Atlantic Park and its Refugees

Southampton (Eastleigh) Airport in the Nineteen Twenties

Jeff Pain

The area to the south of the railway works at Eastleigh has been used for flying since1910 when E. R. Moon made several flights in his second aircraft *Moonbeam*. Other intrepid aviators used these fields including an air show by Gustav Hamel reported as being in front of some 10 000 people in 1914.

During the First World War, the War Office requisitioned part of North Stoneham Farm in 1917 for a proposed Aircraft Acceptance Airfield, and in the following year work commenced. However about this time the American Navy were seeking similar facilities and, as this site was eminently suitable for their requirements, the uncompleted works were handed over in mid-July 1918, with American personnel arriving on the 23rd July. Work progressed and by September or October 1918 the base was operational, though since the war ended on November 11th, it did not have time to contribute greatly to the overall war effort. After only some five or six months in residence the staff returned to the USA and the site was mothballed.

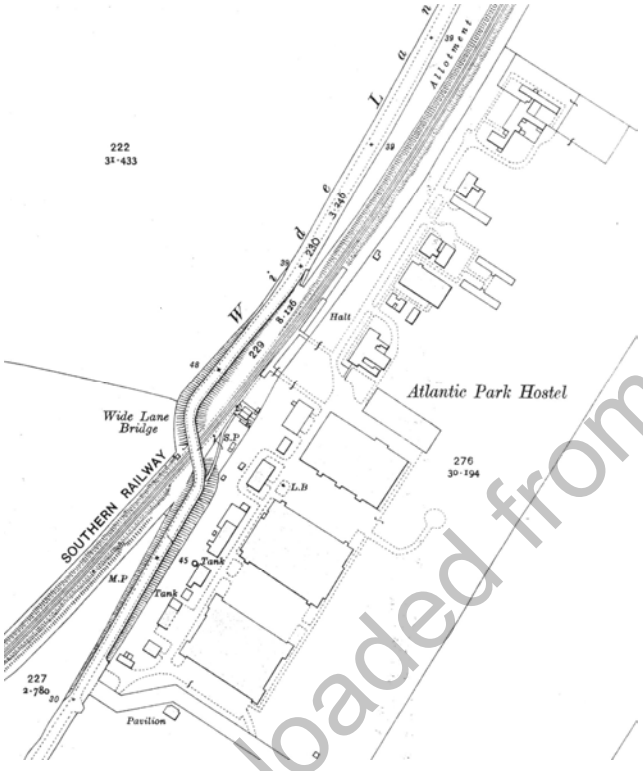


Figure 15. Ordnance Survey map of 1931 showing the Atlantic Park Hostel site.

After the war it was soon apparent that large numbers of people were homeless, mainly through ethnic and religious divisions highlighted by new national boundaries and the persecution of minorities. In these circumstances migration to the 'New World' was an attractive solution for many so, to cater for the anticipated mass movement, the Cunard, Canadian Pacific and White Star steamship companies set up the 'The Atlantic Park Hostel' as an assembly point for emigrants awaiting the next sailing from Southampton to the USA or Canada.

Migration to the developing countries of Canada, the USA, South Africa, Australia, New Zealand and some South American countries, had for one reason or another long been popular with Europeans. From the mid-nineteenth century, with the advent of more reliable shipping services, this increased dramatically and rather than the emigrants being mainly entrepreneurial, a growing number were refugees for social reasons including the universal scapegoats, the Jews. The shipping companies took advantage of this situation by offering 'steerage' accommodation of a very basic nature at low rates. Indeed, as late as 1904 the Cunard vessel *Caronia* of 19 594 GRT was built with accommodation for 300 first class, 350 second, 900 third and 1100 steerage passengers, though after the First World War she was refitted to accommodate 425 cabin class, 365 tourist and 650 third; an overall reduction of some 40% but still comprising pretty basic facilities.



In England, Liverpool handled most of this traffic. In Southampton, John Doling's emigrant lodging house in Albert Road, which opened in 1895, obviously catered for a need. However, after the war, governments on the continent were generally glad to see the back of thousands of refugees and displaced persons and were quite agreeable to facilitating emigration.

Figure 16. The Atlantic Hotel emigrant hostel in Albert Road. The building stands today, now being luxury flats but, in the interim, it has been a tobacco factory and a Labour Exchange. This card, probably bought in the hotel, was sent by Ethel in 1909 to her friend May in Ilford, promising to write (a letter) before she sails on Saturday.

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The countries receiving these souls had their own rules. The USA in particular, after the war, restricted immigration to 350 000 per year with a limit of a nominal 3% of any one country's population based on the 1910 census. Immigrants from North-West Europe were favoured and specifically Russia was limited to 25 000 per year, though this was later reduced.



Figure 17. The entrance to the Atlantic Park Hostel from Wide Lane displaying the names of the owning companies on first 'General Service' hanger. It was posted on the 11th August 1922 by Herbert to his mother in London complaining of another hitch in his travel arrangements. The only information he can gather is that he must stay at this place for a bit and go on to Southampton later (to catch a boat).

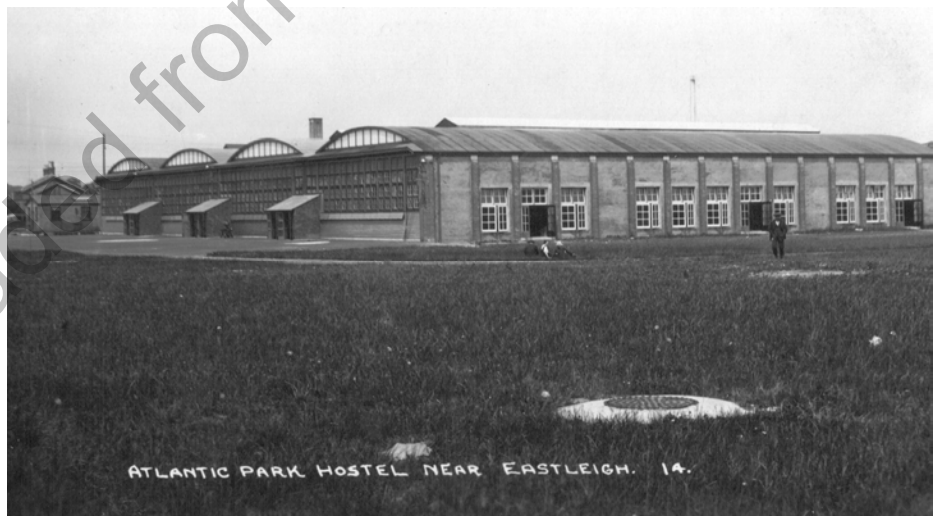


Figure 18. A view showing what had been store houses in US navy days but were now dormitories and cabins. From the same series as Figure 17.

Opening in 1922, Atlantic Park began receiving its first customers through shipping services from the Baltic to London and other east coast ports, thence by train to Eastleigh station where they were collected by the Park's own fleet of buses for their stay, which in theory should not have been much more than a week. During this time medical checks and interviews by officials of the receiving country were carried out, and all being well, the buses would deliver them to the docks in Southampton for embarkation. At this time, although there was a platform on the down line (only) at the Park, there is no evidence of its use either for arrivals or departures.

A description of the layout refers to the buildings being located on the western side of a perfectly level 32 acre site with a central tarmac road nearly half a mile in length. On the left were the gate house, coal store, vehicle shed, water tank, power house, offices, storehouses, the enquiry office, doctors' consulting room, dispensary, hospital, boiler house and laundry etc. On the other side of the road were the buildings of the hostel proper: namely, dormitories, day rooms, dining rooms, kitchens, smoke room, sitting room, shop, reception quarters, bathrooms, drying rooms, and staff quarters.

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The hostel had a write up in the *Cunard Magazine* for March 1924 and the following paragraphs are from this source (it is interesting to note that the other partners in this venture are not mentioned).

> "During the past two years, almost within sight of the English Channel a new township has sprung up with a population unique in the history of the English countryside – a population that changes from week to week, from day to day almost, but which is always a Europe in miniature. Through its gates pass in and out in a single year a score of thousands of those who are seeking escape from the trials and tribulations of a continent suffering still from the complications left by the Great War……. On arrival they pass to the dining hall for a hot meal, then they are shown their sleeping accommodation, as soon as convenient a medical examination is carried out. On the day before sailing, passports are checked and steamer tickets are issued so that the passengers are cleared for embarkation."



Figure 19. One of the 'GS' hangers adapted for use as a sitting room. Note the wooden Belfast truss roof. Unfortunately, the image on the card has deteriorated.



Figure20. Not postally used. The caption translates as: "Sport circle" 'Sport Team Atlantic Park, England. Photo by Chitrick.' The message on the reverse translates as: '7 Jan 1926. For long and kind memories of B. Necheiro from all friends at Atlantic Park.'

"There are two dinning halls, one for Jews and one for non-Jewish passengers, clean white cloths cover the tables, blue overalled waitresses provide rapid service….. there is a huge cooking range capable of roasting 2000 pounds of meat at once. Six large soup boilers can supply 400 gallons of hot soup in less than a quarter of an hour …….. twelve steam ovens can cook six hundredweight of potatoes in twenty minutes ……. whilst the automatic plate and dish washer can wash and dry 10 000 pieces per hour ….. the hostel can house some 2 000 people at one time, of which a good portion are in closed quarters, the remainder being in male or female dormitories…. each passenger is provided with a bedstead, spring mattress, mattress cover, sheets, blankets, counterpane, pillow and pillow slips. There are long ranges of lavatories, numerous wash basins with hot and cold water and a clean towel for every person, nearby are bath houses which can be used at any hour of the day."

"There is a recreation hall, smoking room, writing room and a sitting room for women and children, also a well-stocked shop and foreign money can be exchanged for vouchers in a special bureau. In addition there is a special section of the buildings devoted to passengers travelling in cabin or second class with better appointed accommodation and facilities. Available for all, are a library with many foreign books and papers, an indoor sports hall for

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badminton and baseball etc, outdoor playing fields, and in the evenings musical or theatrical shows can be staged. Classes for learning English are available and providing they have sufficient funds they are free to explore the local area."

Atlantic Park was intended to be a commercial venture and the 'Atlantic Park Hostel Company Limited' was registered with a nominal capital of £99 999. The site had a telephone exchange and a 220V electricity supply from its own power station. The intended accommodation appears to have been for 150 second class passengers, 300 places reserved for British and Scandinavian emigrants and some 2000 other trans-migrants (these descriptions being in line with US immigration classifications). There was a permanent staff of about 150 including a Matron, Medical Officer, Engineer and four language interpreters. The numbers passing through from March 1922 rose to some 20 000 in 1923, falling generally until 1928 after which there was a dramatic drop until its closure in October 1931.

One group of Russian Jews had the misfortune of an extended stay, having sailed from Riga in 1923, they passed through Atlantic Park and sailed for the USA but, whilst en route, the entry quota was severely restricted and after spending some time on Ellis Island 980 found themselves back Atlantic Park.



Figure 21. Not postally used. The caption translates as: 'Jewish Drama circle at A.P.H. England. Photo by Chitrick.' The message on the reverse translates as: 'To the memory of the respected member of our club, Belle Necheiro. From members of the club, England. Southampton, January 27th 1925.'

The expense of all this and their extended stay was only partly recoverable from the immigrants but it appears to have been preferable to returning them any further back which would have been difficult if not impossible. Another account suggests that some, having arrived at the dockside to embark on the *Aquitania*, were then turned back at that stage when news of the quota restrictions came through. However, many had an extended stay, mixing with the local community and at one time some 200 children attended schools in Eastleigh.

In February 1925 Lady Swaythling wrote to President Coolidge pleading their case. This apparently had some effect as by April 1926 only 250 remained, by October this was down to 176 but it still took another year or so before they all had gone.



Figure 22. Not postally used. A group of refugees, the message on the reverse reads (in English): 'for kind rememberance (sic) toMiss Fanny from a friend Sol Passikoff. Atlantic Park, Eastleigh. Hants. 7 May 1926

It is worth mentioning that, although they had freedom to temporarily leave the site, the British Government would not allow any to settle in the UK even though aid was forthcoming from the resident Jewish community. The only possible exception was a deaf and dumb boy who, being unable to comply with US educational requirements, remained when the site closed.

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Figure 23. Eastleigh has a reputation for its carnival and Atlantic Park made its contribution. Undated, but the sailors appear to be local workers with emigrants playing themselves.



Figure 24. This group is neither captioned nor dated. Whilst the men in the back row appear to be emigrants I am not so sure about the rest. They could be local staff or maybe it was possible to earn money as temporary workers.

To illustrate the experiences of a displaced community I have used an article by Arthur Kroeger of Ottawa Canada, about his father Heinrich Kroeger as an example of the many refugees seeking a new life as groups or individuals, who passed through Atlantic Park during the 1920s.

The Kroegers were Mennonites. The Mennonites were a branch of the Anabaptist movement that emerged in Switzerland during the Protestant reformation; distinctive features of the sect being adult baptism, pacifism and rejection of state or official religion. They moved around Europe seeking religious freedom. In the late sixteenth century the repressive regime of Charles V of the Netherlands caused their migration to the Vistula Delta in Prussia, where they established a reputation as good farmers and were able to practice their religion in peace.

With the partition of Poland in 1772 they came under the less tolerant Prussian regime. Under growing restrictions they decided to move; some emigrated to the USA while others were attracted by an invitation from Catherine the Great of Russia for German farmers to settle in her southern lands from which the Turks had recently been evicted. Guarantees of religious freedom and exemption from military service were given by the Tsarist government and in 1788 the first wagon trains moved east to establish a settlement around Choritza in central Ukraine followed by a second and larger exodus in 1804 to an area further south and east of the Dnieper river.

Initially the settlers faced many hardships but over the years the population grew to over 100 000 across some 400 villages, with their own schools, hospitals, banks, social security systems and government, becoming almost a state within a state. This did incur some animosity from the indigenous population and although they called themselves “die stillen im land” (the quiet ones of the land) and tried to steer clear of political controversies, this could not last for ever. In the 1870s there was a proposal to re-impose military service; the result of which brought thoughts of emigration again. However, the prospect of losing large numbers of their best farmers prompted a slight change in as much as conscripts could do their ‘military’ service on forestry stations and not bear arms. Most accepted this compromise, but a substantial number did not and were admitted to Canada establishing a presence in southern Manitoba.

In the period up to the First World War, the Mennonite communities in southern Russia attained considerable prosperity as evidenced by their substantial houses, churches and educational institutions. Although farming remained the principal activity some 70 steam mills and 8 major factories were established. The community

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provided the Mayor for Ekaterinoslav (present day Dnipropetrovs'k) and also 2 members for the Russian parliament.

Heinrich Kroeger's diary for the summer of 1914 depicts a tranquil scene, supervising work at his wagon factory, dealing with various crops and making furniture for the home. This was about to change; on July 25th he was unable to travel to a funeral as the military had requisitioned all the trains, then in early August he was threshing grain for the families of Ukrainian farmers called up for the war. In September he, along with many other young men, volunteered for duty as Medical Orderlies. His duties were mainly on Hospital Trains between the front and Moscow or Kiev. In 1917, he was given a medical discharge and returned home.

Although there was some anti-German sentiment against the Mennonites the community remained intact. However, this was about to change. In the aftermath of the Bolshevik revolution, Heinrich's village changed hands five times in one year between the 'Reds' and the 'Whites', in addition to which marauding bands of anarchists roamed the country side inflicting rape, looting and murder. In the village of Choritza 400 women were treated for venereal disease. Over a three year period the population of the area went down from 13 000 to 8 000 through war and a major typhus epidemic. In 1920 there was drought and in the following year starvation loomed, and only aid from the North American communities relieved the situation. Next came inflation; on 15th February Heinrich records paying out 15 billion roubles and a week later receiving 170 billion roubles in rent.

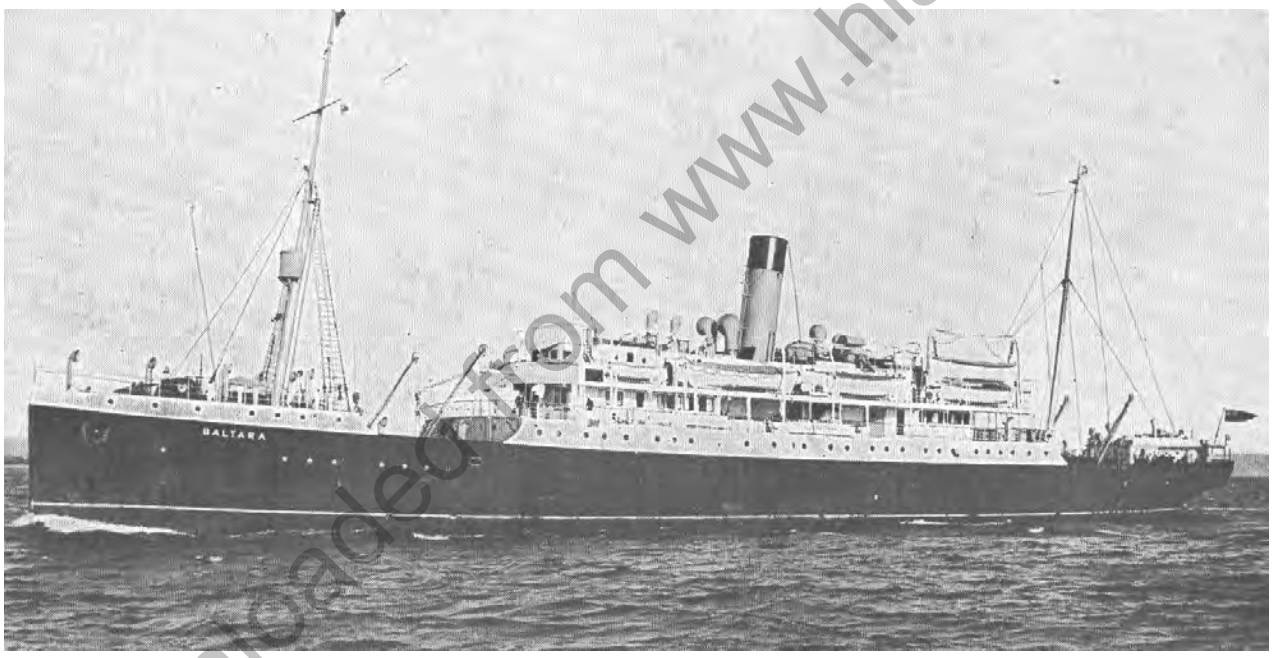


Figure 25. T.S.S. *Baltara* (2379 GRT) of the United Baltic Corporation Ltd. Built 1909 as the *Berbice* of Royal Mail Line for service in the Caribbean. After war service as a hospital ship she was renamed *Suntemple*. Released by the Admiralty in 1921 she was sold to UBC who renamed her *Baltara*. She ran aground at the entrance to the Weichsee river on 11 Jan 1929 and was declared a total loss.

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By the early 1920s, many in the Mennonite communities began to ask if they had any future in Russia. The Soviets were generally hostile, collectivisation was coming, religion was a dirty word and continued exemption from military service was not likely. So, with encouragement from the established community in Canada, negotiations between the Canadian and Russian governments agreed to the transfer of some 20 000 people. The cost of transportation ($140.cdn per head.) was advanced by the Canadian Pacific Company on the understanding that the refugees made repayment from their future earnings. Indeed, all debts were eventually cleared though in many cases not until the 1940s by the next generation.



Figure 26. The Canadian Pacific Company's *Marloch* (10 635 GRT). Built 1904 in Belfast as the *Victorian* for the Allen Line of Glasgow, she was the first turbine steamer on the North Atlantic. Served as an auxiliary cruiser during WW1, released from service in 1920 and refitted 1921 by Canadian Pacific which had bought the Allen Line. Used between the UK and Canada until scrapped in 1929.

In Heinrich Kroeger's case he left Choritza in central Ukraine with his wife and five children by train on 17th August 1926, crossing into Latvia six days later and sailed from Libau (present day Liepaja) on 27th August on board the *Baltara* arriving Southampton 1st September and transferring to Atlantic Park. Their stay was very short as they sailed on the *Marloch* on 4th September, arriving in Quebec 20th September still to be faced with a 2000 mile rail journey to Alberta.

Heinrich was by now 42 years of age. After all his experiences, his arrival coincided with the start of the depression which particularly hit the farmers in North America. Though he was unable to take full benefit of the 'New World', the next generation was able to take advantage of better times and at least two of his children held senior positions in the Canadian government.

By the time of the closure of Atlantic Park in October 1931, some 90 000 trans-migrants had passed through its gates. The site lay dormant until November 1932 when it was purchased by Southampton Corporation and became once again a full time airport. However that is another story.

Sources.

Cunard Magazine, March 1924
Kludas, Arnold, *Great Passenger Ships of the World,* **Vol. 1**
Kroeger, Arthur, *Mennonite Roots*
Kushner, Tony and Knox, Katherine, *Refugees in an age of Genocide*
New, Peter, *Hampshire Magazine,* April 1971
Ordnance Survey Maps
Ships Monthly, December 1999
Southampton City Library. Local History Section

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The disposal of Winchester's refuse, 1884-1974

Martin Gregory

The drive for public health improvements in the nineteenth century, that lead to the construction of mains sewerage systems for the growing towns and cities, also gave rise to improvements in the disposal of the solid waste. Landfill was one solution but for many towns the incineration or destruction of the refuse was another. A short history of the sewage pumping station in Winchester was given in a previous HIAS Journal [1]. Winchester was also a leader in the use of destructors for the disposal of household and commercial refuse.

The destructor provided a way, not only of disposing of refuse, but of doing so in a way which removed the health risks associated with mounds of refuse near towns. The first patent for a furnace in which domestic and trades' refuse is destroyed was granted to Alfred Fryer on 5th August 1876 (number 3125). To describe his invention Fryer stated:

> In many towns the House refuse or contents of ash-pits is collected in a semi-solid state, such material consisting partly of cinders and ashes, partly of solid excreta and other matters, and partly of liquid.
>
> For the solid matter….. These furnaces I construct with the firebars sloping at a somewhat steep angle towards doors, towards which cinders are raked down, and through which the slag is eventually withdrawn……. The cinders and other matters passing through the hopper rest upon a firebrick bed, sloping down towards the firebars, and along this they have to pass some distance with the heated gases of the furnace playing over them…….
>
> Where the cinders are in a state of minute subdivision……..as to cause the mass to cake together, an artificial blast may be used to promote combustion. Furnaces thus constructed are also suitable for the purpose of destroying refuse matter which would otherwise be offensive……
>
> The products of combustion from these furnaces I employ on their way to the chimney to generate steam……

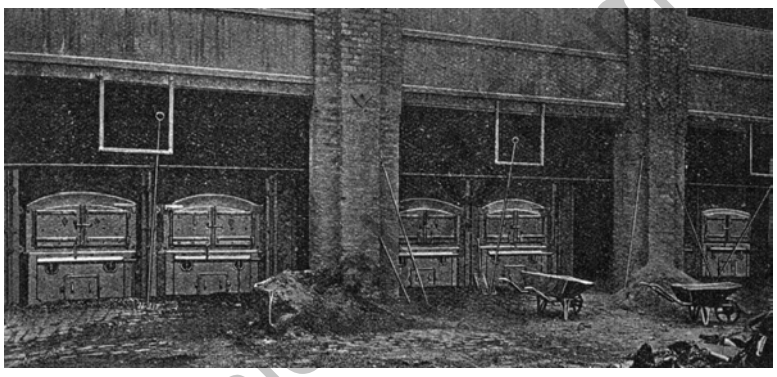


Figure 27. Fryer's installation for Manchester Corporation in 1876

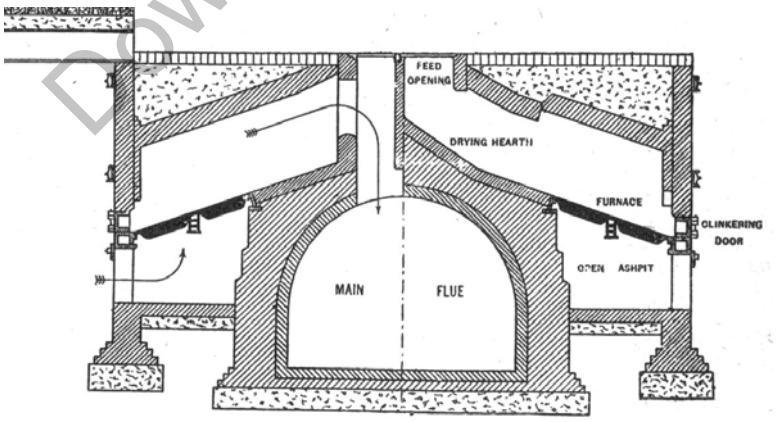


Figure 28. Cross-section of Fryer's original design

Fryer's patent identifies all the basic useful principles for a destructor or incinerator: a pre-heating area to dry the refuse, forced draught to ensure complete combustion, and utilisation of the waste heat produced. His first installation was a large one for Manchester Corporation (Figure 27). The Fryer destructor manufactured by Manlove, Alliott and Fryer of Nottingham was constructed as a row of back-to-back cells spanning a central flue (Figures 28).[2] The tipping and loading area was above the destructor so that the grates were fed by gravity. Each cell was split into two widthways with half receiving new refuse from the loading chute above the destructor, and half carrying the combustion products into the central flue and up the chimney. Doors were provided for removing clinker from the grates and the ash-pit below was open unless forced draught was used.

The first destructor in Winchester was built by Manlove, Alliott and Fryer in

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1884 and consisted of a pair of back-to-back Fryer cells. This was extended in 1891 with a pair of cells by Goddard, Massey and Warner. The destructor used the same chimney as the boiler house of the pumping station and its flue contained a feed water heater for the steam engine boilers. It was claimed that this feed water heating led to a 30% decrease in coal consumption for the boilers powering the steam pumps. The material dealt with by the destructor consisted of 'ordinary house refuse, including offal from fish shops, fruiterers, etc'. By 1900 Meldrum steam blowers had been added after which the cells 'now do about double the work and make better clinker. The steam blower allowed the retention of open ash-pits as the steam jets below the grate stopped the refuse caking and maintained the airflow through the grate. The labour of burning costs about 10 pence per ton'.[3] There was a good demand for the ashes and clinker at 2 shillings per load. What was not sold was made up into paving stones.

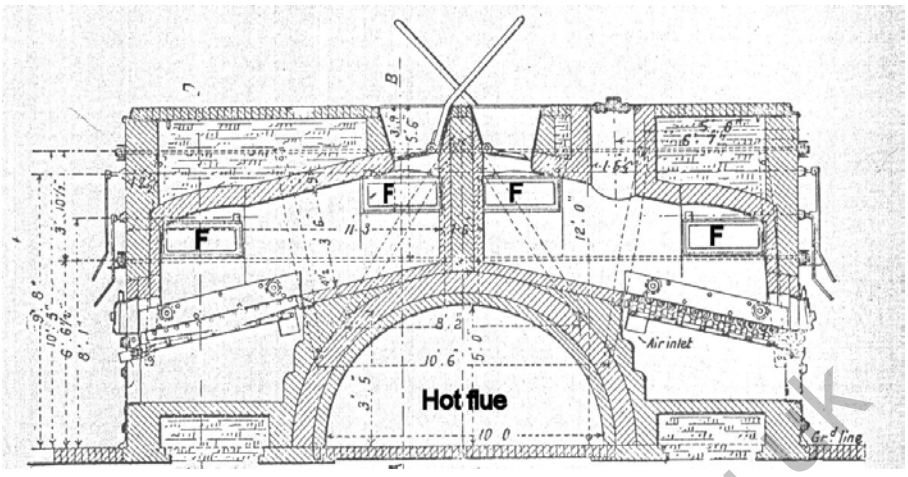


Figure 29.The Warner 'Perfectus' destructor cell showing its similarities with the Fryer destructor cell.

The Warner 'Perfectus' destructor (Figure 29) was similar in layout to Fryer's destructor and could easily by built alongside as it was at Winchester. The feeding hoppers had an airlock. They were filled and covered over, then the bottom door was released; thus the escape of smoke and fumes was avoided. There were flues **FFFF** alongside the grates as well as over the central arch and, as all these had dampers, there was better control of combustion. The ash-pits were still open but Warner's was a more sophisticated design.



Figure 30. Winchester destructor c1900 with Fryer and Warner cells. A horse and refuse cart is about to leave. The base of the chimney is on the right with the boiler house behind.

The Edwardian era saw considerable popularity for incineration as a way of disposing of refuse and most large towns and cities acquired destructor plants. One reason was the large energy content of the rubbish of

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the day. In 1905 the average person binned 150 kg of rubbish per year. In 2005 it was over 500 kg of rubbish per year! In 1905 this refuse consisted of 50% by weight of partially burnt coal, breeze and cinder, 13% paper and fibrous material, and only 3% glass, metals and tins. For those days when everyone heated their houses with coal fires, burning refuse produced over 2000 BThU per pound (nearly 5 MJ kg^{-1}),[4] a figure several times larger than that for today's rubbish.

In the 1904 extensions to the Winchester pumping station in Garnier Road, the old destructor was rebuilt with a four cell installation by Wood and Brodie. In this arrangement (Figure 31) each pair of cells sandwiched a water tube boiler. The combustion products were taken from above the grates via two 'hot' flues to the boiler and thence along the central 'cold' flue to the chimney. An auxiliary grate below the boiler could be fired with coal when the energy content of the refuse was inadequate to raise sufficient steam. This occurred rarely in the days when coal provided most of the domestic heating load. With the 1904 improvements the old boilers were taken out of service and all steam raising was from the refuse destructor. Figures 32 and 33 show the Garnier Road destructor when new just before it was commissioned.

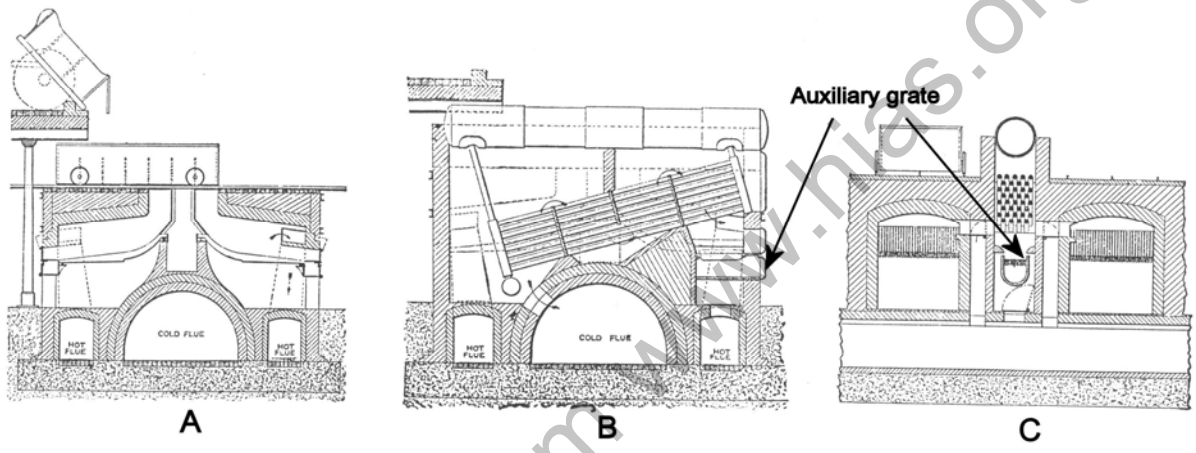


Figure 31. Three sections through the Wood and Brodie destructor. A shows a cross-section of a twin cell like that of Fryer. B and C show the layout of the water tube boiler and the auxiliary grate suspended below the boiler and between the two destructor cells.



Figure 32. The Winchester 1904 destructor when new. The ramp to the tipping floor comes up over the arch at the right. The ash-pits are accessed through the arch at the right and the doors in the white building in the centre.

In most of these early designs, refuse awaiting disposal was stored on top of the destructor. There were constant complaints about 'stewing' of the refuse and poor working conditions for the staff. Meldrum's Top-feed destructor (Figure 34), and a similar design by Heenan and Froude, sought to ameliorate this nuisance by tipping the refuse into a large steel bin which was then moved on rails to a position over the charging hole when required. Another design by Willoughby used a rotating firebrick-lined tube as the combustion chamber rather like a modern rotary cement kiln.

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Maintenance on destructors was expensive because of the high temperatures and wide range of materials fed into the cells. Firebrick linings required frequent renewal.[5] An allied field in firebox design was the provision of special boiler layouts to burn straw, sugar cane waste (bagasse) banana leaves etc. Many boiler makers made special versions for what were then the British Colonies to burn local agricultural waste.

One such steam raising plant was the Carrier-Tuppen furnace designed for banana plantations. By 1938 the 1904 Winchester destructor was beyond economic repair and three out of the four cells were out of use. A Carrier-Tuppen furnace with a second hand Babcock and Wilcox boiler replaced the three derelict cells. The destructor was a demonstrator for the Carrier Company who wrote, 'This new furnace has been operating on Tropical Refuse (Bananas) …….. for seven months continuously day and night and we are desirious (sic) of testing the same on English Refuse …….. without liability on your part in the event of failure.' The contract stipulated that if, after a six month trial, the Winchester City Engineer was not satisfied with the furnace and it did not burn 1.5 tons per hour, the furnace would be removed at their expense and replaced by another of the Engineer's choice.[6] The Carrier-Tuppen destructor (Figure 35) had a long inclined drying hearth from the charging opening to the grate. The brickwork of this hearth was in panels which were vibrated by electric motors to shake the refuse down the hearth. The flue above the grate led to the boiler and then up the chimney. The Carrier-Tuppen destructor cannot have been a disaster as it remained in use throughout the 1939-45 war and all its shortages, up to the rebuilding of 1949.

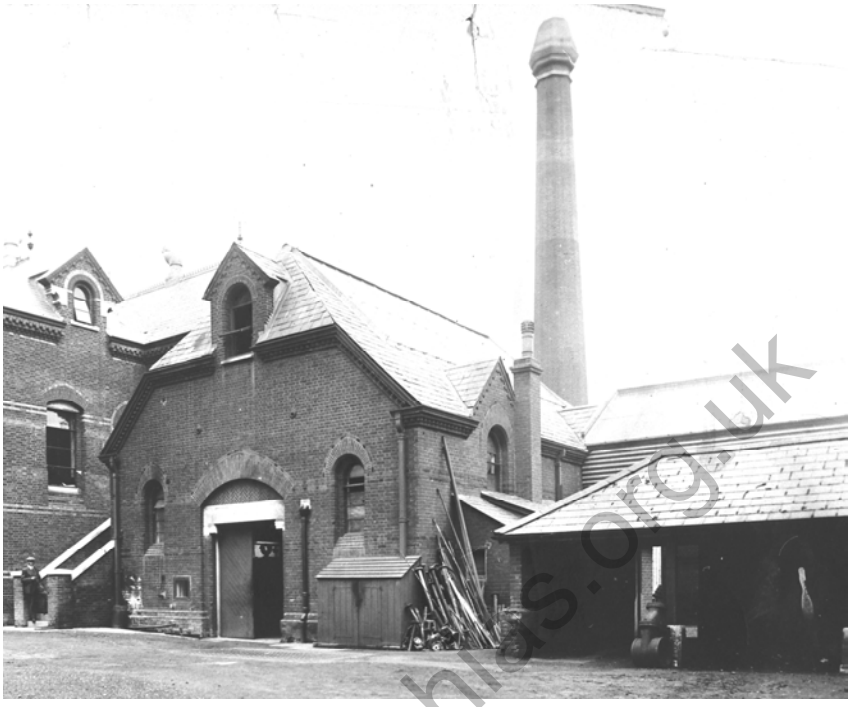


Figure 33. Winchester; the old boiler house with the new (1904) destructor behind at the right.

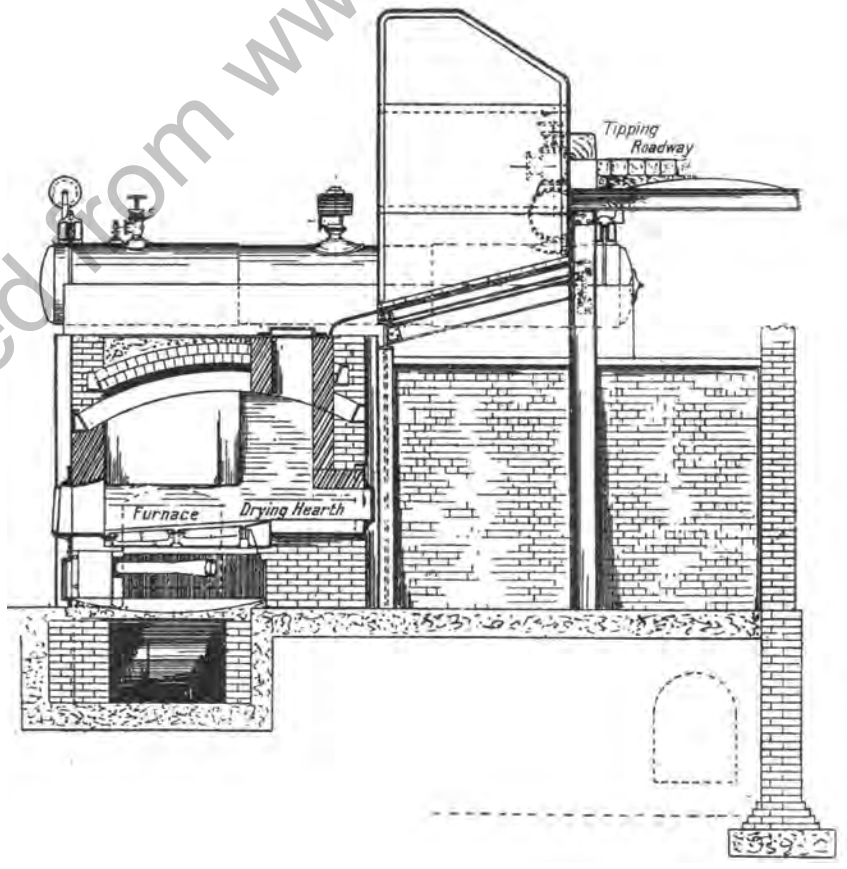


Figure 34. The Meldrum Top-feed destructor with moving steel hopper.

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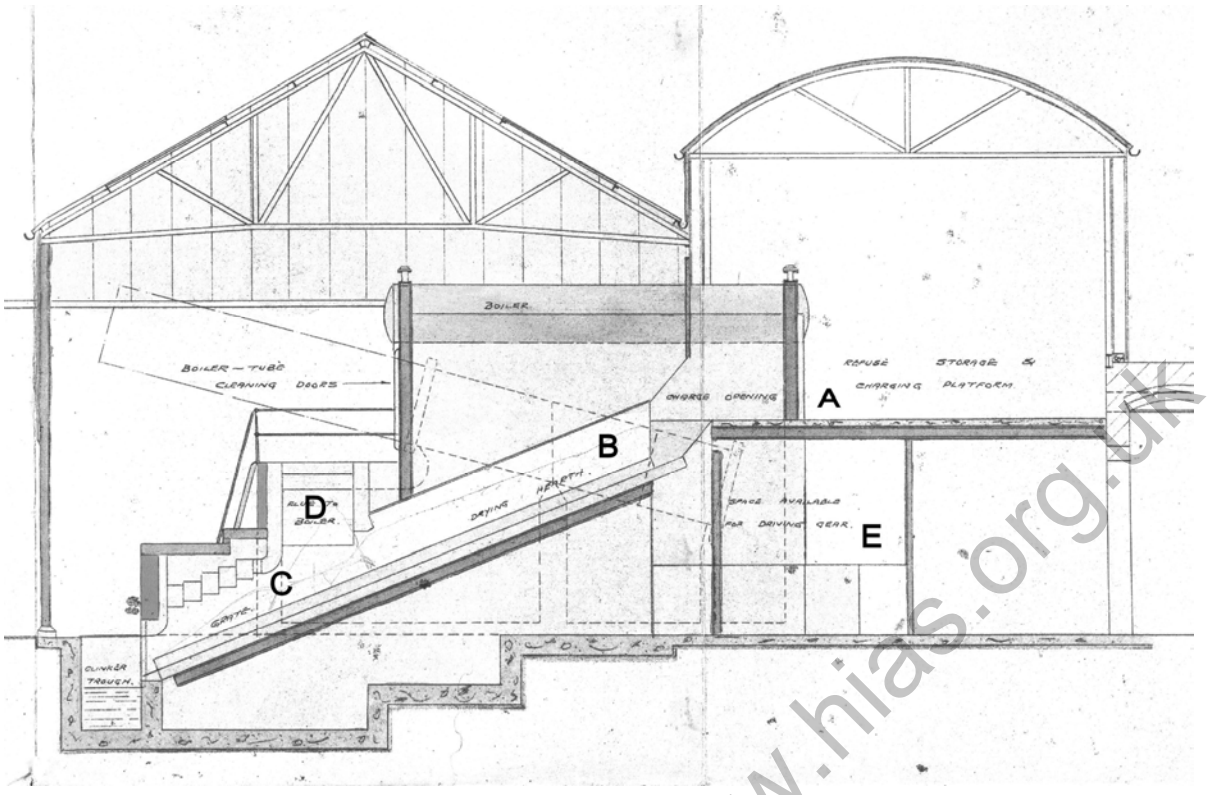


Figure 35.Contract drawing for the Carrier-Tuppen destructor (HRO, W/G1/487). Refuse enters onto the tipping floor at A and is loaded onto the inclined drying hearth B. C is the grate and D the flue to take the hot gases to the boiler behind. E is the motor room for the electric motors to drive the shakers to move refuse down the inclined hearth.

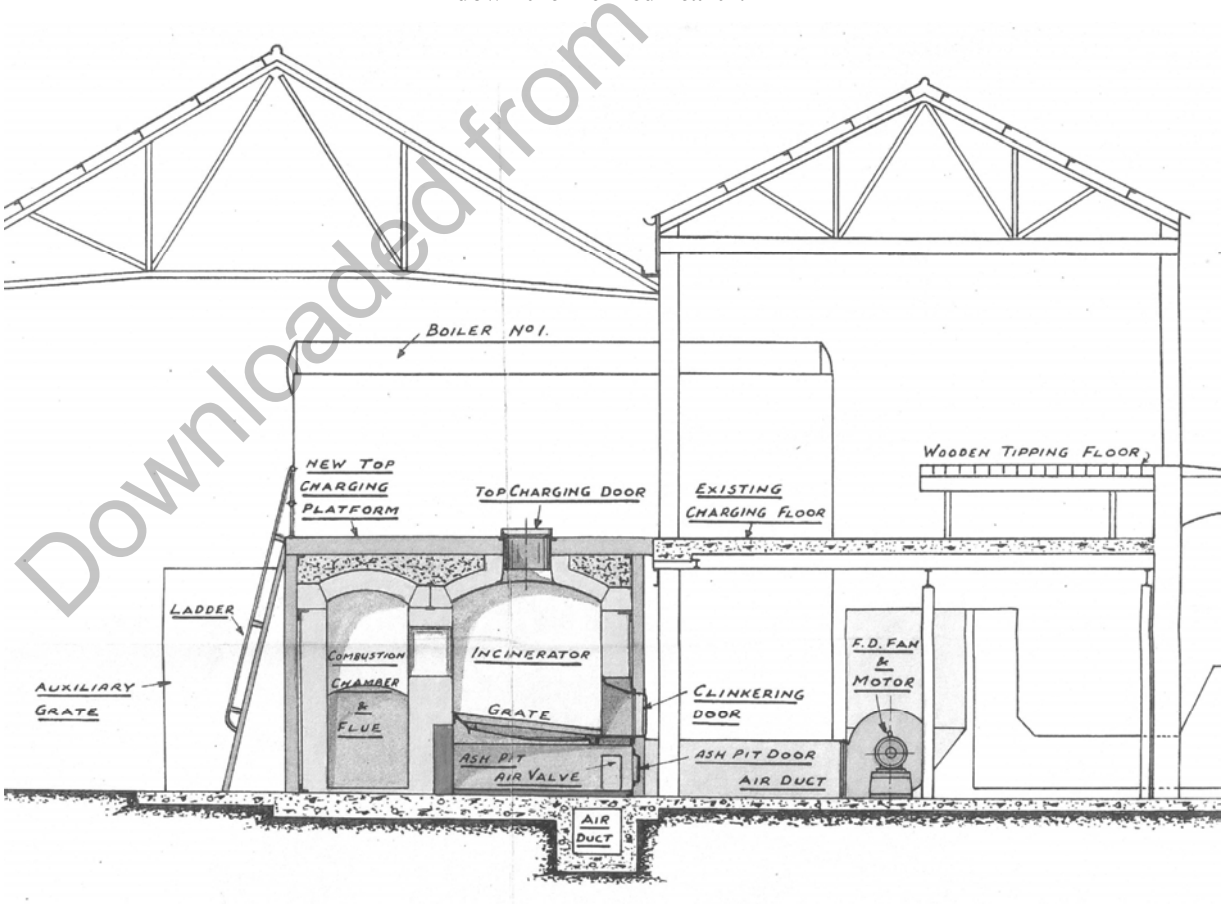


Figure 36. Contract drawing for Heenan and Froude destructor (HRO, W/G1/645)

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In 1949 the last of Winchester's destructors was installed. This time the City opted for a two cell top-feed design by Heenan and Froude (Figure 36). It was a simple straightforward design with closed ash-pits and forced draught provided by an electric fan.[7] At the same time, a larger auxiliary grate was built for the boiler to compensate for the drop in energy content of the refuse, as gas and electricity became more available and cheaper than coal for heating the home. Post 1950 the volume of domestic refuse continued to increase rapidly and its energy content to decrease. More electric and diesel pumps reduced the dependence of the pumping station on steam so that, by the end of the 1950s, although considerable quantities of coal were being burnt in the auxiliary grate, steam only provided 45% of the energy requirements. In 1959, the Heenan and Froude destructor was rebuilt and a further cell was added. The two old boilers were removed and replaced by a single new Babcock and Wilcox water tube boiler with oil firing of the auxiliary grate when the energy content of the refuse was low.



Figure 37. The tipping floor in 1974. The steam drum of the boiler can be seen at the right.

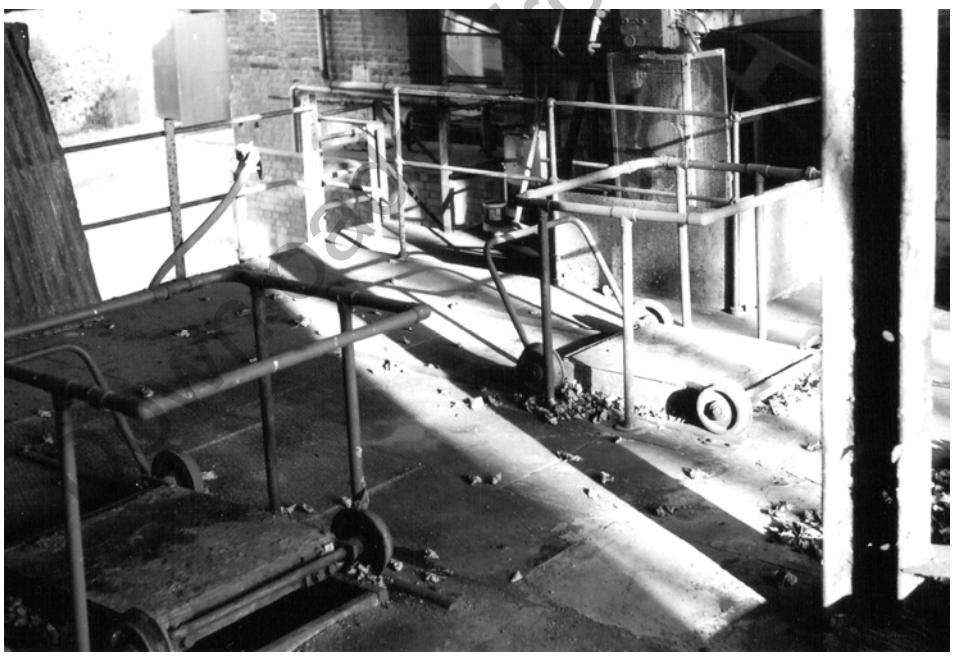


Figure 38. The charging floor showing the charging holes for two of the cells. The wheeled covers are mounted on rails.

The use of oil firing saved manpower and appeared economic in 1959 but had become very expensive after the oil price rises of 1973. The 1974 reorganisation of local government resulted in the closure of the Garnier Road destructor and all the steam plant. A new incinerator for the Winchester area was constructed at Otterbourne; one whose waste heat energy serves only to create thermal pollution.

Figure 37 shows the tipping floor of the Heenan and Froude incinerator in its last few months of operation. Piles of refuse are everywhere!

Figures 38 and 39 were taken after closure but before demolition. The ramp up to the tipping floor and the arched 'tunnel' accessing the motors for the forced draught and the clinkering holes remained the same structure for all the twentieth century destructors. All the designs installed involved considerable manual work loading refuse into the destructor and removing the clinker after burning.

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With the shortage of suitable landfill sites for refuse disposal and the demands to diversify the production of electrical power, the construction of new incinerators, or destructors, as the heat energy source for power stations, is once again a live technology. The nature and composition of refuse has changed with most metals removed for recycling, almost zero solid fuel ash and much of the paper and plastic recycled. Incineration remains, however, the only way to recover some of the energy expended in making some plastics and composite materials.



Figure 39. The clinkering holes from the 'tunnel' under the ramp to the tipping floor. The air-tight doors to both grates and ash-pits of the three cells can be seen.

References

1. Gregory, Martin, *Garnier Road Sewage Pumping Station, Winchester*, HIAS Journal **13** pp23-8 (2005)
2. Goodrich, W. F., *Modern Destructor Practice*, Charles Griffin, London. (1912)
3. Maxwell, W.H.,*The removal of Town Refuse,* pp347-8, The Sanitary Publishing Co. Ltd., London. (1905)
4. Hutton, Walter S., *Steam-boiler Construction*, Crosby Lockwood & Son, London. (1903)
5. Neal, A.W., *Refuse Destructors and Separation*, The Technical Press, London. (1938)
6. Hampshire Record Office (HRO), Winchester City Contracts file W/G1/487. (1938)
7. Hampshire Record Office (HRO), Winchester City Contracts file W/G1/645. (1949)

Downloaded from www.hias.org.uk