SUSSEX INDUSTRIAL HISTORY

QUICK'S GARAGE HANDCROSS © R.G. Martin 1991

Quick's Garage - Punnett's Town Saw Mills

Hollingbury Industrial Estate

ISSUE No 21

PRICE £2.25

SUSSEX INDUSTRIAL HISTORY

Journal of the Sussex Industrial Archeology Society

TWENTY ONE 1991

Edited by Dr. Brian Austen, 1 Mercedes Cottages, St. John's Road, Haywards Heath, West Sussex RH16 4EH (tel 413845). The Editor would be interested to hear from prospective contributors of articles of any length. Shorter notices can be included in the Society's Newsletter which is issued four times a year.

The annual subscription to the Sussex Industrial Archaeology Society is £5 payable on 1st April. Life membership is available at fifteen times the annual subscription. Members are entitled to copies of the Sussex Industrial History and the Newsletters without further charge.

Membership enquiries to the Hon. Secretary, R.G. Martin, 42 Falmer Avenue, Saltdean, Brighton BN2 8FG (tel. 303805).

ISSN 0263 5151

FREDERICK SOWREY

A Country Garage - Quick's of Handcross

Periods of social, economic, or technical transition have a major impact on history as we know it. This is particularly so in Industrial Archaeology, and is all the more fascinating when it is within living memory.

The first half of the twentieth century saw the centuries-old reliance on animals for local transport, power on the farm, and in the fields, gradually replaced by the internal combustion engine. On farms and in workshops this would have been by stationary engines of various sizes which also had the ability to generate electrical power. However, the greatest change has been the emergence of motor transport to carry goods and people "door to door" over virtually any distance, which has changed the face of the developed world.

Before the coming of the railways in the early nineteenth century, the United Kingdom was parochial - few inhabitants knew much outside their own immediate neighbourhood or market town. Not only did the railway shrink the country, but it also introduced the population to travel that was relatively cheap, safe and certain - in fact it introduced an acceptance of mobility (1).

Other methods of transport had something in common - canal traffic was slow-moving and only comparatively infrequently ran through large centres of population, and coasting traffic had the advantage of centuries of tradition and being able to make advances largely out of sight of an inherently conservative population. Not so anything that moved on the roads. The road system had grown up as a development of the footpath and ultimately the cart-track that joined adjacent hamlets, and houses. Villages, and towns, grew up along their verges. The road was often the social meeting place, the lifeline, and the common denominator for all classes who used it, and thus exposed all new forms of road transport to their often uncomprehending, and therefore instinctively hostile gaze. Everything moved at a walk, trot or canter and adapted to the road conditions instead of demanding wholesale improvements as did the motor car. The power of the horse was also considerable. There was a vested interest in its wellbeing, landowners bred them, dealers sold them, harness makers had equipped them, grain merchants helped feed them, wheelwrights, farriers, coach-builders, vets and virtually every countryman made a contribution somewhere. Small wonder that this entrenched position took a long time to shift (2). With all this to overcome - and there were 80,000 horses in London alone around the turn of the century (3), the transition from horse to motor car took time. In Quick's Garage in the High Street at Handcross there is a well-chronicled example of the way that this transition took place.

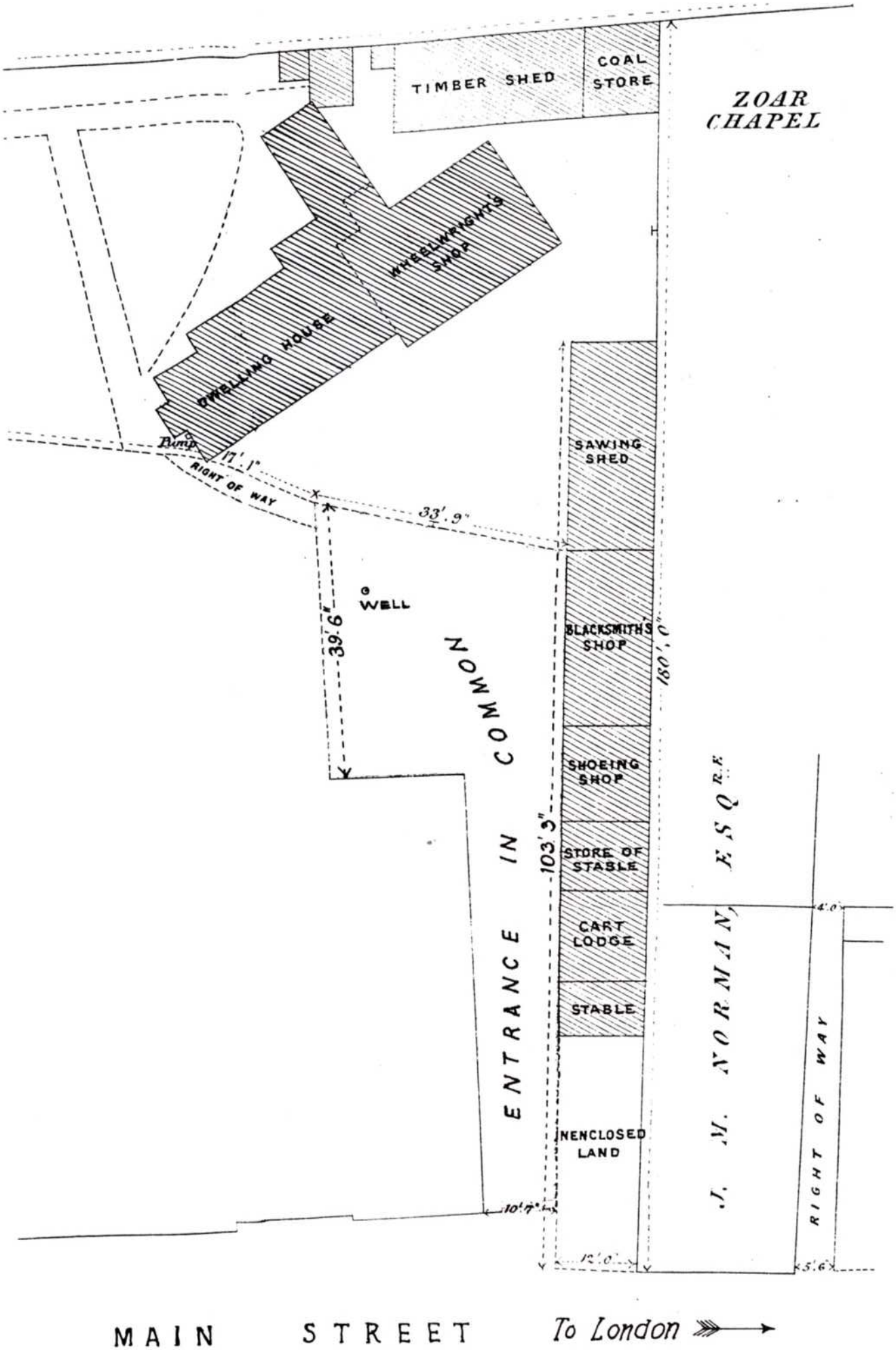


Fig 1. Location of Handcross wheelwrights shop on 25" O.S. map of 1886

The plan of the premises as it was in 1886 is shown in Fig. 1. It was the village wheelwrights with all the requirements of that craft. This called for the selection and storage of wood, its cutting, machining and skilled assembly, and the knowledge and use of iron in conjunction with wood. Over the decades the work of the wheelwright declined, but blacksmithing prospered and it was to the blacksmith that many early motorists turned to fabricate replacements or repairs for their cars. It was a natural starting point for the embryonic motor trade and it was here that Archie Quick came in November 1925 to join the two blacksmiths who were needed to meet local demand. The wheelwrights shop became the garage workshop, and a contemporary photograph is at Fig. 2.

What may be surprising is the way that the horse and motor vehicle had come to terms in the 1920s and co-existed together. The blacksmiths were still fully engaged and the stocks used to restrain stallions or horses that kicked, were retained in the corner of the garage. They also enabled the principal blacksmith - Burtenshaw - to shoe a horse quickly in an emergency when a front or hind shoe could be put on "cold" (that is without being heated). Some grooms expected tips from the blacksmith, often the equivalent price of a set of horse shoes never fitted, but such was the standard of Quick's Garage that the practice was never followed. Grooms could take their charges elsewhere rather than have to be bribed to come to Handcross.

The background of this early Garage Proprietor was impressive. He had completed a full apprenticeship with Lintotts of Horsham in general engineering. This included experience of engineering drawing, and thus the ability to produce spares if the latter were unavailable. His courage as a motorcyclist was reflected in several gold medals won for racing at Brooklands, and he represented the new breed of what the French would term "garagiste". Conditions were not easy. Water had to be drawn from a well in the yard whilst rainwater was stored in butts to quench the red hot iron tyres to shrink them on to the wheelwrights wooden wheels. No light or power existed but a generator driven by a Petter engine soon lit the garage and from this source a row of poles public-spiritedly took electrical power to the village hall, local fish shop etc.

As the proprietor and engineer, the main load fell on Archie Quick's capable shoulders. It was he who shared out the work, did the necessary repairs and ordered the spares he anticipated would be needed in future, a task needing a degree of farsightedness. With scant advice from manufacturers, this cannot have been easy and a wide range of spares stretching back to the 1920s was sold in January 1990 when the garage finally closed. However, it was never possible to stock every spare part, so much ingenuity was needed and much time was spent repairing items or making a replacement on the spot. His brother helped as a mechanic and ran the shop with its battery-charging; his newly-married wife helped with the accounts; and for Sunday opening, a boy was employed to sell petrol (4).

As the business prospered, so changes were made in the buildings and to be a registered garage an area of 1,000 sq ft was required. The original sawing shed had "poor man's tiling", consisting of staggered gaps in alternate courses to enable the smoke to escape when sawdust was burnt.

Fig.2 Handcross High Street c 1926 with "garage" building in foreground. Note emphasis on cycle sales and repairs.

Fig.3. Theo-Samoa multiple petrol pump installed at Quick's garage in 1929 (Ron Martin)

This was re-roofed to provide more protection and a two ton roof girder added to give strength and rigidity for the larger and heavier machines coming into use. Blacksmithing declined in the 1930's and the second forge was removed to make way for axy-acetylene welding equipment as the general engineering content increased. Arc welding was introduced at this time and Council contracts for welding railings helped to provide a steady cash flow.

Innovation was the order of the day, and Quick's farsightedness extended to buying one of the latest multi-fuel pumps in 1929. This enabled six entirely separate brands of petrol - Dominion, Redline, Pratt's, BP, ROP (Russion Oil Products) and Cleveland - to be supplied from a single pump (Fig 3). This was important in the pre-war period when brand loyalty among motorists was very strong. Drivers would have their favourite brand and would use no other, and petrol companies' advertising was directed to this end. It was not connected with free gifts or the service provided. Motorists were convinced that a particular brand of petrol suited their cars best and if it was not available at their local garage they would go elsewhere. A further brainchild was a 1/- (5p) in the slot attachment to a pump for emergency service "out of hours". Long before the vogue of current television programmes the saying around Handcross was - "Quick will fix it - quick", and he did.

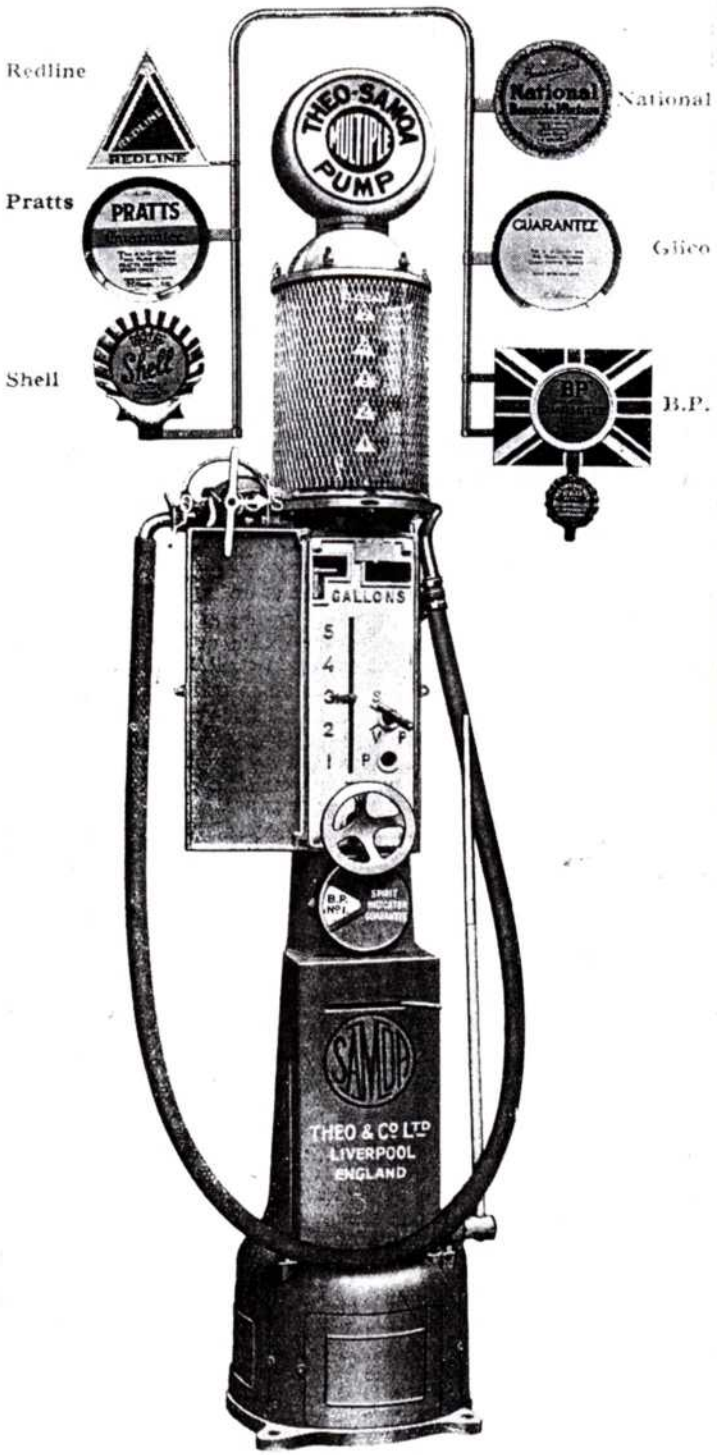
As the "poor man's friend" Archie Quick would spend several hours repairing an impecunious owner's car and only charge for a half hour's work. And he was equally hard on bad manners. One day a Rolls Royce drew up whilst he was working under a car and the driver announced that he "wanted some petrol". The voice from the ground replied - "no please, no petrol".

The outbreak of war in 1939 hit the country garages hard. Handcross had enjoyed a steady passing trade being on the Brighton Road, and the growth in motor car and motor cycle ownership in the 1930's led to heavy traffic on roads to the seaside. Brighton was no exception and traffic jams with consequent overheating and the usual breakdowns led to hectic weekend work. All this suddently stopped and the meagre petrol ration was ultimately withdrawn altogether except for those on essential war work. This was a considerable blow, but the equipment and skills of Quick's garage was put to more important work in sustaining the war effort towards final victory.

An elaborate network of small engineering works, garages, and amateurs with machine shop facilities came into being. The work undertaken depended on their facilities - forging where it was possible, automatic machining where this existed, to simple lathe-turning in many private workshops and garden sheds. The Royal Ordnance Factories organised this amazingly varied contribution, distributing drawings and materials and collecting the finished products. Inevitably the jobs were usually for fairly small components with a high precision content.

Quick's garage with its equipment and experience was in the forefront of all this work and, apart from keeping council lorries on the road, the blacksmiths shop produced forged tools for the assembly of Mills grenades and torpedoes.

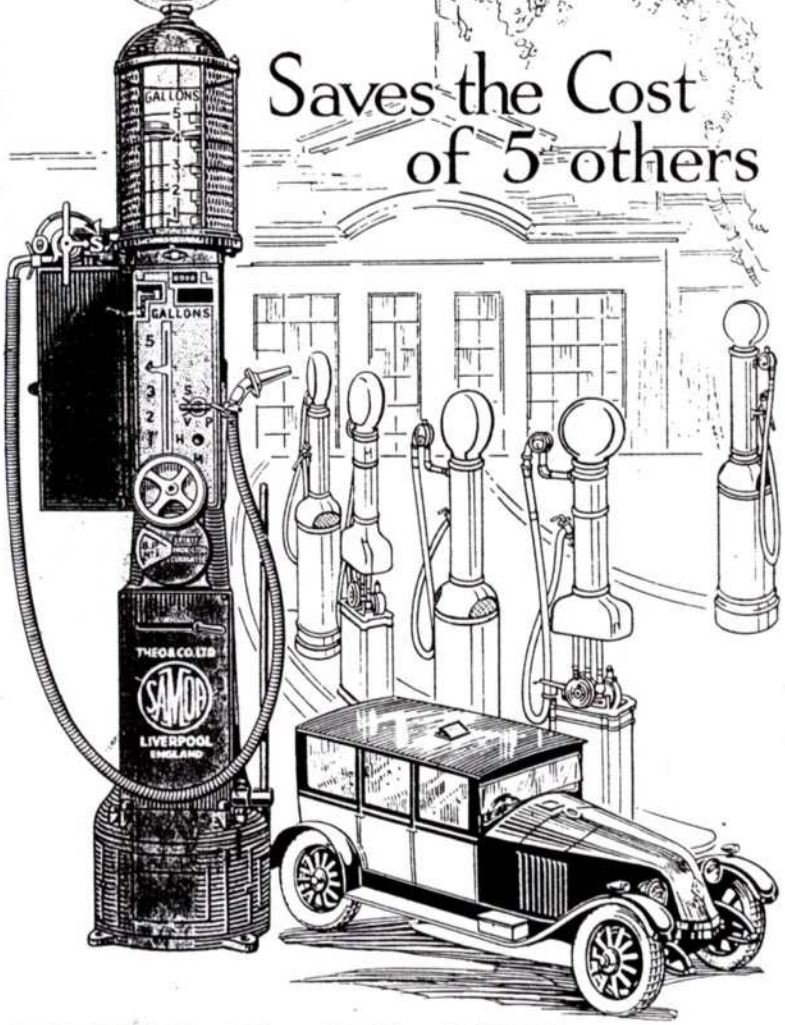
Photographic Reproduction of the
SIX GUARANTEES
granted to the Theo-Samoa
Installed in LIME STREET GARAGES (Liverpool) Ltd., Bolton St., Liverpool



THEO. & CO. LTD., 32 Tarleton St., LIVERPOOL

The Theo-Samoa
MULTIPLE
PUMP

Saves the Cost
of 5 others



THEO & CO. LTD.,
Tarleton St., LIVERPOOL

Fig. 4 Advertisements of Theo & Co. Ltd. of Liverpool for the Theo-Samoa multiple petrol pump

Anti-magnetic brass fittings were a product of lathe-work which produced a wide range of components from tools to fuses. With all able-bodied men drafted into the services or mines, local women were trained in machining and performed exacting tasks with skill and precision. On top of this, the proprietor took his turn in the Air Road Precautions Control Room in Haywards Heath, and was also on call as an ARP ambulance driver.

Peace in 1945 did not open the floodgates of motoring. Austerity and rationing were the result of the exhaustion of our national wealth and economic reserves in the defence of freedom. Quick's garage did not succumb to the blandhishments of petrol companies eager to loan large sums of money to "improve" garages, and the space for expansion was limited. The need for post-war expansion was seen and land was available, but planning permission was refused - the Council argued that the new generation of cars would have the capacity to travel from London to Brighton without refuelling. This seems a remarkable position to adopt in comparison with the current guidelines which permit a petrol filling station approximately every fifteen miles on main roads. Hence the garage remained an example of unchanged excellence of an earlier age and the death of its owner Archie Quick in 1989 ended an era. This article pays tribute to a pioneer in the industry whose career and achievements have the regard and admiration of all who knew him and whose contribution to the history of motoring in Sussex is widely recognised.

The wheel has now turned a full circle with a young blacksmith working again in the forge and a proposed display of veteran and vintage motorcyles in the shop front.

REFERENCES

1. L.T.C. Rolt, "Railways", The Sunday Times History of Inventions.

2. Frederick Sowrey, "From Hooves to Horsepower", Science Museum Lecture Series 1976.

3. The Automotor Journal, September 1897, p.501.

4. Information from Mrs Quick who kindly supplied much of the detail for this article.

J. S. P. BUCKLAND

The Punnett's Town, Heathfield, Wind Saw Mills

The three Punnett's Town windmills are very well described and illustrated in Martin Brunnarius, The Windmills of Sussex (1979). The article provides information on the two saw mills on the basis of notes taken in 1961; to which is added information from Kelly's Directories, and the late H.E.S. Simmons's invaluable Sussex mill material now in the Science Museum Library[1], London.

The Smock Saw Mill (Figs. 1a and 1b)

Wind saw mills were such rarities in England that this one earned a mention in Kelly, (1887)

> "At Punnetts Town is an adaptation of wind power the situation being high; the power is utilized by Samuel Piper, a builder, to drive a saw mill constructed as an ordinary wind mill."

This was shortened in later editions to: "At Punnetts Town, the situation of which is high, there is a saw mill constructed as an ordinary wind mill."

On July 19th 1961 Mr. Dallaway of the Punnett's Town smock corn mill told me that the saw mill's smock body was so small that inside it was like looking up a shaft. Simmons says that the patent sails spanned only about 40 feet (12m), which is very short for nineteenth century England and they would only have developed some 3-4 h.p. or 2-3 kw. They had a pronounced forward dish; and at one time there were odd-looking leading edge extensions to the outer halves, doubtless in an attempt to increase the power in light winds, but (unless removable) these had gone by 1925. Otherwise the sails are of the normal Kent and Sussex design, with a modest change of weather, and a narrow lead side, canted at the point, with shutters in the outer half, the rest lead board[2]. The smock body was set above one end of a two-floored weatherboarded base[3], which to contain the timber run was an elongated one.

Mr Dallaway said there was a wooden brakewheel with cast iron cog segments bolted on, and the great spur on the upright shaft drove a layshaft or lineshaft which belt drove direct to the main circular saw set in its saw bench. The same layshaft belt also drove upwards to a smaller circular saw on the floor above (i.e. the upper floor of the base). Referring, I think, to the main saw, he said there were two trestles or push benches, each on four wheels running on tracks, to carry each log. He thought they were manually pushed, not powered, probably by pushing on the log, not the trestle.

The first brought the log up to the saw, the second carried the sawn log off. (I imagine the mill sawed wainscot, floor boards and lesser joists, but nothing bigger).

The mill stood originally near Horam watermill, 3 miles south of Heathfield, on the road between Horam Road station and Vine's Cross, and was re-erected at Punnett's Town.[4] The date 27 July 1866 scratched on a window pane records this event.[5] Powell in 1930 says it was built by Samuel Piper.[6] Simmons says Samuel Piper used the mill for some years after its re-erection by Reuben Piper, who, as a youth, had not long started work, and had helped the millwright Stephen Neve move the existing Punnett's Town smock mill from Biddenden in 1859.

Samuel Piper is listed in directories as a cabinet maker, carpenter and wheelwright, at Punnett's Town, 1859-70; builder, 1874-78; and builder and contractor 1882-1899. He died at Punnett's Town after a prolonged illness, on 1 May 1902, aged 76 (so he was born c 1826). He was buried on 6 May, the first part of the service being held at the Heathfield Baptist Church.[7] By his will dated 11 June 1896, Samuel Piper of Heathfield, builder, made his dear wife Mary Grace Piper and his friends Henry and Frederick Neve of Waldron (near Heathfield) his executors, who together proved it at London on 3 October 1902, the effects were valued at £5,497-19-7d. The Neves, called "machinists" in the Somerset House wills' indexes, were millwrights and engineers, sons of Stephen Neve (see Brunnarius). Piper's widow continued to live at Punnett's Town (Kelly).

Reuben Piper's birth was registered July-September 1843, in the Hailsham district, and his death was registered in the same district on 4 August 1929, aged 86. He was therefore about 23 in 1866. By his will dated 23 March 1926, Reuben Piper of Breezybrow, Punnett's Town, Heathfield, retired builder, left everything to his two daughters, to whom, plus one other, probate was granted at London on 26 September 1929. Effects were valued at £2959-18-10d.[8] One witness to the will was George G. Lower, Punnett's Town, also a retired builder.[9]

Reuben is not listed in directories. A Mr and Mrs R. Piper attended Samuel's funeral, in 1936. The Simmons notes, based on a conversation, record him as "of Saw Mill, Punnetts Town".[10] Doubtless he worked for Samuel, who was, I suspect, a much older brother, and which of them actually carried out the move is probably neither here nor there. Though Simmons originally understood otherwise,[11] we can safely assume the mill sawed wood right from 1866. She is marked as a saw mill on 1873-4 6" O.S. map[12] and her first mention in Kelly in 1887 occurs at a time when Kelly's Heathfield blurb was slowly expanding from edition to edition.

Piper's business became Lower & Piper, first styled builders, then builders, contractors, house decorators, carpenters and poultry appliance makers, from 1903 to 1913. Lower Brothers & Douch were builders, 1915-1918, Lower & (Reginald) Geering, builders and poultry appliance makers, 1922-1924; Mark Leeves, builder, Forest View, 1927; but from 1930, entries cease.

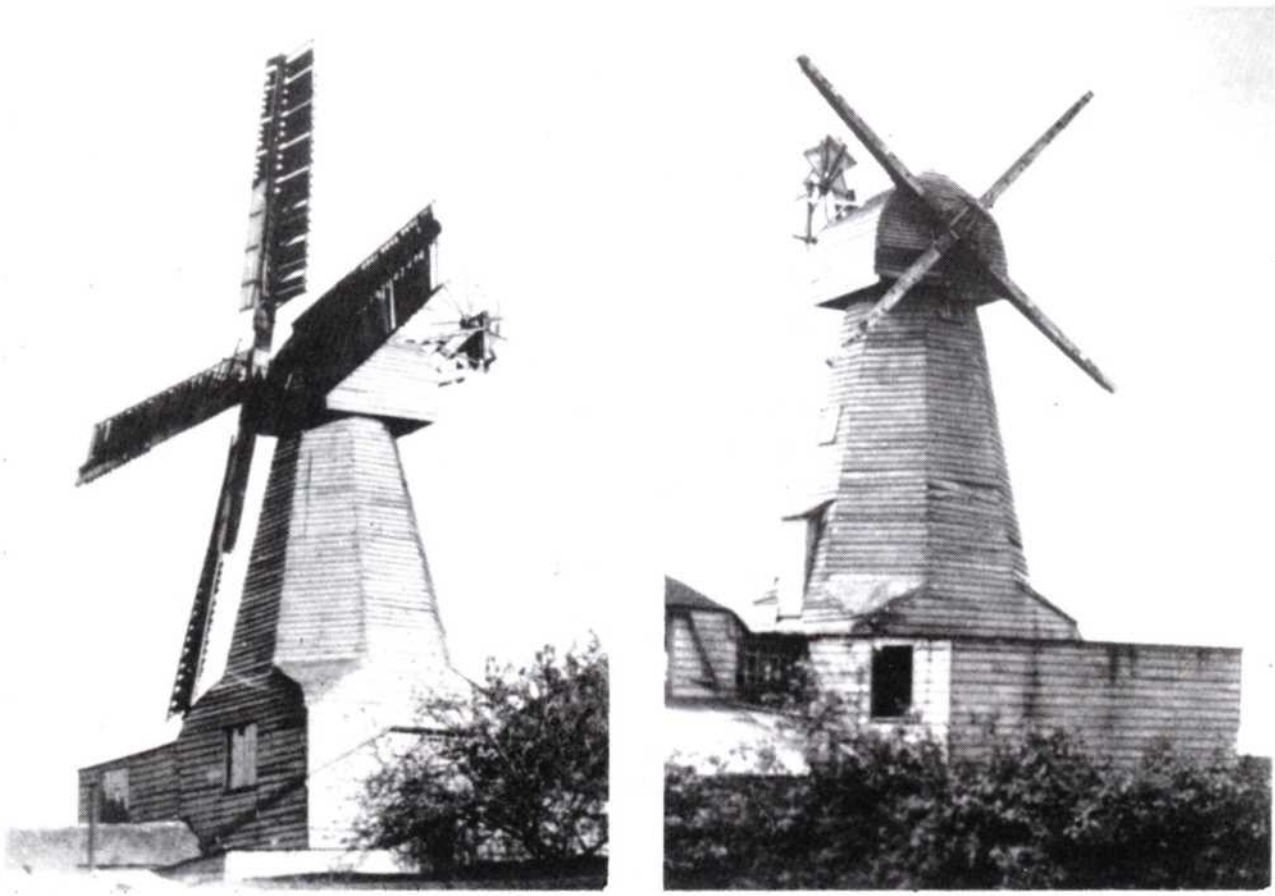


Fig 1a. October 1925 Fig 1b. July 1930
Punnett's Town smock saw mill (J.S.P. Buckland collection)

The mill was still working in October 1925;[13] Leeves went bankrupt in January 1928;[14] and the sails were removed in 1929.[15] She was standing with stocks only, but still a complete fantail, in 1930,[16] and was demolished in October 1933.[17]

Cornford's Windwheel (Fig 2.)

I noted on 1 July 1961 that Mr C Cornford had on display in his shop an enlarged copy of a photograph dated 1908 of the windwheel, with him, aged 24,[18] standing in front of the weatherboarded two-floored structure it was sprung off. He showed me the picture postcard original of it (not the photograph by the early mill-buff, Edward Lancaster Burne (1869-12 June 1946), in Brunnarius, Fig. 201). On sale in the shop was a modern commercial card of the premises, again with Mr Cornford in the photograph.

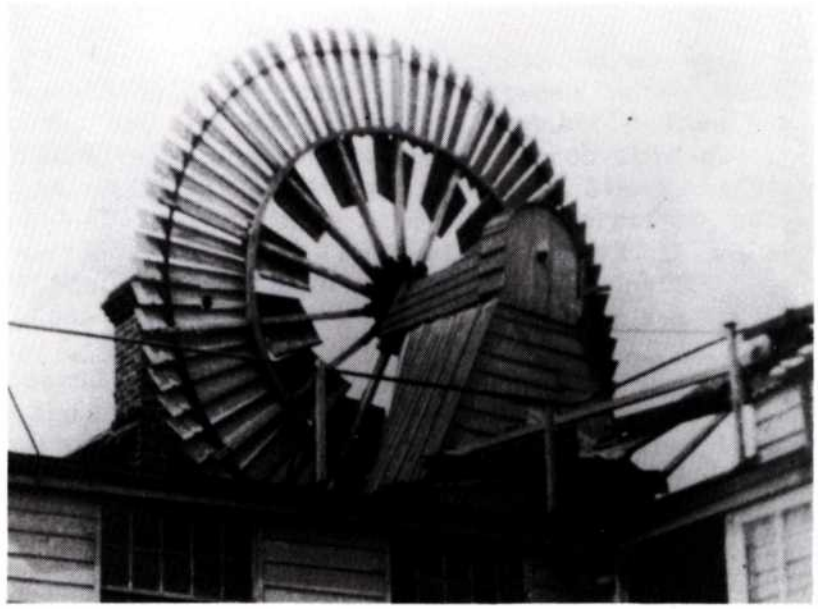


Fig. 2 Punnett's Town Saw Windwheel
Detail of an undated photograph by Edward Lancaster Burne (1869-1946)
(J.S.P. Buckland Collection)

The brakewheel, which must be at the rear end of the windshaft (see Burne's photograph) drove an upright shaft, at the bottom of which was a belt-pulley "like a cart-wheel". This drove, via an untwisted belt, right-angle gearing about the size of a car differential, driving a circular saw in a saw bench; I gathered that a drill also worked off the saw.

The whole little weatherboarded mill frame above the flat roof of the building it stands on, turned to face the wind, not just the very top of it. Winding was by tailpole (Brunnarius says fantail, clearly an error). A print off Burne's negative (author's collection) shows the tailpole as a long, braced, nearly horizontal timber, the extreme end of which is trimmed off, which must have swung beyond the roof edge for part of its turn, with a large, puzzling wooden lever pivoted along it. My notes inform me that I omitted to ask Mr Cornford whether the mill turned on a curb, or on a hidden hollow post; and whether the windshaft was horizontal or inclined. Burne's photograph shows clearly a circular base just above the roof, which was, I suppose, strengthened to carry it; I think the windshaft had a slight slope.

Mr Cornford told me that outside the main fan of blades of the windwheel additional short squares could be fitted on round the outside of the wheel rim. My notes are quite specific about this, an outer third ring of blades not in the display photograph existed, but on looking at Burne's photograph I doubt there is clearance above the roof for them; so perhaps I misunderstood Mr Cornford.

He may have been referring to the inner ring of short, broad blades on the 14 radial wheel arms. There was no means of feathering the main ring of narrow blades, about 70 in number. The wheel was simply held by the brake. The arms radiated from an iron hub cast on an iron windshaft, fitted (or rather, I think, made) by the ironfounders Everys of Lewes. Simmons quotes Mr H.S.R. Hawksley, who in 1949 stated that Neves put up the mill, the information apparently coming from Neves. Burne's photograph shows there was no bowsprit bracing to prevent wheel distortion. I entirely agree with Brunnarius's estimate of a 12ft. diameter.

Mr Cornford told me it was worked by an old boy who sawed and drilled staves for fattening coops, and who varied his hours to suit the wind. When it was not blowing he made staves by hand, and should it start up he would change over to sawing them. Mr Cornford remembered an occasion when the wind blew the windwheel into two halves across its diameter. He (Mr Cornford) ran the windwheel for a few years himself, up to 1916, when he was called up; by then it was getting a bit shaky, and as his wife did not want it left in his absence to get worse he dismantled it at that time. Then or later he reduced the weatherboarded building it stood on to its present single floor height. It is the little one of the two Cornford shops, the one between two houses. Mr Cornford added that most of the changes in the countryside, the railways only excepted, had occurred in his lifetime.

Sampson Punnett was the stave maker;[19] and is listed, first as Sampson, then as S. Punnett, 1878-1918 (not recorded in 1874, and 1922 directories). He is listed as a carpenter 1878-82; Wheelwright, carpenter and shopkeeper 1887-95; carpenter and shopkeeper 1903-07; and carpenter 1909-18. By her will dated 6 January 1916, his wife Harriett Punnett left him a tiny income. She died 11 March 1920, aged 72, and her will was proved 18 June 1920, with effects valued at £204-4s-8d. Christopher Cornford, shopkeeper, first appears in 1909 (not in 1907), and becomes C. Cornford & Sons, shopkeepers, in 1930. I suppose he succeeded Punnett in 1908.

Whatever the exact date of this windwheel, and it could go back to the start of the windwheel's great latterday European rise from around 1880, it is an interesting though atypical example of one, with a distinctly "home-made" feel to it. It is a carpenter's, or even a millwright's, ingenious but retrograde one-off power version of the shop-built self-acting windwheel pumps that were springing up. A 12' wheel would have a useful power output in a moderate breeze of 15 m.p.h. (6.7 m/s), 4 on the Beaufort Scale, of only about 0.2 h.p. or 150 watts, about that of 2½ men steadily turning a crank handle against a resistance.[20] Clearly therefore, Punnett installed it for a light task which today a fractional horse-power electric motor would perform cheaper and much more reliably.

References

1. The Sussex windmill material of H.E.S. Simmons (1901 - 26 October 1973), a Sussex man, comprises (i) his normal county notes, compiled from the early 1930s till his death; and (ii) his "Historical Notes" (his title), a finished and very readable historical survey of mills and mill sites, completed 1937 or shortly after. I've heard it suggested that he wrote it for publication, but was pre-empted by the Rev. Peter Hemming's rambling and repetitive Windmills in Sussex (1936); if so, more's the shame. Bound, xeroxed sets of (i) and (ii) are on open access.

2. Sail data from photo in Martin Brunnarius, The Windmills of Sussex (Chichester 1979), Fig. 196 (also in John Kenneth Major and Martin Watts, Victorian and Edwardian Windmills and Watermills from Old Photographs (1977), Fig 66.; and photo dated October 1925 in the author's collection.

3. Brunnarius, Fig. 196.

4. Simmons, Historical Notes.

5. Walker's Quarterly, combined no. 29-30, London: Walker's Galleries Ltd., 1930 (comprises G.M. Fowell, "Windmills in Sussex", illustrated and data collected by Arthur Foord Hughes), p.27. This is the origin in print for the date 1866 (see note 9). Hughes, a genre and landscape painter, was born London, October 9, 1856, and died Hastings, nearly penniless, July 20, 1934 (probate 28 February 1935, effects £46-15-8d). His windmill paintings predate 1930 by no more than 10 years. They were exhibited first at Walker's Galleries, New Bond Street, then at the Hastings Museum, John's Place. The Museum was given about 20 of them by his sister, Miss Emily Foord Hughes (Hastings and St. Leonards Observer, 28 July 1934, p.9e). A Miss Fowell (friend) attended his funeral (ibid.).

6. Ibid., loc. cit.

7. Sussex Advertiser, 12 May 1902, p.8c, funeral previous Tuesday.

8. His daughters were Bertha Jane Piper, living with him, and Ida Mary Eastwood, wife of William Eastwood of Winchelsea, gardener. (The third executor was Percy J. Pont, of Punnett's Town, grocer).

9. Simmons's notes states (c. 1933-35) that George Lower, the last to work it, lived two or three cottages south of the site of the mill. Fowell, p.27, says Mr Lower, a previous owner, worked it, and his father before him. I infer Lower told Hughes of the 27 July 1866 date, and what it meant; so if by any chance Fowell or Hughes misreported it, the removal year has been wrong ever since.

10 Simmons, notes, quoting Mr. Deman Dallaway of the corn smock mill, Feb. 1936.

11 Simmons, Historical Notes.

12. Simmons, notes.

13. Photo, October 1925, author's collection.

14. Simmons, Historical Notes; Fowell, p.27.

15. Simmons, Historical Notes.

16. Photo dated July 1930, author's collection; Marjorie Isabel Batten, English windmills, i (1930), misidentified photo, p.109.

17. Simmons, Historical Notes, and notes, correcting Hemming (1936), who says early 1934.

18. Age as he told me. Birth registered July-Sept. 1884, Hailsham district.

19. Simmons, notes, quoting Hawksley, 1949: "Neves believes a man named Punnett had it." He fits.

20. Windwheel data, Alfred R. Wolff, The windmill as a prime mover (New York 1885), p. 133; man power data, William J.M. Rankine, A manual of the steam engine and other prime movers, (13th edn, 1891) p.84.

HUGH FERMER

Hollingbury Industrial Estate, Brighton

In the immediate post-war period, the provision of employment was considered to be a major problem. There were large numbers of civilians whose work was connected with the war effort, and this would obviously terminate when the war ended. There were also a very large number of people being demobilised from the forces. These facts prompted Brighton Council to take steps in the mid 1940s to ensure the prosperity and continuing employment of Brighton people, by planning a large industrial estate.

The proposed estate was to be laid out by the council; roads and access were to be constructed, and main services laid to all the factory plots ready for the construction of buildings. The plots of land were to be let on long leases; the average length of lease at the time was about sixty years, and the arrangements for building were to be fairly flexible. The factory buildings could be owned and built by the Council, or the leases could build their own factory, merely renting the land from the Council. The long lease would give them security of tenure and protect their investment.

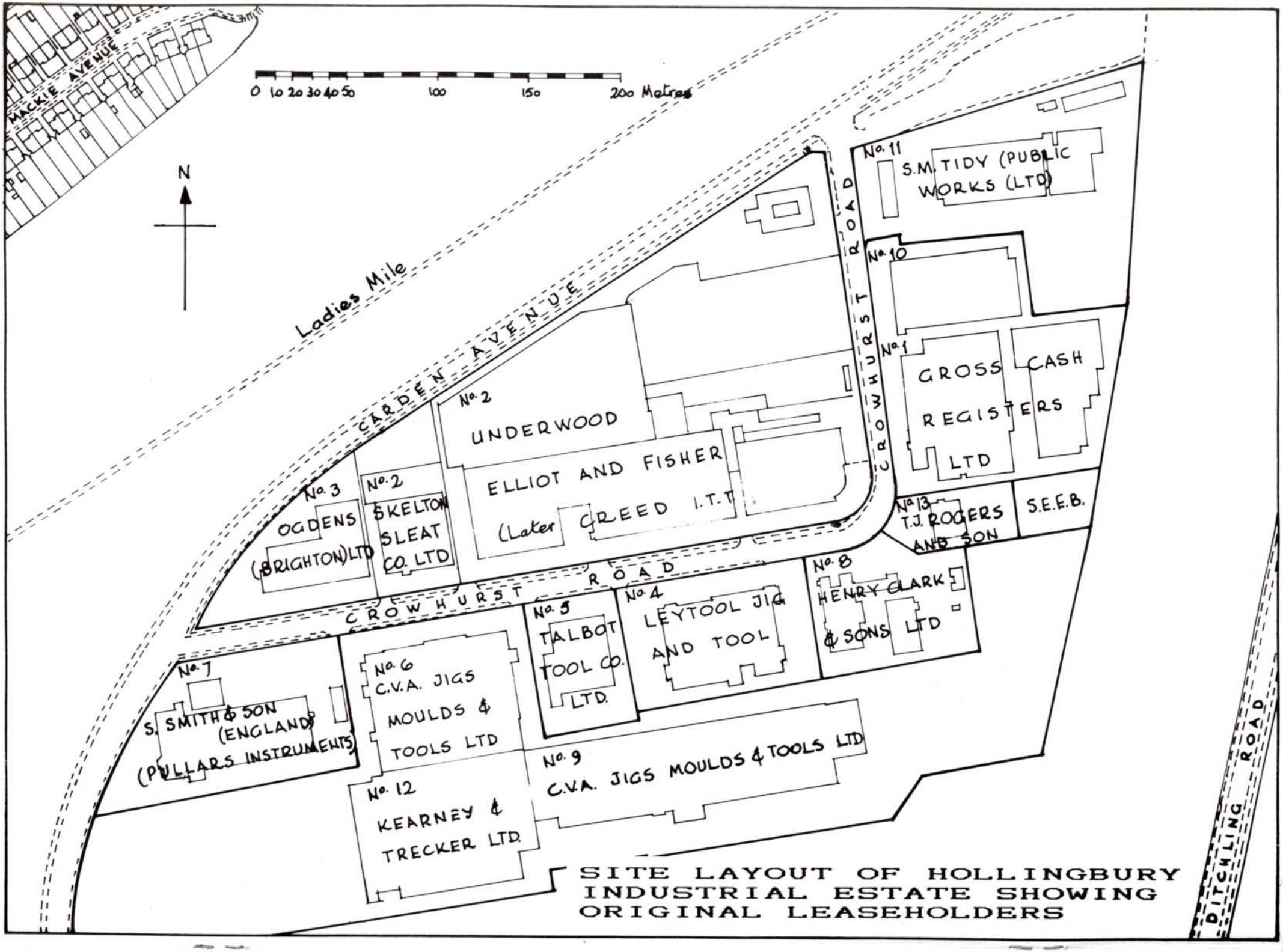
A number of areas were carefully looked at before a decision was made on the siting of the estate. There were a number of criteria to satisfy.

The area of the proposed estate would have to be situated outside the town centre area but it would have to be positioned so that the industrial buildings did not dominate the skyline and spoil the South Downs at the north or east of the town. It would have to be close to main roads leading both east and west as well as in the direction of London. A large piece of land which satisfied these criteria was owned by the Council at Patcham. It extended from the junction of Carden Avenue and Ditchling Road at Old Boat Corner, southwards to the point where Carden Avenue turns westwards, the shape being more or less a triangle. The land was situated in a natural declivity and this enabled the Council to keep the factory buildings off the skyline by limiting the buildings to about two storeys. The Council was anxious to preserve the amenities as much as possible and any process causing excessive noise or noxious fumes or vapours was expressly forbidden. In order to maintain the low profile of the estate, the Council also banned chimneys higher than the buildings (See Appendix).

At the time that the Industrial Estate was being planned, it was unusual for the average industrial worker to have access to personal transport. This being so, the Council had to plan for local living accommodation for the large number of employees which the new estate would require. A very large Council housing estate was planned for the area of Carden Avenue, the number of houses proposed was about one thousand, which made it a very large undertaking indeed.

The decision was taken to implement these plans, and the site was laid out. Crowhurst Road was constructed, ground levelled, and services laid during 1946-47. The first of the factory buildings was completed during 1948, and from that date the Hollingbury Industrial Estate really took off. Between 1948 and 1963 the estate was developed and there follows a short description of the factories originally built on the estate. A map of the plots with the original leasees names indicated is reproduced on page 18.

1. A purpose built factory for Typewriter Sundries Ltd, and later Gross Cash Registers, completed in 1948 (Fig. 1). This building, which is of brick construction with cement facings, has very large windows indeed. It is a typical building of the period with a wide stairway to the main entrance, and has classic and very attractive lines. It has a tower at the front of the building at the south end, which houses the main stairway to the upper office floor. The area of this factory which includes a building at the rear is about 67,000 square feet. The building was subsequently used by Brighton Dyers Ltd and currently by American Express.



SITE LAYOUT OF HOLLINGBURY INDUSTRIAL ESTATE SHOWING ORIGINAL LEASEHOLDERS

Fig. 1 Typewriter Sundries Ltd. factory 1948 (later Gross Cash Registers)

2. A purpose built factory for Underwood Business Machines Ltd. This very large factory and office complex was started in 1948 and basically completed in 1960 (Fig. 2). Sadly it was demolished in 1987 and an ASDA superstore has been built on the site. The photographs taken just as demolition was starting, give a good idea of the form and facade of the buildings. Built of brick round a steel frame, they had the large windows and curved glass of the period; they covered an area from Crowhurst Road back to Carden Avenue. The small factory on the west side of the site, originally built for Skelton and Sleat, became part of the Underwood/Creed complex in the sixties, and was demolished with the rest of the buildings. A large roof car park on the Carden Avenue end of the buildings held some hundreds of cars to augment the parking space available in the yard. The floor area of this complex of buildings was in excess of 190,000 square feet.

Fig 2. Underwood Business Machines Ltd. factory 1948-60

3. A purpose built bakery for Ogdens (Brighton) Ltd, built in 1948 but with additions to 1960 (Fig 3.) This was a medium-sized building of brick with office space on two floors at the west end, and single floor space arranged in an "L" shape to suit the site. The factory was landscaped with lawns, trees, shrubs etc and presented a very attractive scene. A car park was included, although not a very large one. The floor area was about 20,000 square feet. It is now occupied by Cameo, a firm engaged in the manufacture of traditional furniture for the home.

Fig 3. Ogdens (Brighton) Ltd factory 1948 with additions to 1960

4. A purpose built factory for Leytonstone Jig & Tool Company (Leytool) completed in 1949. This was a small brick built factory similar to the Talbot Tool building which still stands. It was used by Leytool for light engineering and design for many years but with the coming of the recession of the seventies, Leytool requirements changed. There was a demand for small industrial units and little demand for older factories of even the modest size of the Leytool building. The lease was sold to a developer who, in conjunction with the Council, demolished the original building and constructed a number of metal framed lock-up units which were let to small businesses, mostly manufacturing. The idea behind erecting these small units was to appeal to small firms starting out in business and using the various incentives available from the Government. There is ample access for articulated vehicles and fork lift trucks. Car parking facilities are also provided in line with current requirements. The floor area of the old Leytool factory was about 24,000 square feet. No photograph of the old factory is available.

5. A purpose built factory for KDL Precision Engineering, later for Talbot Tools Ltd, completed 1950 (Fig. 4). This is a small factory built for light engineering use with drawing office and general office space. The factory is on one floor, with office space above it at the Crowhurst Road (north) frontage. It is brick built with a flat roof and has ceramic tiles on part of the front of the building near the main entrance; it is landscaped with trees and shrubs. The floor area is about 14,000 square feet and there is a small car park. At the end of 1987 it was still used by the original owners.

Fig. 4 Talbot Tools Ltd factory 1950

6. A factory purpose built for C.V.A. Jigs Moulds & Tools Ltd (Figs. 5a, 5b and 5c). The original factory on the Hollinbury Estate was known as the C.V.A. No 2 factory completed in 1951. It was a large building, brick built, with a basement at the rear (south) end to take advantage of the land contour. Office space is on the north end facing Crowhurst Road at road level, and it had a large canteen situated on the west side together with more office space. The roof, which is clearly shown in the interior photograph (Fig. 5b) is interesting because it was built in a series of vaulted sections with large circular windows in the roof itself; a rather unusual arrangement and quite rare. The floor area was originally in excess of 50,000 square feet, and was increased when the C.V.A. No 8 factory was joined on to it in 1968. Subsequently C.V.A. changed its name to K.T.M. and became part of the Vickers Group. The mural shown in the photograph (Fig. 5c) was painted by a Ditchling artist in 1953. It is painted on the wall facing the main entrance door and it portrays "engineering" through the ages, with stone age artifacts progressing to the technology of the 1950s. The workforce of C.V.A. declined but the factory continued to be leased by K.T.M. and the basement was used as a stores and goods indwards. The factory is currently being modified inside for use by the Southern Publishing Co. who print the Evening Argus, Leader and other local newspapers. The facade and rear elevation have not been altered but the beautiful mural in the foyer has peeled off in strips and seems beyond repair.

Fig.5a CVA Jigs, Moulds & Tools Ltd. No 2 factory completed 1951

Fig.5b Interiors of C.V.A. Jigs, Moulds & Tools Ltd showing mural on wall facing main entrance door 1953.

Fig.5c Interior of C.V.A. Jigs, Moulds & Tools Ltd No 2 factory showing the production area.

7. A purpose built factory for Pullars Instruments completed in 1951 (Fig. 6) This is a large factory building on one floor, with office space on two floors at the front (west). It is built mainly of brick with large areas of window typical of 1930s and 1940s architecture, having curved glass in the front elevation and featuring a pre-cast concrete barrel vault roof. The grounds are landscaped with trees, shrubs and lawns, it is still a very attractive building. The floor area is in excess of 30,000 square feet. There is a concrete yard with tarmac car park, and the factory is now split up into various units most of which are manufacturing. The original building is still intact.

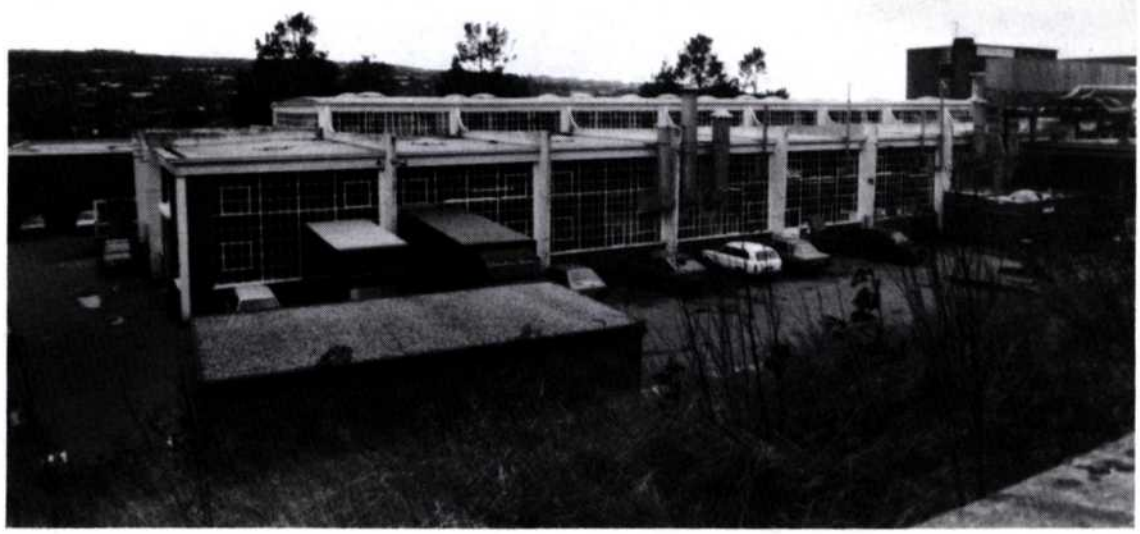


Fig. 6 Pullars Instruments factory, completed 1951

8. A purpose built factory for Henry Clark & Son Ltd, completed in 1953 (Fig. 7). This little factory was built at the eastern corner of Crowhurst Road where the road turns north. It comprised the factory buildings, a house plus a paved yard with a small car parking area. The factory is built of brick with cement facings to the door areas. The building incorporates a small tower-like structure which houses a stairway to the upper floor. The tower has a long top-to-bottom window, and a company motif is mounted on a round facing near the top of the tower. The floor area of the factory was originally about 10,000 square feet, but recent additions (not brick built) have increased this. In 1987 the complex was still in the hands of the original owners although Henry Clark is now amalgamated with Jotun. By late 1990 the building was empty but has been taken over by F.M.T. (formerly K.T.M. and C.V.A.) who intend to use it as offices and showrooms.

Fig. 7 Henry Clark & Son Ltd factory, completed 1953

Fig. 8 C.V.A. Jigs, Moulds & Tools No 6 factory, 1954 with 1962 extensions

9. A factory purpose built for C.V.A. Jigs Moulds & Tools Ltd. (Fig. 8). This was their No 6 factory and was completed in 1954 and extended in 1962. It was finally joined to the C.V.A. No 2 & 8 factories when No 8 was built in 1968. This factory is a very large building indeed, with facilities for handling heavy machinery. It has a high roof with large cranes running on rails for the full length of the building. The cranes have a load capacity of ten tons. It has girder frame with brick infill. There is office accommodation down one side on three levels, with interior windows looking down onto the workshop floor. The height of the building is not noticeable from a distance because the chalk hill is cut away to allow the factory building and access road to be on a level area. The hill rises above the factory almost to the height of the roof and allows the building to blend with the landscape. There is a large car park cut in tiers out of the chalk hillside. The floor area was originally about 84,000 square feet but the subsequent extension to the new No 8 factory increased this. The factory is still in very good condition and used by the original owners.

Fig. 9 Gross Cash Registers factory, completed 1960

10. A purpose built factory for Gross Cash Registers Ltd, completed in 1960 (Fig. 9). This very attractive building is one of those built in the later phase of development of the estate. It is in the area where Crowhurst Road turns north. The building is of brick with office accommodation on two levels at the front. It has a roof car park with a rather unusual access ramp which runs through the front of the west facing facade. The factory was occupied for a considerable time by Gross Cash Registers, and was one of three factories used by Gross on the estate. The company reached its peak in the run up to decimalisation of the coinage, but failed soon afterwards and all the factories were vacated. Floor area is about 23,000 square feet. The factory is still in good condition and is occupied by Wade Engineering.

11. A purpose built office block and store for S.M. Tidy Ltd. completed in 1963 (Fig. 10). This building was the last erected on the estate except for the C.V.A. No 8 extension. It is a rectangular block on three floors with a flat roof, and is not so attractive as the earlier buildings. It stands on the highest point of the estate, and being on three floors it is rather obtrusive. There is a large storage area at the rear which is steel framed with metal cladding and it is dated 1964/65. This has never been a factory for manufacturing industry, which is what the estate was originally intended for. The need, however, was to furnish a suitable base for Tidy's, who were at the time located in the town centre, and finding problems with heavy lorry access and parking. The office building stands on an area of about 3,000 square feet with three floors. The store and workshop buildings had found a new owner, Lloyds Bank. The storage space behind is split up between several wholesalers of various products.

Fig.10 S.M. Tidy Ltd building, completed 1963

12. A purpose built factory for the assembly of heavy machinery built for C.V.A. who were by this time called Kearney & Trecker C.V.A. (Fig.11). This was their No 8 factory and was built in 1968. This very large assembly and stores area was in fact an extension which joined the old C.V.A. No 2 and No 6 factories, making a very large complex indeed. It was built of non-ferrous cladding round a girder frame. It incorporated an air conditioning system, and was considered very modern in its concept. It is interesting to note that the original design had no windows at all, as it was considered that a good working environment was easier to maintain without the effect of large areas of glass. The final design, however, had tiny windows set very high in the wall. the floor area is in the region of 65,000 square feet, excluding the link bays which join No 8 with No 2 and No 6 factories. The fibre glass "chimney" does in fact hide the pipes which take away the fumes from the oil fired heating system. This was subsequently converted to gas. Very heavy floor controlled overhead cranes cover the whole area. They have a lifting capacity of up to 20 tons.

This factory, together with the C.V.A. No 2 factory, have been sold to the Southern Publishing Co. The inside has been gutted and foundation pits for printing machinery have been dug over half of the floor area to a depth of 20 feet. The roof has been removed and a girder framework for a conventional pitched roof is now in position. This will raise the roof height about 30 feet to allow space for the printing machines. Wtih the old C.V.A. No 2 factory Southern Publishing will have one large building extending from Crowhurst Road to the park at the edge of the estate.

An additional building has been erected on the open space to the south of the factory originally occupied by S. Smith & Son (England) and to the west of the building which was Kearney & Trecker C.V.A. Ltd. No 8. This space was a green area and car park but MFI have now built a carpet and furniture store with car park.

13. A purpose built factory for T.J. Rogers & Son (Fig. 12) who were manufacturers of industrial safety equipment. Completed about 1953, this very small factory building was used by the original lessees for some years, but was taken over by Henry Clark in the 1960s. The floor area is about 4,000 square feet, and the building is a very uninspiring rectangular brick structure. It is single storey and has a flat roof. The main entrance is on the west side facing Crowhurst Road.

Fig. 11 Kearney & Trecker CVA No. 8 factory 1968

Fig.12 T.J. Rogers & Son factory c.1953

It is interesting to note that even in the short space of time since the estate was planned, less than fifty years, the needs of industry have changed completely. Fifty years ago few industrial workers possessed cars, and local housing or ample public transport was essential, while car parking space had a low priority. Fork lift trucks were almost unknown; they first emerged during the war period, and factories with several floors and low headroom were the norm. A large and efficient rail network provided long distance transport for goods, and the road goods vehicles were very small and manoeuvrable by today's standards.

Today almost all factory workers own cars, and large areas of parking space on a factory estate are essential. It is interesting to note that in the 1960's when this problem first emerged, Brighton Council required that any new factory must have at least one car park space for every 500 square feet of industrial space of 200 car spaces for every acre of industry.

Some of the occupiers strengthened roofs and made car park spaces on the top of the factory - notably Creeds and Gross, but even this was not enough for modern needs. Huge articulated trucks are used to move almost all industrial goods today, and they require large areas of yard in which to manoeuvre. They require large unobstructed gateways and loading bays which were rarely included in the designs of fifty years ago.

The handling of goods today is mostly palletised, and fork lift trucks are universally used. They require easy access, high roofs, and single floor factories, to be used economically. Office space has changed dramatically, the modern need is for bulky and heavy mainframe hardware to service both normal office and production control facilities, and old buildings made no allowance for this.

It could be said that industrial buildings in this age have a very short life. The Brighton B power station at Southwick has been demolished after only thirty years, and it seems that the Hollingbury Industrial Estate will eventually go the same way. The Creed factory has gone to make way for a hypermarket: The Leytool factory has gone to make way for small business units, and most of the other factory buildings are split up among several firms. Of the larger employers on the original estate, only K.T.M. which was C.V.A. is now left, and the number of their employees has dropped dramatically to less than 400. The C.V.A./K.T.M. factory complex known as their No 6 and No 8 factories, are probably the most modern on the estate; having ample car parking, wide access areas, and single floor work space. As long as there is a demand for heavy engineering at Hollingbury, this factory on a reduced scale will survive. The future of others on the estate does seem very uncertain, however, and it would seem likely that many, if not all, will eventually be demolished; making way for the upsurge in demand for service industry buildings and small business units.

I am most grateful to Mr J.E. Bartlett, Brighton Borough Estates Surveyor, and to Mr K. Moody and Mr J. Morley, both officers of the Brighton Borough Estate Surveyor's Department at the time that the Hollingbury Industrial Estate was being developed.

APPENDIX

Letter of November 1948 describing the industrial estate sent to potential occupants

County Borough of Brighton.

H. P. NYE, F.R.I.C.S.
CHARTERED SURVEYOR.
ESTATES AND PROPERTY MANAGER.
VALUER.

TELEPHONE: BRIGHTON 6121 (2 LINES).

Estates and Valuation Office,
14, Ship Street,
Brighton, 1.

IN REPLY PLEASE QUOTE
B.C. 1530

BRIGHTON.

HOLLINGBURY ESTATE INDUSTRIAL AREA.

This attractive building estate, extending to about 15 acres, is situate on the Northern portion of the area known as the Carden Avenue Small Holdings. The Corporation propose to erect approximately 1,000 houses to the South-West of the land to be devoted to industrial purposes, and therefor an adequate supply of labour should be available.

APPROACH. The land may be appoached either from the London Road, by way of Carden Avenue, or from the Ditchling Road at its junction with Carden Avenue, near Stanmer Park. An area of land to the South, between the proposed industrial area and the proposed housing estate, is to be reserved as an open space. It is unlikely that development will take place to the North of the industrial area.

NATURE OF INDUSTRY. Industrial establishments should be of a light character only. It is most important that noxious fumes, smoke and excessive noise are eliminated.

COMMUNICATIONS. The site is approximately 1½ miles from the London-Brighton Road and a similar distance from the Lewes Road. It is proposed to improve Carden Avenue by widening the carriage-way and also by providing service roads. A roadway through the industrial area will be between 40 feet and 50 feet in width. A 'bus service is proposed through the housing estate from Ditchling Road and will pass within 250 yards of the industrial area.

SERVICES. An electricity supply will be made available. The current will be A.C. 50 cycles, 400/230 volts, 3 phase, 4 wire. Gas can be supplied by the Brighton Hove and Worthing Gas Company. A water supply can be made available to the site and the terms upon which this will be obtainable will depend upon the number of factories to be erected, and upon the demand for the water. Soil sewers will be installed, at the same time as the roads, by the Corporation. Surface water drainage will be by means of soak-a-ways.

DESIGN OF BUILDINGS. In view of the position which the buildings will occupy on the Southern face of the Downs and the fact that they will be visible for considerable distances, the design of buildings should be in keeping with the surroundings. It is desired that factories should not be too large and should preferably not be in excess of 10,000 feet super on one floor. In the construction of factories the use of brickwork will be most encouraged and the more modern materials such as concrete and pre-fabricated concrete severely limited. Generally the lay-out should be as attractive as possible and each factory should be surrounded by grass verges, flower gardens and shrubs. The Corporation are prepared to consider erecting buildings for suitable tenants.

PLANS. Specifications, plans, elevations and materials of the buildings will be subject to the approval of the Council.

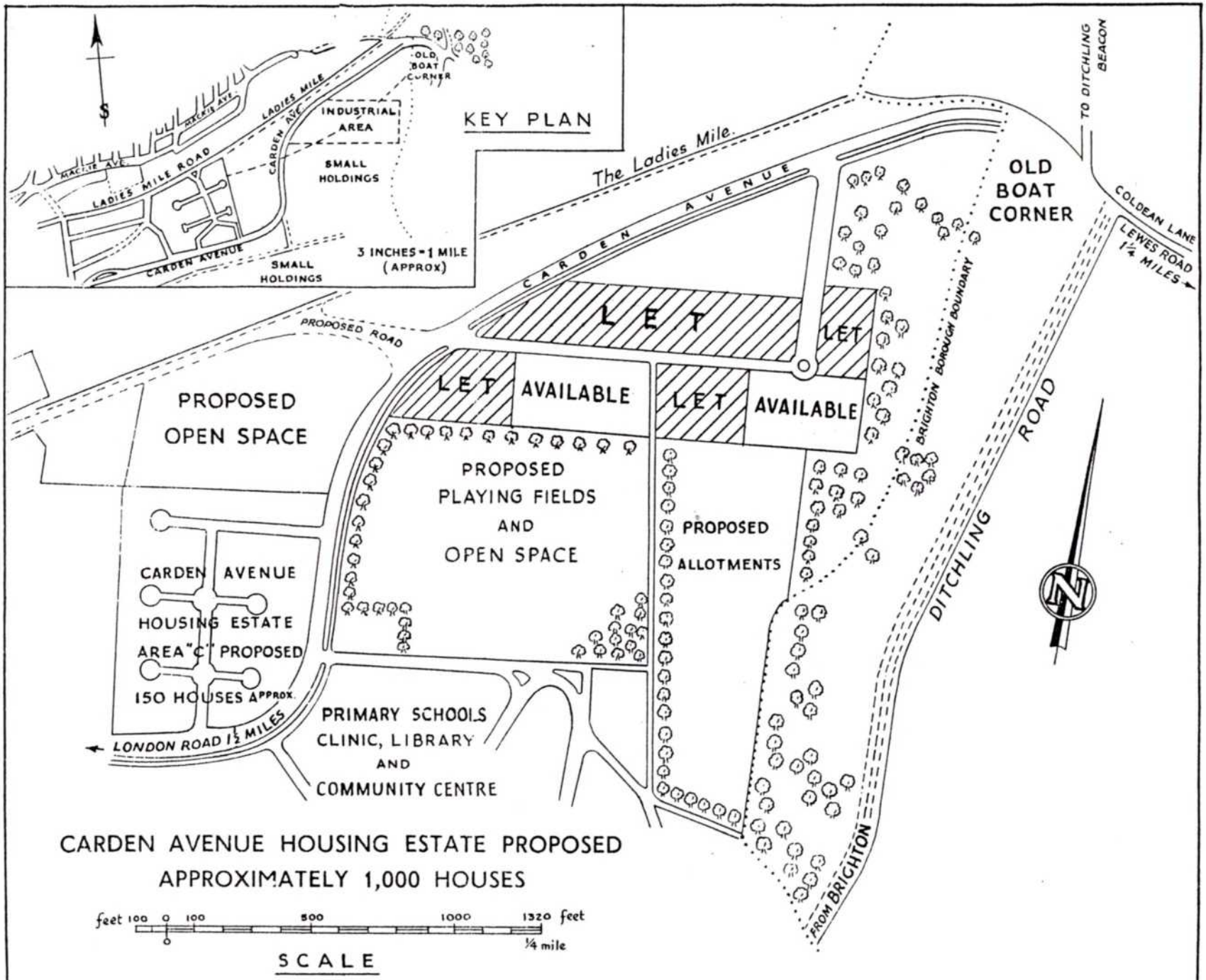
LEASES. Building leases will be granted for a period proper to the type of building and development proposed and approved.

GROUND RENTS. The amount of the Ground Rents will depend upon the position and area of the site, and the type of development proposed. For example, for a site of an area of half an acre a Ground Rent of £50 per annum might be suitable.

For any further particulars, apply:-

H. P. NYE, F.R.I.C.S.
The Estates Manager,
as above.

NOTE. These particulars are for information only and do not form part of any contract.



COUNTY BOROUGH OF BRIGHTON

PROPOSED INDUSTRIAL AREA—CARDEN AVENUE HOUSING ESTATE

D. J. HOWE, M.I.E.E., M.Inst.M.&Cy.E.,
BOROUGH ENGINEER & SURVEYOR,
TOWN HALL, BRIGHTON.

Previous numbers of Sussex Industrial History are still available:

No. 2 (1971) Dolphin Motors of Shoreham; Lime Kilns in Central Sussex

No.3 (1971/2) Lewes Population 1660-1800; Kingston Malthouse

No.5 (1972/3) East Sussex Milestones; West Brighton Estate; A Bridge for Littlehampton 1821-2

No.9 (1979) Ifield Mill; Iron Making; Petworth Water Supply; Ox-cart to steam engine; Hurst Green Foundary; Chalk Pits Museum

No.12 (1982) Piddinghoe Tile Kiln; Barkers, Brickmakers of Piddinghoe; Littlehampton Swing Bridge; Hillman's Brickyard, Partidge Green; Hastings Trams; Iron Working in Westfield

No.13 (1983) Brick and Tile Making on the Dicker; Round House Ashcombe; Estate Water Supply, Worth; Petworth Ice House; Brewery Well, Hastings; Worthing Gas; St. Pancras Engineering, Chichester

No.14 (1984/5) Palace Pier, Brighton; White & Thompson Ltd., Shoreham Airport; Charcoal Burner's Hut, Fittleworth, Ice Houses and Trade in Brighton; Mining and Subterranean Quarrying in Sussex.

No.15 (1985/6) Sussex Harbours; Offham Chalkpit Tramway; Ashburnham Limeworks; North Laine, Brighton; Uppark Water Supply; Iron Ore Trade

No.16 (1986) Identical to John King Gatwick: The Evolution of an Airport (see below)

No.17 (1987) Bognor Gas, Light & Coke Company; Glynde Aerial Railway; Bricks for the Martello Towers; Jesse Pumphery, Millwright

No.18 (1988) The Windmills and Millers of Brighton

No.19 (1989) Leather Industry, Bignor Park Pump; Lowfield Heath Mill; B.M.R. Gearless Car; Wadhurst Forge

No.20 (1990) William Cooper, Millwright. Foredown Isolation Hospital; The Ford Trimotor and Ford Aerodrome

Issues 2,3,5,9, 12 and 13 £1 each, issues 14,15, and 17, £1.50 each, issue 18 £2.50, issue 19 and 20 £2.25 plus post and packing 35p for one issue plus 20p for each subsequent issue.

Also available:

Sussex Industrial Archaeology: A Field Guide (1985) £3.95 post free

John King, Gatwick: The Evolution of an Airport (1986) £3.95 post free

Orders with remittance to R.G. Martin, 42 Falmer Avenue, Saltdean, Brighton BN2 8FG