The development of the SPAM can

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Image: Stolle Machinery

The year 2022 marks 85 years since the iconic tinned Spam brand was launched by Jay Hormel and Minnesota-based Hormel Foods Corporation. Here, Bruce Linebaugh at LineMark Communications offers an overview of the development of the modern can used to package Spam and other meat products.

The current two-piece aluminium meat can was developed in the mid-1990s by Jim McClung at Can Industry Products (CIP) in Canton Ohio, along with engineers Paul Ripple and Manuel Rubalcava. Jim was approached by can makers Silgan and Crown who were interested in a two-piece rectangular can that would be faster to produce and cost less than the three-piece can that was being used for Spam and other canned meat products.

Jim and his team began work on developing a deep rectangular can body using the draw-redraw forming process, based loosely on a previous design for a shallow non-round can developed for the former Central States Can Company in Massillon, Ohio. This process presented the team with several metal-forming challenges, such as determining the optimal shape of the blank that would form the right cup shape to properly draw into the desired rectangular shape can. The team actually hand-cut the first blanks with scissors which allowed them to experiment with different blank shapes until they determined the optimal one.

The final blank shape they landed on is optimised to form the correct shape of cup – this shape is fixed and there is no latitude with it to produce cups that properly form the rectangular can. In the cupping press, pre-coated coil stock material is blanked and drawn into the non-round cups. The cups are rotated 90 degrees as they exit the cupping tools and this orientation is maintained as they are transferred to the redraw press – this ensures that the grain of the metal is correctly oriented to be drawn into the can which is critical to produce a rectangular can. The redraw press performs three operations – the first operation draws the cup into the rectangular shape at the proper height, and forms vertical beads in the side walls to keep them from collapsing. The second operation forms the bottom profile of the can and forms a step shoulder on the top edge where the rectangular easy-open end will be seamed after the can is filled. The third operation trims the top of the can and leaves a perfectly formed flange for double-seaming the EOE.

The two-piece draw-redraw rectangular meat can developed by Jim McClung at CIP was a revolutionary product that resulted in a more secure, economical and efficiently produced package for Spam, and it quickly became the standard meat can used around the world. After the development of the Spam can, CIP was acquired by Sequa Can Machinery in 1996 (which owned the Standun, Rutherford and Formatec product lines), and Sequa Can was in turn acquired by Stolle Machinery in 2004. Jim McClung retired from Stolle Canton in 2014 and passed away unexpectedly in July of 2021 at the age of 72 – he was a true icon and innovator who left a lasting legacy in the can making industry, and for the world.