

BELGIAN CONGO STUDY CIRCLE

BULLETIN No. 32

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NEW MEMBERS

We extend a welcome to the following new members in addition to those whose names have already been recorded in our Secretary's first News Bulletin.

Mr E.E. Hirdler, Jr., Box 66, Hockessin, Delaware 19707, U.S.A.
Mr J.P. Noel, B.P. 11206, Kinshasa 1, Zaire.

RESIGNATION

Mr R.M. Kitchingman

FORTHCOMING MEETINGS

- 14th October 1978 - at 25 Kingswood Road, Tadworth where we look forward to meeting two of our overseas members, Mr. A. Vindevoghel and Mr. G. Celis, both of whom will be providing displays.
- 13th January 1979 - at Bedford College, London. 10c. value of the Mols issues.
- 11th May 1979 - at 87 Park Road, Buxton - members' display of about 12 sheets, preferably with a Postal History flavour. This venue has been chosen in the hope of meeting a few more of our Northern members.
- 6th - 8th July 1979 - at York. Belgian Study Circle meeting (refer to detail in Newsletter).

NEWSLETTER No. 1 JULY 1978

This new introduction, through the efforts of our Hon. Secretary, is intended to fill the gap between the twice yearly issue of the Bulletin.

I am sure all our members will appreciate this extra contact and I hope will use it as just that. It is a newsletter and not intended to replace the official bulletin. If you have a query or a point of view you'd like our other members to help with, please drop a line to Peter Foden.

The first newsletter has already presented the minutes of our last meeting and AGM and additionally summarised the display given by our Hon. Secretary on that occasion. May I go on record and thank him and also Mrs. Foden who so kindly entertained us.

Already we can claim an instant success by including in this bulletin the content of two communications in answer to the request for information concerning the registration of the Fokker FVII illustrated in the 1934 Air Mail Series.

Finally and in conclusion may I remind members that (i) Charles Spurgeon our packet secretary really does want help with a continuous supply of material - to enable him to feed us with that ever welcome packet. Please do what you can - every little helps. and (ii) the Expert Committee is now receiving for its third batch of pronouncements. Just to remind you - send to R.H. Keach.

We again apologise to those of our members who have submitted articles for inclusion in the bulletin which have not as yet appeared. However, we can tell you that in Bulletin No. 33 we will be including several communications from Mr. G. Celis and also one on 'Méter Marks' by Mr Hal Hoytè. We will also be including the second instalment of Mr. Keach's "Line Engraved Stamps". Other items include 'Maps of Transportation Routes' which were sent by W. Dynckens and from R.A. Ramsey notes on the perforations of the 1969, 1971 Mobutu definitives.

THE 15 CENTIMES OF 1910

According to General Du Four's book, 'CONGO - CINQUANTE ANS D'HISTOIRE POSTALE', there were five combinations of frame and centre plates from which the 15c of 1910 was printed. Ever since the publication of the book the writer has felt that the five combinations, complicated though they may appear to be, did not tell the full story of this interesting but difficult little stamp. Complete sheets of the stamp, recently available to the writer, have disclosed that there were no less than seven combinations of plates.

According to the afore-mentioned book, the combinations of plates were:

- 1111 + A3 - the first centre plate, first used for the 1896 issue, re-entered during the course of that issue and again re-entered immediately prior to the 1910 issue, producing the third state of the plate.
- 1111 + A4 - with the same centre plate again re-entered producing the fourth state.
- 1111 + A5 - with the centre plate re-entered yet again producing the fifth state.
- 1112 + B1 - incorporating an entirely new centre plate (B) and with the frame plate partly retouched to strengthen the badly worn parts of the engraving.
- 1113 + B2 - with the same centre plate partly re-entered and the frame plate very largely re-entered. In his book, General Du Four stated that the frame plate was also partly retouched but it is thought that the only repairs to the plate were by re-entry.

The problems have been with centre plate A, where the three states, A3, A4 and A5, did not appear to explain all the variations found in the single copies assembled and studied for the reconstruction of sheets of the stamps.

We can now say with certainty that there were two additional combinations, 1111 + A6 and 1111 + A7 resulting from complete or nearly complete successive re-entry of the centre plate.

This discovery is doubtless of very limited interest and all that will be described are specific features so that a complete sheet of the stamp may be correctly allocated to its combination of plates.

Successively:

1. If the top left corner of No. 4 in the sheet is doubled, the sheet is 1113 + B2.
2. If the bottom frame line, particularly at the left end, of No. 41 is doubled, the sheet is 1112 + B1 (true of 1113 + B2 also).
3. If on No. 50 there is light but clear doubling of the shading of parts of the sky in the top right corner of the vignette, the sheet is 1111 + A7.
4. If on No. 36 there is a black circle about 1mm. diameter between the central large palm tree and the next tree to the right, the sheet is 1111 + A6.
5. If on No. 11 the sitting natives are clearly doubled, the sheet is 1111 + A5 (true also of 1111 + A6 and 1111 + A7).
6. If on No. 12 the sitting natives are clearly doubled, the sheet is 1111 + A4 (true also of 1111 + A5, 1111 + A6 and 1111 + A7).
7. If the sheet has none of these varieties, it is 1111 + A3.

R.H. KEACH

32/3.

45
52

THE 1 FRANC OF 1915

In Bulletin No. 21 it was disclosed that the Abbe Gudenkauf had discovered an additional combination of plates from which the 1fr. of 1915 was printed, he having found a complete sheet of the stamp 115 + A5 (Du Four nomenclature) with the 1922 10c local surcharge. Stamps from the combination 115 + A5 without the surcharge have since been recognised, a used block of 6 being, as yet, the largest multiple without surcharge.

Thanks to efforts to reconstruct sheets from single stamps, a further combination of plates has been discovered, the Abbe Gudenkauf's sheet of supposed 113 + A5 with 10c surcharge being different from the writer's sheet of supposed 113 + A5 with EST AFRICAINE overprint. It is necessary, therefore, to alter the numbering of the Du Four plates as follows :

Du Four Nomenclature	New Nomenclature
111 + A4	111 + A4
112 + A5	112 + A5
113 + A5	113 + A5
Unknown	114 + A5
114 + A5	115 + A5
Unknown (Gudenkauf 115 + A5)	116 + A5
115 + A6	116 + A6
111 + B	111 + A7 (changed by Du Four in corrigendum to the book)

Centre plate A, in its fourth state A4, was converted to A5 by at least partial and probably complete re-entry; the fifth state A5 was converted to A6 by complete re-entry; the sixth state A6 was converted to A7 by probably complete re-entry.

Frame plate II, in its first state 111, was converted to 112 by retouching of the ornament in the centre of the top frame line on each impression on the plate; the second state 112 was converted to 113 by complete re-entry with all stamps in the sheet showing some doubling of the design; the third state 113 was converted to 114 by further re-entry, this being demonstrated by additional doubling apparent on about thirty stamps in the sheet of fifty; the fourth state 114 was converted to 115 by re-entry again, this resulting in additional doubling in about ten positions in the sheet; the fifth state 115 was converted to 116 by almost certainly complete re-entry, some forty or more stamps in the sheet showing additional doubling of some part of the design. With so many repairs having been effected to the plate, it is not surprising that it was thought necessary to make and use a new frame plate 111 although that had a short life and was used only for the last printing of the 1915 issue and the whole printing of the 1918 Red Cross issue.

Complete sheets with re-entered frame plates can readily be identified. The frames of 111 + A4, 112 + A5 and 111 + A7 are eliminated by the absence of doubling of the top frame line and of the central top ornament. If the right column base (in bottom right corner) of No. 32 in the sheet is not clearly doubled, the sheet is 113 + A5. If the right column base of No. 32 is clearly doubled but not the right column base of No. 31, the sheet is 114 + A5. If the right column bases of both Nos. 31 and 32 are doubled and if the left vertical frame line, to the left of 'UN FR' is doubled and not tripled on No. 25, the sheet is 115 + A5, but if this left frame line is tripled (a good magnifying glass is necessary) the sheet is from the frame plate 116. If there is a white triangular patch, where there were originally diagonal lines of shading of the mountain, immediately to the right of the elephant's left ear, or if there are only irregular remains of what were shading lines in the patch, the centre plate is A5. If on all positions in the sheet the white patch has been refilled with fine diagonal shading lines, the centre plate is A6.

The issues in which the various combinations of plates have been seen are as follows :

- 111 + A4 - 1915; 1916 'RUANDA' & 'URUNDI', both Tombeur and Havre overprints.
- 112 + A5 - 1915; 1916 'RUANDA' & 'URUNDI', Grysolle overprint; 1916 'EST AFRICAINE'.
- 113 + A5 - 1916 'EST AFRICAINE' only but it may exist in the 1915 issue.
- 114 + A5 - 1915; 1922 local 10c. surcharge.
- 115 + A5 - 1915; 1922 local 10c. surcharge.
- 116 + A5 - 1915; 1922 local 10c. surcharge.
- 116 + A6 - 1915.
- 111 + A7 - 1915; 1918 Red Cross; 1918 A.O.

Provided that an important part of the design is not covered by a postmark, the position in the sheet of any 1915 1fr. stamp can with but little difficulty be ascertained but, having ascertained the position of the stamp, it is by no means then always possible to discover what was the state of the frame plate when the sheet was printed.

Perforation 14 is normal with all combinations of plates; perforation 15 has been seen not uncommonly with 111 + A4 and 111 + A7 and on a single copy with re-entered frame plate; this last is No. 25 in the sheet which appears to be unchanged from 114 to 115 and the stamp may be either 114 + A5 or 115 + A5, probably the latter.

The writer is preparing a rather detailed description of the changes to the frame plate, all fifty positions successively, during the successive re-enterings of the plate. A copy of the monograph will be distributed with a later Bulletin.

R.H. KEACH

The Abbe G. Gudenkauf has made the most extraordinary discovery, the 10c with narrow 'EST AFRICAIN' overprint. He has an unused example and M.A. Vindevoghel has acquired a cover bearing two copies, together with their values, addressed to Boma but probably CTO B.P.C.V.P.K. No. 4 dated 10 JANV 1917.

For sixty years the journals and some of the general catalogues have informed collectors that all values except the 10c and 40c exist with the narrow overprint and one would have thought that this would have stimulated collectors to seek these two values; it is quite incredible that they have remained hidden for so long.

M. Vindevoghel has kindly allowed the writer to view the cover. The overprint is exceedingly difficult to authenticate because of the known multiplicity of overprinting plates and the probability that some of the settings are still unrecognised, the variation in inking and our ignorance of the conditions of the overprinting. Comparison of the overprints on the two stamps on the cover with the corresponding stamps on a sheet of the 15c with narrow overprint shows no apparent similar and distinguishing feature but nor do most single stamps that can easily be positioned and with different settings of the overprint. There is, at the present, no reason at all to suspect that the 10c stamps on the cover have forged overprints and we must accept them as genuine and a most amazing discovery.

Members of the Study Circle will be very well advised to look at their own copies of the stamp to see if they are the fortunate, but previously unknown, owners of what must be a rare stamp. The writer has looked through his fifty or so odd copies but, sadly, without finding one with the short overprint.

We should also look at our 40c. Maybe this also exists with the short overprint. The editor will be very pleased to learn of any other copies of the 10c and particularly to hear of the same overprint on the 40c.

1921 25c SURCHARGED STAMPS

As stated by General Du Four, the combinations 1111 + A3, 1111 + A4, 1112 + B1 and 1113 + B2 all exist with the 1921 surcharge. The writer has seen it also on 1111 + A6 and 1111 + A7 but to date he has not recognised a surcharged stamp with the combination of plates 1111 + A5. There is however no reason to suppose that the combination does not exist in the 1921 issue.

PERFORATION 15

Whereas for all combinations of plates, both without and with the surcharge, perforation 14 is normal, General Du Four disclosed the existence of perforation 15 with plates 1111 + A3 and 1111 + A4, both without and with the surcharge. The writer has never seen a surcharged copy 1111 + A3 perforated 15 but it may well exist. Nor has he seen 1111 + A4 perforation 15, with or without surcharge, and it is thought that this may be an error in the General's book; other combinations certainly exist perforated 15 and there may well have been some confusion with the plates when complete sheets perforated 15 were not available.

The following combinations of plates have been seen perforated 15 :

1910	1921
1111 + A3	
1111 + A5	
1111 + A6	1111 + A6
1112 + B1	1112 + B1
	1113 + B2

It is virtually certain that 1113 + B2, perforated 15, exists without the 1921 surcharge.

In an effort to complete this check-list, the writer would be very glad to receive for inspection and allocation to the combination of plates any of these stamps, singles or multiples, perforated 15.

R.H. KEACH

In answer to the request for information concerning the Registration OO - AIX shown on the 1934 Air Mail Series stamps, the following two replies have been received.

The Fokker has been operated from 1929 in Europe and since 1935 on the Belgian Congo route.

In total there were 28 units manufactured – 23 were purchased by Sabena, of which 7, sent to Africa for the interior service in the Congo, were made under license in Brussels by Sabca.

The original design was made by the Royal Dutch Airplane Factory at Schiphol Airport, Amsterdam. It was a commercial airplane for ten passengers. Its fuselage was a steel cube skeleton covered with fabric. The wings were made out of wood, and it had three 230 hp engines (type Wright J - 4 "Whirlwind"). The range of the aircraft was 800 km at a cruising speed of 155 km per hour. The immatriculation "00" refers to the Belgian registry. The first two letters of the following group of three are specifically reserved for the Fokker G-BIIB-3M type of aircraft. The last letter of the three identifies each single aircraft in alphabetic sequence.

A final note – the aircraft was specifically designed for night flying, and the crew consisted of two pilots.

H.M. SLABBINCK

Mr. A. Vindevoghel contacted a friend at Sabena and was given the following information :

00 = International code for Belgium
 A1 = Code of the type of plane - in this case it is a DC3
 SJ = Boeing 707
 SR = Caravelle
 SC = Corvair Sirocco
 X = 24th plane entered in Belgium in the A1 category

This last X would never be used again if the plane crashed. It would not be used for a new plane. If more than 26 planes introduced, they start again with A1 AA, A1 AB, etc.

According to the Air Ministry :

00 = International code for Belgium
 A1X = 3rd June 1930 - Monoplane, three engined Fokker FVII = DC3
 Manufactured by Sabca for Sabena
 Attached to Leopoldville on the 31st August 1934 - was
 registered in the Congo and finally struck off on 6th August 1947
 as the result of a letter from the Colonial Ministry

After the war : S = Sabena

SD = 737 ST = 727
 SJ = Boeing 707 SL = DC 10
 SG = 747

M. Celis is seeking covers and post cards from the Congo from 1886 to 1970 and from Ruanda Urundi from 1896 (when part of German East Africa) to 1970; from German East Africa he is prepared to accept cancellations on stamps. Will anyone who has such material to offer, please write to M.G. Celis, B.P. 555, Kigali, Rwanda.

THE LINE-ENGRAVED STAMPS OF THE CONGO AND THEIR MANUFACTURE

Introduction

Stamps are printed from plates, originally all flat but nowadays, for stamps required in large numbers, rolled into cylinders to permit continuous or semi-continuous printing. Ink is applied to the plate, a sheet of paper is pressed onto it and the ink is thereby transferred to the paper to produce the sheet of stamps.

There are basically three types of plate :

1. The smooth plate, originally of a special limestone, with those parts of the surface which correspond to the coloured parts of the stamps treated so that they will absorb ink and with the parts corresponding to the uncoloured parts of the stamps treated so that they will repel ink. This is the process of lithography.
2. The relief plate which has those parts which are to appear in colour on the printed stamps in relief above the general surface of the plate. Ink is applied only to the raised parts and is not allowed to enter the recesses. This is surface-printing or, alternatively, typography or letterpress printing.
3. The recessed or 'intaglio' plate which has those parts which are to appear in colour on the printed stamps gouged out of the plate to form recesses. Ink is forced into the recesses and the smooth surface of the plate is wiped clear of ink. A sheet of paper applied to the plate with considerable pressure is forced into the recesses where it picks up the ink embedded therein. Two processes employ recessed plates:
 - (a) line-engraving or, alternatively, 'taille-douce', recess-printing or, simply, engraving.
 - (b) photogravure.

Line-engraving is the original method of producing postage stamps but, because a) the preparation of the plates requires considerable expertise and b) the process is wasteful in ink, it has to a large extent been superseded by other and cheaper methods of printing.

As far as the pictorial attraction of stamps is concerned, opinions differ as to which is the more attractive, an engraved stamp or one produced by photogravure. The present craze for multi-colour printing is practical only with photogravure.

Whereas lithographed stamps and surface-printed stamps have their enthusiasts, from the point of view of technical interest there is no doubt that, with the possible exception of the early and crudely produced lithographed stamps, engraved stamps thanks to the intricacies of their manufacture and the resulting flaws, present the greatest range of interesting and constant varieties, the study of which can translate the stamp collector to a philatelist.

The Congo used all four methods for printing its stamps. Lithography was used for only one issue, the 1941 Albert Memorial stamps. Surface-printing was used for the 1886 and 1887 portrait issues and for all the series of postage dues. Photogravure was first employed for the 1934 Albert Mourning stamp and subsequently for the Queen Astrid, National Parks, Zoo, U.P.U., Flowers, Colonial Institute, 1957 Red Cross, Animals and all subsequent issues to Independence. The 1955 King Baudouin stamps had the unusual mixture of the heads printed in photogravure and the 'frames' recess-printed. All other stamps of the Congo prior to Independence were engraved and most notable amongst them are the 1894 - 1922 Mols issues, perhaps technically the most interesting series of stamps ever to have been printed (collectors of the Great Britain 1d red would disagree!).

In order to appreciate and enjoy to the full these engraved stamps some knowledge of the printing processes is essential and the object of this paper is to describe the processes with particular reference to varieties that appear in the stamps following imperfect workmanship.

The writer has no practical knowledge of printing and makes no pretence to be anything other than a learner of the subject; such knowledge as he has was acquired from reading the few philatelic works on the subject. There must be much more knowledgeable members of the Study Circle and the writer will very gladly allow, will indeed encourage, a volunteer to continue what must be an extended article to be continued in several issues of the Bulletin. If no volunteer is forthcoming, corrections, criticisms and other comments will be greatly welcomed.

Bicoloured Stamps

It has been stated previously that stamps are printed from plates. With bicoloured stamps, for example all the Mols stamps and some values of the 1942 Palms series, two separate plates are necessary, one for each colour, and, for the production of the plates, two separate dies. The sheets of stamps are printed in two stages, first the frames and then the centres of vice versa.

The Basic Process

Although the subject will later be described in greater detail, it may be as well at this stage to give a brief outline of the engraving process as applied to postage stamps.

The stamp die is prepared from a smooth steel plate on which, life-size, the lines, dots and areas to appear in colour on the stamp are gouged out. When the engraving is completed the die is hardened. A softened steel roller, the transfer roll, is applied to the plate under considerable pressure and is rocked to and fro across the engraved design on the die; the soft steel of the transfer roll is extruded into the gouged out parts of the die and the design of the stamp thereby appears, in relief, on the transfer roll. The surface of the roll is hardened. The transfer roll is then applied under pressure to a polished soft steel or copper plate and is rocked to and fro to impress the relief design into the plate; the procedure is repeated on the plate as many times as there are to be subjects on it. The completed plate, in effect as many replicas of the die as there are to be stamps in a complete sheet, is then ready for printing. Ink is applied to the plate to fill all the recessed parts of it, the smooth polished surface is wiped clean of ink and a piece of dampened paper is applied to it under pressure. The pressure forces the paper into the recesses where it picks up the ink from the plate. The paper, when removed from the plate, is a sheet of stamps ready, after drying, for gumming and perforation.

The Designs

Where a stamp incorporates a scene or a portrait as well as figures, wording and ornamental designs, a picture of photograph of the subject is essential for the artist to design the stamp and for the engraver subsequently to engrave the die. For most values of the Mols issues we know that the centre designs were taken from photographs of diorama of scenes in the Congo presented at the Antwerp International Exhibition in 1894. The writer has a page from the magazine 'Le Mouvement Geographique' of 5 June, 1890 depicting a group of natives' heads (a photograph by a M. Michel); two of the heads were used as subjects for some values of the 1923 Vloors issue. He has also an illustration from an unknown magazine with the picture obviously that was used for the 20 francs value of 1931. Some, probably all, of the 1947 'Masques' centre designs are from photographs of figurines etc. in the Musee Royale d'Afrique Centrale at Tervuren.

An artist usually prepares a much enlarged picture of what the stamp is to be, in water colour or by using pen and ink, maybe both, and frequently incorporating a photograph if a scene or portrait forms part of the design. The design, proposed by the artist, needs to be approved by the government for which the stamps are to be printed. If rejected, alternative designs have to be drawn. In some cases various artists are invited to submit designs or there is a public competition with a suitable prize for the artist who produces the accepted design.

The design having been approved by the appropriate authority, it is not unusual for an artist then to redraw or paint the design of the same size as the intended stamp. General Du Four had the original water colour stamp-sized drawings of the first Mols issue. Such a drawing of the 1949 St. Francis-Xavier stamp from the De La Rue archives appeared in a recent auction sale.

The Die

With the design completed and approved by the appropriate authorities and probably a stamp-sized model completed as well as the larger detailed drawing, the engraver of the die is able to commence work.

A few of the early stamps, those of some of the Australian states and of Corrientes were engraved directly onto the plate, each impression of the stamp individually. Particularly if large sheets of stamps with many impressions on the plate are required, as is normal, the individual engraving of impressions on the plate would be quite impractical. Engravers of the quality required for stamps are very few in number and very expensive craftsmen and the time taken to engrave the complete plate would be far too long; it may take an experienced engraver many weeks to engrave a single impression of a stamp. Moreover, even the best engraver cannot reproduce a design exactly so that, if the impressions on the plate were engraved individually, they would all be markedly different and, in these days of perfection, such stamps would not be acceptable.

It was essential, therefore, to have some means of reproduction of a single engraving and the method, explained in some detail later, was invented and patented by Perkins, Bacon prior to and an essential part of their producing the Penny Black. Using the patented process, all that is necessary is for the engraver to cut a single impression and this is on the Die.

The Hardening and Annealing of Steel

An essential part, in fact the essential part, of the Perkins, Bacon patent is the ability, at will, to harden or anneal (soften) a piece of steel and this is a reversible process. If a piece of steel containing more than 0.5% of carbon is heated to redness and is suddenly cooled by quenching in cold water it becomes very much harder and capable of cutting the same steel that has not been hardened. Heating the same hardened steel to the same temperature and allowing it to cool, very slowly anneals it and reverts it to its original 'soft' state. With increased hardness, a steel becomes much more brittle and is liable to crack or chip if struck with a hammer. This brittle condition is overcome by tempering, involving heating the hardened steel to a temperature lower than red-heat and then quenching it. This process reduces the hardness of the steel but greatly increases its ductility.

In hardening dies (or plates for printing stamps) it is necessary only to harden the outer surface of the steel and this can be accomplished by case-hardening a low-carbon or mild steel. The steel die, or plate, is buried in fine charcoal or placed in a bath of molten potassium cyanide and heated to a temperature of about 900°C; the die is then quenched in oil and then in cold water. Carbon is absorbed from the charcoal or cyanide into the surface of the steel and the presence of the carbon, together with the heat treatment, makes the surface of the metal very hard. Case-hardened steel may be annealed (softened) to its original condition by heating to red-heat in a furnace, the steel being buried in iron filings; after 'soaking' at the high temperature, the steel is allowed to cool very slowly. The carbon in the surface layer of the hardened steel is transferred to the iron filings and the heating and subsequent slow cooling completes the softening process.

Engraving of the Die

The material for the die is a piece of annealed steel, perhaps 75mm square by 7mm thick, flat and polished on the upper face and probably with the upper edges chamfered or rounded. On the polished face the engraver cuts a reverse or mirror image of the stamp, any lettering on the engraving reading from right to left and with the letters reversed.

The most important tool of the engraver is the graver or burin. This tool consists of a short length of hardened, or of a special intrinsically hard, steel rod of square or diamond-shaped cross-section. One end of the rod is fitted into a small wooden handle and the other end is ground flat at an acute angle to the axis of the rod so as to produce a sharp point and a triangular shaped cutting edge. The graver handle is held in the palm of the hand and with the four fingers and the thumb of that hand holding the steel rod of the tool. Pushing the tool causes the triangular cutting edge to cut grooves from the polished surface of the die. Because of the triangular shape of the tool, the deeper the cut in the die, the wider the cut at the surface. Gravers vary both in square or diamond-shaped rod and in the angle of the cutting edge so that the type of groove cut into the die can be varied.

Another tool is the burnisher, used to erase scratches and shallow cuts in the die and to remove unwanted designs or imperfections in the printing plate. The burnisher is made of hardened steel with a handle at one end and the other end shaped and ground to a more or less spherical shape. To remove an unwanted scratch or groove on the die, the burnisher is pressed hard successively on each side of the line; the pressure causes the soft steel of the die to flow to fill the groove and the surface of the die in that place is returned to its original smooth state.

The engraver first positions the proposed design on the die by engraving thereon two lines at right angles, lines joining the centres of opposite sides of the die. Where the two lines cross will be the centre of the engraved stamp. Using these two 'guide lines', if the engraving is to be of a complete (single coloured) stamp or of the casement (frame) of a bicoloured stamp, the corners of the stamp are positioned and the outside frame lines of the stamp are lightly scribed with the graver. The two original guide lines may then be burnished out where they cross the stamp but probably leaving the extremities of the lines near the edges of the die. If the die is to be of the vignette (centre) of a stamp, it will probably not have a permanent outer frame line but temporary frame lines will need to be scribed on the die for the guidance of the engraver; relics of such lines, not completely burnished after completion of the die, may be seen as fine circular arcs on many 25 centimes Mols stamps, a fine black line passing through or under the ES of CENTIMES of the Etat Independant stamps.

If the die is to be of a complete stamp or the casement of a bicoloured stamp, the outer frame lines, already positioned, are thickened and deepened with the graver and other horizontal and vertical lines of the stamp engraved on the die, normally starting with the thicker lines and these followed by those that are to be thinner. This gives a framework for the design. If the engraving is to include prominent circular lines, the centres of the circles are marked on the die. With a graver in the form of a pair of compasses, the arcs are scribed on the die; the arcs are then deepened and widened by hand with the graver. In due course the centres of the circles should be burnished but, apparently by oversight, they were sometimes left; careful examination of a 5 francs stamp of 1894 reveals red dots at the centres of the arcs forming the inner part of the upper frame.

Having the main straight and circular lines engraved on the die, work can be started on filling in the details. Engravers usually specialise in one aspect of their art, one in portraits, another in lettering, another in ornamental scrollwork and yet another in pictorial scenes. There is also the engraver who produces the symmetrical designs executed by machine, but more of that later.

The details to be engraved on the die can be outlined thereon in several ways. The design, or its main lines, may be drawn, stamp-size and as it is to appear on the printed stamp (not a mirror image), on a piece of transparent paper or plastic known as a 'cellophane' which is then stuck, face downwards, on that part of the die where it is to appear. The design drawn on the 'cellophane' is then lightly scratched on the die with the graver. Alternatively, the surface of the die may be covered with a thin layer of coloured wax and the design drawn on the wax with a point (a needle). If the design is satisfactory, the scratched lines on the wax are cut through to the metal of the die, the wax removed and the scratched lines deepened with the graver. It is normal for the wider and deeper lines to be engraved first.

The design drawn on the 'cellophane' or on the wax may be freehand or by a machine called a pantograph from a large-size reversed (mirror image) drawing of the stamp. The pantograph works on a leverage principle and is capable of producing a reduced-size copy of any design. A 'point' or pen on the shorter arm of a lever system marks the reduced design on wax or paper when the engraver moves a pointer, fixed on the longer arm of the machine, along the lines of the larger drawing that are to be reproduced on the smaller.

Etching

So far we have considered only mechanical engraving of the die using the graver. Acid is frequently used to etch the design in the die.

The smooth surface of the die is covered with a thin layer of an acid resisting material, usually a mixture of wax and pitch. The design or the principal lines of the design are drawn on the wax with a 'point', either by hand or with the pantograph, the point cutting down to the metal surface. When the design is completely drawn the sides and back of the die are covered with an acid resisting varnish or other material and the die is submerged in an etching bath. The contents of the bath varies but nitric acid is normally the main corrosive constituent. As an alternative to immersing the complete die in a bath, the outside edges of the die may be built up with acid resisting material to form, with the die itself, a shallow dish. The etching liquid is poured into this 'dish'.

When the acid has burnt its way into the metal, the die is washed clean of acid and dried and the acid resisting material is removed. The lines of the design, etched by the acid, are then deepened with the graver.

Sometimes, the acid is allowed to burn its way much deeper into the metal to the full depth of the required engraving and the use of the graver obviated. This method requires much greater care with the width and depth of the engraved lines being of great importance; if, to give 'tone', engraved lines of different depths are required it is probably necessary to etch in several stages, lines which are required to be only shallow being protected with wax after the first etching and only lines that are to be more deeply etched being available to the acid in later dippings in the bath.

The Ruling Machine

For speed and accuracy as much mechanical engraving as possible is done by machine. The ruling machine cuts a series of parallel lines, one at a time, across the face of the die, the cutting being by a special graver moved by the machine.

Alternatively, the ruling machine may be fitted with a point to cut the parallel lines in wax on the surface of the die and the lines are then acid etched into the metal.

The Geometric Lathe

This is an exceedingly complicated machine designed to produce repetitive curved lines and shapes of infinite complexity. In the Mols stamps, the complex 'engine-turning' in the frame of the 10c value, the side panels of the 15c frame, the side panels of the 5fr frame and the complicated patterns in the 50c frame were produced by such a machine although this is all 'white line engraving' which will be explained later.

The Transfer Roll

As was indicated under 'The Basic Process', the principal purpose of the transfer roll is to transfer the design from the die to the printing plate but it is used also in the preparation of the die and it is as well if the transfer roll is described in some detail at this stage.

The transfer roll is a disc of steel, perhaps 75mm diameter by 25mm thick, with a concentric slightly tapered hole about 25mm diameter through it. Through the hole passes a closely fitting shaft or mandrel, slightly tapered in the middle of its length to fit the taper of the hole. The overall length of the shaft is about 100mm. With its mandrel fitted, the transfer roll appears as a solid wheel with its axle.

The cylindrical surface of the roll is highly polished.

When it is wished to transfer the engraved design from a die to the printing plate or to another die, the transfer roll is annealed and the die hardened, processes that have already been described. The die is placed on the bed of a special transfer press and the transfer roll is fitted above it with the two ends of its mandrel in trunnions which form part of the machine; the mandrel is able to turn freely in the trunnions. The transfer roll is lowered onto the surface of the die and very substantial pressure is applied downwards on it. While under pressure, the roll is rocked backwards and forwards across the die, turning in the trunnions as it does so. The extreme pressure extrudes the soft steel of the cylindrical surface of the transfer roll into the engraved recesses of the hardened die. When the rocking has been sufficient for a complete 'pick-up' of the design on the transfer roll, the roll is removed from the press and is hardened. The engraved design, in recess on the die, is now in relief on the transfer roll where it is a normal image as opposed to a mirror image of the stamp on the die.

The design is transferred from the hardened roll to an annealed printing plate or to a second and annealed steel die in a similar manner in the transfer press, the relief design on the roll being pressed into the soft steel surface of plate or die. If the design has been entered into a second die, that die will be identical with the original.

The Use of the Transfer Roll in Producing the Die

For speed it may be convenient to have two or more engravers working on the die at the same time. Because of the small size of the die this is clearly not possible but separate component parts of the design can be engraved on separate dies and the parts of the design then transferred with transfer rolls to a single die, extreme care being necessary to ensure that the portions of the design are in their correct relative positions.

If machine engraving, using either the ruling machine or the geometric lathe, is employed for part of the design it may be desirable, indeed with the geometric lathe it will probably be essential, for the machine engraved design to cover a greater area than can be accommodated on the finished die. This is seen for example in the side panels of the 15c Mols stamps; considering say the left panel, one sees that the fine white lines of the convolutions are continuous until the left frame line is reached and there they come to an abrupt halt which is not possible with the geometric lathe. The design, as traced by the lathe, must have consisted of a complete pattern comprising, say, the left hand panel plus its mirror image (or most of it because the panel on each side includes the centre-line of the design). The complete design was engraved on a die and this transferred to a relief on a transfer roll. Before the roll was hardened and unwanted parts of the design, in relief on the roll, were filed or ground away leaving only that part of the design that was required for inclusion on the stamp. The transfer roll was then hardened and that part of the design transferred to the composite die.

White Line Engraving

The ruling machine and the geometric lathe cut recessed lines in the die which after transfer to the printing plate provide the same recessed lines and, when the stamps are printed, the lines appear in colour on a white background. This is termed 'black line engraving'. White line engraving comprises white lines on a coloured background as is found on the frames of the 10c, 15c, 50c and 5fr Mols stamps and such designs cannot directly be produced by machine.

For white line machine engraving, a normal black line design is engraved on a die; the design is transferred to provide a relief on a transfer roll in the usual way and, if not all the traced design is to appear on the stamp, the unwanted parts are removed. The roll is hardened and the design transferred, not to a die but to a second transfer roll where the design appears not in relief but in recess as it was on the original die. The cylindrical surface of this second roll, except for that part of the surface which bears the design in recess, is filed or ground down to the level of the bottom of the engraved lines in the design. This transfer roll is then hardened and the design transferred to the composite die.

Progress Proofs

As the engraver's work on the die proceeds he makes frequent checks on the quality of the work completed by taking a progress proof or progressive die proof from the partly finished die. He applies printing ink, usually black or, for some reason, green, to the die with a brush ensuring that all the recesses are filled with ink. With his hand he removes all the ink from the polished surface, places a piece of moistened paper on the die, and on the paper a thick, soft 'blanket'. The assembly is placed in a press and sufficient pressure, distributed evenly over the surface of the die by the blanket, applied that the paper is forced into the recesses in the die and the ink is transferred therefrom to the paper.

The progress proof is examined very closely by both the engraver and the artist responsible for the design to confirm that the engraving so far is satisfactory. The progress proof may serve another purpose; the artist may paint or draw on it the design for the next stage of the engraving, this for the guidance of the engraver.

The writer has three of the series of progress proofs produced during the engraving of the die of the frame of the 1896 15c value. The first of the three, actually the sixth of the full sequence and dated 12.9.96, has only the horizontal and vertical frame lines, the double circles around the figures 15, the arcs of the circles above and below QUINZE CENTIMES and the machined designs in the left and right panels. The artist has added to it in ink the top panel with ETAT INDEPENDANT DU CONGO, the words QUINZE CENTIMES, the left figures 15 and a faint outline of the right figures 15. Moreover he has, in the margin, outlined an alteration to the shape of the Q of QUINZE.

The second of the three proofs, the seventh of the full sequence and dated 21.9.96, appears to have added to the die only the small circles and the scrollwork, but not the short vertical lines, in the panel under QUINZE CENTIMES. The top panel with the inscription, the QUINZE CENTIMES and both pairs of figures 15 have been added in ink by the artist.

The third of the three, the tenth in the full sequence and dated 24.9.96, has had added to the engraving the vertical shading lines inside the left and right panels, the triangular parts under the side panels and the short vertical lines in the panel under QUINZE CENTIMES. The lettering and figures to complete the die appear to have been added in ink by the artist although the artwork is so good that it is difficult to be sure what has been engraved on the die and what has been drawn on the proof by the artist.

All three proofs were taken in black ink. A fourth progress proof in this sequence, serial number 9, was printed in ochre, the colour of the final stamp; it was owned by General Du Four and is illustrated on page 102 of his book.

De-burring

Cutting with the graver can produce burrs, the edges of the cuts sharp and raised slightly about the smooth polished surface of the die. All such burrs need to be very carefully removed with a de-burring tool, in effect a scraper which cuts away the burrs. The area effected is then burnished and polished.

Mother Dies

When two or more stamps of a projected issue are of identical or near-identical design apart from the figures of value, it would clearly be most uneconomical to undertake separate complete engravings for each value. In such a case, a mother die which includes all the common parts of the designs is prepared and, from that, by means of a transfer roll, as many secondary dies as there are to be similar stamps in the series are prepared. Each of these secondary dies then has the appropriate figures of value and other variable features, if any, engraved on it.

An alternative method of producing a mother die and, subsequently, secondary dies, is to complete, either the value, the die for one stamp of a series and to take a relief from it on the transfer roll. The figures of value, or the area containing the figures, in relief on the roll are then ground or filed away. The transfer roll, after hardening, is then used to produce a mother die. This method would certainly have been used for some values of the Vloors issue, issued after the original 1923 series. For the 40c, identical in design with the earlier 20c olive, it would have been quite uneconomical to engrave a completely new die for the 40c value. As has been stated earlier, because of the time taken to engrave a die and the consequent high cost, every possible strategem is used to avoid unessential engraving.

In preparing the dies for the 1,75fr, 2fr and 2,50fr values of the 1942 'Palms' issues of Congo and Ruanda there would have been a mother die comprising the design of the stamps other than the values and the names of the territory. From this mother die would have been produced, via a transfer roll, six duplicate dies, one for each value of each series. On separate dies would have been engraved the three different value tablets and the tablets containing the two different names of the territories. The appropriate value and name of the territory would then have been transferred via transfer rolls to the duplicate dies of the pictorial design.

Marginal Markings

The 1923 Vloors stamps have under each stamp the marking 'AMERICAN BANK NOTE CO.', the printers. This marginal marking was applied to the dies, either with a special transfer roll or, more probably, by means of the pantograph and subsequent etching and/or hand engraving.

The finished dies of the same Vloors stamps had added above the design of the stamp a serial number such as C-1450, presumed to be the company's serial number of the die. This serial number does not appear on the printing plate and would not have been included on the transfer roll.

Die Proofs

When all engraving of the die is completed 'pulls' or proofs, usually in black or in the proposed colour of the stamp to be issued, are taken in the same manner as described for progress proofs. These die proofs are inspected very closely to check that the engraving is all of satisfactory quality and that all the wording is correct. The writer has a die proof, taken after the die was completed, prepared by De La Rue, of a 1fr stamp intended to be issued in 1960 (the issue did not appear because of Independence and the proof is therefore an 'essay') and there is an error in the spelling: BELGISH in place of BELGISCH. The mistake clearly had not been noticed until the die was completed.

Die proofs may be produced in a variety of colours to be submitted to the customer for him to select the colour or colours to be used for the issued stamps and, when used for this purpose, the proofs must be considered as colour trials. Die proofs of the 1898 3,50fr and 10fr values exist in many combinations of frame and centre colours; die proofs of the 1923 Vloors issue exist in different colours; die proofs of the 1947 Masques issue exist in colours different from those of the issued stamps.

Further die proofs are taken after the die has been hardened and before preparation of the final transfer roll to ensure that hardening of the die has not adversely affected the engraving.

Die proofs of some stamps, the 1928 Stanley and 1931 'Paysages', exist in complete series, both in black and in the issued colours, each complete series on each proof bearing a serial number added after the printing of the proofs. These are undoubtedly 'Presentation Proofs' given to important people to show what the new issues are to be. Such 'Presentation Proofs' have not the same philatelic interest as progress proofs or die proofs intended to assist the engraver or for approval of the die in its finished or partly finished state.

Die proofs are frequently printed on thin cardboard or on thick 'India' paper pasted onto thin cardboard. They may also be printed on special glazed paper although this is more usually reserved for dies engraved 'en epargne' and intended for surface-printed stamps.

Corrections and Modifications to the Die

If, in studying the die proof, any imperfection in the engraving is found this has to be corrected in the die but, if the die has already been hardened, it has to be annealed before such corrections can be made.

If the imperfection consists of lack of engraving or if part of the area uncoloured on the die proof is required to be in colour, the correction is simple and only additional engraving with the graver is necessary. The writer has a proof of the mother die (no figures of value) of the 1934 air stamps but, instead of a letter F under each value tablet, there is a letter E. The E could easily be converted to an F by further cutting of the die. Had the required alteration been reversed and an F in white line engraving changed to an E that would have been a much more complicated procedure. The writer has a die proof of the 1896 40c which appears to be from the completed dies (frame and centre) but there is no accent on the first E of INDEPENDANT as there is on the issued stamps. The accent, which is uncoloured, could not simply have been added to the die.

For such corrections it is necessary to take from the die a relief of the design on a transfer roll, for the raised design on the roll around the area of the error to be removed by filing or grinding, for the roll to be hardened and the design transferred to make a new die. The area of the error will be free from engraving on this new die and the design can then be correctly completed by the engraver.

In an effort to reduce the amount of engraving work, really major changes are sometimes made to dies. If the 5c values of the 1894, 1909 Unilingual, 1910 and 1915 Mols issues are compared and the parts of the frame common to two or more of the issues are examined closely it is clear that the designs are identical and this could not be so if the casement (frame) die of each issue had been engraved completely anew. The original die of the 1894 stamp must have been successively modified. For the 1909 issue the change was relatively small, the replacement of the words 'ETAT INDEPENDANT DU CONGO' by 'CONGO BELGE'. This would have been effected by means of a transfer roll from the original die, removal of the original wording from the roll, transfer to a new die and engraving thereon of the new wording.

For changes from the 1909 to the 1910 and from the 1910 to the 1915 stamp other alterations would have been necessary but there can be no doubt that they were carried out in a similar manner.

Changes to the frames of other Mols values would have been effected in the same way.

During the issue of the Mols stamps, the dies of the centre designs of some values were altered and it is quite clear that these were alterations to the dies and not new dies (an exception to this was the 10fr where, for the 1918 Red Cross issue, new centre and frame dies were prepared. This is understandable because all values of the 1918 issue were printed by Waterlow and Sons whereas the 10fr values of 1898 and 1910 were printed by the rival company Waterlow Bros. and Layton and the original dies would not have been available to Waterlow and Sons.)

The change to the centre die of the 10c during the course of the 1915 issue, an alteration incorporating extension of the shading of the sky, is quite understandable because the alteration of the frame die between the 1910 and 1915 issues, incorporating removal of the inner ornamentation, left part of the vignette without any colour either of frame or centre.

The changes to the other centre dies during the 1915 issue are difficult to explain and are probably thanks to some Waterlow and Sons official who thought that they might be improved. The 15c had a centre spine added to a frond of the large palm tree and the small trees strengthened. The 25c had additional shading, in the form of dots, particularly around the large rocks in the right foreground, added. The 50c had the shading of the far bank of the river very much strengthened and shading added to the smoke from the locomotive; the white patch to the left of the top of the mountain on the second 'type' of centre must have been due to damage to the transfer roll from the modified die prior to its use.

For the 40c the change from the first to the second 'type' of centre during the 1915 issue traditionally was explained by retouching of the plate and not retouching of the die. The writer is of the opinion that the die, not the plate, was retouched, and this in two stages, and that the plate was re-entered with the successively retouched die. Initially, the white spot near the prow of the canoe was removed by further engraving of the die and the top two rows of the plate were re-entered with a transfer roll taken from the modified die. The die was then further retouched to strengthen the reflection of the prow in the water, another transfer roll prepared and this applied to the plate to re-enter the bottom eight rows of impressions.

The change to the 5c centre immediately prior to the 1915 issue extended the shading in bottom left and right corners in order to fill the spaces originally occupied by the internal floral features of the frames removed for the 1915 issue and this is quite understandable. The removal of the small lean-to building attached to the church is quite incomprehensible; the original picture of Matadi is as it must have been in 1893, maybe earlier, and it is difficult to believe that the only change, even the major change, to the view of the town in 1915 was the demolishing of the lean-to! The removal of this small building cannot have been to bring the view up-to-date and it seems probable that the original die had suffered some damage at this point and that additional engraving of the die to remove the building was thought to be the best and easiest cure.

The changes to the 5c, 10c, 15c, 25c, 40c and 50c centres would all have been effected directly on the original dies although they would need to have been annealed before re-engraving and re-hardened before transfer of the designs to new transfer rolls.

R. H. KEACH

THE CANCELLATIONS OF THE NORMAL POST OFFICES OF BELGIAN CONGO 1886 - 1960 AND
RUANDA URUNDI 1917 - 1962

Addenda and Corrigenda No. 10

AVAKUBI 1.1 - MDtY. Change dates to *09 - 10

BOMA 1.10 - DMtY. Change dates to *07 - 10

BUTA 1.1 - tDMY. Change dates to *14 - 26

GOMBE 4.1 - DMtY. Change dates to *19 - 21,25 (incorrect in Addenda and Corrigenda No. 9)

IBEMBO 1.2 - MDTY. Change dates to *06 - 7

IRUMU. Add 2A2; and, in DATES & NOTES 4 x 12mm.

LUKUNGU 3A1. Change dates to *89 - 96.

PANGI 8A1 - (incorrectly given as 8B2 - in A & C No. 9). Change dates to *47 - 54

Information on cancellations from members has sadly reduced in recent months. Whereas one might hope that the listing of the cancellations and their dates might be approaching completion, this is manifestly not the case. Any information on new cancellations, cancellations on travelled covers which have previously been seen only on isolated stamps and cancellation dates outside the ranges given will be most gratefully received. There is the possibility of a reprint in book-form of the listing as it appeared in POSTAL HISTORY INTERNATIONAL and it is very desirable that such a reprint shall include all the information currently available to us.
