Restoring the Small Miller to His Old Position

David Eddershaw

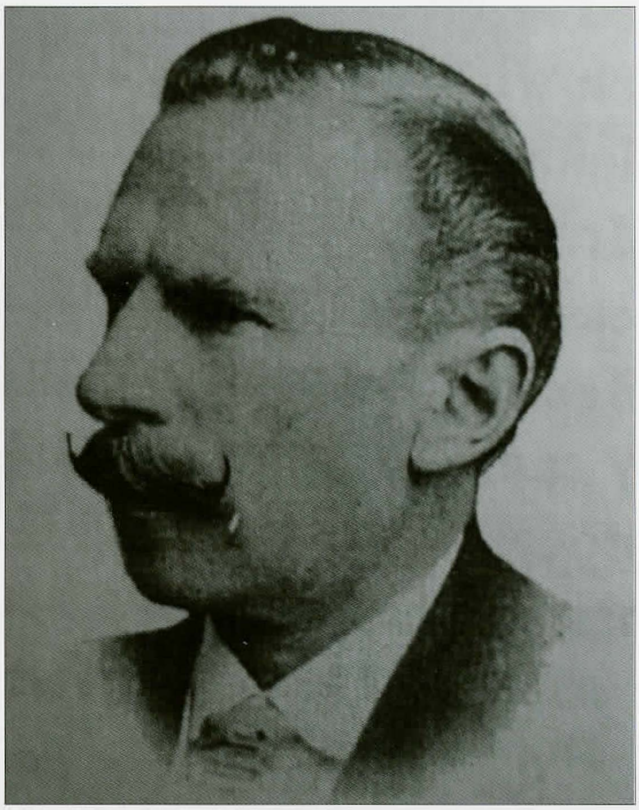
It is generally accepted that Henry Simon's installation of a roller milling plant at McDougal's in Manchester in 1878 led to a revolution in flour milling which in turn caused a rapid decline in the number of small rural mills reliant on millstones. It has been estimated that of about 10,000 wind and watermills in 1880, only about 2,000 remained by 1910.

Not all of them disappeared so quickly, however, and one man in particular helped to prolong the survival of many of these small mills much longer than might otherwise have been the case. Alfred Rishworth Tattersall came from the tiny village of Arthington in Wharfedale, Yorkshire, where his father ran a small farm of 60 acres. Alfred was born in 1864 and soon after leaving school went to work in a local flour mill. He claimed to be the fourth generation of the Tattersall family to be millers, but it was the mechanical side of the business that really interested him.

By the time he was 25 he had moved to Manchester and was employed as a qualified flour milling engineer in the very city where the roller mill revolution had started. He married Maria Crosland and they set up home in Rochdale where one of the biggest employers was the firm of Thomas Robinson & Sons who specialised in manufacturing large woodworking machinery for shipyards and factories. In 1882 they had branched out into machinery for the flour milling industry and it might have been here that the seeds of Alfred Tattersall's later invention were sown. It was in Rochdale that their son was born, also named Alfred. (He not only copied his father's name but was enrolled as an engineering apprentice at an early age.) Sadly, Maria seems to have died within a few years and Tattersall moved south where he married again.

He established the firm of A R Tattersall & Co. in 1894 and soon had headquarters at 75 Mark Lane, London – the centre of the milling world at this period, where the 18th century corn exchange had been rebuilt and enlarged in the 19th, and many mill-related businesses were now based. He began to develop designs for improved milling machinery including a Complete Break Machine and a Complete Reduction Machine. The word 'complete' was significant and underlined his aim of reducing the number of machines used in the process of milling. His ultimate aim was to combine the whole process of milling and separating white flour in a single compact machine, and he finally achieved this in 1905 with the production of his first patent Midget Roller Plant.

The thinking behind the design was that it should produce fine quality flour and that it should be of a size capable of being installed in small country mills - just the sort that were most at threat from the commercial giants - which is why he chose to call it "The Midget". It appears quite a large machine made of heavy cast iron, but one has only to compare it with what is believed to be the oldest surviving example of a Henry Simon roller mill at Calbourne on the Isle of Wight to appreciate the difference, as that one fills three floors of a building specially constructed for it, larger than the original watermill it is attached to. (The Midget was of course also much smaller in terms of its output.)



Alfred Tattersball

Perhaps it was Alfred Tattersall's boyhood experience of small country mills in Yorkshire that made him sympathetic to their fate and determined to help them survive. One of his proudest claims was that the Midget would 'restore the small miller to his old position' and advertisements in The Miller constantly emphasised this point. The great appeal of the Midget to the small country miller was that it was cheaper to buy than other larger mills, also cheaper to run because of its small size, and could be operated by one man. The first Midgets had a limited output of ½ a sack per hour (140lbs/63.5kgs), but the design was soon being updated with larger versions called Midget Major and Midget Maxima with increased capacities up to 2 sacks per hour.

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Because of their small size it was also possible to increase capacity simply by installing two or more alongside each other in the same mill, which was still economical in terms of power and labour. An extreme example of this was the reported sale of no less than eight Tattersall Midget roller mills to a large flour mill in India. In 1909 -1910 two others were supplied to a mill in San Jose, Costa Rica, and these apparently demonstrated another merit of the design which was that it was simple to install and operate. The Miller reported that these two had been erected and were being successfully operated by Mr Santiago Fernandez, described as 'a youth who had no previous knowledge of roller flour milling'.

This worldwide export trade was not only due to the success of the Midget's design but was also a mark of Tattersall's ability as a salesman and his energy in promoting the advantages of his invention to small millers everywhere. He took stands at all the major exhibitions and at the annual shows of the Royal Agricultural Society alongside some of the biggest names in the business. Many editions of The Miller carried large advertisements, often on the front, for the Midget, as well as reports and testimonials from users. In April 1920 it reported that orders for Tattersall roller mills had recently been received from Lahore and Amritsar in India, the Persian Gulf, South Russia, Denmark, Finland, Madrid, Barcelona, Rumania, Portugal and France, as well as various parts of England. In addition another of his machines called the 'Daisy' and which combined washer, whizzer and separator was being shipped to Russia, India and 'our agent in China'.

Meanwhile, in 1916, he did a deal with an equally ambitious American salesman, L. Freeman Little, who had previously been travelling on behalf of a company promoting the Alsop Electrical Flour Bleaching Process. With some difficulty at first, Freeman Little persuaded Tattersall to sell him the sole right to manufacture the Midget roller mill in the USA and quickly set up the Anglo-American Mill Company at Owensboro, Kentucky. The American version was called the Midget Marvel and appears to have been just as successful there as everywhere else – perhaps even more so because of the vast size of the country where there would still be a need for small and medium sized mills to serve their local districts perhaps still far from the nearest railroad. Tattersall was invited to address a national convention of millers held in New York, and in 1917 was honoured with the John Scott Award intended by its founder for 'ingenious men and women who make useful inventions'.

He probably included American sales in his statements about the number of machines in operation worldwide, which rapidly increased from 18 in the first year and a half, to 30 in 1907, then 400 in 1913, 2,400 in 1920 and over 3,000 by 1927. Although A R Tattersall & Co was based in London, the castings for the early machines were made by Groom's iron foundry in Towcester, but as orders increased a new firm of Groom & Tattersall was formed and the foundry considerably enlarged to cope with the huge demand.

The Pakenham Tattersall Midget

One of the earliest of many advertisements promoting the new Midget Roller Plant appeared in a supplement to The Miller in July 1906 and boasted that the first batch of 18 machines had all been sold in 18 months. Each one was numbered and the one now being refurbished at Pakenham Water Mill is Number 17. It is believed to be the oldest one still in existence. Number 1 was installed at Erpington Mill in Norfolk and was in use there until 1914 when it was advertised for sale second-hand 'no reasonable offer refused'. Pakenham's Midget has had a much longer history but has also moved three times. First installed by Horace Barker in his mill at Botesdale, Suffolk, probably in 1906, it was later moved to the steam powered mill at Norton and from there eventually to Pakenham Water Mill in the 1940s.

Brian Marriage (of the well-known milling family still flourishing in East Anglia today) bought Pakenham Water Mill in 1933, which seems rather late to be investing in a watermill, and it was significant that the previous owners only sold him the mill and not the house and small farm which had always been attached to it in the past, implying that they considered the mill an unprofitable liability they were happy to off-load. However, Marriage worked with

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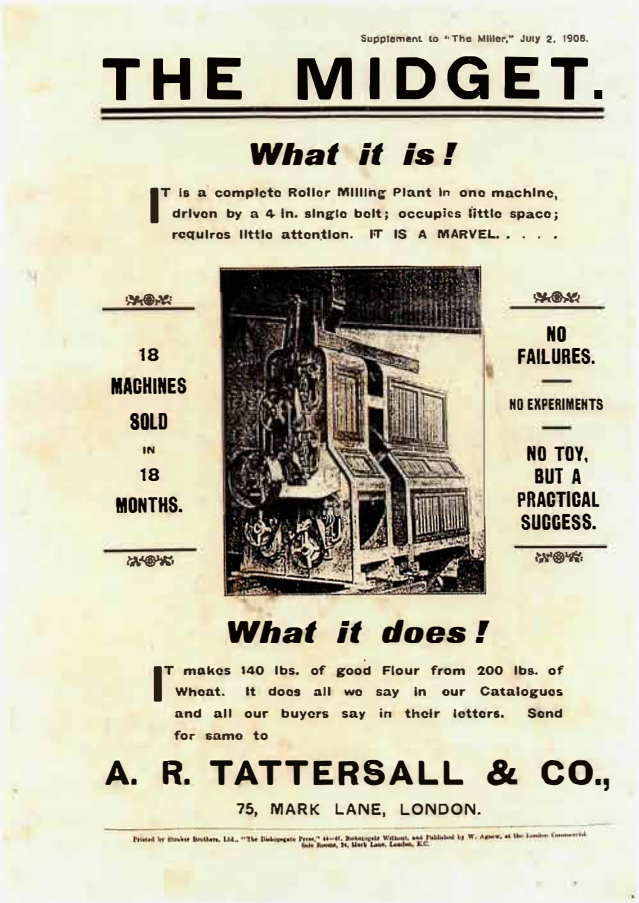


Supplement to "The Miller," July 2, 1908.

THE MIDGET.

What it is!

IT is a complete Roller Milling Plant in one machine, driven by a 4 in. single belt; occupies little space; requires little attention. IT IS A MARVEL. . . . .

18 MACHINES SOLD IN 18 MONTHS.

NO FAILURES.

NO EXPERIMENTS

NO TOY, BUT A PRACTICAL SUCCESS.

What it does!

IT makes 140 lbs. of good Flour from 200 lbs. of Wheat. It does all we say in our Catalogues and all our buyers say in their letters. Send for same to

A. R. TATTERSALL & CO.,

75, MARK LANE, LONDON.

Printed by Straker Brothers, Ltd., "The Bishopsgate Press," 16-18, Bishopsgate Without, and Published by W. Agnew, at the London Commercial Sale Rooms, 38, Mark Lane, London, E.C.

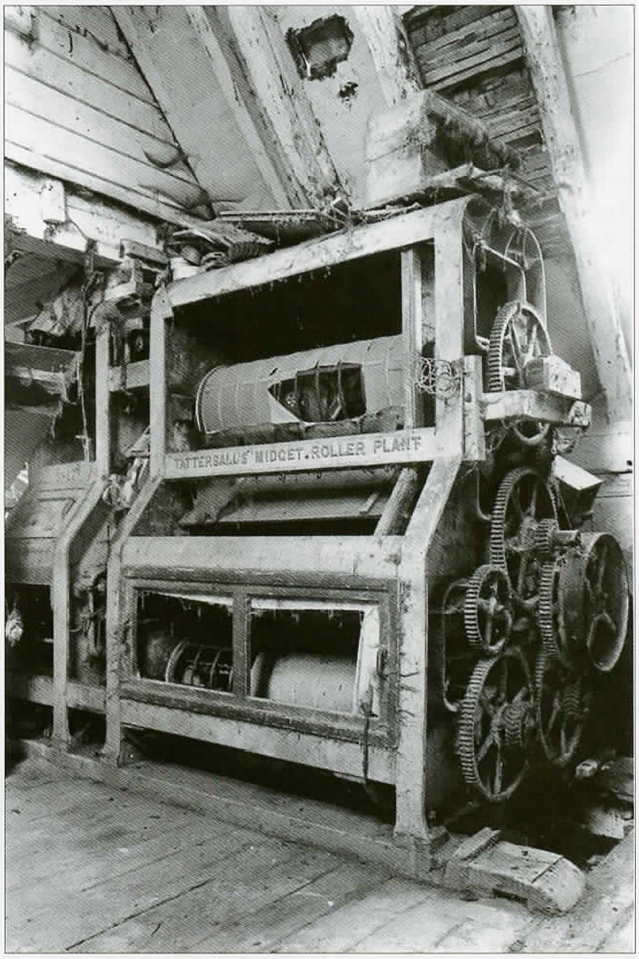
great energy and enthusiasm to keep it going (together with two other mills he owned) in spite of all the difficulties facing country millers, supplementing flour milling with animal feed production as well. He already owned a second-hand 1904 vintage Blackstone oil engine installed at his post mill at Stanningfield and in 1940 he purchased the Tattersall Midget from Horace Barker at Norton, for £70.

It was dismantled and moved to Pakenham in 1941 but lay there in pieces until the wartime restrictions on white flour production were relaxed. In 1947 he paid Barker £40 for re-assembling the 40 year-old roller mill, £18.13s for removing the Blackstone engine to Pakenham and a further £53 for 'remodelling the mill' and fitting new overhead shafting to connect the drive to the roller mill. He purchased new silks and patched up any damage caused by age and long usage and began to produce white flour more efficiently. He even had new stationery printed with the address 'Pakenham Roller Mills'.

His turnover increased significantly. In one week of 1949 he and his millers worked three 12-hour days, two of 11 hours, plus a further 4 hours on Saturday morning, producing 1,260 stones of wholemeal flour, 10 stones of white and 25 stones of feed. The white was from imported Canadian wheat and milled on the old Tattersall. However, in the long run this level of production could not last, and recent inspection suggests that the Midget was probably worn out. Like other millers, Marriage seems eventually to have turned almost wholly to producing feedstuffs, while buying in flour for resale. Nonetheless, it is clear that the Midget helped to prolong the life of Pakenham Water Mill just as its maker had intended, and the mill survived long enough to be rescued when Marriage retired, and restored to traditional flour milling by the Suffolk Preservation Society in 1978.

Although the watermill itself was restored and the millstones put back to work with a team of dedicated volunteers to run them, the Tattersall Midget roller mill was left to sit silent and neglected in a corner of the stone floor. Photographs show it in a pretty derelict state in 1978 and although the Blackstone engine was later restored by some of the volunteers, there seemed little hope of doing the same for the Tattersall beyond cleaning it up a bit.

Only when we began to research its history and to understand the importance of Alfred Tattersall's almost forgotten contribution to the survival of small country mills, did we realise the significance of this rare survival of a very early example of his roller mill. A letter to Mill News in 2007 elicited a reply that another one existed at Charles and David Howell's Offley Mill in Staffordshire, and I went to see that one which turned out to be a Midget Marvel made by the Anglo-American Company, sometime after 1916. It had belonged to an uncle of Charles's and was shipped to England in the 1970s. The Howells are possibly the only people who fully



The state of the Pakenham Midget in 1978

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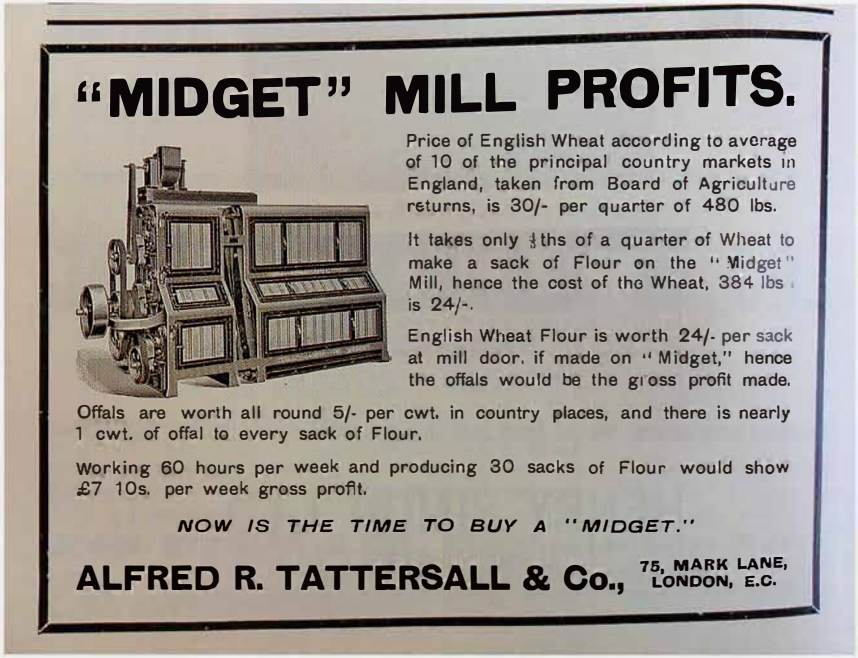
understand the workings of these mills now, and for that reason – and their undoubted skills and enthusiasm for the Tattersall roller mill – we asked them to refurbish ours, which they have been doing on a number of visits to Pakenham during the winter months. Unfortunately it became obvious early on that it would require a complete rebuild to allow it to mill flour again, and there have also been alterations to the building since it was installed, which would make it impractical to use in its present location, so we have settled for a thorough refurbishment. This allows us to run it for demonstration purposes so that visitors can see the action of the succession of rolls and screens and understand the principles of roller milling and compare it with the traditional millstones working nearby. The Tattersall is now powered by an electric motor, but our intention, with help from Charles and David, is eventually to restore the drive from the Blackstone engine on special event days two or three times a year.



That will be something to see!

David Eddershaw is Curator of Pakenham Water Mill