Some interesting products from Gloucestershire's manufacturing past

Stephen Mills **January 2023**

As we're all very aware, Gloucestershire has a rich industrial history and has manufactured a wide range of products over the centuries. Some sectors were of considerable scale and importance such as woollen cloth production in the Stroud valleys, or the numerous types of engineering in and around Gloucester. However, other products were much more niche, and have largely faded from memory as they were replaced with newer materials and techniques.

This brings us to the subject of this article which looks back at the manufacture of a range of materials made largely from an assortment of recycled, scrap materials – something that would doubtless find favour in today's eco-focused world. Although they were made in several locations across the county, we will focus on production in Meadow Mill, Eastington, near Stonehouse (Figure 1).

But what are we talking about here? Those of us of a 'certain' age will remember the old-fashioned valve radios, the state-of-the art in the days before transistors and digital media. These all had one thing in common – if you turned them round, they had a back made of something that looked like cardboard and was filled with a myriad of cooling holes or slots to let the heat out generated by the valves and other gubbins (Figure 2). Remarkably, there is a good chance that it was manufactured here in Meadow Mill. Radio backs were produced roughly between 1910 and some point in the 1930s, alongside other seemingly oddball materials that we'll come to in a minute.

Figure 1 Meadow Mill in its heyday

The material used for radio backs was generally known as 'Millboard' or 'Fibreboard', a type of stout board usually made from a pulp of old rope, sacking, and other coarse materials, that was mixed, mashed and rolled out into sheets under high pressure. There were a number of variants produced, most made from waste materials, different manufacturers frequently calling what was virtually the same thing by alternative names. At Meadow Mill, the mixing took place in three or four pulp

beaters installed in a brick-built building at the front of the main mill referred to as the "Pot House". The beaters were driven by a pair of water turbines powered by the river Frome, and used to mix the various constituents for the different types of boards produced. On a quiet night, the whining sound of the beaters could apparently be heard as far away as the centre of the village. In later years, power was supplemented by a Robey steam engine that could be coupled up to the turbines when more power was needed.
A pulper supplied by Emell Hassberg of Berlin was also later installed for pulping newspaper, often added to the mix - this used a worm drive and apparently operated almost soundlessly (there's German engineering for you!). The mush was then turned into boards by pressing to the required thickness using hydraulic presses and/or rollers.

Quite how the mill became a specialised centre for the production of radio backs is lost in the mists of time, but the market grew as radios increased in popularity and availability. This niche application blossomed, and radio backs were produced for most of the major manufacturers that included Pye, Murphy, Halcyon, Graves, Vulcan, Cassor and Ecko. The backs were stamped out using a variety of specialised presses supplied by Taylor & Challen of Birmingham (Figure 3), and H O Strong of St Paul's in Bristol. These punched out the required shape, number and pattern of ventilation holes.

Figure 2 Typical radio backs with cooling holes

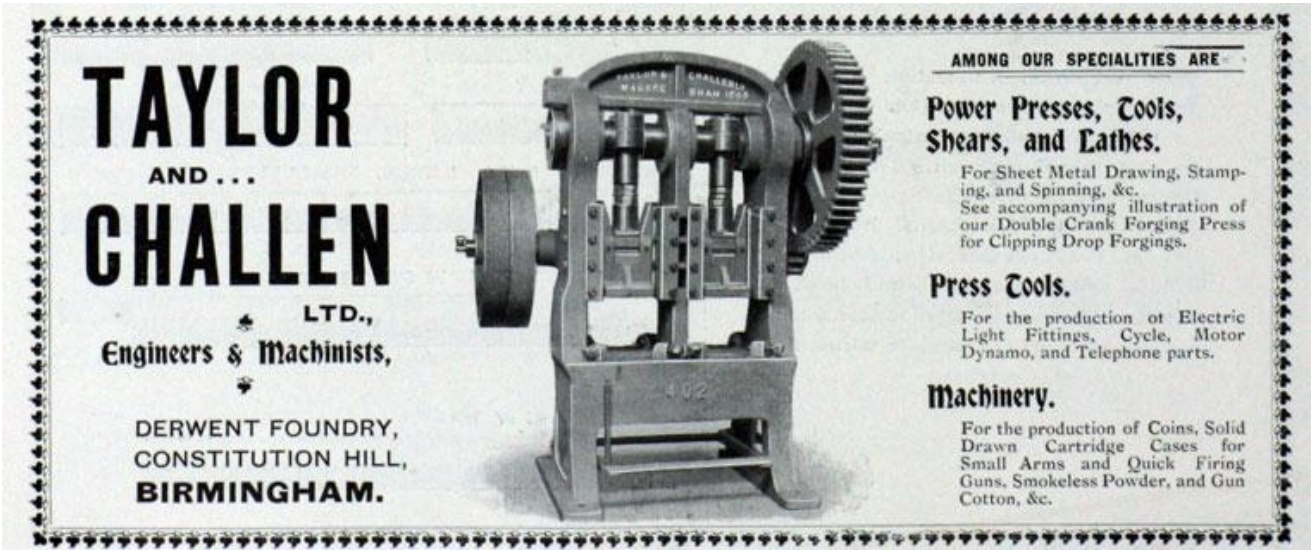

Figure 3 Early advert for Taylor & Challen

Other oddities

As well as fibreboard, Meadow Mill also produced what was known as leatherboard. This was made from a pulp of paper, rags, string, old newsprint, and in this case, scraps of leather. The leather working industry generally produces quite a lot of waste such as trimmings and shavings, and these became the main source for leatherboard manufacture. It was used widely by the boot and shoe trade, being pressed into service for internal shoe parts such as insoles and heel stiffeners. For many years, leatherboard production was an important part of the mill's output; throughout the 1910s to the 30s, trade directories (such as Kellys, 1914) refer to Meadow Mills Ltd. manufacturing this.

For a time, there were a whole host of variants on the theme produced at the mill: engine boards, embossed boards, portmanteau boards, etc. each reflecting a specific use for this versatile range of materials. Some of these had a painted surface. To achieve the appropriate finish, sheets were passed through textured rubber rollers to create the required effect. The painted boards were then dried in a long tunnel oven or a large rotary drier, this replacing the previous time-consuming method of hanging sheets up in a steam-heated room and allowing them to dry gradually. The top floor of one building was used for board "seasoning". Finally, finished sheets were cut to size using a powerful guillotine.

Another speciality was the aptly-named suitcase boards, produced in large sheets and used for the production of suitcases and bags. Suitcase manufacturers became a major customer, taking a variety of types of board with either textured, embossed surfaces, or painted finishes. These were usually red, black or brown (self-coloured) although the firm also prepared some using their own surface coatings based on pure Shellac in order to achieve a high gloss finish. A range of products evolved, including a pig-skin embossed effect, plus a variety of painted finishes that included "London Tan", the latter chiefly supplied to Cohen & Co. Sheets were also supplied to the car trade, for use as internal panels by companies such as the Standard Car Company and Vauxhall.

By 1939, the Ruberoid Company had taken up residence at Meadow Mill, emphasis now shifting more to fibreboard. Ruberoid's occupation of Meadow Mill was a wartime evacuation, ensuring that all of their production was no longer centred in Enfield, an area at greater risk from German bombs. The company carried on making fibreboard for a time and also manufactured roofing felt, damp proof courses and electrical insulation, most aimed at the construction industry. Ruberoid returned to Enfield after the war.

The end

Inevitably, the market for Meadow Mill's products dwindled as new technologies and materials became available. Stamped shoe parts gave way to injection moulded pieces made of thermoplastics, and the market for radio backs diminished as radios themselves changed in design. Interior car panels and suitcases were increasingly made from a range of moulded plastics and other materials. Most of the infrastructure and even the buildings at Meadow Mill that housed the manufacturing processes have long gone, leaving only distant memories.

Several other mills dotted around the county soldiered on producing leatherboard and fibreboard for a few more years, but like Meadow Mill, all eventually went out of business, effectively ending this interesting period, one that's been largely forgotten.