



Philatelic Bureau

Philatelic Bureau

GPO Headquarters, St. Martin's-le-Grand, London EC1 HQ 4583

Bulletin No. 8 - June, 1964

Information in this
Bulletin may be
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without acknowledgement
but we should appreciate
receiving copies of any
journals containing
reproduced matter.

Contents

New issues:

2/- book

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postal services

Postmark Slogans

1 Books of stamps. Last year, to relieve pressure at Post Office counters in tourist resorts, where the demand is for 2½d. stamps for postcards, we introduced a book containing mainly 2½d. stamps. It was reported fully in Bulletin No. 1, paragraphs 20 and 21.

2 The book proved popular and it will therefore be introduced again on July 1st. The make-up last year consisted of 2 panes each of four 2½d. stamps and one pane of one 2½d. and three ½d. stamps. This year's issue will contain four panes, each consisting of two 2½d. and two ½d. stamps. The 2½d. and ½d. stamps are printed side by side so that those customers who want a 3d stamp can tear out a ½d. and 2½d. stamp in one operation.

3 The cover of the book will be in the same background buff colour as last year and with red printing as before. The stamps have, however, been printed on the normal rotary machines and have therefore been printed on the normal, uncoated, paper used for the permanent series stamps.

4 The Stamps are laid out as for normal 2s. book production, which was described fully in Bulletin No. 2, paragraphs 13 and 14, and will therefore bear sideways watermarks. Nearly a million books have been printed.

5 The books will be on sale at the following towns:

Scotland

Oban
Crieff
Pitlochry
St. Andrews
Edinburgh
Dunbar
Ayr
Rothesay
Inverness
Fort William
North Berwick

Home Counties

Brighton
Hastings
Eastbourne
Folkstone
Dover
Ramsgate
Margate
Canterbury
Oxford
Cambridge
Great Yarmouth
Ryde (I of W)

North West

Blackpool
Southport
Windermere
Douglas, IOM

Northern Ireland

Londonderry
Larne
Bangor
Portrush
Belfast

North EastWales and Border CountiesSouth West

Whitby
Scarborough
York
Cleethorpes
Whitley Bay
Bridlington
Harrogate

Llandudno
Colwyn Bay
Rhyl
Pwllhelli
Barmouth
Aberystwyth
Caernarvon
Cardigan
Llangollen
Llanrwst
Porthcawl
Terby

Penzance
Newquay
Falmouth
Torquay
Ilfracombe
Minehead
St. Ives
Bath
Wells
Salisbury
Winchester
Bournemouth
Weymouth
Weston-super-Mare
St. Austell

MidlandLondon

Trafalgar Square

Stratford-upon-Avon
Worcester
Leamington Spa
Skegness

Mechanisation of the Postal Services

6 We get many inquiries about the purpose of our phosphor-lined stamps and the following information, based on a talk given by Brigadier K. S. Holmes C.B.E., Director of Postal Services will, we feel sure, be of great interest to readers.

7 Roughly 40 per cent of the cost of mail is attributable to sorting office costs and it is here that mechanisation is most needed. New coding and automatic letter sorting techniques show great promise. Although the postal service is the oldest of our communication services, it has proved much more resistant to mechanization than the others. Even today it is operated very largely on the basis of manual effort: roughly 70 per cent of its costs are staff costs, a large part of the remainder being charges for conveyance of the mails.

8 At first sight, postal operations appear to be an easy subject for mechanization. Many of them are highly repetitive in character, they also occur in immense numbers. What is it then which has proved to be so baffling about mechanisation of the service; what developments are now taking place; and what are the prospects for the future?

9 Postal Costs

Leaving aside payments for conveyance, the costs of handling letters and parcels break down roughly as follows: (i) collection, 10 per cent; (ii) delivery, 40 per cent; (iii) sorting office costs, 40 per cent; (iv) miscellaneous, 10 per cent. Except for the fact that they can be motorised, collection and delivery offer virtually no scope for mechanisation. Neither does the work which falls under the heading "miscellaneous". Only in sorting offices is there scope for mechanisation and there the dividends could be high.

10 Sorting Office Mechanisation

Belt and chain conveyors, some of sophisticated design, are being used in growing numbers to move mail between work points, in some cases directly between sorting offices and railway station platforms. But the sorting processes themselves have long remained unsubdued, all efforts to mechanise them having been defeated until recently. The most pressing need is for a mechanised letter sorting system, and it is the development of such a system which forms the main subject of this article.

11 Postal Service Organisation

To understand what is involved in mechanizing the sorting of letters and parcels a knowledge of the following facts is desirable:

(1) On its way to its destination a letter passes through numerous hands and processes. Collections made from posting boxes and post offices are taken into a sorting office - the office of posting - where the letters are sorted into destinations and then sent on by rail, road, or air.

(2) For postal delivery purposes the country is divided into 1,700 areas; each contains an office of service through which all incoming correspondence for delivery in the area must pass. These 1,700 offices are known as "post towns."

(3) Superimposed upon this system of "post town" areas, there are some 40 distributing offices, each acting as a mail distributing centre for post towns in a specified area - which may comprise one or more counties. There are also some 13 large post offices and a considerable number of mobile offices (railway travelling post offices) which act as general forwarding offices for mail.

(4) A letter may be routed from the office of posting to its destination either direct or via an intermediate distributing or forwarding office (where it may be re-sorted) according to the amount of traffic available at the particular time of day.

(5) On arrival at the office of delivery, letters are sorted into geographical groups of streets - the postmen's delivery rounds. The delivering postman finally sorts the items into order of street and house delivery before setting out on his round.

The treatment of parcels is on much the same lines as letters.

12 Mechanisation of Parcel Sorting

This is essentially a problem of handling bulky articles, which in the British service may each run up to 22lb. in weight. Early attempts to mechanise consisted of sorting parcels, by hand, on to a number of conveyor belts - primary sorting. The conveyors carried the parcels away to points where they were given a further sub-division - secondary sorting - again by hand. The number of primary divisions into which parcels could be sorted mechanically in this way was limited to about a dozen.

13 Parcel sorting machines built in recent years have provided for mechanical subdivision into as many as 40 or more selections. They are mostly push-button controlled and constructed on a common principle - a parcel, of which the address has been read by an operator (the sorter) is placed, either by hand or mechanically on a primary conveyor which in turn traverses a number of secondary conveyors each leading to a different dispatch point. A built-in memory and release system, which is set by the operator as he reads the address on the parcel, provides for the parcel to be transferred from the primary to the appropriate secondary conveyor at a particular point along the primary conveyor's track.

14 The primary conveyor may be either:

(1) an endless chain to which "buckets", to hold the parcels, are attached (with the Sovex type of parcel sorting machine at Leeds each "bucket" has a false bottom which opens to let the parcel fall on to the appropriate secondary conveyor);

(2) a plain conveyor band on whose surface parcels are carried to the points of transfer to the secondary conveyors. (Transfer can be obtained either by power driven ram, or by a blast of compressed air, or, most simply, by gravity by tilting the primary conveyor band - as in machines at Worcester and Preston.



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The Philatelic Bulletin - special announcement No. 2 June, 1964

Philatelic Services for Forthcoming Stamp Issues

The G.P.O. Philatelic Bureau will provide again its full first day cover service on specially designed envelopes for the Geographical Congress issue on July 1st and for the Botanical Congress issue on August 5th.

As a new facility to meet the wishes of those stamp collectors who prefer to prepare and post their own covers, the official first day envelope will also be available for each issue in advance from the Philatelic Bureau and from the 40 offices where philatelic posting boxes are being provided. The price of the envelope will be:

26 Postmark Slogans

New Slogans

<u>Where Used</u>	<u>Dates</u>	<u>Slogan</u>
Paignton	29th June 1964 - 23rd August 1965	"Paignton Devon's Golden Playground" (Re-designed obliterator) (Transposed)
Llandrindod Wells	6th July 1964 - 5th July 1965	"Llandrindod Wells - Touring Centre of Wales - handy for Coast, Hills and Dales" (Transposed)
Southampton	10th July 1964 - 24th July 1964	"5½% Lend to Southampton Apply - City Treasurer - City Centre" (2 Transposed) (8 Conventional)
Coventry (2 dies)	31st August 1964 26th Sept. 1964	"Learn First Aid, Now. Post Office Ambulance

Extensions of Present SlogansSlogan

"Visit Historic Newark"

Extended to

16th June 1965

Special Handstamps

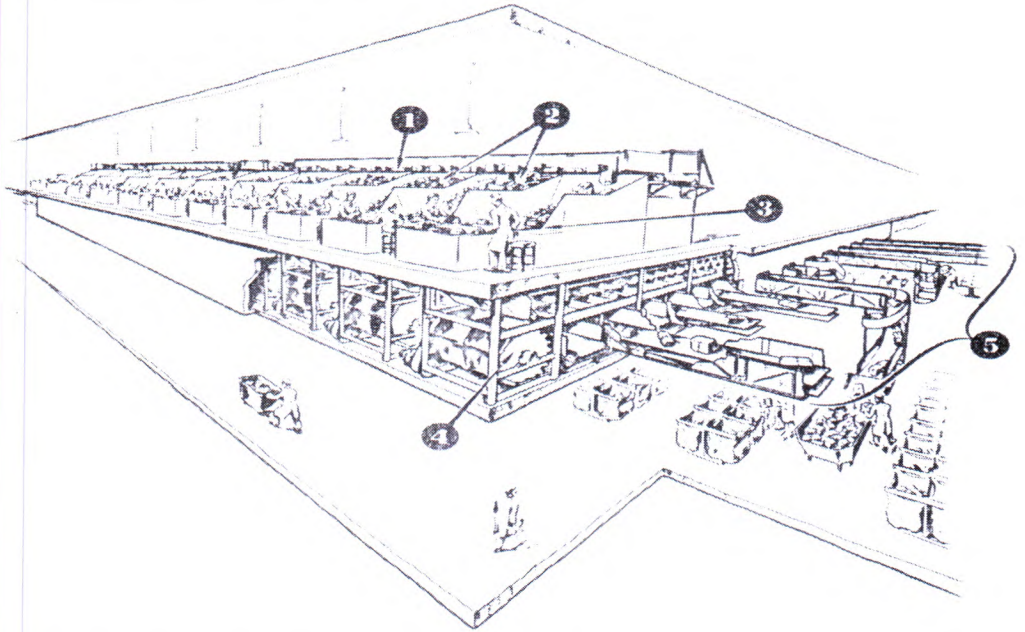
<u>Where Used</u>	<u>Dates</u>	<u>Slogan</u>
Edinburgh	23rd June 1964 - 27th June 1964	"Royal Highland Agricultural Show, Edinburgh"
Liverpool	1st Sept. 1964 - 4th Sept. 1964	"XIVth International Congress Apostleship of the Sea"

200	:	£ 1 35. 10.
500	:	£ 8
1,000	:	£ 15
2,500	:	£ 33
5,000	:	£ 60
10,000	:	£104

The offices at which the envelope can be bought are:

Aberdeen	Gloucester	Oxford
Belfast	Harrow	Plymouth
Birmingham	Hull	Portsmouth
Blackpool	Ipswich	Preston
Bournemouth	Kingston-upon-Thames	Reading
Bradford.	Leeds	Romford
Brighton	Leicester	Sheffield
Bristol	Liverpool	Shrewsbury
Cambridge	Llandudno and	Southend-on-Sea
Cardiff	Colwyn Bay	Stoke
Chelmsford	Londonderry	York
Croydon	Maidstone	
Derby	Manchester	South Western B.O.
Dundee	Newcastle	East Central D.O.
Edinburgh	Northampton	Trafalgar Sq. B.O.
Exeter	Norwich	West Central D.O.
Glasgow	Nottingham	

15 Of the mechanised parcel sorting installations built in this country to date the largest is at Leeds. This installation can handle 10,000 parcels an hour. Movement through the office is almost wholly mechanised.



The Parcel Sorting installation at Leeds

At (1) incoming parcels are distributed to the bins of the Sorting Clerks (2). The Clerks (3) identify by sight, and automatically code each parcel, which is then conveyed to the floor below and picked up by a conveyor (4). As the parcel moves along the conveyor it is automatically deposited on a secondary conveyor which carries it to other clerks (5) who then "fine" sort for specific destinations.

16 The tilted belt parcel sorting machines at Worcester and Preston have proved highly successful: these machines are more simple, economic, easy to maintain and have higher outputs and more installations are being planned for future large offices.

Mechanical Sorting of Letters

17 This is the biggest single sorting problem which the Post Office has on its hands. Two things combine to make economic mechanisation difficult:-

(1) the non-standard character of the article to be handled - letters vary in size, shape, weight, stiffness, colour, markings, make-up, and in the way in which they are addressed;

(2) the uneven flow of work - more than half the letters posted reach sorting offices after 5 p.m. and over 80 per cent of the mail is delivered before 9 a.m. next morning.

18 The processing of letters in sorting offices falls into two parts: (1) preparation for sorting; and (2) sorting itself.

Preparing Letters for Sorting

19 Correspondence brought into sorting offices from pillar boxes and post offices comprises letters, postcards, small packets, rolled magazines, newspapers, and so on. These items cannot be handled together conveniently; so that before sorting can begin we have to:-

(1) separate the letters from the packets;

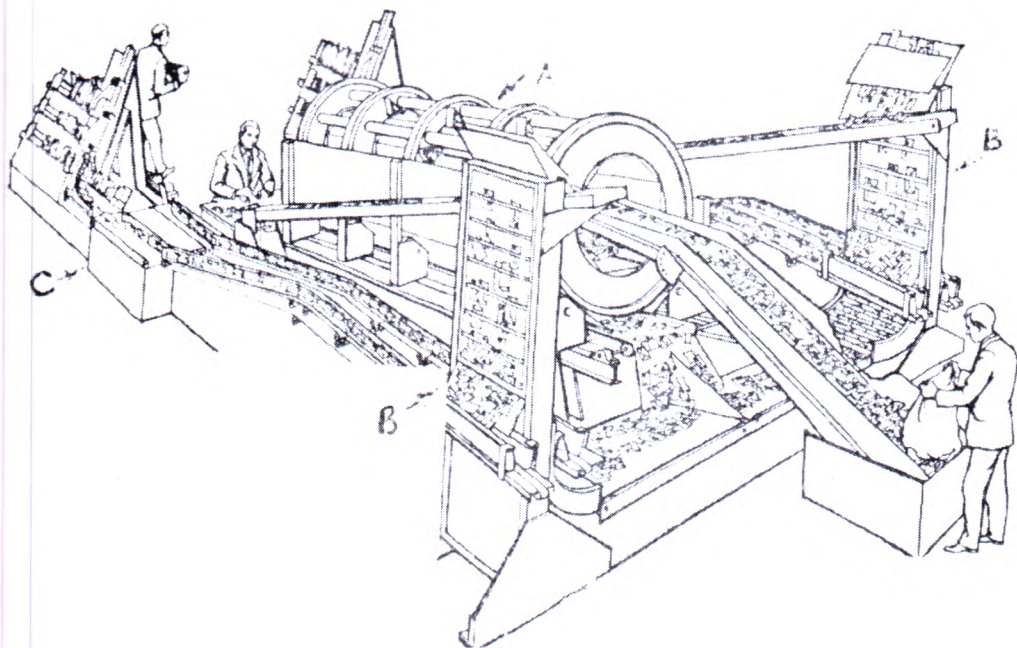
(2) separate large letters from small ones; and then

(3) "face" the letters, that is, arrange them all with the addresses the same way up and with the stamps in the same corner ready for passing through the stamping machine: at the same time the printed papers paid at 2½d. must be picked out (these are sorted and despatched after the fully paid - 3d., etc. - letters have been dealt with); and

(4) cancel the stamps.

20 Until recently the first three of these jobs had everywhere been done by hand. Machines which can do them automatically have now been developed successfully. They include:-

(1) A segregating machine. This is a revolving drum, tilted downwards, whose sides are a series of hinged flaps.

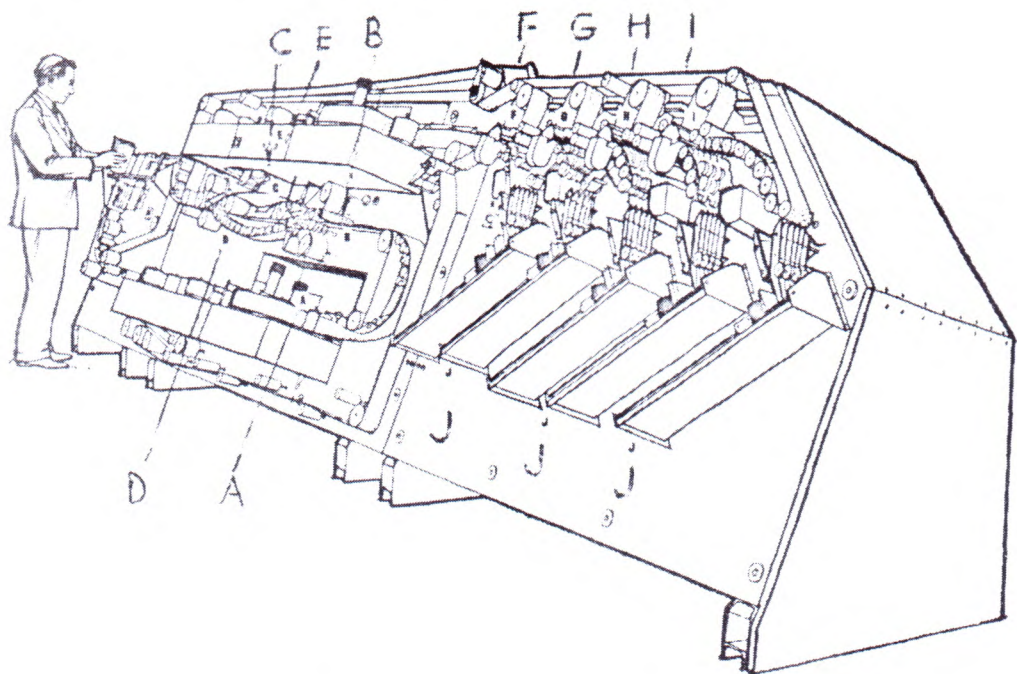


A Segregating Machine. (a) Segregating Drum which separates the packets, newspapers, magazines and other bulky articles from the ordinary letters; (b) Letter Separating Towers which separate the long and large letters from the ordinary-sized which will go through the sorting machine; (c) Long Edge Positioners which turn the letter onto an edge for stacking prior to passing through.

The mixed mail is fed into the drum at the higher end. As it works its way down the letters slip out through the gaps between the flaps on to a conveyor belt which carries them to separating and stacking devices. Packets work their way down the drum and emerge at the lower end;

(2) Separating and stacking devices. These separate large letters from smaller ones. Separation is achieved partly by passing the stream of letters up a vertical frame of powered rollers. Large letters bridge the gaps between the rollers and travel to the top of the tower: the others cannot do so and fall out onto separate conveyors. Further refinement is achieved by passing the letter stream beneath "snatch rollers" which pluck out any large letters which may have remained with the small ones. The letters finally reach mechanical stacking devices which put them in neat piles graded according to size;

(3) The facing machine. This takes letters as they come in random orientation from the stacking devices, re-arranges them so that all the addresses are the same way up, picks out the 2½d. letters, cancels the stamps on all the letters and puts them into neat stacks ready for sorting,



The facing machine

A Primary Scanner

B Diverter

C Twisting Section

D Straight Section

E Final Scanners

F,G,H,I Diverters

J Stackers

21 The mechanical facing of letters presents numerous problems - not least that of locating the position of the stamp on the envelope and, when this has been done, rearranging the envelopes so that all the addresses face the same way and the stamps are in the same corner of the stack. There is also the problem of distinguishing between 2½d. stamps and those of other values. To resolve these problems research was first concentrated on optical scanning of the envelope. Unfortunately the presence of other markings - e.g. Christmas seals - and the difficulty of distinguishing between the colour of the 2½d. stamp and the rest made this method unreliable. The scanners were confused. Accuracy never exceeded 90 per cent, even in a laboratory.

22 It was therefore decided to incorporate in the stamp itself a characteristic which, while not defacing the stamp, could be identified with reasonable certainty. In the first experiments graphite lines were printed on the reverse side of stamps under the gum - one line on the 2½d. stamp and 2 on other denominations. Recognition was achieved by passing a high voltage (1,000 volts) between "feelers" which swept the stamps as the envelopes passed beneath. Completion of a discharge circuit through the paper and along a graphite line signalled the presence of a stamp. This system gave much better results than optical scanning but was not free from difficulty - printing costs were considerable and the graphite lines tended to fracture when the stamp was moistened and applied to the envelope.

23 A further improvement has come with the development of a new and harmless organic phosphor which is line-printed on the face of the stamps during manufacture. It is cheap to produce and virtually invisible in ordinary light. The phosphor used in the early stages of the experiments reacted only to a frequency of 2537 Angstrom units and glowed with a yellow light. This phosphor was later replaced by one which reacted to any frequency in the ultra violet band and which incidentally glows with a blue light. Recognition by the scanners is positive and certain and accuracy of stamp recognition is virtually 100 per cent.

24 Once the stamps have been located there remains the problem of rearranging the envelopes so that all addresses are the same way up. This is achieved by passing them in a spaced stream between double conveyor bands: envelopes, with their addresses facing the "wrong" way are diverted and turned around in a twisted belt so that when they rejoin the main stream they are the right way up.

25 In our next issue we will deal with the machine developed for sorting.