Gloucester engineering and the first vacuum cleaner

Stephen Mills November 2022

It's surprising what turns at flea markets and collectors' fairs. The brass plaque shown in Figure 1 was one such example – I came across this at a fair in Malvern a while ago, and it piqued my interest because of the mention of 'Booth's patent'. The Booth in question was Hubert Cecil Booth, an accomplished engineer famed for the invention of the first effective powered vacuum cleaner.

Figure 1

The background to his creation has been well documented, but perhaps the biggest innovation was the development of a machine that sucked dust-laden air through a filter, thereby trapping it. Previous cleaners had simply blown the dust off, not captured it. What is perhaps not so well known is Booth's connection with Gloucester - he was born in the city in 1871, and educated at Gloucester College and Gloucester County School, before moving to London to study civil and mechanical engineering.

In 1901, Booth was granted a British patent for his first design of vacuum cleaner. Unlike today's versions, this comprised a large, horse-drawn, petrol-driven unit. Because of its size, it had to be parked outside the building being cleaned – cleaning was carried out via long hoses fed in through appropriate doors and windows (Figure 2). The term 'vacuum cleaner' was first coined by the company set up to market Booth's invention.

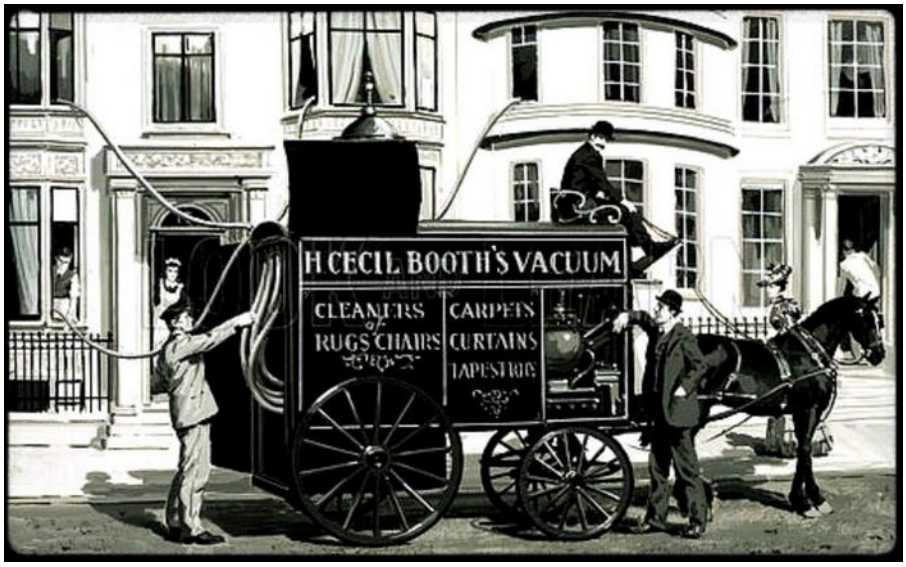

Figure 2

Which brings us to another connection with Gloucester. Booth approached the Gloucester-based engineering company of Fielding & Platt (their enormous Atlas works once stood where Gloucester Quays shopping 'experience' now is) with a view to turning his idea into a commercial reality. In 1902, the prototype of what is credited as being the first 'real' vacuum cleaner was produced by the company (order number D5926/1). It left the Atlas Works, off for a trial run at St Catherine's Vicarage in London Road, Gloucester. The concept proved successful, and some 65 units of this type were subsequently built, 20 driven by petrol engines and the rest by electric motors. Some were exported to eminent clients that included British royalty, the Czar of Russia, and the Sultan of Turkey.

However, initially, Booth concentrated on selling cleaning services (Figure 3) rather than the machines themselves, and soon built up an enviable list of clients. For example, his machines were used to clean the carpets of Westminster Abbey prior to Edward VII's coronation, to improve the level of hygiene in Royal Navy barracks, to clean theatres and shops, and even in the Royal Mint and the Houses of Parliament.

Figure 3

He went on to develop smaller more portable units (Figures 4 and 5), better suited to domestic applications, and a report from 1903 states that his cleaner:

represented an invention which certainly creates a domestic revolution so far as house cleaning is concerned.

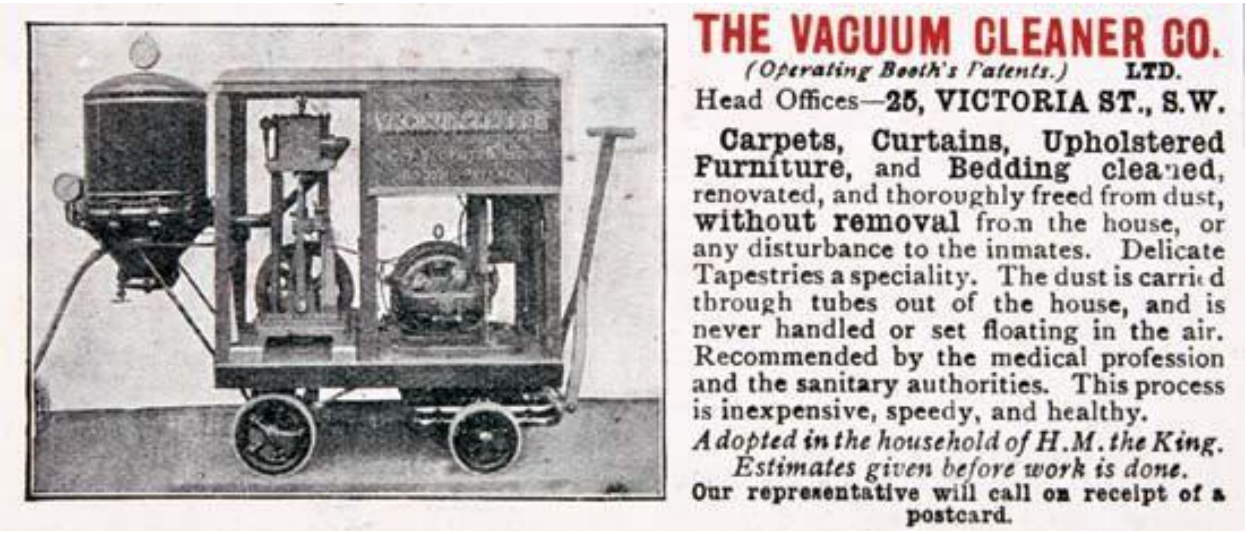

Figure 4

Figure 5

Booth's invention was taken up by the newly-created Vacuum Cleaner Company Ltd, and produced in Chesterfield. Booth subsequently became Chairman and Managing Director of the company. He seems to have licenced his invention to several manufacturers, such as the one featured in Figure 1, or they may have simply been retailers – it's not entirely clear.

The story of the vacuum cleaner presents an interesting 'first' for a Gloucester-born engineer as well as one of the city's most eminent engineering companies. The concept became a global phenomenon, and led to the uptake of a piece of equipment that really did change the lives of millions of people around the world.