



Philatelic Bureau

Philatelic Bureau

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1 The Forth Road Bridge special issue

On 4th September we shall be issuing two stamps, 3d. and 6d., to mark the opening of the Forth Road Bridge. Full details of the stamps will be given in the August Bulletin. The usual first day cover service will also be provided and application forms have already been distributed to subscribers.

2 Withdrawal of special issues

In paragraph 34 of the February 1964 issue (No. 5) of the Bulletin we said we would keep special issues on sale for a year subject to review. We have decided to withdraw the Compac issue after nine months.

On 1st September therefore we shall withdraw from sale the Red Cross Centenary Congress issue 3d, 1s.3d. and 1s.6d., and the Compac 1s.6d. stamp, issued to mark the opening of the Pacific Ocean section of the Commonwealth telephone cable system.

Mechanisation of the Postal Services

3 Continuing our article about mechanization of the postal services, which is based on a talk given by Brigadier K. S. Holmes, Director of Postal Services, we come to the sorting processes which concern themselves with the individual addresses. Unlike the earlier processes described in the June 1964 Bulletin, postage stamps play no part in the exercise and the arrangements are not of such direct interest to philatelists but we are sure our readers would like the whole story of what we are doing in the field of mechanization.

Sorting Letters

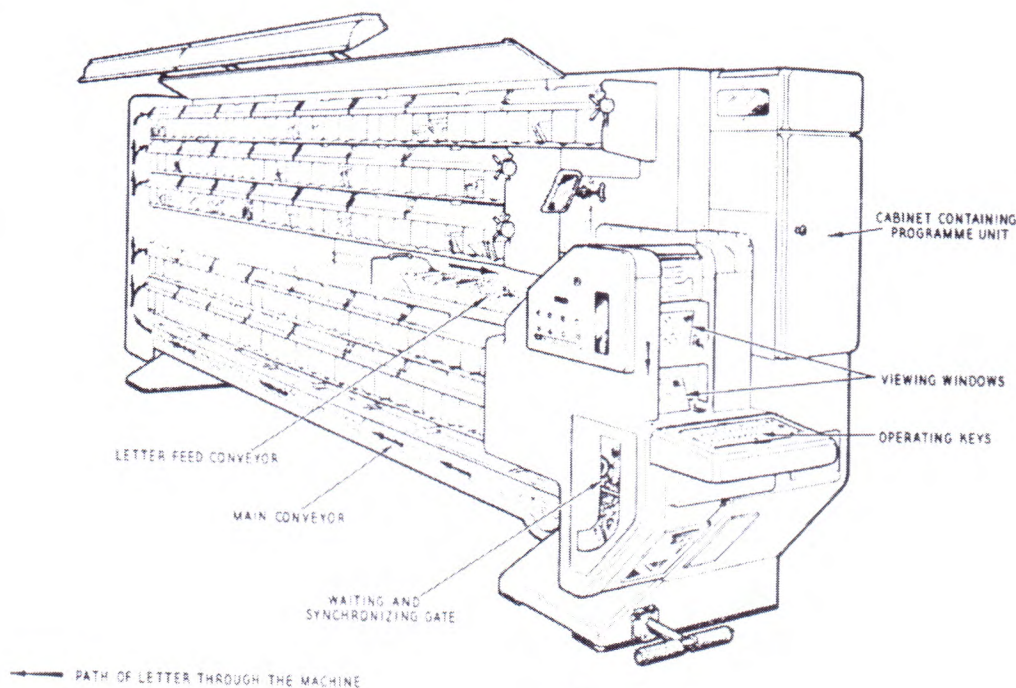
4 Since there are 1,700 separate post towns in Britain to which letters can be addressed, and since even the ordinary sized town may easily have a hundred or so postmen's delivery rounds, it is easy to see that a letter will be sorted several times before it reaches the postman who delivers it.

5 Practically all sorting is done by hand to a frame of boxes, each about 6 in. by 5 in. in section. The process is limited in two ways: (i) in speed - a man takes time to pick up a letter, read the address, and put it in a box; and (ii) in the number of boxes (48) which a man can conveniently reach without moving about too much.

6 Sorting machines built to date have been designed to overcome these limitations. Using the British single-position letter-sorting machine for instance, an operator can sort letters to 144 boxes at about 3,000 an hour - twice the speed of a manual sorter. The machine works like this:-

- (1) an operator sits at one end with a keyboard (12 by 12 keys) in front of him;
- (2) the machine takes letters one at a time from a stack and shows them to the operator through a viewing window;
- (3) the operator reads the address and, on the basis of a memorized code, presses two of his keys, thereby indicating to the machine into which of 144 pigeon-holes the letter must be put;
- (4) the letter is immediately carried away, through powered roller tracks, to the appropriate pigeon-hole and, at the same time, the next letter is presented to the operator.

The letter-sorting machine



FRONT VIEW

7 The machine is arhythmic in operation; the operator can make his own pace, just as he does when sorting manually, pausing to read badly-written addresses, and speeding up with those written clearly. This is one respect in which the British machine differs from others which have been developed abroad, notably the Transorma (Dutch) and Bell (Belgian) machines. These are multiple position machines operating to a fixed rhythm: an operator must either take advantage of a "sorting opportunity" or let it go. He cannot in any case speed up or "beat" the rhythm of the machine. This can be a disadvantage; letters tend to appear in "runs", something like a quarter of all those posted being for local delivery and many of the remainder being for large cities and nearby towns.

8 All letter sorting machines in current use are operator controlled, and have two limitations in that they are tied; (i) to the operator's speed - the machine could go faster if the operator could; and (ii) to his memory - he must remember the keying code for each division into which he sorts.

9 A perfect sorting machine would read the address on any envelope and sort it automatically. It is problematical whether such a machine will ever appear - at least at a price at which it could be used economically! It is true that laboratory "rigs" have been built to recognize a limited range of place names typed in specialised characters on envelopes and to sort the envelopes into a few divisions. But it is a far cry from this sort of thing to the "reading" (and sorting) of place names typed in any sort of character, and further still to the "reading" of handwriting.

10 But despite the uncertainty, it would be wrong to dismiss the idea of a robot sorter - it must clearly be the ultimate goal, and research and development must be directed towards it. The problem to which postal administrations have had to address themselves of late is whether any progress could be made in the foreseeable future beyond the operator-controlled style of sorting machine towards fully automatic sorting. This question has been answered affirmatively with the emergence of a new technique known as "coding".

Coding and Automatic Sorting

11 The average letter is sorted three times before it reaches the delivery postman. Many letters are sorted five or six times. If, when a letter was first sorted, the ordinary written address could be converted into machine language and stamped in this form on the envelope, it should be possible to sort the letter at the second and subsequent stages automatically. An automatic machine could itself read the machine language and thus be free to sort faster and to as many selections as required. With this method the saving of manual effort at the second and subsequent stages would be much greater than could ever be attained with operator-controlled machines. At the first stage moreover the work of reading the address and marking the envelope could be divorced from the sorting process and the work of several operators fed to one automatic sorting machine. This would open the way to a reduction of machine costs. In short, coding/sorting - as it has been called - would be a notable advance over operator-controlled machine sorting. It was decided, some three years ago, to press on with it.

12 Development of the new technique called for solution of many problems. Foremost was that of converting the ordinary address to a form which could be read automatically, this conversion process being described as "coding". In relation to the "post-town" section of the address coding involves: (i) reading the name of the post-town; and (ii) operating a machine which will convert this name to machine language and impress it in that form on the envelope.

13 The names of the 1,700 post-towns in the United Kingdom vary in length from 3 letters (for example, Ayr) to 14 or more (Berwick-on-Tweed). Time would not allow the operator of a coding machine to type out the longer names in full. They must be condensed to the shortest form consistent with preservation of their individuality. This requires extraction of certain key letters and their typing out on a machine - extraction coding as the process is known.

14 After much study it was decided that the code extraction pattern which gave the optimum results was one which relied upon extraction of the first three and last two letters of the name of the post-town, thus:

MANCHESTER	-	MANER
NORWICH	-	NORCH
LEEDS	-	LEEDS
AYR	-	AYRYR

Special Handstamps

<u>Where Used</u>	<u>Dates</u>	<u>Slogan</u>
Wimbledon	22nd June 1964 - 4th July 1864	"Wimbledon All England Lawn Tennis Championships 1964"
South Kinsington S.D.O.	20th July 1664 - 28th July 1964	"20th International Geographical Congress, London S.W.7 July 20th-28th 1964"
Edinburgh	31st July 1964 - 12th Aug. 1964	"Tenth International Botanical Congress Edinburgh 1964"
Shaftesbury Hotel London	19th Sept. 1964	"IV Federation Internationale des Societies Aerophilateliques Congress 19th September 1964"

Postmark Slogans

27 New Slogans

<u>Where Used</u>	<u>Dates</u>	<u>Slogan</u>
Bury St. Edmunds	1st July 1964 - 25th Sept. 1964	"Magna Carta Son et Lumiere 31st Aug. - 28th Sept. 1964 Bury St. Edmunds" (Transposed)
Aberdeen, Bradford Bristol, London W.D.O.	10th July 1964 - 17th July 1964	"The British Polio Fellowship 19th July 1964 Silver Jubilee"
Bournemouth	1st Sept. 1964 - 31st Oct. 1964	"Bournemouth for that Autumn Tan" (Transposed)
Shrewsbury	30th Nov. 1964 - 27th Dec. 1984	"Christmas Shopping Illuminations - Shrewsbury, December/January"

28th Dec. 1964 - "Shrewsbury Historical
28th Feb. 1964 Centre, Brochure from
Information Bureau,
Shrewsbury, Salop"

Extensions of Present Slogans

<u>Slogan</u>	<u>Extended to</u>
"Bournemouth the Resort for Sun, Sea, Sands and glorious gardens"	31st Aug. 1964
"Dudley for Zoo and Shopping"	21st July 1965

15 The next problem was to build machines which would: (i) convert the extraction pattern into machine language - binary code - and stamp this on the envelope; and (ii) read the marked letters and sort them automatically.

16 Process (i) requires two pieces of equipment - a coding desk and a code-translator. The former comprises a keyboard resembling that of a typewriter on which the coding operator types the letters extracted from the post-town name, for example, "MANER" from "Manchester". The action of keying sets up signals which are translated into a pattern of binary dots by a code translator. The dots appear on the envelope as a pattern of phosphorescent spots alongside the ordinary address. To ensure adhesion of the phosphor to the envelope it is applied from a phosphor-wax tape by the pressure of hot needles. The phosphor - a different one from the stamp phosphor - is practically invisible in ordinary light but glows brightly after radiation by ultraviolet light in the range of 3,000-3,600 Angstroms.

A coded envelope

17 Letters bearing the phosphorescent spot patterns pass from the coding desks to an automatic sorting machine in which the operator is replaced by a reading head. Translation of the spot patterns is achieved by reference to the code-translator; this signals back, for any particular spot pattern, "instructions" which tell the letter-conveying system of the sorting machine to which one of its boxes it should guide the particular letter.



Mrs. K. Jones,
26 North Street,
NORWICH,
Norfolk.
NOR 36L

1964
1964
1964
1964
1964
1964
1964
1964

18 Translation of any code combination is effected in 25 milliseconds. The translator can thus be shared by a considerable number of coding desks and automatic sorting machines.

19 Prototype coding desks and automatic sorting machines were brought into operation in the sorting office at Luton on 21st June, 1960, the first time letters had anywhere been coded and sorted automatically. The results obtained have shown steady improvement, the proportion of incorrect sortings for the whole process - including coding - having fallen until it is now less than 10 per 1,000. Although this figure will be further reduced it can be taken as a clear indication that coding/sorting is a practicable proposition.

Weakness of Extraction Coding

20 Reference has so far been made only to the encoding of the name of the post-town and to the fact that to keep ambiguities within manageable proportions not less than five characters must be extracted. But, to take full advantage of coding and automatic sorting we also want to encode the name of the street to which a letter is addressed and to do this another five characters must be extracted. This means typing out ten characters from every address. There is not sufficient time to do this at many offices of posting. Two separate coding operations would be required - one at the office of posting to extract the post-town code, and one at the office of delivery to extract the street code.

Postal Codes for Public Use

21 These two extractions could be reduced to one, and problems caused by ambiguities resolved, if people were prepared to help by using a postal code as part of their normal postal address. A code of six characters can provide for every postal address in the country. A postal address with its postal code added would look like this:

Mrs. K. Jones,
26 North Street,
NORWICH,
Norfolk,
NOR 36L

where "NOR" represents "Norwich" and "36L" represents "North Street".

22 If codes of this type were in general use, the encoding operation could be greatly simplified. All the coding operator would have to do would be to read postal code, for example, "NOR 36L", and type it out on his keyboard. Two rows of phosphorescent spots would appear on the envelope - one representing the post town and the other the street of delivery. Once a letter was marked in this way it could be sorted automatically at all stages up to the point where it is given to a postman to deliver.

23 The question is whether people are prepared to use codes in this way, and whether they will use them accurately. The answer is being sought in Norwich. Every street, road, avenue, and many firms in the Norwich postal area have been allotted a separate postal code of six characters as in the example quoted. People have been asked to show their code as a part of the normal postal address at the head of their notepaper, so that their correspondents will use it when writing to them. A good proportion of the mail being received in the city for delivery now carries a postal code.

24 There are two letter sorting machines of the latest operator-controlled type in use in the Norwich sorting office. These have recently been modified, by addition of typewriter-type keyboards and code translators, so that practical use can be made of the postal codes appearing on letters addressed to Norwich. The operators using the machines need no longer memorise the keying combinations for streets and roads in the area - they work either by copying the postal codes appearing on the letters or, if there is no code shown, by extracting a set pattern of five letters from the street name and typing that out. The machines do the rest, putting the letters into boxes corresponding to the 1,800 or so different streets, roads, avenues, etc., in the Norwich area.

25 The experiments which are being made at Luton and Norwich are complementary. If successful they could bring about a major change in the methods now used for sorting letters.

Conclusion

26 The emergence of the new coding technique has opened up new and promising prospects in the application of mechanical sorting. The next phase must be to perfect and cheapen the new equipment so that what now promises to be a technical success shall also be commercially successful. Much original research and development by the Post Office Engineering Department has gone into the evolution of the new techniques. It would be surprising if some of them, such as the phosphorescent spot technique, did not have applications outside the Post Office.

27 But in the postal field itself it remains to be seen whether public cooperation in the use of postal codes can be secured. If it can, it might even be the way for still further progress towards the ultimate goal, a robot sorter. An automatic sorting machine reading postal codes put on by the public is surely a much less visionary idea than a machine reading ordinary addresses. In the firm belief that this may well prove to be the case research has lately been started by the Post Office into the automatic reading of postal codes put on envelopes by the public at large.

28 Meanwhile, the Post Office is pressing ahead with the application to its work of the more conventional forms of mechanisation. Its policy is to introduce a machine wherever it can do the work more efficiently and cheaply than by manual effort. Its aim is to maintain and wherever possible improve the quality of the postal service while at the same time holding down costs.