



**Figure 5.** A 1-shilling Machin definitive under normal light (left) and revealing two vertical phosphor bands when exposed to ultraviolet light (right). Sensors on automatic mail sorting machinery detect the phosphor glow.

ment. It was kick-started by Anthony Wedgwood-Benn (now Tony Benn), the postmaster general in the Labour government that came to power in 1964, who instituted radical reforms including a shake-up of stamp design.

Both Andrew Restall, the first Fellow in Minuscule Design at the Royal College of Art, and David Gentleman, who had gained a considerable reputation for his designs for special stamp issues in the early 1960s, took a long hard look at stamp design.

Both came to the conclusion that the Wilding series was too fussy and that something simpler would have greater dramatic impact.



**Figure 6.** Great Britain Scott MH7f is a strip of five coil stamps (four different denominations) issued in 1969. The stamps were sold for 1 shilling from a coin-operated dispensing machine.

The Universal Postal Union does not require Great Britain to inscribe a country name on its stamps, a privilege that Gentleman originally considered a handicap.

He experimented with essays incorporating crowns and heraldry, but eventually concluded that the queen's profile was still the best option.

That being the case, it was decided that a new definitive series should take this to its logical conclusion and confine itself to the queen's effigy. Dramatically simple designs along these lines were produced by Restall's students, while Gentleman himself produced similar essays based on photographs by John Hedgecoe.

Some of the Gentleman-Hedgecoe essays bear an uncanny resemblance to the design eventually produced, a matter that would cause consider-

able controversy years later.

In the end, the Machin design was something of a team effort, not unlike Britain's very first stamp, the famous Penny Black of 1840.

The diademed profile of the queen on a fairly plain background was derived from a photograph by her brother-in-law, Lord Snowdon.

From this, the renowned sculptor Arnold Machin produced a series of bas-reliefs. In turn, these plaster reliefs were photographed by staff at Harrison and Sons printers with different lighting effects, and from these photographs a vast range of essays and color trials were compiled.

These essays varied in the size of the profile and numerals of value and were designed with or without the word POST-



**Figure 7.** The national emblems of Northern Ireland, Scotland, Wales, and Isle of Man are shown in the upper left corner on 2½p bright pink Machin definitive stamps issued in 1971.

AGE in various positions and styles of lettering. In the end it was decided to omit any inscription other than the value.

Two basic designs were used for the gravure low values. The majority of the stamps have the value in the bottom left corner, but the 7d, 8d and 9d have the value in the lower right corner (Figure 3).

The two top values of the gravure series were, in fact, printed in two colors, the first bicolor British definitives since the Edwardian series of 1902. In addition, a different photograph was used as the basis of the 10d and 1-shilling stamps, with light backgrounds.

The high values, from 2sh6d to £1, were not released until March 5, 1969, and were printed by the intaglio process in a larger size by Bradbury, Wilkinson on rotary sheetfed machines (Figure 4).

This was the first British definitive series to be printed in its entirety on unwatermarked paper. After the complex-

ity of the 1952 Wilding definitive series, with its three different watermarks, as well as inverted and sideways positions, this seemed to herald a simplicity of production in keeping with the classic simplicity of the design.

Other features, however, conspired to make the Machin series, especially the decimal currency versions from 1971 onwards, the most complicated ever produced by any postal administration.

Initially, the adhesive used for the Machins was gum arabic, but in 1968 Harrison introduced a new adhesive known as polyvinyl alcohol (PVA) gum. This had a matte surface and was virtually invisible, though some yellowish coloring matter was added so that the printer could tell which side of the paper had been gummed. Some later printings of stamps originally issued with PVA

gum were made on gum arabic paper.

From the outset, the Machin low values were only issued with some form of phosphor marking that would activate automatic mail-sorting machinery. The majority of stamps had two vertical phosphor bands (visible through the use of ultraviolet light exposure, as pictured in Figure 5), but stamps prepaying the printed matter or (after September 1968) second-class rates had only one band. Increases in basic postal rates in 1968-69 resulted in the 4d sepia and later 4d vermilion with a single band.

Stamps from booklets further complicated this system, giving rise to the 1d with single center band and the 4d with single side band.

In August 1969, experimental stamp vending machines in London were introduced. A shilling in the slot dis-