

Thinking Outside The Bin

Bob O'Connell, managing director of Mi-Bin Ltd, looks at the changing design of the dustbin and bemoans the lack of innovation

When I was growing up, the dustbin was a shiny galvanised metal can with a lid. It was replaced by the plastic sack, which seemed like a good solution at the time, as once it was filled with waste you simply tied the top and put it out on collection day before the bag – and all its contents – were then shredded and sent to landfill.

There were drawbacks, however. It was fragile, susceptible to rodents, and shredded waste is impossible to segregate for recycling (although this was not an issue at the time). Both of these solutions required manual lifting by dustmen, with little regard given to hygiene, health or safety. Later iterations of the dustbin were made of plastic and lasted longer, but these could not hold hot ashes and still retained all the hygiene and health and safety issues of the original dustbin.

The "wheelie bin" – for the first time – addressed the health and working conditions of bin crews, but who actually invented the wheelie bin is a matter of some debate. Remains of a wooden wheeled bin were found in Pompeii, but as no traces of a bin truck or comb lifters were found, in my view this was little more than a box with wheels.

An Englishman named George Dempster invented the Dempster Dumpster (below) in the 1930s, which collected standardised wheeled metal containers, but it wasn't until the 1970s that the plastic wheelie bin came into common use. Who first introduced the modern plastic version also



Picture courtesy of www.classicrefusetrucks.com

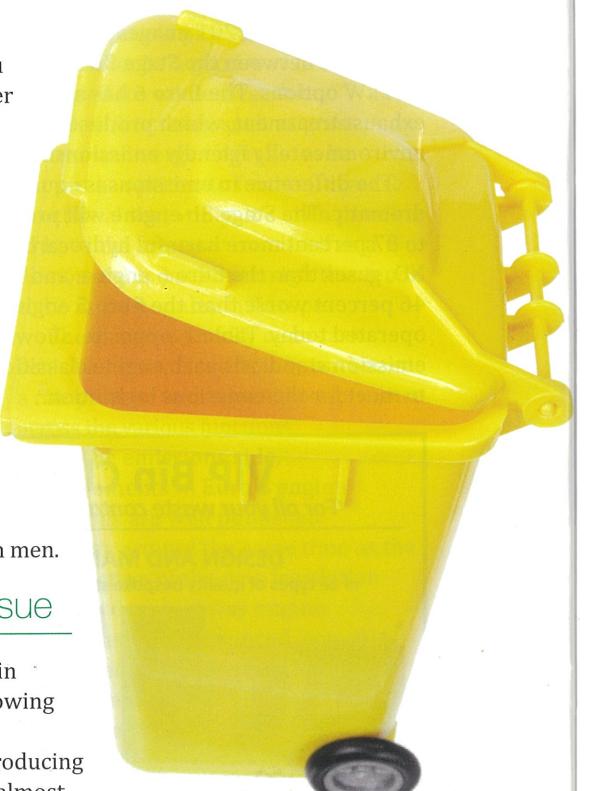
depends on who you speak to, as a number of people were working on the idea at the same time. Frank Rotherham Mouldings in the UK, OTTO and SULO all played a part in its introduction. Regardless of who was the first, there is no doubt of the benefits to the householder and bin men.

A Growing Issue

BUT THE wheelie bin masked another growing issue, notably that households were producing more waste. It was almost three times the size of a dustbin, and soon the realisation that this was not environmentally sustainable started to sink in. The age-old solution of landfill became a problem and is now, as we all know, an expensive and the least desirable option.

Also, much of our packaging is made from what are often now dwindling resources, so the solution was obvious: recycle as much as possible and send as little as possible to landfill. This seemed an easy solution until the domestic waste stream was looked at more closely.

For recyclables there are two main approaches: commingled and segregated. Commingled is often seen as more practical, but segregated produces a better quality recyclable. Glass should always be handled separately, as broken glass causes high levels of contamination when mixed with other materials. The improved technologies in materials recovery facilities has narrowed the quality gap between commingled and segregated waste, but so far segregated



waste systems are preferred across the EU.

However, the top performing councils in the UK use commingled systems, and with the cooperation of retailers and manufacturers with regards to packaging, there is no reason why this cannot work.

Introducing Bin Blight

WHETHER COMMINGLED or segregated methods are used, one thing is certain, more than one container is required and this has led to the phenomenon of "bin blight".

Bin blight is one of the biggest issues faced by councils today and the overcapacity created by multiple bins has seen waste production in households double; with an average starting at around 3kg per person per week, this is not sustainable in the long-term. Large households will naturally produce more waste than smaller ones, but they all seem to be given the same options when it comes to bins.

To address this, some councils have already replaced their standard 240-litre wheelie bins with smaller 140-litre models, but this still does not address the issue of "bin blight". Wheelie bin manufacturers were quite happy to take advantage of the increased demand when multiple bin systems were introduced, but as demand decreased due to market saturation, they became embroiled in a price war (in which there are no winners).

Quality could be said to have decreased; profitability has certainly decreased; and innovation is at a standstill. A wheelie bin, which originally had a working life of 10 to 15 years (many last even longer), seem to now last just a couple of years. I personally know of instances of 15 percent failure rates on new deliveries from the factory. This is, among other things, due to higher than recommended levels of recycled plastic being used. The introduction of smaller caddies and containers has increased the risk to bin men and currently the industry, which represents six percent of the total workforce – is responsible for 2.8 percent of accidents in the workplace.

Some companies did develop compartmentalised solutions, some of which allowed multiple fractions to be emptied at once. These were mainly used in Europe and, in every instance, cross-contamination was an issue. My own company has developed a compartmentalised solution that seeks to address this problem, but due to the current situation, manufacturers are either competing on price or focusing on making different types of caddies.

The industry's apparent disregard for innovation and invention is unfortunate and denies the rest of us the benefits that better design brings. I will leave with the last words from an article written in 1999 by Heather Chappells and Elizabeth Shove, titled "Bins and the history of waste relations". It states: "Despite their innocent appearance, dustbins occupy a critical position in any narrative of waste management. Being situated at the interface of private lives and household practices, on the one hand, and public health and environmental management on the other, dustbin technologies provide a revealing indicator of waste-relationships within society." ■

All the views expressed in this article are those of the author and do not necessarily reflect the thoughts of CIWM

Hubbub UK's Neat Streets campaign was a five month social experiment that tested new ways of tackling littering on Villiers Street, Central London. Using current best thinking on behaviour change and awareness-raising from around the world, Hubbub collaborated with several design organisations, including Gumdrop Ltd, Ioglo and Commonworks for various campaigns, including a photo gallery of local people (My Street is Your Street), chewing gum artwork (Peppermint Pointillism), noise-making bins (Talking Rubbish, Fumo), a voting bin, street actors (The Naked Bin Men) and campaigns specifically targeting chewing gum and cigarette butts. Keep Britain Tidy provided an initial baseline audit of litter on Villiers Street in May 2015. They provided an ongoing measurement framework and analysed the findings from litter monitoring and behavioural observations, carried out monthly by trained researchers. By October, the amount of litter had dropped by 26 percent compared to May. The behavioural observations suggested that rates of littering behaviour decreased by 16 percent from before to during the campaign. The amount of chewing gum discarded decreased substantially in the months that Neat Streets focused on gum initiatives and then returned to normal levels in the following month. Cigarette littering decreased during the six months, with the biggest dip in September corresponding to cigarette litter prevention activities.

A pilot project designed to encourage people to dispose of litter responsibility has been hailed a success by Birmingham City Council. The Bin it for Good initiative, run for three months between September and November 2015, has led to a five percent reduction in litter on streets in the main retail areas of the city centre. Under the scheme, also supported by Keep Britain Tidy, Retail Birmingham Business Improvement District and The Wrigley Company, a number of bins in the city centre were designated with stickers – explaining if more waste was disposed in them, more cash would be raised on a "sliding scale" basis for Love Brum, a Birmingham-based charity supporting a number of local good causes.

Sellers has launched the WasteSafe, an 800-litre container that is a stackable, low maintenance and UN-approved. It can also withstand impacts when dropped from 1.5 metres, even when at capacity with a load weight of 1,200kg, Sellers' says. The move follows a restructure that has left the manufacturer, which is now part of the Taylor Group, "in the strongest position it has been in for two decades" according to CEO Brendan Murphy. Sellers' latest product will be welcomed by the hazardous waste industry and compete with European manufacturers. Mark Jenkins, Sales Director at the Taylor Group, said: "Not only does the launch of the WasteSafe mark the first step in Sellers' diversification programme, but it also makes the Taylor Group the only UK company to design, engineer and manufacture a UN-approved product of this nature. This is the first in a series of innovative products that will use the core skills that Sellers has become renowned for."

The commercial roll top bin needs to be banned or completely redesigned to put an end to a series of accidents in the waste management industry, according to BusinessWaste.co.uk. It says a history of incidents makes it unsuitable in a trade that prides itself on its safety standards. BusinessWaste.co.uk, in conjunction with Yorkshire-based health and safety consultancy Protecting.co.uk found that most injuries included crushed and broken fingers, as well as broken and bruised arms, as a result of the lid slamming shut. The company has called for a complete ban on their use.