

## **PAPERMAKING IN KENT by Alan Witt.**

In the days when companies queued up to offer jobs to graduates, I accepted the first that I was offered, in the paper industry. It appealed to me as it required six months extensive training including shop-floor shift work as well as comprehensive scientific knowledge of paper which can be defined as a wet-laid web consisting of many different types of fibre, not necessarily paper as we know it. My factory training took place at St Mary Cray during the winter of 1962/63 when many of the operatives could not get in so I found myself helping to run paper machines rather than just making the tea. This was one of the many hundreds long since closed. My last employment for some 19 years was at Whatman in Maidstone, a Company founded in 1740 which only closed in 2015 when the then American owners decided that the riverside site was more valuable than the business.

The history of the Whatman family in Kent can be traced back to the fifteenth century and in 1733 the first James Whatman, who had been referred to as 'a tanner of Loose', became associated with papermaking when he converted a fulling mill on the Len which had been known as Hurst or Boxley Mill. It appears to have been renamed Old Mill in the vicinity of Old Mill Farm which is certainly still marked on some of my OS maps, just west of The Great Danes Hotel. He let part of the Mill to Richard Harris who also owned Turkey Mill, further down the Len. Harris died in 1739 and Whatman married Harris' widow and thereby acquired Turkey Mill.

At this point it is useful to understand why Kent, and the Maidstone area in particular became arguably the epicentre the paper manufacture in Great Britain and later why Whatman's Company achieved legendary fame. Until the introduction of wood pulp for paper, around 1840, rags were the main raw material (See Figure 1) and these were largely obtained from discarded old clothing and the trimmings and these were brought in from London although it should be noted that the Manchester region was also important in that respect and the paper industry grew up there as well.



**Figure 1**

***Sorting rags in the Rag Room at Springfield Mill. This is one of the two structures that are listed and which the new housing developers say will be incorporated in a community facility.***

Old sails and ropes were also used and Kent was well situated with the dockyards and ports. To a lesser extent straw was used, hence Straw Mill Hill in Tovil (more later). Next water was required not only for the paper making itself but for motive power and once again Kent was endowed with springs, wells and streams. Furthermore the mills' effluent was discharged into the rivers and streams but these days that is recycled and purified. Finally, the paper had to reach the users and again Kent was well situated for at that time London was the main market.

As you will know, water mills could not rely on variable flow by placing the water wheels directly into the rivers or streams so all along these dams were built to form lakes which supplied the mill races with a consistent head of water. As a supreme example there were at one time 14 paper mills in the Loose Valley and many of the lakes can still be seen, the most obvious being at Hayle Mill. Similarly, the Len Valley was utilised in the same way although I have no accurate measure of the number of mills. The nearest ‘paper’ mill to Charing that I know of was Batchelor in Little Chart and until 1987 they made the curiously named flong, basically a wood pulp product used as a mould for casting lettertype for newspapers. At one time it was owned by the publishers of The Daily Express. Figures 2, 3 & 4 below show Ford Mill at Little Chart, the Watermark and a “Daily Express” lettertype and final printed page.



**Figure 2**

***Buildings at Ford Mill, Little Chart***



**Figure 3**

***“Batchelor & Son” Watermark***



**Figure 4**

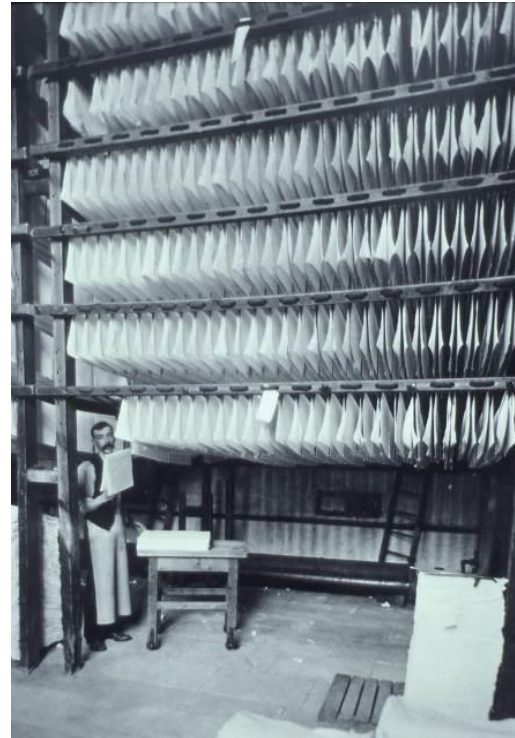
***“Daily Express” lettertype (top),  
“Flong made at Ford Mill” (left)  
and final printed page (right)***

I referred to the effluent so, as an example the finest papers were made towards the head of the Loose Valley and down in Tovil there were two mills owned by Reeds both making cardboard where pure water was not required. Whereas many of the fine buildings at Hayle Mill have been tastefully converted to residential use, the Tovil mills were destroyed to be replaced with housing and a Lidl supermarket.



**Figure 5**

***Laying out semi-dried papers***



**Figure 6**

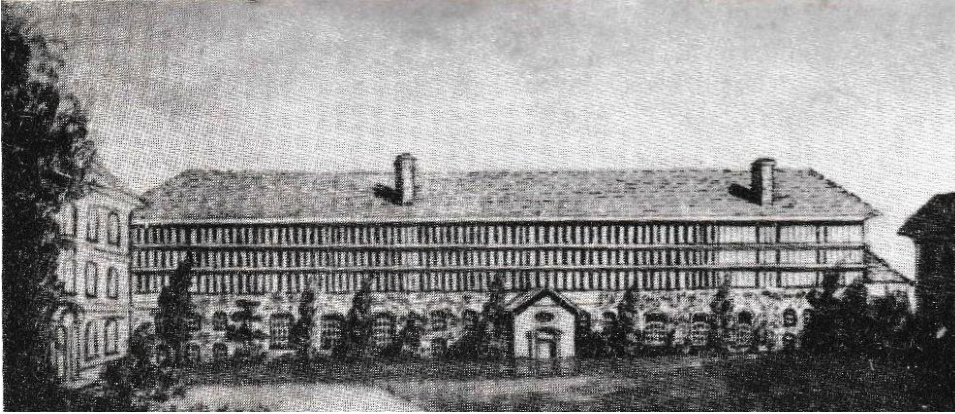
***The drying loft at Springfield***



**Figure 7**

***Inspecting and sorting paper at Springfield Mill***

Returning now to James Whatman and Turkey Mill. Not only was it situated with pure water supplies but the Len provided the source of power. Furthermore, the breezes which blew along the river valley were harnessed to dry the sheets of paper then, of course, all hand made (See Figures 5 & 6). The drying house was built over the River with slatted walls to allow the air through and this building is one of many on that site which have been superbly converted to commercial use and is still recognisable as such (See Figures 8 & 9). The drying loft at Springfield (Figure 6), at that time was owned by the Balston Family. The Company went public in 1974 changing its name from W&R Balston. When I joined in 1981 there was still one of the Balstons (Hugh) as MD but he was pensioned off shortly after to farm sheep in Scotland I believe. Actually, his main residence was Newnham Court Farm, where Notcutts is now, and I believe he lived in the big house which is now the pub.



**Figure 8**  
***Turkey Mill Drying House in the eighteenth century***



**Figure 9**  
***Turkey Mill Drying House as it is today. The interesting thing is how tastefully it has been converted to modern commercial use***

When Whatman started all papers were 'laid' using hand-dipped moulds. Figure 10 below shows the main cross wires resulting in paper with a watermarked line across the sheet. Whatman, by the simple process of adding a finer mesh then started making 'wove' papers which appeared more even and homogenous. Ironically, laid papers are still sold for quality stationery such as Basildon Bond.



**Figure 10**  
***Springfield Vat Crew. This is a general view of making hand-made paper***

Figure 11 below is a copy of an original work by the local artist, Horace Barwick of Charing, dated early 1840s, entitled "Cottage with back extension" (Kent Archives ref : U3648/Z45) that was painted on Whatman Paper. This photo, produced whilst digitising his work, was taken upside down on a light box so as to clearly show up the watermark "J WHATMAN TURKEY MILL 1827". For a while Turkey Mill also produced Whatman papers with the addition "Turkey Mill" in the watermark'.



**Figure 11**

***Copy of an original work by Horace Barwick of Charing, dated early 1840s, entitled "Cottage with back extension" painted on Whatman Paper. This photo taken on a light box clearly shows the watermark "J WHATMAN TURKEY MILL 1827"***

In addition and before bleaches were widely used his son, also James Whatman who took over the business, adapted the 'blue whitener' effect whereby by adding a blue dye to the paper mix this counteracted the yellow hue resulting from the use of the crude raw materials. Thus for the first time pure white paper without lines in it was available for artists and others. As a result Whatman papers were universally used by most of the famous watercolour artists including Gainsborough,

Cotman and Turner. In fact I contributed towards an exhibition and accompanying book "Turner's Papers" held at The Tate in 1990. The papers achieved worldwide fame and, as examples were used by Queen Victoria, for the wills and codicils of Napoleon, The East India Company, by Palmerston on behalf of the British Government when he signed the 'Scrap of Paper Treaty, 1839' and much later with a specially commissioned watermark, for the first five year plan of the USSR. In 1814, after the British burnt down the Capitol Building in Washington DC it was specified that submissions for the design of the current building were submitted on Whatman paper. Mr Trump would never have allowed that. I was invited to the Library of Congress to advise on the restoration of old documents on Whatman paper. It was even mentioned in 'Brideshead Revisited' when Sebastian vomiting on Charles Ryder's "best sheet of Whatman paper" led to their friendship.

And now for a tenuous connection with Charing. In 1772 the Society of Antiquaries commissioned the Company to produce the largest size of paper yet made (53"x30") in order to publish prints of the paintings commemorating Henry VIII's meeting at The Field of the Cloth of Gold. As you know, Celia Jennings has published a delightful little book commemorating this event and the Monarch's stay at the Archbishop's Palace. James Whatman the Second devised a mechanism known as 'the Contrivance' which required five men to operate and that paper size is still known as 'Antiquarian' (See Figure 12 below).



**Figure 12**

***This shows the use of the 'Contrivance' which was referred to in the article in order to make large sheets for the prints of the FOCG paintings***

In 1774 Whatman apprenticed a young lad William Balston whose name was to become almost as famous as that of his master and who eventually took over the Company. In fact the Company was known as W & R Balston until 1974 when it reverted to its original name, the Balston name being retained for a separate filtration division. Whatman and Balston subsequently bought or formed partnerships with several people to operate various Maidstone area mills including Upper Mill in Loose, Old Mill in Hollingbourne and previously referred to and Poll Mill which stood on The Len at the west end of the lake which is now in Mote Park. The business partners included the Hollingsworth Brothers.

Towards the end of the eighteenth century Whatman decided to retire and for a few years Balston formed a partnership with the Hollingsworths. However, at about this time he was visited by John Rennie, a representative from Boulton, Watt & Co. thus laying the way for Balston to build Springfield Mill. This was built in an area known as The Spring Field named after the springs which issued from the chalk below and this was the first paper mill in the World to be entirely powered by steam. John Rennie and James Watt himself supervised the installation of the great engine as The Mill was built between 1805 & 1807 and until the site was acquired for development in the last few years the original beam to the engine was on display. I believe that this has been given listed status along with two other structures, the original Rag House and the chimney. The Hollingsworths took over Turkey Mill.

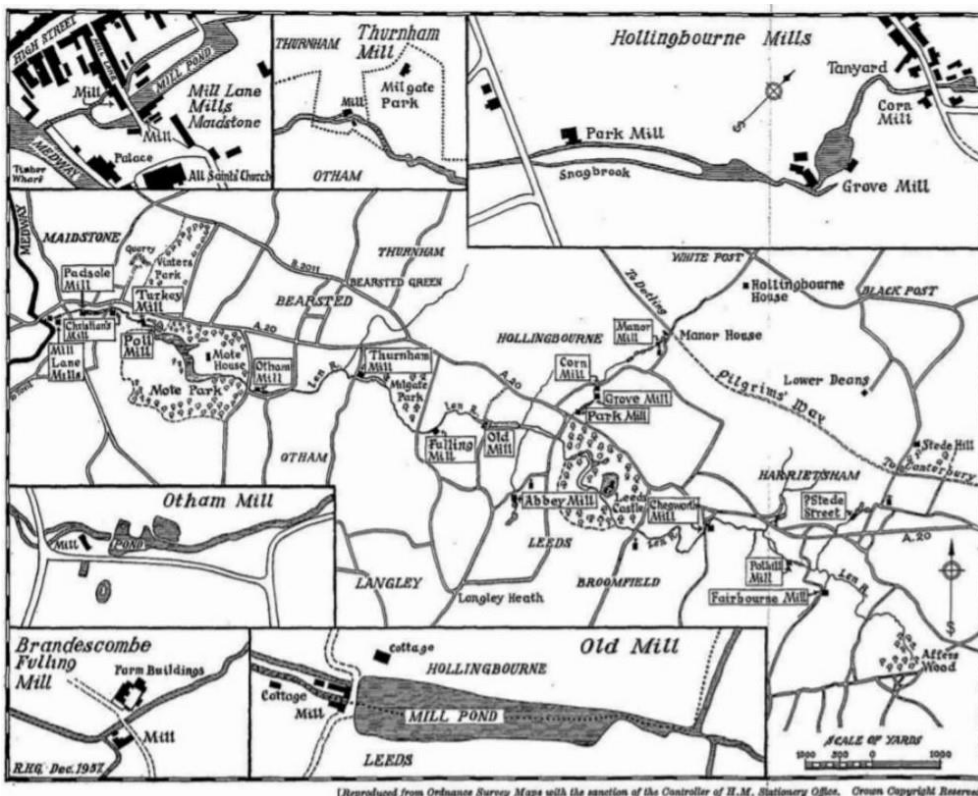
Springfield was, of course known as the name of Kent County Council's Headquarters as they had acquired much of the Company's land in the 1920's centred on Springfield House, built by one of the Balston Family in the 1890's and subsequently occupied by various mill managers.

I am distantly related by marriage to an ex-colleague whose father was Mill Manager and whose family worked for the Company since the 1700's until around 2010. This is really relevant as until the latter years the Company was run in a paternalistic manner.

This was generally true in the paper industry. At one time there were 43 mills in and around Maidstone. When I started work the Reeds mills including Kimberley Clark in Aylesford was said to be the largest in Europe with 13 paper machines. A paper machine, together with the ancillary services can be the size of several football pitches. Alongside this came the products, boxes, cartons and cases (they all are defined differently) and printing as well as scores of paper products. Until a number of factors made the last remaining Aylesford machine unviable in its manufacture of newsprint, it was a much-needed user of waste paper. Paper, in its widest forms goes into products which you might not think contains it. In the current crises did you know that until Whatman's demise, nearly every filter in hospital ventilators relied on a filter medium made at Springfield Mill?

I no longer have my directory of some 500 paper mills but still remember St Paul's Cray, Horton Kirby, Dover, Gillingham, Northfleet, Sittingbourne (still surviving), Brasted and Chartham, recently rescued and possibly the last in the World making tracing paper. And after St Mary Cray I was at Dartford where there were eight machines in three attached mills one of which was once known as No.1 Mill apparently having been the first licensed in Queen Elizabeth's reign.

The map reproduced below as Figure 13 shows just some of the Mills around the River Len, but not all were Paper Mills.



**Figure 13**  
**Map showing the**  
**Mills around the**  
**River Len**

Along with hop gardens, cherry brandy, Trebor Mints, Eiffel Tower Lemonade Powder, the dockyards and ship building and the Army, paper is just one of Kent's losses. And my old employer went after 275 years.