

APPENDIX

ROYAL WORCESTER PORCELAIN WORKS, HISTORICAL AND INDUSTRIAL RESEARCH OF BUILDING J

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History and development

In 1840 the workforce from the newly acquired rival porcelain company, Flight, Barr and Barr moved from the Warmstry House factory onto the Severn Street site. At that time the north of two arms that run either side of the original Chamberlain building was built and, although later modified, is the original build (a blue and white ceramic plaque testifies that 'This Building Erected Oct 1840'). A plan of 1842 (Figure 1) shows the southern arm which was possibly a twin of the north arm. For instance both arms are of a similar width and length but it is more likely that the southern arm was made up of at least two joined buildings. The northern arm was given over to 'Potting Rooms and Counting House'. The southern arm was for 'Burnishing and Potting ...' and lies as the western part of Building J but, as we shall see, was rebuilt into its present form.

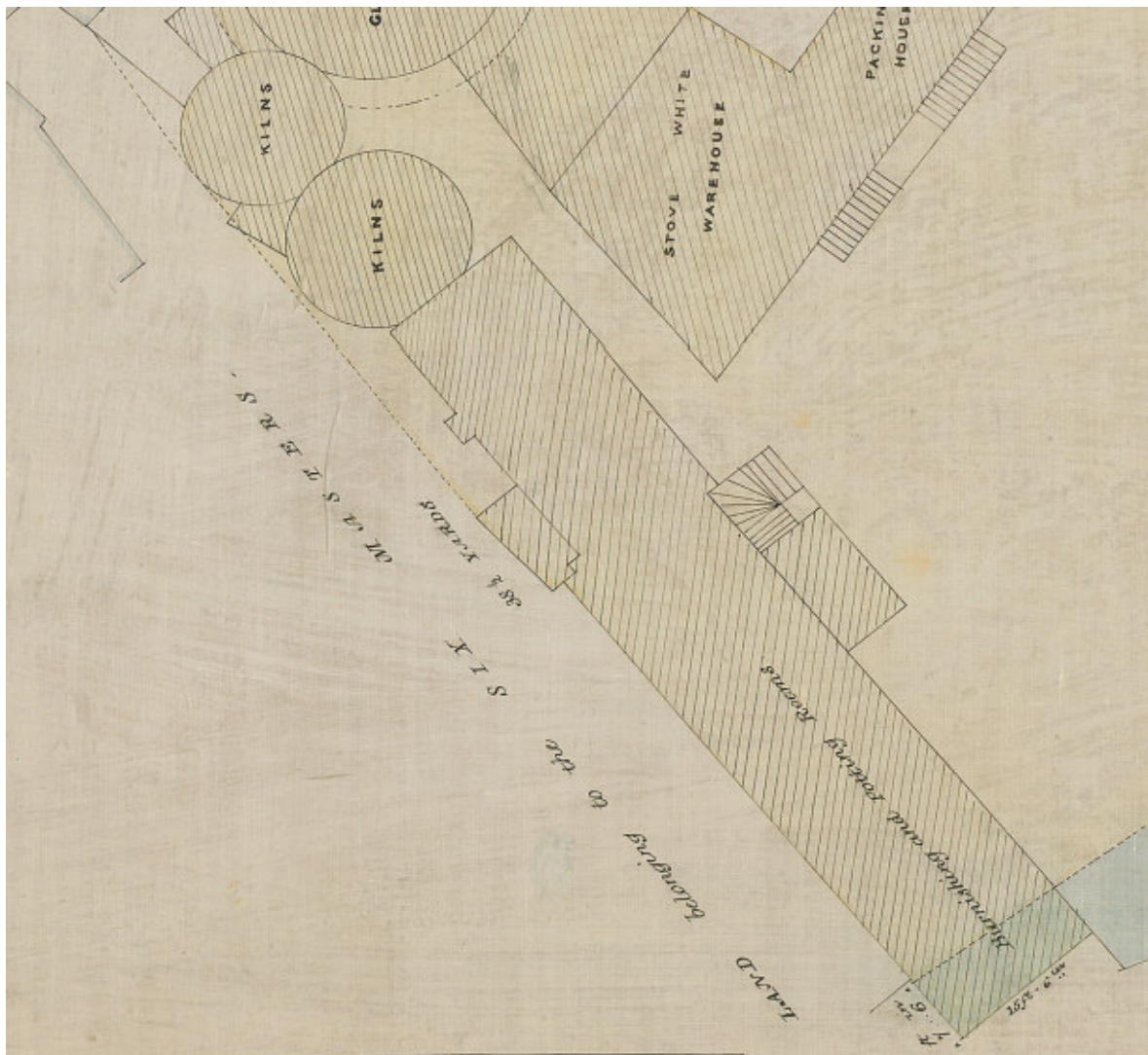


Figure 1: Building J shown on an extract from 'COPY of the PLAN on the CONVEYANCE dated 21st Dec 1842 by the Trustees of Mr Humphrey Chamberlain to Messrs Chamberlain & Co' (source: Worcester Porcelain Museum)

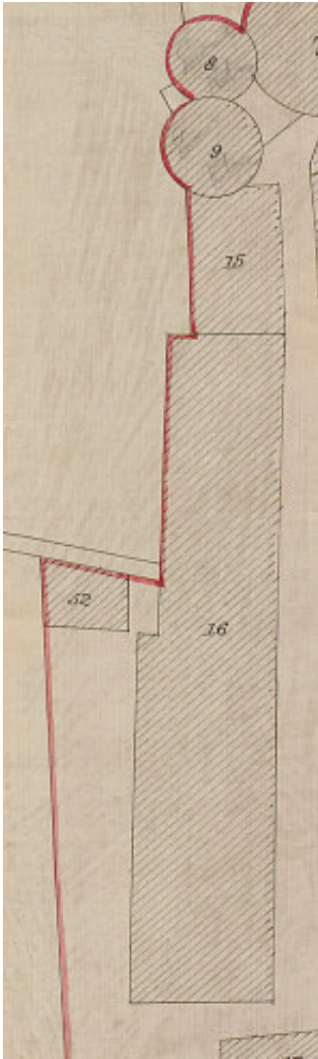


Figure 2: Building J shown on an extract from a ‘COPY of the PLAN on the LEASE dated 28th day of July 1863 by Mr John Stone to the Worcester Royal Porcelain Company Limited’ (source: Worcester Porcelain Museum)

Land was acquired in August 1854 on which to extend the building eastward but the new building was already underway in 1853 (Figure 3). This part is made up of the entrance and stairway and lies within a small parcel of 77 square yards also, strangely enough, not conveyed until August 1854. It seems that, although conveyed at the same time as the eastern part, negotiations for building this lobby and stairway were somewhat in advance of the larger parcel to the east and that building began in anticipation of this being acquired. The western part (that shown on Figure 2) was rebuilt in the same style as the rest of the range but because it follows the original footprint is narrower than the eastern part and has a standard gable roof (see Figures 5 and 6). The most likely course of events is that the lobby and staircase were built by 1853 followed by the eastern wing soon after 1854. Finally the western part of the 1840s building was partially rebuilt – the section towards Severn Street was adapted later.



Figure 3: Painted and incised date applied above the entrance to Building J

As late as 1863 the whole of the range, including the rebuilt 1840s part, is shown as ‘New Workshops’ (Figure 2) but as some of the range was underway or built by 1853 it seems likely that the whole range was completed by 1854 and the title ‘New’ was a hangover from the past. Altogether this is consistent with the innovative remodelling of the factory by Richard William Binns and his architect protégée Robert Williams Armstrong who

had just completed the Showroom. Whatever the case a date of around the first half of the 19th century would be in line with its general stylistic detailing – still with echoes of later-Georgian work – and the contrast between it and the slightly later architectural style of other buildings on the site.

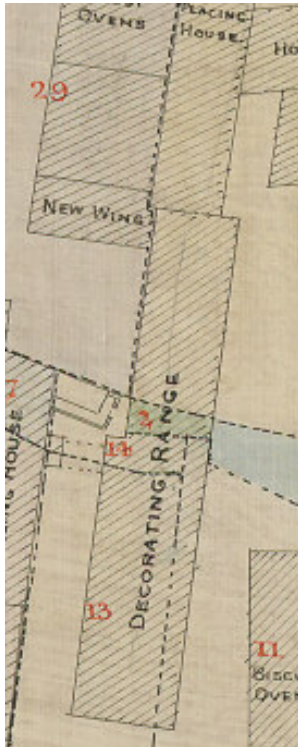


Figure 4: Extract showing Building J as the Decorating Range 'Copied from the PLAN on the MORTGAGE dates 2 June 1875 and numbered and coloured to show the Title under which the various parts thereof are held' (source: Worcester Porcelain Museum)

As built, the 1840s range ran westward where it met kilns towards Severn Street. However the rebuild of the 1850s, although extending over most of the area, left an 1840s 'Workshop' at the western end (where it abutted onto the kilns) untouched (Figure 2 – number 15) until before 1874 when there were a number of changes in this area. In 1874 a 'New Wing' (Figures 4, 5 and 6) was built at right angles to the Building J range to run southwards.¹ But before then the 1840s 'Workshop' had been rebuilt and extended as a 'Placing House' over the area occupied up until then by two kilns which were cleared and rebuilt slightly south (Figure 5). On the cleared area the new Placing House, whilst adopting an east to west line, was moved slightly south, presumably to avoid disturbing a large kiln (Figure 2). The 1875 situation is shown in Figure 4 – we can see from this

that the Placing House preceded the 'New Wing' as a small bite had to be left in the latter to accommodate the existing Placing House. At this time the main building was changed to the 'Decorating Range' (Figure 4).



Figure 5: Enlarged extract from a photograph taken before 1884 from the west. The wider part of Building J lies on the left beyond the chimney but is contiguous with the western is the lower building which runs from it and can be seen to serve the kilns to the right part on the north elevation. The pre-1874 Placing House these having been moved across. The 'New Wing' lies behind the kilns with a small bite which can be identified on the 1875 plan (Figure 4) (source: Worcester Porcelain Museum).

¹ Minute 1859 (Worcester Porcelain Museum)



Figure 6: The rebuilt 1840s narrower part viewed from the south (centre). To the right is the eastern extension of 1854 to Building J with the truncated chimney above its west end. To the left is the 'New Wing' of 1874.

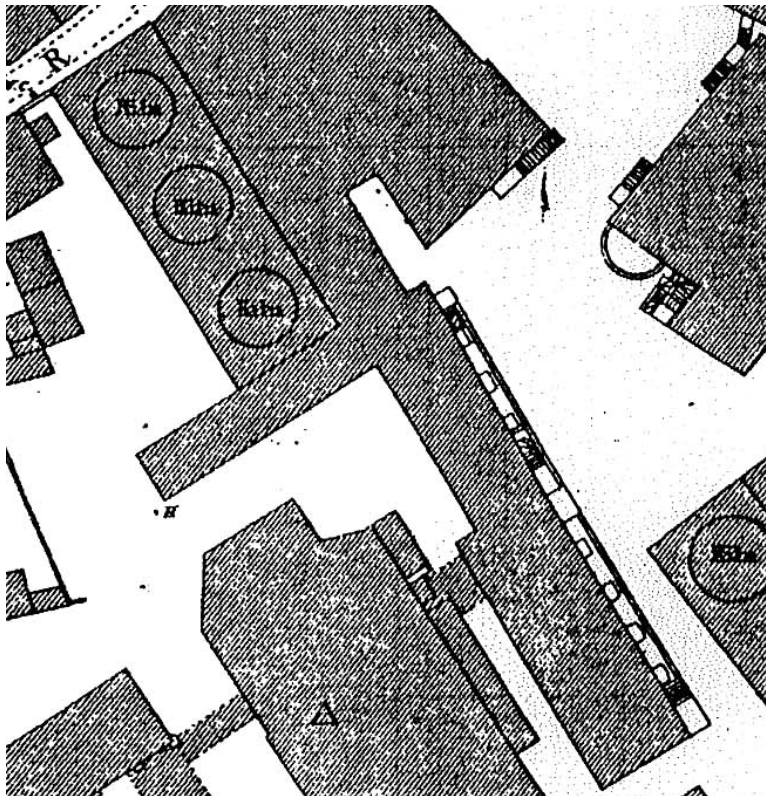


Figure 7: By 1884 a further kiln had been built at the west. The 'New Wing' can be seen running at right angles to the narrower and rebuilt 1840s part of the Decorating Range. By then a portico had been added to the north and a bridge linking Building J to Building M (source: Extract from 1st Edition Ordnance Survey map 25in to one mile).

In Figure 7 the situation can be seen in 1884 by which time a further kiln had been added at the west and a bridge built linking Buildings J and M but this was probably in place by 1875. This was an essential link between the enameling kilns in Building M and burnishing department.

Figure 8: The chimney viewed from the roof of Building A (source: Worcester Porcelain Museum)



The chimney was built as an elaborate square brick and stone structure crowned with decorative cast- or wrought-iron work (Figures 8 and 11). Built into the base is a clock which probably served as the official factory time. During World War II it was rebuilt as a lookout.² (Figure 9) and two air raid sirens were mounted on the roof which continued to function until the late 1980s at the beginning and ending of shifts. It was sounded four times a day – at 8.30 am and 12.30 pm to announce the morning shift and again at 1.15 pm and 4.45 pm to mark the afternoon shift. It could be heard throughout the works and well beyond. The structure beneath is vaulted (Figure 10) and

obviously supported the chimney above.



Figure 9: The chimney as modified into a lookout during WWII. The clock lay in the circular surround and probably served as the official factory timepiece

² Shown on Sam Cooke's plan of 1941 as 'Look-out on roof' (Worcester Porcelain Museum)



Figure 10: The vaulted ceiling beneath the chimney

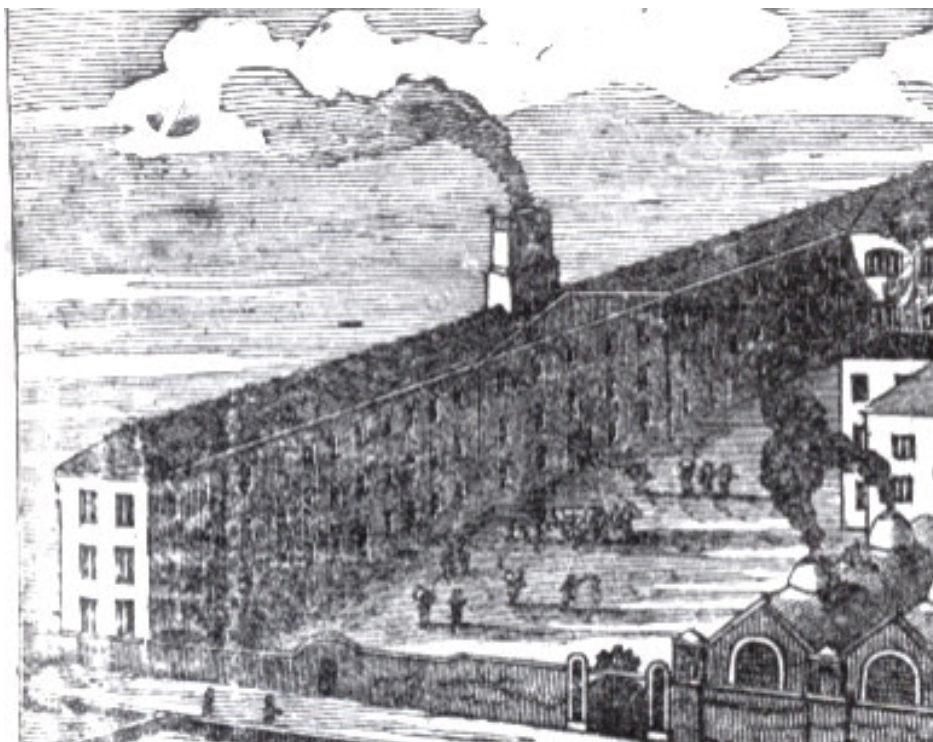


Figure 11: An artist's impression of around 1850

We now turn to the organization of the interior of the range. As built (or rebuilt) it was known as ‘Workshops’ but had become the ‘Decorating Range’ by 1875 but, in spite of its apparent change in use, there can be no doubt that this revolutionary building was purpose built as painting and decorating studios. A long thin single room to each floor, with large windows allowed maximum light and ventilation with work benches arranged under the windows on both sides. This was supplemented by gas lighting at first followed by electricity after an electric generating plant, dynamo and motors was proposed in July 1899 and installed by Crompton & Co Ltd: this was working by March 1900.³

China factories were often very hot and damp places and lung problems were very common – known as ‘Potter’s Rot’. The installation of an electricity generation plant opened the door for the provision of ventilation fans and dust extraction units which new factory rules from now on demanded.⁴

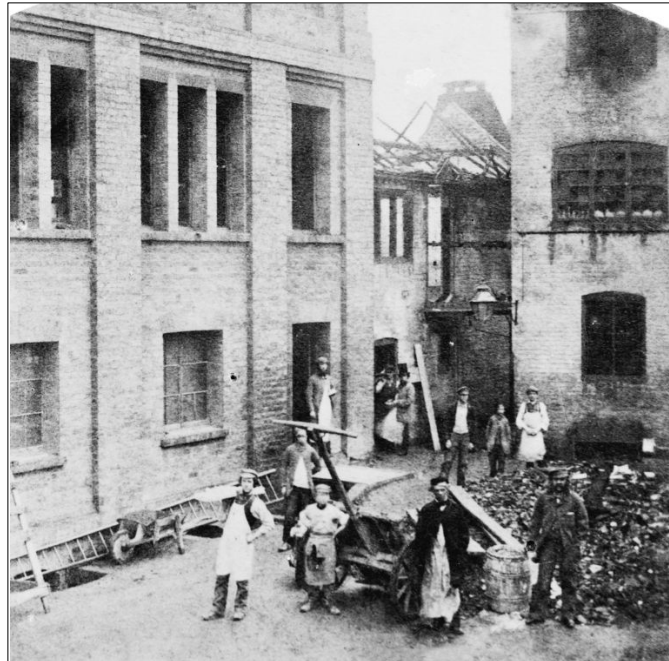


Figure 12: The fire in 1879 at the west end of Building J (source: Worcester Porcelain Museum)

There was by 1874 a concentration of kilns towards Severn Street at the west end of the range and, in December 1879, a fire in the kiln sheds spread into Building J gutting part of it (Figure 12).⁵ Although small fires were very common, this one was so severe that the Directors invested in new fire fighting equipment which included a fire engine, fire hose reel, pumps and hose pipes which were purchased by July 1880.⁶ New fire hydrants were also installed and a number of steel doors placed in strategic positions in the 1880s to prevent the spread of fire. One of these was placed at the top of the first flight of stairs in Building J and another in the basement. By the end of the century a further twelve fire-resistant doors were fixed in various parts of the works.

The basement was used for a variety of departments. For instance in July 1877 the Directors approved ‘Alterations to the mould store under the burnishing room into a

3 Minutes 5321 and 5412

4 Minute 5296

5 Minute 2634

6 Minute 2699

potter's shop with stoves and warming with steam' At a cost of £165.7s.7d these must have been extensive alterations.⁷ The special expenditure account for the year to July 1892 included a payment of £33 for 'fitting cellar under decorative range with wood penning for a working mould store'⁸ (wooden pens were a strong tall shelving system that stored the moulds in number order for ease of use).

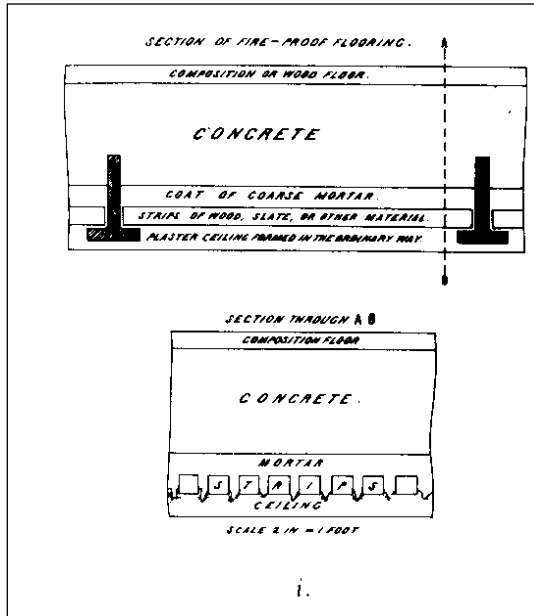


Figure 13: Fox's Patent fireproof floor

These 1877 changes might be related to a form of fireproofing introduced by Henry Hawes Fox around 1833 and patented in 1844. This used inverted cast-iron Ts (Figure 13) and wooden strips protected by concrete. James Barrett joined Fox in 1848 and he substituted rolled wrought iron for cast-iron (Figure 14).

Another type of beam identified at Worcester runs down the centre of the basement in Building J (Figures 14 and 16) and is also incorporated in the wing wall of the boiler house to Building D. These appear to be a modification of a

type used by Sir Robert Smirke in the King's Library at the British Museum (Figure 15). However, Smirke's type uses hogging to provide strength to the weaker centre whereas that at Worcester swells horizontally in the lower flange. It is of interest here that this beam was used in conjunction with Fox and Barrett fireproofing.



Figure 14: Modified Smirke beam used at Worcester (Building J) with cleared out Fox and Barrett fireproofing

7 Minute 2299
8 Minute 4539

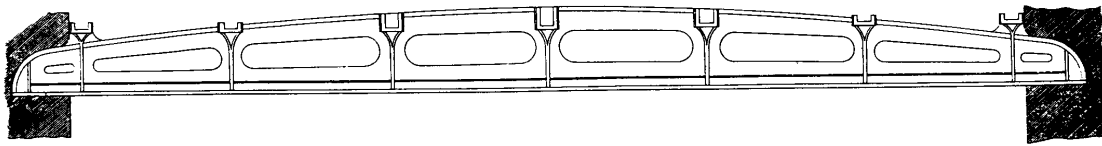


Figure 15: Elevation of cast iron girder used in the King’s Library, British Museum in the early 1820s (source: Thorne 1980, 27)

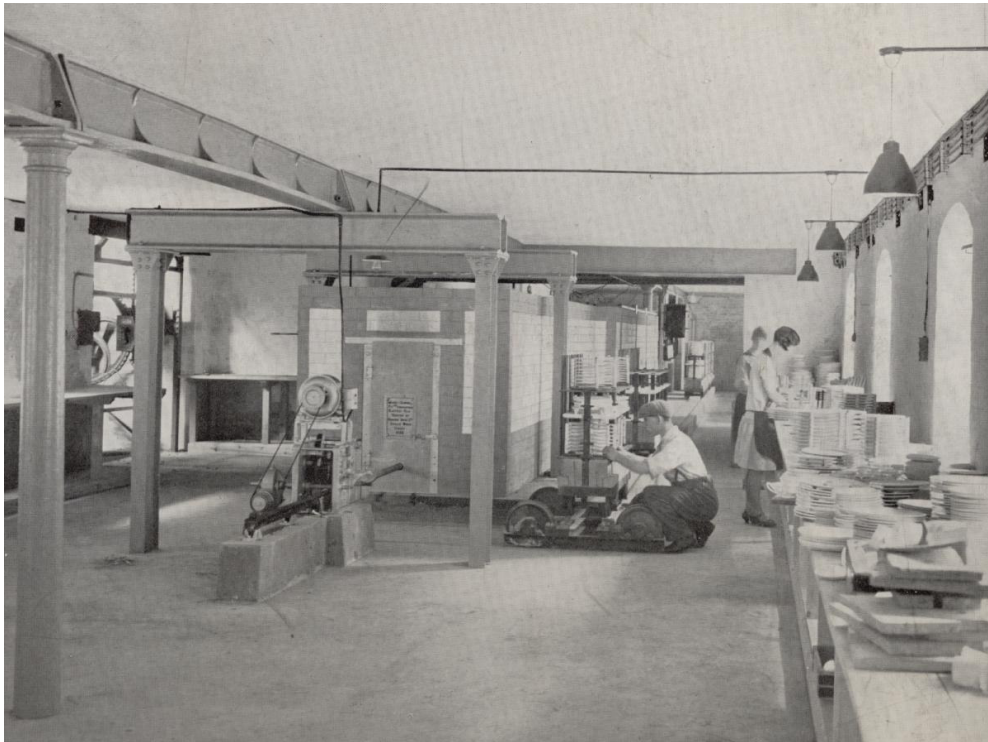


Figure 16: The Basement showing the 1928 kiln and cast iron beams (source: Worcester Porcelain Museum)

During the General Strike of 1926 there was a severe shortage of coal over many months which reduced factory output and brought into doubt the efficiency of traditional coal fired ovens. Royal Worcester therefore investigated other kiln types and in 1928 an electric tunnel kiln for enamel firing was installed in the basement of Building J. This was to replace the Climax enamel kiln which lay in Building M that had been running since 1902. Its installation was proposed in January 1928 at an estimated cost of £3,200.⁹ The kiln was a small part of the cost at £898 which was supplied by Thomas Goodwin & Sons of Hanley. The major cost appears to have been on the alterations to the building for the installation of the kiln shown in Figure 16.

9 Minutes 9356 and 9374

Photos from around 1900 (Figure 17) suggest that the Burnishing Room was situated on the ground floor of Building J. After firing at around 800 degrees centigrade, gold appears a dull yellow colour and has to be polished to obtain the desired finish. Women were employed to polish the fired 22 carat gold by hand using silver sand or agate/bloodstone. Electric ventilation fans were installed in the burnishing room in July 1902 at a cost of £31.¹⁰



Figure 17: Women burnishers in the ground floor of Building J (source: Worcester Porcelain Museum)

Up until the 1920s the gilding and painting departments were on the first and second floors. The painting process using metallic oxides and fat oil of turpentine, thinned with aniseed, gave the painting departments a distinctive smell, known by all porcelain works employees. The strong aniseed aroma penetrated not only this building, but the clothes of everyone who entered!

Gilding was a very skilled and carefully monitored part of the decorating process due to the high value of the raw material. Gold was purchased from Johnson Mathey in Stoke on Trent, from the 1850s and detailed accounts of its use were kept.¹¹ The gold was ground up in special pans in the mill (in Building D), then it was mixed into a suspension with oil for application by brush. A new room for gold (possibly the small room at the south end of the ground floor) and alterations to the painting rooms were made in 1883 at a cost of £94 10s 0d plus new fixtures and fittings.¹²

In 1970 the artists moved out of Building J to the new top storey of Building U, which was a specially adapted top lit room, providing the best daylight for painting (this soon became known as ‘the green house’ as it was so hot in the summer months).

In 1988 the ground floor housed the machine gilders and gilding inspection room, the first floor was still used for the application of lithographic transfers and the two rooms

10 Minute 5739

11 Gold was still purchased from Johnson Mathey in the 1990s and at that time it was calculated that the factory used one million pounds worth of gold per annum

12 Minute 3138

on the second floor were occupied by the ‘top gilders’ who did all the one-off hand applied gold. In 1990s the ground floor was used as retail offices, and the northern half of the building housed part of the visitor centre.

The maintenance block

The small two storey block on the end of Building J next to Prince’s Drive was erected in January 1953 (Figure 18). The ground floor housed the electricity ‘switch room’ and two transformer rooms, with two offices on the floor above. This was the maintenance manager’s office in the 1980s, conveniently situated at the centre of the works.



Figure 18: Plans and elevations of the two-storey block lying between Building J and Prince’s Drive built in 1953 by Sam Cooke¹³ (source: Worcester Porcelain Museum)

13 Drawing 5175/5 Feb 1952

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