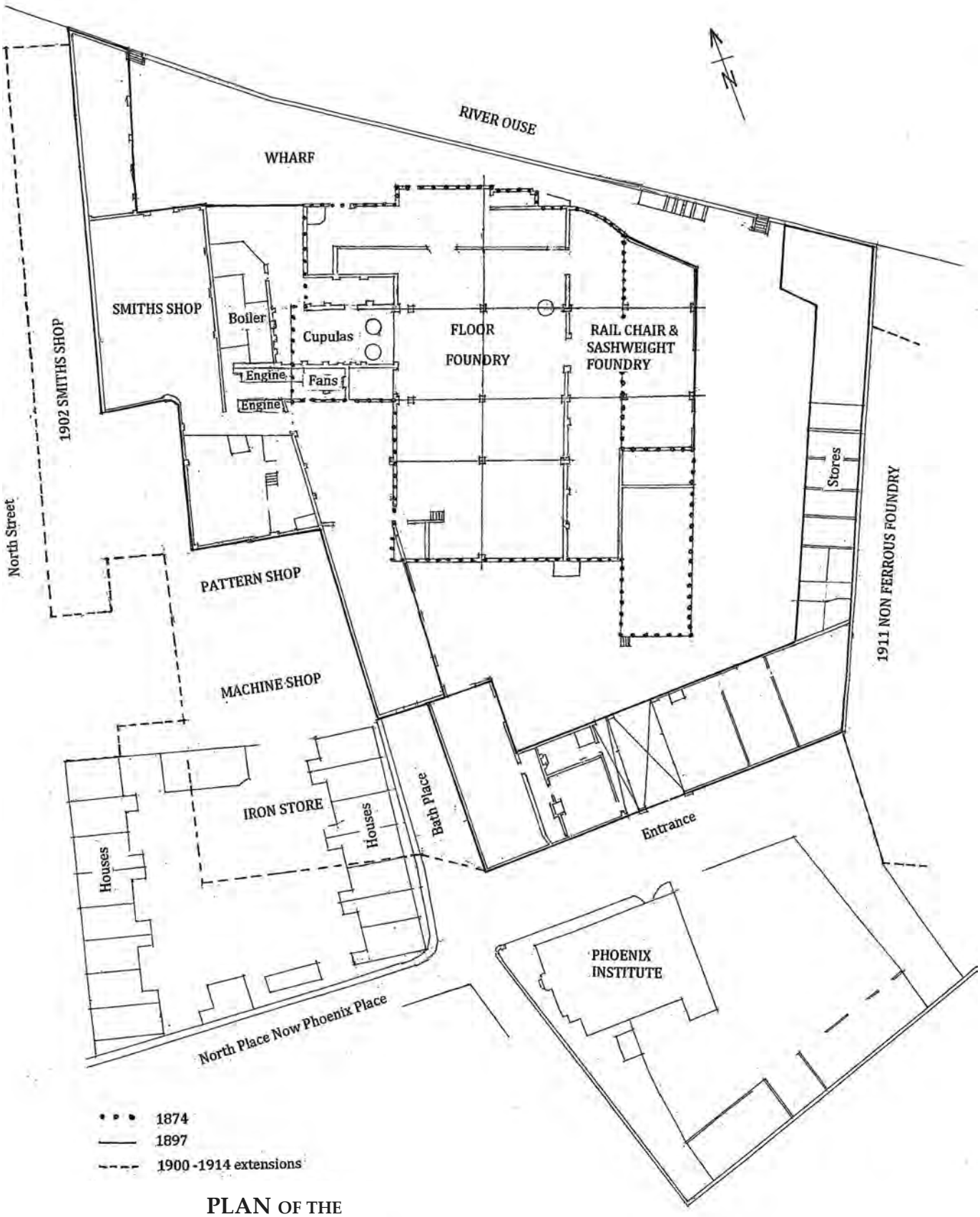
Fig. 9 The surviving chain and pulley hoist mechanism in Shed 6

Acknowledgements

Jennifer Chibnall, David Joyce, and Fiona Marsden for reading and commentating on my original text. William Anderson of Phoenix Rising Ltd for present site details and plan. Wenda Bradley, Christine Hall and Sarah Hitchins of The Lewes Phoenix Project who initiated my interest in the site. Tom Reeves for photographs from the Edward Reeves archive.

References

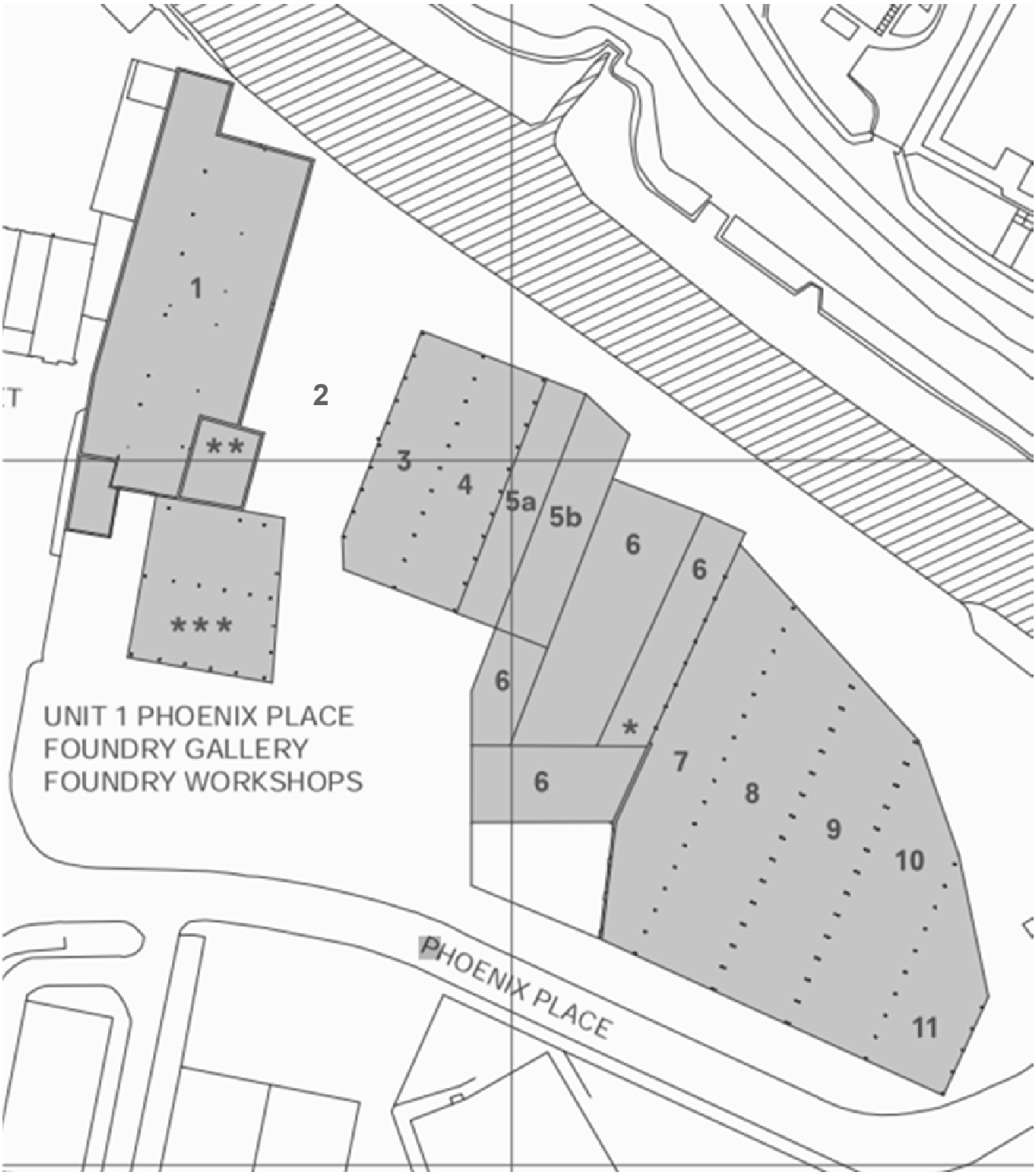
1. I am indebted to David Joyce for researching parish records relevant to the Every family history.
2. Sussex Agricultural Express 8 July 1910. Hereafter Sx Exp; another report states they walked from Grantham.
3. Sussex Advertiser 9 March 1835. Hereafter SA.
4. SA 13 June 1836.
5. Sx Exp 8 July 1910.
6. SA 27 February 1837.
7. Pigots Trade Directory 1839. John Every Iron and Brassfounder near the bridge High Street.
8. SA 4 June 1844.
9. SA 11 June 1844.
10. SA 11July 1848.
11. SA 18 July 1848.
12. Sx Exp 15 September 1885. Recalling 50 years of the Phoenix Iron Works.
13. SA 16 September 1856.
14. SA 14 July 1857. It would have been a distinct commercial advantage to be a director of Lewes Gas and Light as coke is produced as part of the gas manufacturing process. Coke is a very necessary element in the heating of an ironworks furnace However no record of such purchase by Every appears in the gas company's minutes nor any records of coke imports at the Phoenix Wharf.
15. Sx Exp 26 November 1861.
16. Sussex County Magazine. Letter. November 1935.
17. ESRO Q/4/P 315/1.
18. I am indebted to David Joyce for reference to the creek.
19. PO Trade Directories 1855-1859. His eldest daughter Elizabeth b1845 married Edward George Brown in 1872 who became a leading builders' merchant in the town occupying most of Station Street and advertising as Engineer and Ironfounder.
20. East Sussex News May 2 1900.
21. Sx Exp 6 November 1896.
22. Sx Exp 27 August 1900.
23. WJK Davies. *The Early Years of the Motor Rail and Tram Car Company 1911-1931.* Plate way Press. 2008. I am indebted to Jennifer Chibnall for this reference.
24. A F Hill. *Lower Ouse Navigation 1934-1967.* 1991. Published by the author.
25. Sx Exp 14 February 1947.
26. Sx Exp 21 May 1948.
27. Sx Exp 28 May 1948.
28. ESRO ACC 2221 Plan
29. *Op. cit.* Every Catalogue C1920-30



PLAN OF THE

PHOENIX IRON WORKS, LEWES

Fig. 10 Plan showing the Phoenix Iron Works in 1897 and later extensions 1900-1914 (*Philip Spells*)



1	1902 & 1884 Smiths (later machine) shop	6	Open fettling area, stables* & stores
1a	Pattern shop** & Machine shop ***	6a	Remaing fragment of 1875 Frontage, east of central arch
2	Site of Engine and Boiler Houses built on creek infill	7	Shed 2. 1911 Non Ferrous Foundry
3, 4	Floor Foundry	8 & 9	Shed 3&4 Mechanised Foundry from C1948
5a,b	Chair & Sash Weight Foundry	10 & 11	Shed 5&6 in use as Fabrication (Welding) Shop by 1962

Fig. 11 Site Plan 2015 with Table of Previous Usage 1897- 1962

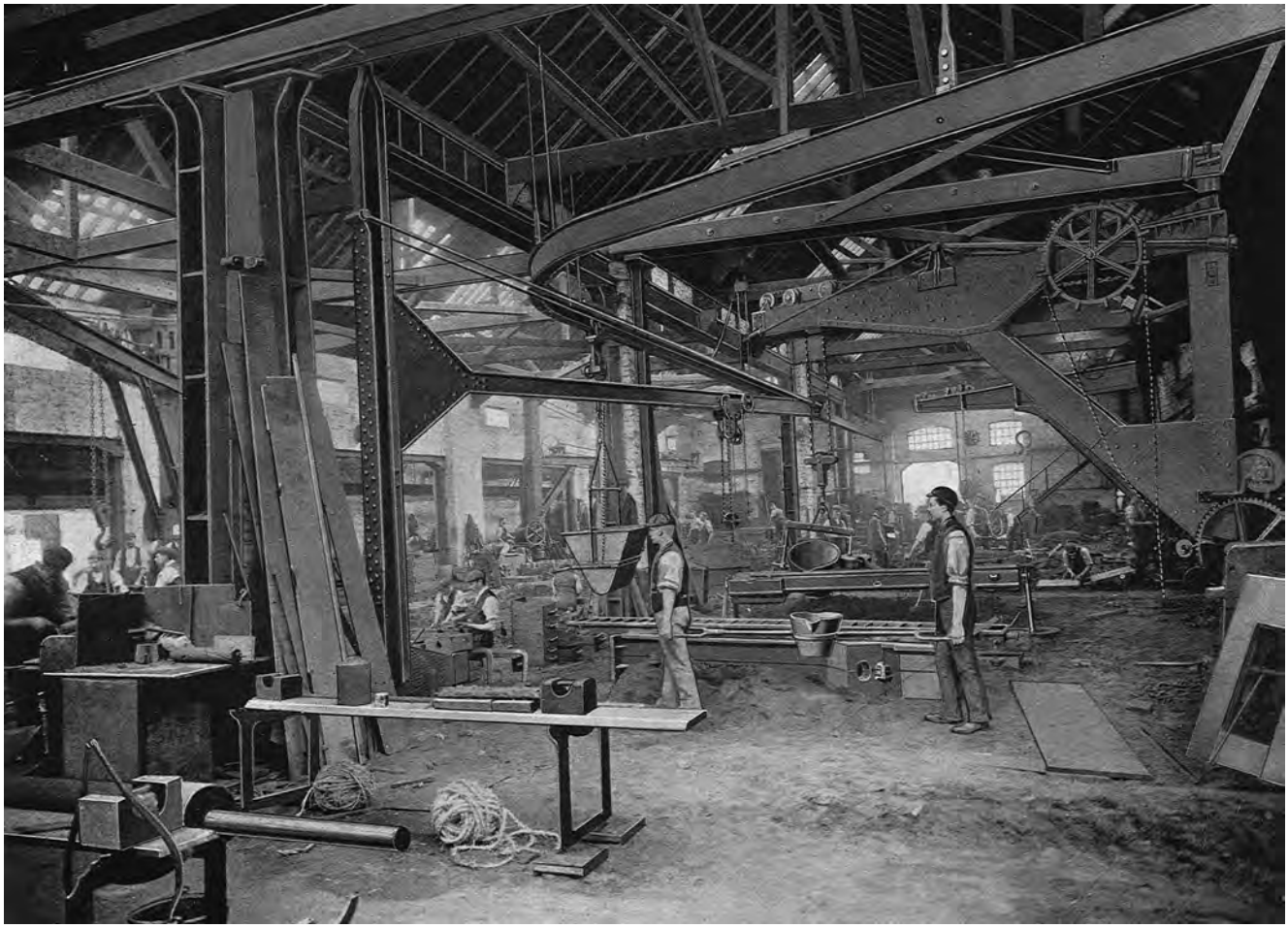
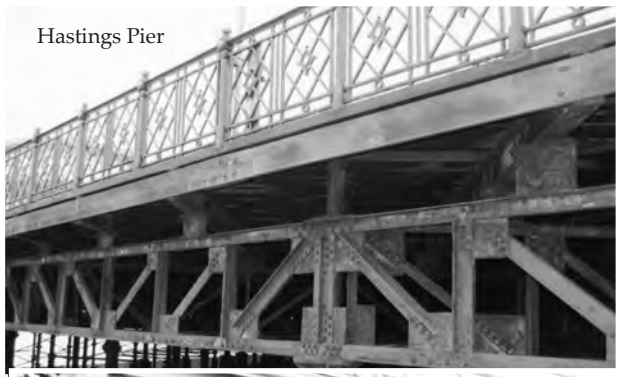


Fig. 12 The Foundry at Phoenix Iron Works

Fig. 13 The Pattern Shop at Phoenix Iron Works

Products of Phoenix Iron Works, Lewes

Brighton pier, side railings



Hastings Pier

RAFA, Waterloo Square, Bognor

Madeira Terrace, Brighton

Lamp standard in Hove

Coal hole cover, East Street, Lewes

Stone Cross windmill gear wheel

Doyle Scrubber being towed by a Pickfords ballast tractor through Lewes

FRIENDS OF FOREST ROW — A MOVING STORY

David Vaughan

Nestling in a fold of the High Weald close to Ashdown Forest is the little town of Forest Row. It was here that the brothers John and Henry Friend, whose family had been local farmers for many years, decided to branch out into the field of general haulage. So it was that in 1860, the firm of Friends removals, as it is known today, was founded. The company is still operating successfully from the same site today with a blend of family tradition, customer goodwill and up-to-date technology. Nowadays the company specialises in household removals and storage, with a fleet of modern trucks and state-of-the-art warehousing and handling facilities; but in the days of the founders it was a case of "we'll carry anything to anywhere provided it can go on a horse-drawn wagon"!

At first the trade was very much tied in with the railways and the London Brighton and South Coast station at East Grinstead. A typical load might be several brace of pheasant from the weekend shoot at a local country house, returning from the station with a chest of drawers for the same house from such famous stores as Waring & Gillows or Army & Navy. Farm produce was another profitable load, with a return trip from the station consisting of animal feed or a piece of agricultural equipment. The business grew apace and very soon it became apparent that customers were demanding a door-to-door service. This, with improvements to the quality of the roads, led the brothers to take a big step forward in transport technology – they purchased their first steam traction engine!

The engine was bought in 1910 under a hire purchase agreement from Aveling & Porter of Rochester, a five-ton compound tractor, works No. 7136. The engine was hydraulically tested to 350psi on 11 July and was registered D 5472 on the following day. The Friend brothers had paid a deposit of £150 on the engine on 6 July and the agreement was to pay off the balance at around £40 a month. A certificate from the builders describes the engine as a heavy compound tractor having a multi-tubular boiler of mild steel construction. The boiler was numbered 6261. I do not have details of the total cost of the engine but a copy of a receipt from Aveling & Porter shows that they were still paying for it in September 1915. The engine was always kept in tip-top condition but a note in the records states that the metal wheels were prone to slipping on metalled roads.

With the increasing demand for heavier loads and greater distances, the company, always one for keeping abreast of the times, purchased a steam

Fig. 1 The Aveling & Porter five-ton tractor with a proud driver, steersman, and trailer boy posing with a traction trailer loaded with farm produce (*Friend's archives*)

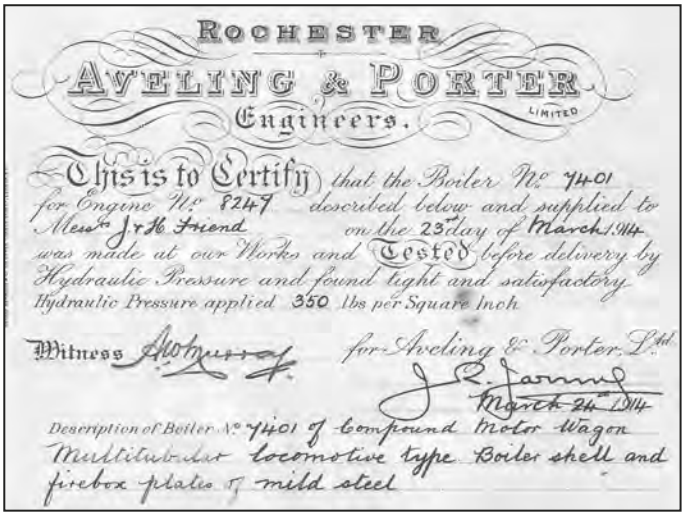

ROCHESTER
AVELING & PORTER
Engineers.
LIMITED
This is to Certify that the Boiler No. 7401
for Engine No. 8247 described below and supplied to
Messrs. J. H. Friend on the 23rd day of March 1914
was made at our Works and Tested before delivery by
Hydraulic Pressure and found tight and satisfactory
Hydraulic Pressure applied 350 lbs per Square Inch
Witness A. Holmyard
for Aveling & Porter Ltd.
J. R. Farmer
March 24th 1914
Description of Boiler No. 7401 of Compound Motor Wagon
Multitubular locomotive type Boiler shell and
firebox plates of mild steel

Fig. 2 A boiler certificate dated 24 March 1914 for boiler No. 7401, being the boiler fitted to Aveling & Porter wagon 8247 (*Friend's archives*)

wagon in March 1914. They paid a deposit of £200 on an Aveling & Porter five-ton wagon 8247 (boiler 7401), and it was registered KT1656 on 23 March 1914. It was reputedly the first wagon of its type to work in the district and was delivered with a traction trailer and a lift wagon for furniture work. The purchase of this wagon meant that the deliveries could be made direct to London, although company records show that the wagon was not allowed into the city for fear of frightening horses, and so a terminus and trans-shipment depot was used, that being the yard of White and Co. of Notting Hill Gate. Later on, similar arrangements were made with other haulers such as 'Bishops Move', and drivers were allowed to sleep overnight in their warehouses. Doubtless this would have been on a straw or horsehair mattress, with the dubious companionship of rodents! Vic Simmons of Rosemary Cottages, Forest Row, became the regular driver and was reputedly "renowned for his skill with these cumbersome machines". He related the fact that one hazard of the job was getting lumps of coal under the brake pedal! He was impressed with the steam-raising quality of the wagon and apparently could get up to working pressure on a Monday morning in about an hour. John Friend was very much a hands-on boss but did not ride with these trips, preferring instead to go by train and meet the wagon at the delivery point.

As ever, pictures of Aveling overtype wagons are elusive, and one does not exist in the company archive. However there is an interesting letter in the files from Aveling's referring to the springs on the first wagon. It is dated 15 March 1916. Apparently the springs on the wagon were deemed to be too harsh, and may have been causing breakages of china, etc. Aveling's reply pointed out in a rather hurt tone that "we are surprised to learn what you have to say regarding the springs on your 5-ton wagon as they are of the standard block pattern as fitted to 99 out of every 100 wagons". They pointed out that "of course, if you seldom have more than a 2-ton load you may find it a bit stiff as the springs fitted are capable of taking up to 5 tons". They go on to say that they could supply, at a cost of £8, a type of spring designed for a variable load. A blueprint was enclosed with the letter which, although indistinct, appeared to show a sort of two-tier leaf spring whereby the top leaves of the spring were obviously of lighter steel and designed to act at lighter loadings. The full weight of a five-ton load would be taken by the lower set of springs when combined with the upper. The letter finishes on a rather haughty note by stating:

> "With regard to the old springs, you will of course understand they would be of no use to us, having been in use they are second-hand and we have no call whatever for second-hand parts".

In 1918 Friends purchased their second wagon, this being a four-year-old from Aveling & Porter, which was three-ton wagon 8484 and registered as KT 3998.

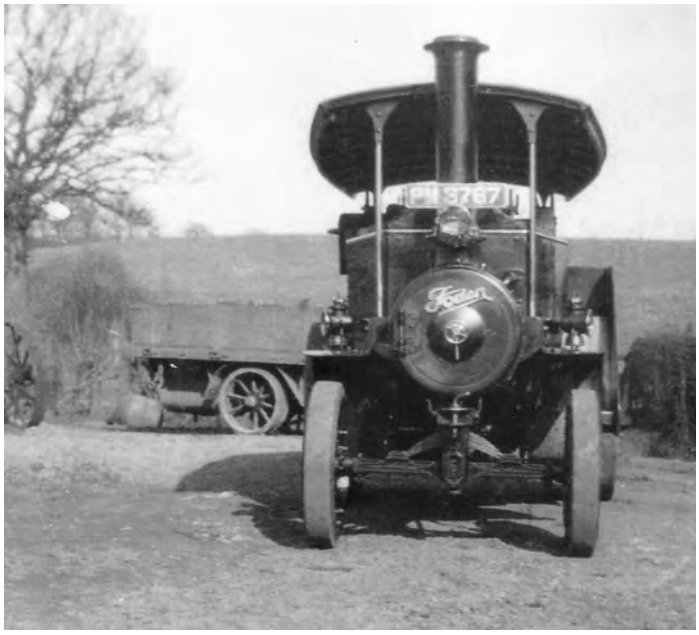
The company made a major purchase in 1923 when an order was placed for a Foden six-ton steam tractor. The tractor was based on Foden's six-ton wagon and one of the main features that obviously appealed to the company was the increased water and coal capacity afforded by the large tender. Again, from a note in the company records, it is stated that the tractor had a top speed of 8 mph and the facility to travel up to 100 miles between water fills, although I feel that this fact must be an exaggeration.

The wagon had a full-length canopy, stopping just short of the chimney and an almost fully enclosed motion and gears. It had typical Foden pattern spoked wheels and an upright steering wheel. It was works No. 10992 and was registered PM 1767. An advertisement for the wagon appeared in the edition of *The Implement and Machinery Review* dated January 1925 (see fig. 3). The engine was the actual one supplied to Friends. The wording is of interest and reads as follows:

> "With an engine almost identical to that built into the Foden 6 ton wagon, this powerful yet smooth running tractor will haul ten tons up a 1 in 7 gradient on good roads. The manufacturer, producer or contractor with a

Fig. 3 (above) Advertisement in *The Implement and Machinery Review* for January 1925 for the Foden 6-ton tractor as supplied J&H Friend. It was works No. 10992 and had a water capacity of 360 gallons with what was described as a 'long pattern cab' (*Friend's archives*)

Fig. 4 (below) The Foden tractor 10992 at Friend's yard in Forest Row, looking very impressive. In the background is what could be the rear of their Aveling wagon. (*Friend's archives*)



steam tractor will do more than its estimated share of heavy duties. If a load is possible of road transportation the Foden steam tractor will deliver it. It will succeed where every other vehicle refuses the weight".

A photograph in the company office (fig. 4) shows this formidable beast in the company yard. Note the large, centrally-mounted oil lamp and the two smaller ones pointing outwards. Sadly this wonderful tractor did not survive. I was told that it ended up being used as a roadblock to stop a feared German invasion force from advancing up the A22 to London. Later it was cut up for scrap in Lewes for the war effort.

By the outbreak of the Second World War the company was already using Bedford WTB and O-series lorries for its furniture removal work which, by now, formed the mainstay of the business. The writing was on the wall for the steam wagons and traction engines, and some had already met their fate at the hands of Light Brothers of Lewes, the local scrap merchants. The wartime scrap drive put paid to the steam haulage chapter of the company's history and petrol, and diesel lorries became the order of the day.

It seemed that nothing tangible survived from that period in the company's history until one of the partners in the current enterprise heard about an old horse-drawn pantechnicon at the back of a house on the Kent/Sussex border. It turned out that this was an ex-Friends vehicle and it had survived by being converted to a summerhouse, complete with stained-glass windows as an addition. Negotiations were completed for the repatriation of the van which was taken into storage on the company's premises. It was remarkably complete but in need of a major restoration.

By the last decades of the nineteenth and the early ones of the twentieth century the removal part of the business became increasingly important. Initially, goods and chattels would be loaded aboard a horse-drawn pantechnicon. The wagon could be well loaded, especially if you were the owner of a large town house, with goods strapped on to the roof, which was equipped with greedy boards to extend their capacity. Other items, such as china, would be well wrapped in straw and would be carried in a well-bottom under the wagon. Bulky items were often strapped to the tailboard. All this made for a heavy job for a three-horse team, especially if the route to your new home was a hilly one. Friends

Fig. 5 The pantechnicon with Aveling & Porter GND tractor No. 7136 of 1910 (*Friend's archives*)

were also developing regular services to London on a twice-weekly basis using horse-drawn wagons. The drivers used to spend overnight stops at Borough Market which had stabling for up to 300 horses. With the acquisition of their first steam engine in 1910 this increased their ability to provide for heavier loads and at least one of the firm's horse-drawn pantechnicons was converted to run behind this engine – the main conversion work being to strengthen the fore-carriage and to add a drawbar.

The van recovered from the garden in 1981 was found to have been built by Creasy of Norwood Junction in South-east London, as marked on the brass plates on the wheel hubs, and the date 'Feb 15th/1905' was subsequently discovered under the paintwork. The van remained in service with Friends until being requisitioned by the War Department for use as stores vehicles on a local estate that itself had been requisitioned as accommodation for troops. The former owner was aware of the Friends connection because of the original sign-writing on the side of the pantechnicon.

Fig. 6 Steady as she goes! Coppard's team lift the van gingerly over the wall.

He contacted the firm and it was agreed to swap the van for a new greenhouse or garden shed. Arrangements were made with a local business to remove the remains of the van out of the garden, which necessitated craning the van body over a high wall. Luckily this operation was achieved without the whole thing collapsing in a heap as had been feared!

Graham Friend's father, who had secured the rescue of the van in 1981, had intended to preserve it in some form but, although it had been sheeted over to protect it from the elements, it had stood hidden at the back of the firm's yard for 25 years, and it wasn't until 2006 that Graham decided to take the bull by the horns and begin a complete restoration, in the hope that it would be completed in time for the firm's 150th anniversary in 2010.

Through contacts in the Sussex Steam Engine Club, Graham got in touch with a cabinet maker, who happened to be my son, Adrian Vaughan, who already had experience of rebuilding and fitting out traction engine living vans. It was decided to carry out a sympathetic restoration using as many of the original components and as much of the original woodwork as possible rather than effect a complete rebuild. This entailed a lot of detective work, likened by my son to fabricating the missing pieces of a jigsaw puzzle. Much research was also carried out with help from, among others, Mark Holloway of the Hampshire County Council Museums Service who had a similar wagon on display at its Milestones museum.

The biggest problem was the sag in the body – largely caused by the previous owner cutting holes in the sides – and the fitting of a heavy stained glass window. The van is really of monocoque construction, relying on the body itself for strength in order to cut down the overall weight. It is around 17ft long, making it one of the larger types of commercial wagons. Even so, the chassis rails are only 2in thick. The roof, which had been protected by roofing felt while in its summerhouse form, was in remarkably good condition, including the original roof slats that are laid over the roof canvas to protect it when carrying furniture on top. The body, however, had to be completely de-constructed and re-fabricated using as much of the original timber as possible. It was at this point, on seeing the wagon reduced to a bare chassis with bits of wood lying all around Adrian's workshop, that Graham wondered if it was possible to put it all back together again!

Fig. 7 The interior of the van as found

Fig. 8 Details of well bottom and brake gear as found

Sourcing properly seasoned wood of sufficient length for the chassis rails and the sides proved difficult. A timber yard near Horsted Keynes provided the chassis rail timber but Adrian had to resort to non-original plywood boards for the sides. The original boards had been 8in wide and 17ft long and were probably mahogany.

The services of a local Sussex wheelwright were enlisted to rebuild the wheels in order that the finished van should be roadworthy. There was a great deal of ironwork on the van, including that on the strengthened fore-carriage. In addition to the turntable ring which was bent, there were various strappings, steps, hinges, hooks and the fixings for the carter's seat. Adrian kept as much of the original ironwork as possible but the rest was used as a pattern by Eric Lamprell, one of the country's top blacksmiths, who happened to live at Ashurst Wood, not far from where the van had lain for 40 years.

Some pantechnicons had herringbone pattern wooden slatted sides, but evidence showed that this van originally had canvas covering over the woodwork. This had the effect of providing extra weatherproofing and a nice flat surface for the sign-writing. Tony Funnell of the Bluebell Railway's Carriage & Wagon Department was able to advise a supplier for the canvas of the type used on railway carriage roofs. The job of fixing the canvas, coach-painting and sign-writing of the completed van was given to Gerald Whittaker of Liphook – whose superb work of lining and sign-writing graces many a traction engine.

The finished job, the product of almost three years work, looked just right and I suggested that the van ought to be put behind a suitable traction engine and given a run out for a photo session. The best engine for the job appeared to be Burrell Gold Medal Tractor No. 3851 of 920 *The Tinker*, belonging to the Claude Jessett Trust, which itself had worked in Ashdown Forest during the war, not far from where the van was being used as a store. Light tractors, such as the gold medal, were ideal engines for pulling furniture wagons as many archive pictures

Fig. 9 The fore-carriage is delivered in the back of Adrian Vaughan's Morris 1000 pick-up.

Fig. 10 The rebuilt fore-carriage

Fig. 11 Adrian Vaughan working on the framework of the van. The original woodwork was retained where possible.

Fig. 12 The finished interior.

prove. At the time however *The Tinker* was nearing the end of a protracted period of restoration so it was not until the 2010 Tinkers Park Rally, where the pantechnicon was put on show for the first time, that the two could be put together for the recreation of the scene on the old road to London, using the road around Tinkers Park for the purpose, thus avoiding distractions of modern traffic on the A22 Eastbourne road. The engine and pantechnicon made a fine sight in the late afternoon sunshine.

Graham, who had been drawn into the project during the research stage, expressed himself well pleased with the restoration, which he had commissioned, not as publicity for the firm, but as a memorial to his father and his grandfather who had driven the van to London regularly twice weekly in the company's early days. "It represents an important part of my family history" Graham told me. In fact he was so pleased with it that he is having a second van rebuilt by the same team.

References

This article is a revised version of two articles previously written and published by David Vaughan:

1. "Friends of Forest Row : A Moving Story", *Steam Traction Engine* July 2005 pp30-33
2. "A Moving Restoration", *Old Glory* September 2010 pp 84-86

Members who participated in the visit to Tinkers Park, Hadlow Down on 7 June 2014 will recall that David Vaughan was our guide to the collections.

Fig. 13 The completed pantechnicon stands proudly in the yard of Friends of Forest Row where it started its working life over a century ago.

PUBLICATIONS

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No. 3 (1971/2)	Lewes Population 1660-1880; Kingston Malthouse.
No. 5 (1972/3)	East Sussex Milestones; West Brighton Estate; A Bridge for Littlehampton 1821-2.
No. 17 (1986/7)	The Bognor Gas, Light & Coke Company Ltd.; Mineral Transport by the Telpher System (Glynde Aerial Railway); Bricks for the Martello Towers in Sussex; Jesse Pumphery, Millwright.
No. 18 (1988)	The Windmills and Millers of Brighton (revised edition).
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No. 21 (1991)	Quick's Garage, Handcross; Punnett's Town Wind Saw Mills; Hollingbury Industrial Estate.
No. 22 (1992)	Swiss Gardens, Shoreham; Seven Brighton Brewers; Mill Bibliography; Beddingham Kiln.
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Windscreen on Eastbourne Pier, with iron work made by John Every at the Phoenix Iron Works, Lewes

Creasey dual-draw pantechnicon, restored in 2010 for J & H Friend of Forest Row, at the Lord Mayor of London's Cart Marking ceremony in July 2014. It is being pulled by a Burrell 5-ton "Gold Medal" steam tractor supplied new in 1920 to Dorking Rural District Council and now in the Claude Jessett collection at Hadlow Down.