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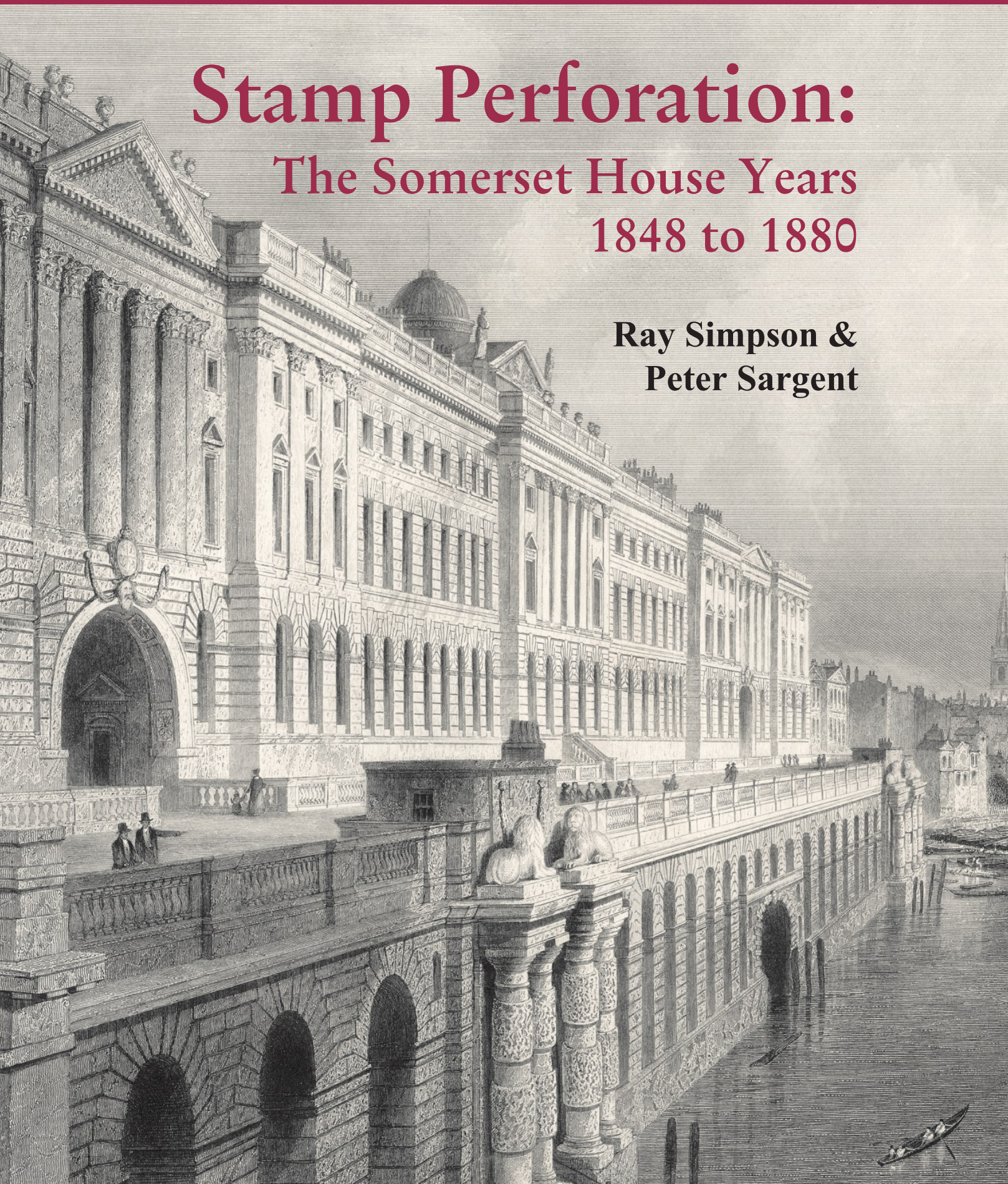
AN ILLUSTRATED GUIDE TO CONSTANT PERFORATION VARIETIES

Stamp Perforation:

The Somerset House Years 1848 to 1880

Ray Simpson &
Peter Sargent



Introduction to this free PDF extract

Originally published in 2006, Stamp Perforation: The Somerset House Years—1848 to 1880 was the culmination of a number of years of research and collaboration. Parts 1 and 2 of the book dealt with the history and introduction of perforation, whereas Part 3 covered perforation varieties, with a large section on constant perforation varieties, commonly known as broken perforation pin varieties. The perforation combs were often repaired within a few days so the number of plates used at the time were limited in number - this makes plating the 'stars' issues with a constant perforation variety much easier.

The intention with this 109 page PDF extract (which includes the majority of Part 3) is to share the information with as many collectors as possible. We hope this results in encouraging collectors to check their collections for additional plates or varieties, as well as dates of use. This is not just to improve the accuracy of the constant perforation varieties listings and scarcity ratings, but perhaps more importantly to acquire and refine information to enable a wider field of study, for example, the dates of use regarding specific plates, before and subsequent to the fire at Perkins Bacon's premises.

Key points to note when using this PDF

- The bookmarks (in the panel on the left) provide quick access to key pages of the PDF, either to the beginning of sections, or to interesting items of note, eg the 'Perf 7' variety.
- Initially a stamp may seem to have a constant variety, but not on closer inspection. This is covered in the section: Broken perforation pin varieties: caveat emptor.
- Once collectors are familiar with the notation used to categorise which perforation pin is affected, then it may be quicker to use the PDF search by selecting Ctrl + Shift + F to locate the variety.
- Collectors can add notes to pages within the PDF with examples of varieties that they own by using the 'Add Note to Text' or the 'Add Sticky Note' functionality. The PDF file can then be saved and the collector's personal stamp details viewed at any future time.
- It is also possible to add attachments (eg stamp images) to specific pages of the PDF. This will include the images within the PDF file.
- NB: the page set up size of the PDF is not A4, so if you want to print the pin-finder, use 100%.

Your feedback

We are keen to receive feedback on any aspect of this book and realise that certain varieties are not as comprehensive as others, eg the listing of the $^{1}/_{2}$d 'plates' where there are more varieties and plate numbers. In addition, we hope to learn of new varieties, plates and dates for the 1d, 1$^{1}/_{2}$d, 2d and the surface printed issues. With all the feedback we will be providing updates to share with all collectors.

Please send an email to secretary@rpsl.org.uk with details, and include a scan of the stamp if possible.

Additional resources

For the broken pin varieties on Archer, 1d/2d 'star', and surface printed issues we have produced the perforation pin illustrations in Word document file format so that collectors can simply cut & paste to add them to their album pages. They can also print them on clear A4 acetate sheets to use as overlays to check their varieties on and off cover. These are available to download from the The Royal Philatelic Society London website (http://www.rpsl.org.uk).

Ray Simpson and Peter Sargent

Stamp Perforation: The Somerset House Years 1848 to 1880 - the inside story of stamp perforation (from primary sources):

- over 370 fully illustrated pages with 8 colour plates
- how more than 3 million stamps were perforated daily
- a number of myths debunked
- fascinating contemporary insights
- perforation varieties and errors defined, listed and illustrated

Although sold out by The Royal Philatelic Society London, certain dealers, including Stanley Gibbons, hold a small number of copies

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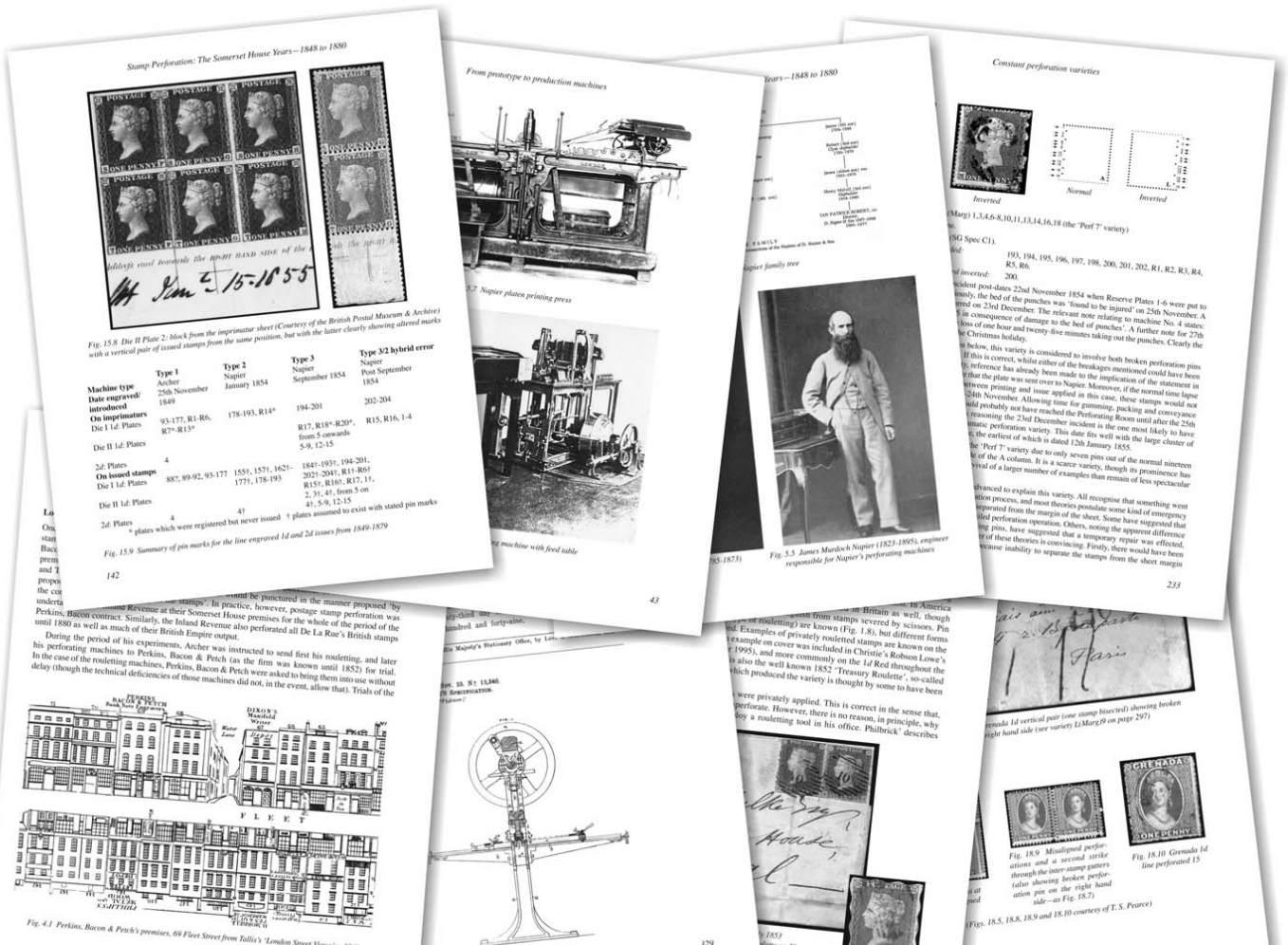

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DEDICATION

In loving memory of my wife, Ruth, who died ‘in Christ’ before this book was completed. Recognising Queen Victoria as, in her phrase, ‘the other woman’ in my life, it was Ruth’s constant encouragement and support that made this project feasible. *R.C.S.*

The Royal Philatelic Society London

Patron: Her Majesty The Queen

The Royal Philatelic Society London is the oldest philatelic society in the world. It was founded in April 1869 as The Philatelic Society London and was given the prefix 'Royal' in 1906 when the Prince of Wales was its President. When, in 1910, the Prince acceded to the throne as King George V, he became Patron and all of his successors have been Patrons of the Society.

The Society's headquarters are in a gracious Georgian building at 41 Devonshire Place in London's West End. The Society has been a Registered Charity since 1983 and provides facilities for research by students who use its extensive library, museum, collections and archives. It is the custodian of many fine collections which have been donated over the years as well as numerous artefacts relating to the design, production and printing of postage stamps. Among the most important records held by the Society are the archives of Perkins, Bacon & Co., the printer of the Great Britain 1*d* black of 1840—the world's first postage stamp—and the earliest stamps of many other countries; they were purchased by the Society in 1935.

Among its activities, the Society publishes numerous books, many of which are the definitive works on their subject and remain much in demand by collectors today. This work is the latest in a long line of publications which dates back to 1873.

The Society has a worldwide membership which has always included many of the foremost philatelists of the day. However, the majority of members are ordinary collectors who share an enthusiasm for many aspects of the hobby and enjoy the company of fellow philatelists. Membership brings the opportunity of seeing displays of fine material at Society meetings and attending presentations by leading specialists in their subjects. *The London Philatelist*, the Society's journal, is received by members ten times a year and contains articles on various subjects relating to postage stamps, postal services and related postal and social history as well as extensive book reviews.

As long ago as 1894, the Society set up a committee to expertise postage stamps in order to combat fraud and forgery. Today the Expert Committee is acknowledged as one of the foremost philatelic expertising bodies in the world. Its records include details of some 190,000 certificates that have been issued for stamps and covers, which vary from the common to the great rarities of the world. The Expert Committee has extensive reference collections and also has privileged access to the philatelic collection of Her Majesty The Queen and the many collections held by the British Library for the purpose of comparison.

The Royal Philatelic Society London is today a thriving society, proud to present another first class book which will bring research on the subject up to date and encourage further study. Its website may be found at http://www.rpsl.org.uk/

Contents

Note: throughout the publication most single stamps and pairs are reproduced at 150% life size.

Chapter 21. Constant perforation varieties

In practice, the perforation process produces only one type of constant variety. Such varieties occur if one or more of the perforation pins breaks. When that happens a small portion of paper between adjoining stamps (or between a stamp in the A or L columns and the margin) is left unperforated. The effects of this on individual stamps are explained in more detail under Notation below. In one exceptional case the broken perforation pins occur in conjunction with, and probably as a result of, a broken base plate on the perforating machine (see pages 233-235). In theory, a damaged base plate without broken pins could have produced another form of constant variety (with a full complement of the characteristic perforation holes of the variety described on pages 233-235). But no such varieties are known. As damage to base plates is recorded, it must be concluded that, for one reason or another, any sheets affected were not issued and treated as waste.

It should be noted that a perforation pin may break anywhere along its length, and at any angle. If only the tip breaks away, the paper may either be left completely untouched, an indentation may be evident on the stamp, or a more-or-less jagged cut short of a complete hole may be left. All are classed as constant perforation pin varieties. With a broken tip, any indentation or partial cut is likely to be most evident on the top sheets of the batch.

For the standard format line engraved stamps, one broken pin in the horizontal plane will affect 20 stamps in each sheet. A broken pin in the vertical plane will affect 40 stamps, unless it is between either the A or L columns and the margin in which case only 20 stamps will be affected. With sheets normally being perforated in batches of five, 100 or 200 stamps in each batch would show the variety. If, in the period 1854-1874, the whole day's output from a given machine were perforated by the damaged comb, the variety would appear on 64,000 (horizontal) or up to 128,000 (vertical) individual stamps. If batches of six or seven sheets were being perforated these figures would be increased by 20% or 40%. After 1874, an average day's output from a single machine (assuming batches of five sheets) could have resulted in 110,000 or 220,000 stamps with the variety. Examples are known of multiple broken pins on different parts of the comb and potentially these could result in the daily production of several hundred thousand stamps with broken pin varieties.

Notation

An accepted system of notation is essential for the purpose of describing the position of broken pin varieties accurately and succinctly. Various systems are in use, each with their own merits and demerits. For the purpose of this publication, the system adopted is based on that first proposed by Simpson[163]. It has been developed in the context of the line engraved stamps, and relies on the corner letters used on these and many of the surface printed stamps issued during the period covered by this book. Where broken pin varieties occur, every stamp in the column affected will show the variety. In the case of the line engraved stamps (and the surface printed stamps after 1862 when check letters were introduced for these issues) each variety can be identified by reference to its columnar position which is signified by the check letter in the bottom right-hand, or south-east, corner of the stamp.

[163] R. C. Simpson, *The Penny Red: A Notation for Missing Perforation Pins*, GB Journal, Vol. 32, No. 4 (September 1994), pp. 61-4.

Where pins have been broken in the horizontal plane the effect will be seen at the top and bottom of the stamp (Fig. 21.1). Where pins have been broken in the vertical plane two adjoining columns of stamps will be affected, except, of course, where the broken pin is in the margin to the left of column A or the margin to the right of column L. Fig. 21.2 illustrates broken vertical pins between the I and J columns, between the K and L columns, and between the L column and the margin.

Figs. 21.1 and 21.2 Stamps showing effect of broken horizontal and vertical pins, the latter between columns I and J and both sides of marginal column L. Both show extension holes in their side margins

The accepted convention for numbering the pins is to count the first complete hole as '1' whilst ignoring both extension and intersection holes. Horizontally, counting starts from the *left*. Vertically, it starts from the *top*. In the case of stamps with both horizontal and vertical pins broken, the convention is to notate them in the order in which the pins broke, if known; otherwise the notation is horizontal first and vertical second. Thus the notations for the stamps illustrated are as follows (the notations are the alpha-numeric combinations in bold type):

Fig. 21.1: stamp AA (**A 3**)

Fig. 21.2: stamps CI/CJ and DI/DJ (**I/J 7**); stamps CK/CL and DK/DL (**K/L 5**); stamps CL and DL (**L(Marg) 13**).

When this numbering convention was formulated it ignored both the perforation holes which extend into the left-hand and right-hand sheet margins (see Figs. 21.1 and 21.2) plus the holes found at the intersections of the stamps which, of course, are not apparent as holes on single stamps. The intersection holes in the block illustrated in Fig. 21.2 are distinctive in that, exceptionally, they both touch the last vertical perforation and are slightly offset to the left. Since broken pins occur both at the intersections and extensions it is necessary to identify them. The intersection holes are therefore numbered '0' and the extension holes are identified by the letter 'e'. Both, for convenience, are regarded as vertical holes and are shown in Fig. 21.3.

There are many examples of multiple broken pins. The same basic conventions are used to describe these but the descriptions are combined. Fig. 21.4 therefore becomes **D/E 13,14**; **D 13**. When, as in this case, the order in which the broken pins occurred is known (that is, when some or all the states of the variety have been identified), the description follows that order; otherwise it starts with the horizontal pins, moves on to the left vertical pins and ends with the right vertical pins. With the 'plates' issues there are examples recorded of broken pins occurring sporadically throughout the same comb. This is not the case for the 'stars' issues where any multiple broken pins occur in close proximity.

With one exception, the broken pin varieties on the 1*d* and 2*d* 'stars' issues are quite distinctive. This is not so with the 'plates' issues where a broken pin in a particular location, e.g. **F/G 16**, may occur two or more times over the life of the issue. Each of these is a discrete and unrelated event, and it is often possible to date the incidence of the separate varieties. Where this phenomenon occurs the normal notation is supplemented by a Roman figure in parentheses, e.g. **F/G 16(II)**.

Sheets for perforation were normally placed in the perforating machine so that the top (A) row was perforated first and the bottom (T) row last. When the sheets were perforated in the inverted position the apparent position of any broken pin was reversed; in other words it would be a mirror image of the normal. For example, a broken pin which normally would be seen in the H column would appear in the E column if the sheet were inverted when perforated, and its position on the stamp would also be

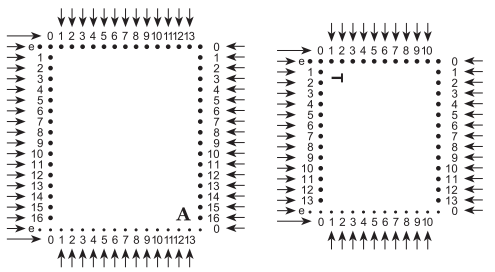


Fig. 21.3 A pin number identifier for perforation 14: standard size and $^{1}/_{2}$d formats. Shows A and T columns with 'e'= extension hole

Fig. 21.5 Effect of inverted feed on location of broken perforation pins. Broken pins 2-4 on stamp RH indicate normal top feed; pins 10-12 on stamp ME confirm inverted feed; both stamps are from Plate 9 (SG Spec G2)

Fig. 21.4 Stamps showing multiple broken pins

Figs. 21.6 (above) and 21.7 (right) showing the effects of broken horizontal and vertical pins on the $^{1}/_{2}$d stamp (shown in the position in which stamps were perforated). Block EA/FC also exhibits lateral shift

different; Fig. 21.5 illustrates this, and it will be evident from the caption that the numbering convention remains constant for stamps perforated inverted.

In the case of the $^{1}/_{2}d$ stamp the sheets were perforated sideways. Thus, a broken horizontal pin will, when the stamps are viewed in their normal orientation, be seen at both sides of the stamp (Fig. 21.6). Conversely, a broken vertical pin will be evident at either the top or the bottom of the stamp (Fig. 21.7). The notation for these stamps has to be adapted to take account of this peculiarity. Instead of identifying the columns by reference to the check letter in the bottom right-hand, or south-east, corner as for the standard format stamps, the columns are identified by using the check letter in the bottom left-hand, or south-west, corner. Therefore, with the sheet turned sideways, as it was for perforation, the T column is that containing the stamps TA, TB, TC to TX. From this point the normal notation conventions apply, albeit with the stamp turned sideways (see Fig. 21.3). Thus the notation for Fig. 21.6 is **G 1**, and that for Fig. 21.7 is **E/F 13**.

Incidence of broken perforation pins

What is surprising is not how many broken pin varieties have been found, but how few. The punch sets used on the perforating machines were subject to powerful forces. This factor, allied to the design problem experienced in the first two years of operation (see Chapter 10, page 86) made breakages inevitable. That is why, within a year of the start of perforation at Somerset House, action was taken to increase the number of punch sets for each of the machines used for perforating the line engraved issues from two to three, thus enabling sets to be repaired or sharpened without interrupting production. The rest of this chapter is essentially about the line engraved stamps. Broken pins exist on both the surface printed and revenue stamps but, due to the smaller quantities produced, they are less common on these stamps than on the line engraved issues, fewer varieties exist, and they have not been so intensively studied.

Relatively few of the breakages recorded in the Inland Revenue papers have left any evidence on the stamps themselves. Between January 1854 when perforation started and April 1864 when the new 1*d* 'plates' issue (with letters in all four corners) was released, only 28 varieties of broken pins (some in progressive states and some inverted) have been identified. While the discovery of further varieties cannot be ruled out, a significant increase in this figure at this stage seems unlikely. Even more remarkably, no varieties have been recorded on the stamps issued in almost two years between May 1855 and March 1857. The reason for that undoubtedly lies in the alterations made to the machines in the summer of 1855 following a series of problems experienced with the punches in the preceding months (Chapter 10). Taking the period from the start of official perforation to April 1864 as a whole, the incidence of broken pin varieties averages less than three a year, though in the 17 month period before the alterations were made there were ten incidents of broken pins (an average of just over seven a year). It should also be noted that no broken pins have been recorded in the period between spring 1859 up to the end of 1860, though it is possible that the more recently discovered varieties for which there is as yet no information on dating might prove to date from this period. No broken pin varieties have yet been found on the following SG Specialised number issues: C5, C6, C7 and C11. Each of the broken pin varieties on the issues up to April 1864 is examined in detail later.

The picture changes dramatically after April 1864. In the 15+ years of the 'plates' issues some 300 verified varieties occurred—nearly 20 a year. As the broken pin varieties on these stamps are less well researched than those on the issues which preceded them, it is likely that a significant number of further varieties remain to be discovered. Possible reasons for the greater incidence of broken pins after 1864 are examined later.

There is clearly some significance in the pattern of recorded breakages. All the early breakages, i.e. those occurring in 1854 and 1855 before the alterations to the machines, are found in either the A or L columns. This suggests a design weakness. The descriptions of the incidents strongly suggests that the sides of the tympans on which the sheets were mounted were very close to the marginal pins and much of the damage (particularly to the marginal pins) was probably the result of the pins coming into contact with the tympan (see Chapter 10). There are numerous references to 'pinch' incidents in the Inland Revenue papers. One of these establishes a direct relationship with broken pins:

'Timpan [sic] pinched—3 punches broken.'

Following the alterations to the machines, the broken pin varieties recorded between early 1857 and April 1864 are not only significantly fewer in number, but are somewhat more randomly distributed across the horizontal row, though 50% of the breakages still affect the A and L columns. Only the F column shows no breakage. This general pattern continued in the latter years when some 40% of the recorded breakages occurred on the A and L columns.

Reverting to the greater incidence of broken pins on the 1864 'plates' issue, the first problem is to define what might constitute a normal pattern of broken pins. For the reasons already explained the pattern prior to the mid-1855 alterations was atypical, as was the succeeding almost two year period when no such broken pin varieties were recorded. Determining the most representative period for the perforation of the 'stars' issues is complicated by such factors as the atypical output following the Perkins, Bacon fire and the acquisition of machine No. 5 in 1858. Arguably, the most representative period was that between August 1858, when the fifth machine started work, and the April 1864 issue date of the 'plates'. During that 68 month period up to fourteen confirmed broken pin varieties have been recorded, equivalent to one every four to five months, or approximately one for every 965,000 sheets perforated.

In contrast, from April 1864 onwards the average overall incidence of broken pin varieties is around 1.6 a month. This is not, however, the most helpful measurement. The incidence of broken pins can be expected to bear some relationship to the amount of work done by the machines.

The main research on the numbers of stamps printed between 1840 and 1910 is that undertaken by Rikki Hyde[164] who estimates that some 58,333,000 sheets of 1*d* Red stamps were printed between April 1864 and December 1879 together with 189,634 sheets of the $1^{1}/_{2}d$ value. Of these only a net 55,975,000 and 177,659 sheets respectively were issued. Allowing an estimated further 600,000 sheets for the 2*d* Blue, (partly derived from Hendy's figures[165] (see Appendix I, page 306) and partly from Hyde's, which do not distinguish between the stamps of this issue printed before and after April 1864), would give a total issue of 56.75 million sheets of the standard format line engraved stamps. Since some of the spoilage (between 1% and 2%) would have been at the perforating stage, as opposed to the printing stage mentioned by Hyde, it is reasonable to assume that something of the order of 57.5 million sheets of the standard format line engraved stamps were perforated during the period in question. An alternative approach is to calculate potential output based on the numbers of printing machines known to have been used by Perkins, Bacon during this period and on Statham's figures[166] of average productivity per machine per week. This approach is inherently less exact than Hyde's because it requires assumptions to be made about when new printing machines came on stream and assumes no productivity improvements in the

[164] Rikki C. Hyde, *Great Britain: Numbers Issued 1840-1910*.

[165] John G. Hendy, *The History of the Postmarks of the British Isles from 1840 to 1876*, Appendix E.

[166] Kenneth William Statham, *The Essential Guide to the Great Britain Line Engraved 1^{D} and 2^{D} Stars 1840-1864*, Vol. 1, p. 15.

latter years of the Perkins, Bacon contract. But even on this very conservative basis the potential output from the printers is confirmed as being of the order of 52-53 million sheets (excluding an estimated 3.4 million sheets of the $^{1}/_{2}d$ value). For estimating purposes, it seems best to work on Hyde's figures. On the assumption that Somerset House would, in this period, have had to perforate something in the region of 57 million sheets of such stamps, and that there are approximately 300 separate broken pin varieties, on average one such variety occurs for every 190,000 sheets perforated.

While it should not be forgotten that, after 1864, the perforation combs used for the standard format line engraved stamps were also used for other issues (e.g. the $2^{1}/_{2}d$ rosy mauve stamps SG Spec J1 to J18 and the post-August 1867 1*d* revenue stamps SG Spec L118 to L122), the importance of this should not be exaggerated. At best these issues would boost the performance to something nearer one broken pin variety per 200,000 sheets perforated.

The greater incidence of pin damage after 1864 is not entirely surprising, but the extent of it is. The study of broken pins after 1864 is still in its infancy and the data available is not reliable enough to permit anything more than a crude preliminary analysis of how the problem developed. Up to, and including, 1866 the incidence of broken pins seems to be comparable to that in the period 1858-1864. A significant increase in incidents occurred between 1867 and 1872 (19 a year on average) with another surge in the years 1875-79 (24 a year on average).

As to the reasons for the deterioration in performance, the only hard evidence is the more extensive use of the machinery; the increase in batch size from five sheets to seven to cope with increasing demand; and the increasing age of the equipment. If the hypothesis in Chapter 13, page 112, that Somerset House never replaced the original machines is correct, and noting the need for a major overhaul acknowledged by Somerset House in 1876, it is not surprising that the wear and tear on the machines was reflected in their performance.

Policy on repairs

Somerset House's policy on repairs to punch plates is not explicitly stated. It can only be inferred from the relative scarcity of the stamps showing broken pins and by taking account of the implications for production of changing punch sets.

None of the stamps with broken pins can be described as common in that state though, inevitably, some varieties are more common than others. Among the most common are those with multiple broken pins, though this may, in part, be due to the greater visual impact of these varieties and their greater collectibility.

At the normal rates of production consistently achieved by the Somerset House perforators it is inconceivable that production continued for any length of time using damaged punches. If it had, examples of such stamps would be considerably more plentiful than they are even allowing for the loss and destruction of 98% of the output over the years (a 2% survival rate is generally considered the average for most 19th century stamps). This is not to imply that punches were changed immediately a breakage occurred. Those with experience of operating presses have suggested that a reasonably alert machine minder would normally react immediately to a breakage. If so, there can be few occasions when production continued in ignorance of what had happened. On the other hand, some varieties are sufficiently common for it to be likely that production continued for several days (normally no more than two or three) with a broken comb.

It is probable that most broken pins were replaced when the relevant comb was next removed from the machine. It cannot, however, be assumed that this always happened. If reliance can be placed upon certain dated pieces, the possibility must at least be entertained that damaged combs may occasionally have been removed, put back in store, and subsequently reused some weeks later without repair.

Assuming a broken vertical pin, three days' production (pre-1874) from a single machine would have resulted in up to 384,000 stamps showing the variety. If the generally accepted figure of a 2% survival rate applies, about 7500 to 8000 remaining examples of the variety might now be expected to exist. These figures are based on a batch size of five. If there were seven sheets per batch, the figure of surviving examples would be 10,500 to 11,200. These figures can be compared with the number of recorded examples in specialised collections of these stamps (in some cases accumulated over many years). Taking one of the commonest varieties (D/E 13,14; D 13), the major collections of these varieties known to the authors contain less than 500 copies. There are undoubtedly many more copies scattered (possibly unnoticed) in collections throughout the world. Whether these would account for the missing 95% of the remaining varieties (or whether there were in fact fewer stamps with the variety produced) will only become clear as collectors begin to recognise their significance. But what these figures do suggest is that the broken pins which gave rise to them were never more than a short lived phenomenon.

The odd broken pin did not make the task of stamp separation materially more difficult and was therefore of little consequence in the great scheme of things. So there was probably an understanding that production need not be halted for this reason alone. While the task of replacing a broken punch set would probably have taken no longer than 30 minutes (see page 89 for additional detail), at the target production rates that would have meant a loss of 300 sheets. With production schedules to be met, particularly at times of high demand, it would be difficult to justify such a loss for the sake of one or two broken pins. Another factor would be the number of spare punch sets in stock when a breakage did occur. If the full quota of two spare sets were available, a replacement set could be fitted as soon as it was convenient to do so. If, however, one set were away for repair or sharpening a decision might have been made to soldier on for a day or two until the stock position improved.

The problem of plate range

Some previous authors have concluded that combs with broken pins remained in use for weeks, or even months, because of the large range of plates on which some varieties are found and the period over which the stamps have been found used. Such conclusions are unfounded (and fundamentally inconsistent with the numbers of stamps showing the effects of broken perforation pins). The explanation for the large plate range over which some varieties occur lies in the way in which sheets were selected for perforation.

Statham[167] has calculated that the average production for each of Perkins, Bacon's printers (of line engraved stamps) was between 2400 and 2700 sheets per week for most of the period between 1840 and 1864. By the time perforation began in 1854 there were 15 printing presses normally available for use, thus on any given day up to 15 different plates could be at press. Moreover there were always more printing plates available than there were presses. For short periods in 1854 there was production from 21 presses (some of which was possibly night work), thus up to 21 different plates could have been at press during these periods. Later, the numbers of presses increased. By 1857 there were 18, and the increase continued: 22 by 1862; 30 by 1870; and 38 by 1879. Consequently the number of plates in daily use also increased. There is, in fact, good correlation between the number of presses known to be

[167] *op. cit.*, p. 15.

in use at particular times and the number of plates on which contemporary broken pin varieties have been recorded.

The printers' output was sent to Somerset House in reams (each of 500 sheets). Even if each ream consisted solely of production from a single plate—and there is no reason to believe this was so—plate order as such was immaterial to the Somerset House warehouse staff and the Perforating Room. They were concerned only with the reams as raw material for perforation. Since each perforating machine could perforate nearly 7 reams a day, the potential daily output of the Perforating Room up to 1858 was about 13 reams, more than sufficient to cope with the daily output from the available presses. The Perforating Account specifically notes the receipt of a dozen or more different reams during the course of a working day. Moreover the overriding consideration for the perforating staff was the need to sort the sheets into batches of similar length irrespective of the ream from which they originally came.

On any given day in 1854, therefore, one machine could be expected to perforate the production from up to 15 printing plates. In later years with more printing presses at work, an even larger range of plates could potentially show a short-lived broken perforation pin variety.

Bent pins

It is sometimes suggested that perforation pins might have bent. Having consulted engineers on this, the authors are satisfied that they did not and that, even if they had, there would be little discernible evidence on the stamps themselves. Perforation pins were made of hardened steel and would have been more apt to break rather than bend. The pins were permanently guided and supported by the stripping plate in which they were sheathed throughout the whole perforating cycle. In practice, therefore, only that portion of the pin which extended below the stripping plate and effected the perforation could be subject to bending. Any significant bend or distortion would have prevented a pin from mating properly with the holes in the die plate. If it did not mate, it would strike solid metal and break. What might sometimes be thought to be evidence of bent pins is in fact due to imperfect alignment of the perforation holes relative to each other. The Archer Combs A and B illustrated in Figs. 3.1 and 3.2, page 22, are good examples of this. The misalignment is entirely a manufacturing fault.

Broken perforation pin varieties: caveat emptor

Whilst interest in collecting broken perforation pin varieties has grown in recent years, it is not an entirely modern phenomenon. As early as 1899, these varieties were being collected and written about in reputable philatelic journals[168].

As these stamps have attracted greater interest, so the number of articles about them have increased. Many of these have sought to list the broken pin varieties on the standard format line engraved stamps, in particular the 1*d* Red. Most such listings have concentrated on the 'stars' issues (the stamps issued in the ten years 1854-1864). All such listings known to the authors are included in *Bibliography and further reading*, page 354. A number of these contain inaccuracies or references to varieties which either cannot exist or which cannot be confirmed. Most of the problems are the result of superficial examination or an inadequate understanding of the perforation process.

[168] S. C. Skipton, *English Minor Varieties Line Engraved Series. Printed by Perkins, Bacon and Co. 1840-1880,* Philatelic Journal of Great Britain, Vol. 9 (10th December 1899), pp. 229-230.

As already discussed, the effect of a broken pin is to leave a small portion of paper unperforated. Other stamps which, at first sight, appear to be a broken pin variety may, on closer inspection prove to be stamps with:

- incomplete or 'ghost' perforations (see Chapter 20, page 193);
- the circle of paper indented or partially cut, but not separated (a common occurrence);
- a long stamp with an imperforate portion at the bottom (or top) (see Chapter 20, page 185);
- partially cut perforations.

Other things to look out for on stamps with what appears to be an unlisted or rare variety are:

- corner letters encroached by perforation (e.g. making an L look like an I);
- a fortuitous tear which gives the appearance of a normal perforation (see the comments in Figs. 21.18, page 231, and 21.33, page 249);
- an impossible state of a variety—pin breaks occur in sequence so pins missing in an earlier state must also be missing in all subsequent states;
- wrongly identifying the position of the broken pin by miscounting;
- inverted and reversed examples of listed varieties;
- short stamps on which recorded vertical pin varieties may appear in a modified form or in an apparently different position.

The following points should be noted given the increased interest in broken pins and their significance. Not only should collectors be aware of fortuitous tears (see above); there is also a danger that perforations may be added so as to 'manufacture' a scarce early state of a variety. Finally, it should be noted that in the past broken pin varieties have been seen by some as untidy and have been tampered with as a result. This kind of vandalism has already occurred on the block illustrated in Fig. 21.24, page 239, where to 'improve' its appearance the missing perforations have been added, thus substantially reducing the value of the piece.

The listings of broken perforation pin varieties

In producing the lists of the 'stars' and 'plates' issues that follow, the authors have sought to apply rigorous standards of verification before accepting the existence of broken pin varieties. This is essential for the reasons given above. Basic errors in stamp or plate identification also make verification essential.

In general, in the listings that follow no specific mention is made of 'varieties' allegedly identified in previously published lists which the present authors do not regard as properly authenticated. It may therefore be assumed that any varieties alleged to exist in any of the lists mentioned under *Bibliography and further reading*, page 354, which are not specifically confirmed in the lists below have not yet been verified to the satisfaction of the authors. With some exceptions, this does not necessarily mean that previous listings are wrong, merely that the jury may still be out. Unverified varieties, of which only one or two copies are so far known, but which are, in the opinion of the authors, genuine examples of broken pins are specifically identified as such.

In compiling the lists of plates on which the 'stars' varieties are recorded, the authors have, to some extent, relied on information provided by others with reliable plating credentials. In that sense 'recorded' plates in the listings on pages 220-262 includes reported plates. The vast majority of earliest recorded items for the varieties have been seen by the authors.

Like all such listings, these are provisional, highly so in the case of the 'plates' issue which is much more complex in this respect than 'stars' issues and which has hitherto received much less attention.

So far as the authors are aware this is the first attempt at a comprehensive listing of broken perforation pins on the 'plates'. Specialised collections comprising some 15,000 stamps provide the basis of the information summarised in the table. Some reliance can be placed on the patterns that have emerged, but many obscurities remain. This is in part due to the repetition of some varieties, e.g. A 2. More fundamental, however, is the recent discovery that sheets were not only perforated inverted, but also from the reverse side, i.e. gum side up. Whilst there is no documentary record of this, it is evident from the stamps themselves. Enough multiple broken pin varieties from the correct plate range exhibit this characteristic to rule out coincidence. If this is true of the multiple broken pin varieties, it must be equally true of other sheets whether displaying broken pins or not. It has also been suggested that if sheets were perforated inverted and also face down, some may have been perforated in the inverted reverse position. This cannot be ruled out, but there is, as yet, no conclusive confirmation from the stamps studied. Both inverted and reverse perforation was the exception, not the rule. But the existence of such varieties adds to the complexity of classifying broken pin varieties.

Because the 'stars' have been more intensively studied than the 'plates' and constitute a much more manageable package (there is, as yet, no convincing evidence of reverse perforation on these stamps), it has been possible to deal with them in greater depth than the succeeding issue. It should be noted that the classification of 'stars' varieties covers the period up to 1st April 1864 and so includes the 2*d* Blue 'plates' issued between 1858 and spring 1864 which may show the same broken perforation pin varieties as the contemporaneous 1*d* Red 'stars' issues. The detailed listing on pages 222-262 is, as far as can be determined, in chronological order. For convenience, two quick reference Guides to broken perforation pin varieties are given, starting on page 217. The first lists varieties in alphabetical order (by reference to the check letter in the south-east corner). The second is a chronological listing. They cover all the perforated 1*d* and 2*d* values (including the Archer perforated stamps) up to April 1864 and are cross-referenced to the detailed listing which follows. Varieties on the standard format stamps issued after 1st April 1864 are the subject of the second detailed listing (beginning on page 263).

Where possible, dates for the occurrence of broken pin varieties on the 'stars' have been given. In some cases the dates are substantiated by a considerable amount of evidence, in other cases they are based on limited information. For the avoidance of doubt, it is desirable to list the assumptions on which the dates given are postulated:

1. the Perforating Room Work Account did not record all incidents of damage to punches (some omissions are known);
2. not all damage reported (e.g. damage to the bed or bottom plate) necessarily resulted in broken pins;
3. not all punches recorded as damaged would necessarily have been used again before being repaired;
4. damaged punches were removed within three to four days (or less) of the damage occurring;
5. records indicating damage to a specific number of punches relate to the number of broken pins, though these may appear at different places on the comb, not necessarily affecting a single column;
6. plate identification is accurate (every effort has been made to ensure this);
7. the average lead time between perforation of stamps and their distribution to the General Post Office is two to three weeks; variations are known;
8. postmark evidence of earliest dates of use is reliable.

As well as their inherent interest, the lists of plates exhibiting specific broken perforation pin varieties can also be of value in confirming when plates were at press, and which plates were at press together. The incidence of specific varieties on both the line engraved stamps and other types of stamps (e.g. surface printed or colonial stamps) adds further pieces to the jigsaw of understanding about the stamps themselves and the working practices of the Perforating Room.

The lists use the notation described earlier in this chapter. All references are to recorded information, whether or not this is explicitly stated. The comments represent the views of the authors.

Opportunities for new research

The authors are not aware of any previous studies of broken pin varieties on either the 1870 $^{1}/_{2}d$ value or the surface printed or revenue stamps. No attempt has been made here to have a listing of varieties on revenue stamps—the authors must leave others to undertake studies in this area. However, basic listings of the $^{1}/_{2}d$ stamp and the surface printed stamps (based on the limited material available to the authors) are given starting on page 299. Preliminary studies have established that the $2^{1}/_{2}d$ rosy mauve stamps (SG Spec J1 to J18) were perforated by the same combs that were used for the standard format line engraved stamps. Stamps with multiple broken pin varieties established the initial link (Figs. 21.8 and 21.9), and confirmation was provided by the fact that in most cases the $2^{1}/_{2}d$ value stamps showing broken pin varieties were contemporaneous with the line engraved stamps showing the same variety. Whilst there were differences in sheet layout between the two types of stamps (see Appendix II, pages 313-4), the horizontal rows of 12 stamps were common to both. The interpane gutter of the $2^{1}/_{2}d$ value would have been the equivalent of two stamp lengths, and the shorter overall sheet length would probably have required the provision of shorter tympans. In at least one instance the same variety is found on contemporary 1*d*, $1^{1}/_{2}d$, 2*d*, and $2^{1}/_{2}d$ stamps.

The plate layout of the 3*d*, 6*d*, 9*d* and 1 shilling values with large white corner letters produced between 1865 and 1873 was identical (see Appendix II). Broken perforation pin varieties on these indicate that these values were perforated in batches on the same machine and at the same time (probably on the same day) because identical varieties appear across the range of values (Fig. 21.10).

There is also scope for research on the relationship of broken pin varieties on British and non-British stamps. It has already been established that broken pin varieties on the Somerset House perforated Grenada 1*d* green stamp (SG 14) correspond with those on the contemporaneous 1*d* Red, and this

Figs. 21.8 and 21.9 Paired examples of identical multiple broken perforation pins on 1d Red (Plate 187) and $2^{1}/_{2}d$ rosy mauve (Plate 10) of circa 8th December 1877 and Plates 201 and 14 from between April and May 1879 (corresponds with the same variety on 1d Inland Revenue stamps—see Fig. 6.4, page 62)

Fig. 21.10 3d (Plate 5), 6d (Plate 6), 9d (Plate 4) and 1/- (Plate 4) displaying identical broken perforation pins

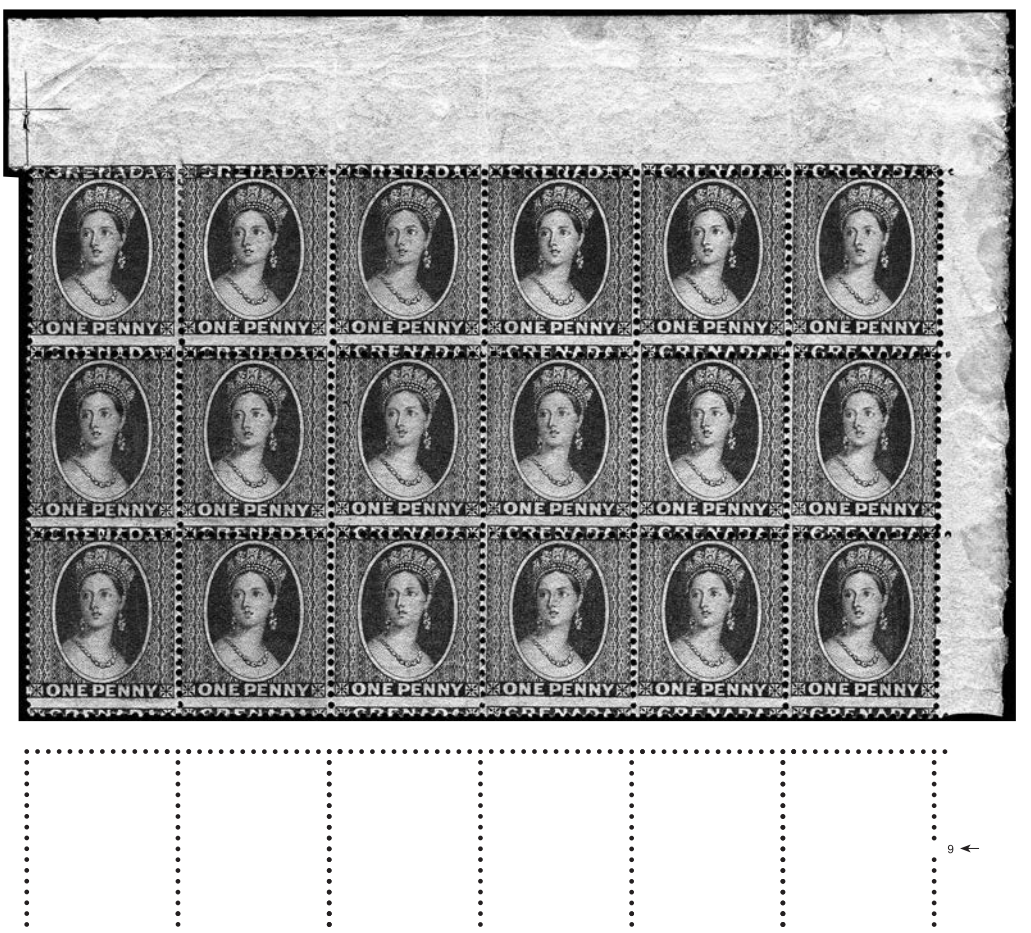


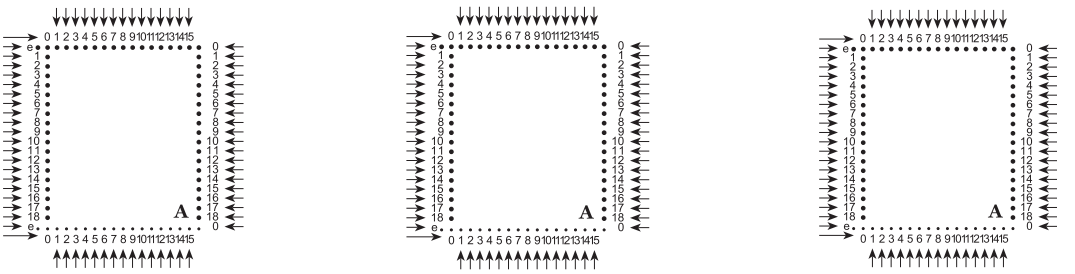
Fig. 21.11 Corner block of Grenada 1d stamps showing a broken perforation pin in the marginal L column which matches with a 1d Red broken pin variety (see variety L(Marg)9 on page 297) (Courtesy of C. G. Harman)

coincidence enables the occurrence to be precisely dated (Figs. 21.11, plus 18.5, 18.6, 18.7 and 18.9 on pages 169-170).

Although the lists that follow are based upon the largest known collections of standard format line engraved stamps with broken perforation pins, they will not constitute the last word on the subject. Whilst no new varieties on the 'stars' issues have been uncovered during the preparation of this book, a previously unrecorded state of an existing variety has come to light as well as new examples of both inverted varieties and 2*d* Blue 'stars'/contemporary 'plates'. Further new finds, and verification of items whose present status is doubtful, will make subsequent revision necessary. It is the hope of the authors and those who have assisted them in the compilation of these lists that other collectors will be inspired to search their own collections and report their findings. The authors hope to be able, in due course, to collate and publish any new information that becomes available.

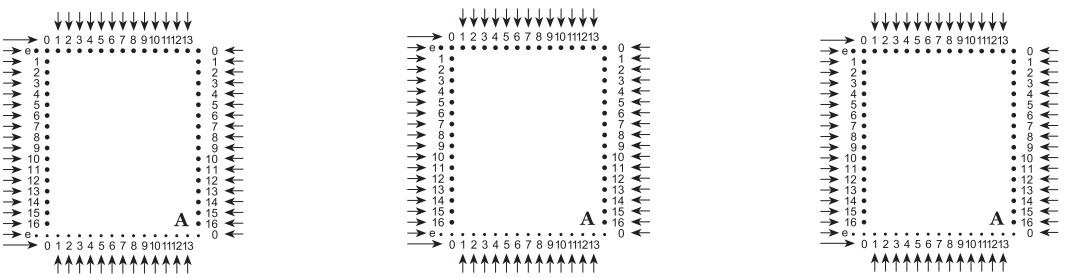
'Pin-finder'

Perforation 16 (standard format)



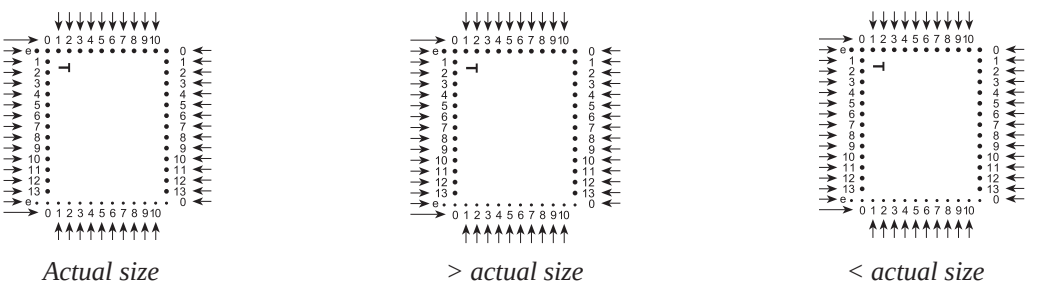
Actual size > *actual size* < *actual size*

Perforation 14 (standard format)



Actual size > *actual size* < *actual size*

Perforation 14 ($^{1}/_{2}d$ format, with sheet/stamp turned sideways for perforation)



Actual size > *actual size* < *actual size*

Fig. 21.12

NB: the page set up size of the PDF is not A4, so if you want to print the pin-finder, use 100%.

Quick reference Guides to broken perforation pin varieties on 1*d* and 2*d* 'stars' and certain 2*d* 'plates' issues

The two Guides are designed to assist collectors to identify broken pin varieties. The first lists varieties in alphabetical order (by reference to the check letter in the south-east corner). The second is a chronological listing. They cover all the perforated 1*d* and 2*d* values (including the Archer perforated stamps) up to April 1864. More comprehensive information on these early varieties is given in the first detailed listing (beginning on page 222). Varieties on the standard format stamps issued after 1st April 1864 (the 1*d* 'plates'; the $1^1/_2$*d* and the 2*d* 'plates' from Plate 9 onwards) are the subject of the second detailed listing (beginning on page 263). Broken pin varieties noted on the $^1/_2$*d* and surface printed issues are listed later on.

Using the Guides

Most varieties will accord with one of those listed in the left column ('Normal'). If not, then the 'Inverted' column should be checked. If there is still no match, the stamp should be carefully checked to ascertain whether or not it is a true broken pin variety. Stamps which, at first sight, appear to be broken pin varieties may, on closer inspection, prove not to be; the reasons for this are covered in detail in the previous section 'Broken perforation pin varieties: *caveat emptor*'.

Scarcity

Broken pin varieties are notoriously difficult to find and one collector has estimated the proportion as one stamp with a variety to every 500-600 normal stamps. Some varieties, however, are much more common than others, perhaps in part due to their prominence if they are particularly visual. Stamps on cover are at a premium and, due to the smaller number of 2*d* stamps printed and perforated, broken pin varieties on these issues can be as much as twenty times scarcer than the same variety on the 1*d* issues. Inverted varieties are only relatively common in one case (Variety 10), all others are about twenty times scarcer than the corresponding normal 1*d* variety.

The scarcity rating used is:

Very common	Quite scarce	Rare
Common	Scarce	Very rare
Relatively common	Very scarce	

This reflects the opinions of the authors based on the knowledge of their own collections and those of others.

Notation

The background to the notation is detailed at the beginning of this chapter. The illustrations opposite (Fig. 21.12) identify the pin numbers for the two perforation gauges (16 and 14). Due to slight variations of perforation, particularly evident on perforation 14 stamps on which slightly different comb sizes were used, and also to variations due to paper shrinkage or humidity, three options are provided to allow users to ensure the best fit in identifying which specific perforation pins are missing.

The first detailed listing which follows uses the same style of illustration but more clearly identifies the pins broken on each variety in both normal and inverted states. These illustrations were prepared

using Macromedia Freehand 10 running on a PC. Individual files can be supplied to collectors interested in using them to illustrate their collections.

Feedback

The authors would be delighted to examine any potential new varieties plus any additions to inverted examples, with a view to producing future updates. Other useful information would be dates earlier than those quoted and new plates. Both of these may be useful in helping to clarify the date of the pin breakage—they may even lead to a change in the sequence of the chronological listings. Please write to the authors care of the Royal Philatelic Society London, 41 Devonshire Place, London W1G 6JY.

Catalogue numbers: SG Specialised and SG Standard

1*d*		2*d*	
Spec.	Standard	Spec.	Standard
CE2	16b		
C1	17/18	F1	19/20
C2	22	F2	23
C3	24/25	F7	35
C4	21	G2	45
C8	29/33		
C9	–		
C10	38/41		
C12	42		
C13	–		

Summary table (with varieties in alphabetical order)

This Guide is alphabetical (using the conventional notation), thus enabling varieties to be identified by reference to the letter in the south-east corner square of the stamp. It is subdivided by perforation gauge (16 or 14) with the relevant SG Spec numbers included for reference. It identifies all recorded varieties, including those on the 2*d* value and inverted varieties, and provides a scarcity rating for those on the 1*d* value. Notations for the inverted varieties are given but this does not necessarily imply their existence. The final column gives the Variety number as a cross reference to the detailed listing which follows; where varieties are known in more than one state, this is indicated by a suffix to the Variety number (e.g. 6.2 indicates State 2 of Variety 6).

Perforation 16, 1d 'Archer' (SG Spec CE2)

Normal	*Rarity*	*Inverted*	*Variety No.*
G/H 7	Very rare	E/F 12	1a
I 15	Very rare	D 1	1b

Perforation 16, 1d (SG Spec C1 and C4) and 2d (SG Spec F1)

Normal	*Rarity (1d)*	*2d known*	*Inverted*	*Inverted*	*Variety No.*
A(Marg) 1,3,4,6-8,10,11, 13,14,16,18	Scarce		1*d*	L(Marg) 1,3,5,6,8,9,11-13, 15,16,18	7
A(Marg) 15	Scarce			L(Marg) 4	5
A 5	Rare			L 11	6.1*
A 5; A(Marg) 2	Quite scarce			L 11; L(Marg) 17	6.2*
A/B 14	Very common	•	1*d*	K/L 5	3
L 5,6	Common/Q. scarce	•	1*d*	A 10,11	10.2*
L 6	Rare			A 10	10.1*
L(Marg) 5,8,10,14-18	Common	•	1*d*	A(Marg) 1-5,9,11,14	4.4*
L(Marg) 5,8,10,14-18;e	Quite scarce			A(Marg) 1-5,9,11,14;e	4.5*
L(Marg) 5,10,14-18	Very scarce			A(Marg) 1-5,9,14	4.3*
L(Marg) 10,14-16,18	Common	•	1*d*/2*d*	A(Marg) 1,3-5,9	4.2*
L(Marg) 15,16,18	Common	•	1*d*	A(Marg) 1,3,4	4.1*
L(Marg) 17,18	Quite scarce	•		A(Marg) 1,2	2.2*
L(Marg) 18	Very rare			A(Marg) 1	2.1*

Perforation 14, 1d (SG Spec C2 and C3) and 2d (SG Spec F2)

Normal	*Rarity (1d)*	*2d known*	*Inverted*	*Inverted*	*Variety No.*
A(Marg) 13,14	Common/Q. scarce	•	1*d*	L(Marg) 3,4	9.1*
A(Marg) 13-16	Very scarce		1*d*	L(Marg) 1-4	9.2*
L 13	Very scarce			A 1	11
L(Marg) 9	Rare			A(Marg) 8	8

Perforation 14, 1d (SG Spec C8, C9, C10, C12 and C13) and 2d (SG Spec F7 and G2)

Normal	*Rarity (1d)*	*2d known*	*Inverted*	*Inverted*	*Variety No.*
A(Marg) 3	Common	•	1*d*	L(Marg) 14	19
A 6	Rare			L 8	14
A 12	Scarce			L 2	25
A/B 8	Rel. common		1*d*	K/L 9	29
A/B 15	Rel. common	•	1*d*	K/L 2	26
B 9	Very scarce			K 5	27
B/C 12	Scarce		1*d*	J/K 5	15
D/E 13,14	Rare			H/I 3,4	18.1*
D/E 13,14; D 13	Very common	•	1*d*	H/I 3,4; I 1	18.2*
G/H 7,8; H/I 2	Rel. common			D/E 15; E/F 9,10	12.2*
H 2-4	Very common	•	1*d*/2*d*	E 10-12	24
H/I 2	Rel. common		1*d*	D/E 15	12.1*
I 3	Common		1*d*	D 11	13
I/J 7	Common	•	1*d*	C/D 10	20
J 9	Very scarce			C 5	17
J/K 12	Very rare			B/C 5	16
K/L 11; L 5,7,9; L(Marg) 1, 5,7,8,13-15	Rare			A/B 6; A 5,7,9; A(Marg) 2-4, 9,10,12,16	21
K/L 16; L(Marg) 15,16	Quite scarce			A/B 1; A(Marg) 1,2	28
L 5	Rel. common			A 9	23
L(Marg) 6	Quite scarce			A(Marg) 11	22

* this variety appears in more than one state

Summary table (with varieties in chronological order)

This Guide is chronological and categorises the issues by perforation gauge (16 or 14) and by SG Spec numbers. The notation for each variety is given in both the normal and inverted format. The Variety number allows a cross reference to the detailed listing which follows; where varieties are known in more than one state, this is indicated by a suffix to the Variety number (e.g. 4.2 indicates State 2 of Variety 4). The next column identifies the plates on which the variety is known, together with the total number of plates, showing the patterns of plates and the varying numbers used over time. In compiling the lists of plates for the 1*d* varieties, the authors have, to some extent, relied on information provided by others with reliable plating credentials, so the listing includes reported plates. Other plates which have been reported are not included as in most cases they are impossible since the plate reported was put to press after the occurrence of the variety (as established from dated items). The final column gives the earliest recorded date, where known.

Perforation 16, 1d 'Archer' (SG Spec CE2)

Normal	*Inverted*	*Variety No.*	*Plate*
G/H 7	E/F 12	1a	97
I 15	D 1	1b	99

Perforation 16, 1d (SG Spec C1) and 2d (SG Spec F1)

Normal	*Inverted*	*Variety No.*	*Plates: 1d / (2d) / [Total no. of plates]*	*Earliest date*
L(Marg) 18	A(Marg) 1	2.1	171 / [1]	–
L(Marg) 17,18	A(Marg) 1,2	2.2	155, 162, 164-167, 169, 170, 172-177 / (2*d*: 4) / [15]	27/2/54
A/B 14	K/L 5	3	155, 162, 164-167, 169, 171-181 / (2*d*: 4) / [19]	19/5/54
L(Marg) 15,16,18	A(Marg) 1,3,4	4.1	155, 162, 164, 166, 167, 169, 171-181 / (2*d*: 4) / [18]	17/5/54
L(Marg) 10,14-16,18	A(Marg) 1,3-5,9	4.2	155, 162, 164, 166, 167, 169, 171-181, 183 / (2*d*: 4) / [19]	16/6/54
L(Marg) 5,10,14-18	A(Marg) 1-5,9,14	4.3	164, 169, 174, 175, 178-180 / [7]	17/6/54
L(Marg) 5,8,10,14-18	A(Marg) 1-5,9,11,14	4.4	155, 162, 164, 166, 167, 169, 171-183 / (2*d*: 4) / [20]	4/7/54
L(Marg) 5,8,10,14-18;e	A(Marg) 1-5,9,11,14;e	4.5	176, 181 / [2]	12/7/54
A(Marg) 15	L(Marg) 4	5	155, 173, 176, 183-193 / [14]	23/11/54
A 5	L 11	6.1	195, 196 / [2]	–
A 5; A(Marg) 2	L 11; L(Marg) 17	6.2	190-197 / [8]	15/1/55
A(Marg) 1,3,4,6-8,10,11, 13,14,16,18	L(Marg) 1,3,5,6,8,9, 11-13,15,16,18	7	193-198, 200-202, R1-R6 / [15]	12/1/55

Perforation 14, 1d (SG Spec C2 and C3) and 2d (SG Spec F2)

Normal	*Inverted*	*Variety No.*	*Plates: 1d / (2d) / [Total no. of plates]*	*Earliest date*
L(Marg) 9	A(Marg) 8	8	R4 / [1]	–
A(Marg) 13,14	L(Marg) 3,4	9.1	194, 196, 198, 200-204, R1-R6, 1-4 / (2*d*: 4) / [19]	31/1/55
A(Marg) 13-16	L(Marg) 1-4	9.2	194, 201, 204, R1, R6, 4 / [6]	6/3/55

Perforation 16, 1d (SG Spec C1 and C4) and 2d (SG Spec F1)

Normal	*Inverted*	*Variety No.*	*Plates: 1d / (2d) / [Total no. of plates]*	*Earliest date*
L 6	A 10	10.1	R1, R2 / [2]	–
L 5,6	A 10,11	10.2	194, 196, 198-204, R1-R6, 1-7 / (2*d*: 4) / [23]	5/3/55

Perforation 14, 1d (SG Spec C3)

Normal	*Inverted*	*Variety No.*	*Plates: 1d / (2d) / [Total no. of plates]*	*Earliest date*
L 13	A 1	11	2, 4-6, 8-13 / [10]	22/6/55

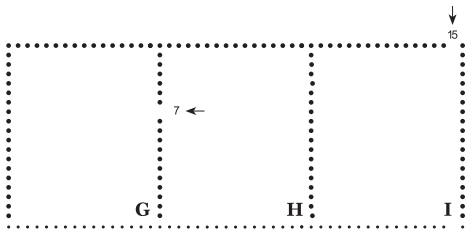
Perforation 14, 1d (SG Spec C8, C9, C10, C12 and C13) and 2d (SG Spec F7 and G2)

Normal	*Inverted*	*Variety No.*	*Plates: 1d / (2d) / [Total no. of plates]*	*Earliest date*
H/I 2	D/E 15	12.1	27, 31, 34-38, 40, 42-48 / [15]	14/4/57
G/H 7,8; H/I 2	D/E 15; E/F 9,10	12.2	27, 31, 34-38, 43-48 / [13]	24/3/57
I 3	D 11	13	27, 31, 34, 36-38, 43, 44 / [10]	20/6/57
A 6	L 8	14	27, 34, 36, 37, 47 / [5]	1/7/57
B/C 12	J/K 5	15	27, 33, 34, 36-38, 42-44, 47, 55, 56, 59, 60 / [14]	16/9/57
J/K 12	B/C 5	16	36 / [1]	–
J 9	C 5	17	34, 42, 44, 48, 58-61 / [8]	–
D/E 13,14	H/I 3,4	18.1	47, 58 / [2]	21/2/59
D/E 13,14; D 13	H/I 3,4; I 1	18.2	27, 34, 36, 42-44, 46-49, 52, 55-61 / (2*d*: 6, 7) / [20]	27/11/58
A(Marg) 3	L(Marg) 14	19	27, 34, 36, 42-44, 46-49, 52, 55-61 / (2*d*: 7) / [19]	7/4/59
I/J 7	C/D 10	20	27, 34, 36, 42-44, 46-49, 52, 55-60, 62-65 / (2*d*: 8) / [22]	26/12/60
K/L 11; L 5,7,9; L(Marg) 1,5,7,8,13-15	A/B 6; A 5,7,9; A(Marg) 2-4,9,10,12,16	21	34, 42, 43, 48, 57, 59 / [6]	25/2/61
L(Marg) 6	A(Marg) 11	22	27, 34, 36, 39, 41, 43, 46, 48, 52, 56, 57, 59, 60, 66 / [14]	17/6/61
L 5	A 9	23	27, 34, 36, 39, 41, 43, 46-48, 50-52, 55-57, 59, 60, 62, 66-68 / [21]	18/4/62
H 2-4	E 10-12	24	27, 36, 39, 41, 43, 46-48, 50-52, 55-57, 59, 60, 62, 66-68, R15, R16 / (2*d*: 9) / [23]	27/5/62
A 12	L 2	25	27, 39, 43, 47, 48, 51, 52, 59, 62, 66-68, R15, R16 / [14]	23/8/62
A/B 15	K/L 2	26	27, 36, 39, 41, 43, 47, 48, 50-52, 55-57, 59, 60, 62, 67, 68, R15-R17 / (2*d*: 9) / [22]	25/9/62
B 9	K 5	27	36, 48, 55, 56, 59, 62, 68 / [7]	21/10/62
K/L 16; L(Marg) 15,16	A/B 1; A(Marg) 1,2	28	27, 39, 41, 47, 48, 50, 55, 56, 59, 60, 62, 66-68, R16, R17 / [16]	9/12/62
A/B 8	K/L 9	29	27, 36, 39, 41, 43, 48, 50, 51, 55-57, 59, 60, 62, 66-68, R15-R17 / [20]	22/7/63

Detailed listing of broken perforation pin varieties on 1*d* and 2*d* 'stars' and certain 2*d* 'plates' issues

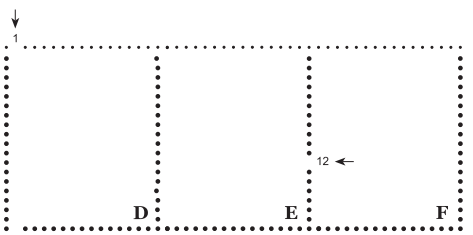
Variety 1a/1b

(Fig. 21.13)



Normal

Normal



Inverted

Description of variety: G/H 7 (1a) and I 15 (1b)

Number of states: One.

Issues showing variety: 1*d* 'Archer' SG Spec CE2.

Plates on which variety is recorded: 97 (1a), 99 (1b).

Plates on which variety is recorded inverted: None recorded.

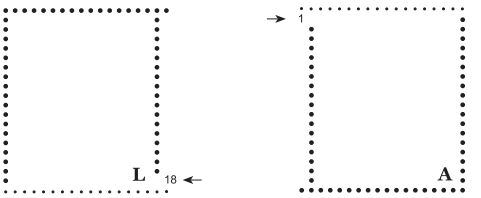
When variety occurred: Not known. Stamps from Plates 97 and 99 perforated on Archer's machine are known used on cover during 1850-51 and later. This variety is most likely to have originated between January and May 1850 before the perforation experiments were suspended following Archer's rejection of the compensation initially offered to him. If stamp perforation on the Archer machine resumed after June 1853 (and this is by no means certain), it is to be expected that the stamps would be Alphabet II stamps from the plates then at press.

Comments: Due to a number of perforation idiosyncrasies, particularly pin 4 between columns H and I, it is possible to confirm that the varieties 1a and 1b are from the same Archer comb, though they may have occurred at different times. These are very rare varieties and the only recorded examples of broken perforation pins on the Archer stamps. It would be surprising if other pins did not also break during the proving trials. But if this did happen the machine could be stopped and repairs effected immediately since there were no production schedules to be met. Moreover, the number of stamps perforated on the machine was small in total (estimated as 5000 sheets) and, with one recorded exception of 3000 sheets perforated in one day, the quantity of sheets perforated at each session was minute. For these reasons, very few broken perforation pin varieties are likely to be found on the issued stamps perforated on the Archer machine.

Variety 2

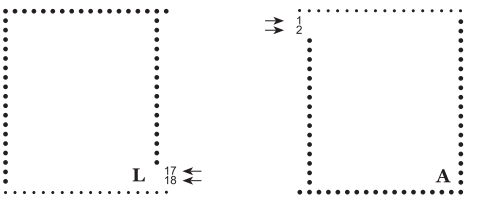
(Fig. 21.14)

State 1: Normal
(Courtesy of Eric Paul Ltd.)



Normal *State 1* *Inverted*

State 2: Normal



Normal *State 2* *Inverted*

Description of variety: L(Marg) 17,18

Number of states: Possibly two. A stamp showing only L(Marg) 18 has been recorded. This could constitute State 1 of either this variety or of L(Marg) 5,8,10,14-18;e (see Variety 4). For the reasons given below, the authors consider it most likely that the stamp in question is the first state of this variety.

State 1: L(Marg) 18.

State 2: L(Marg) 17,18.

Issues showing variety: 1*d* (SG Spec C1) and 2*d* (SG Spec F1).

Plates on which variety is recorded:

State 1: 1*d*: 171.

State 2: 1*d*: 155, 162, 164, 165, 166, 167, 169, 170, 172, 173, 174, 175, 176, 177.
2*d*: 4.

Plates on which variety is recorded inverted: None recorded.

When variety occurred: Damage to the bed or bottom plate was recorded on 13th February 1854—the only incident of its kind recorded during January and February. Plate 177 was put to press on 12th January. As this variety is found on the 2*d* and perforation of this value was less frequent, the breakage must have coincided with one of the few occasions when the 2*d* was perforated, i.e. 31st January or 16th February (when 100 sheets were perforated), or 17th February (when 400 sheets were perforated). Thus the variety could well be the result of the damage which occurred on 13th February. It may be significant that it has not been recorded on Plate 178 which was not put to press until 17th February or on subsequent plates. The earliest covers recorded with stamps showing this variety are dated 27th February, 3rd and 9th March 1854 (see Fig. 17.3, page 156).

Comments: On the evidence of postal usage and the restricted range of plates on which the variety is found, there is little doubt that it is the first broken perforation pin variety on the officially perforated postage stamps. In State 1 it is very rare while in State 2 it is quite scarce on the 1*d* value and rare on the 2*d* value.

In common with the earliest recorded state of L(Marg) 5,8,10,14-18;e (which is L(Marg) 15,16,18), this variety lacks pin L(Marg) 18, and some previous commentators have confused the two varieties. The distinctive feature is that, on State 2 of this variety, pin 17 is also broken. In contrast, pin 17 is present on States 1 and 2 of L(Marg) 5,8,10,14-18;e and, in the later states, pin 17 is only absent in conjunction with the other pins previously broken.

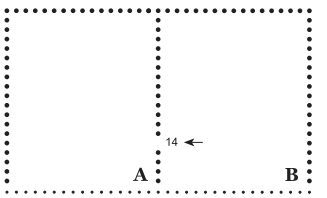
As noted above, it is not yet possible to establish conclusively whether L(Marg) 18 is the first state of this variety or of L(Marg) 5,8,10,14-18;e. But the suggested identification of the latter variety with the incident of the breakage of three pins in April, if correct, makes it more likely that L(Marg) 18 will prove to be State 1 of the present variety, and this assumption is reflected in the notes above.

Fig. 21.14 State 2: Normal

Variety 3

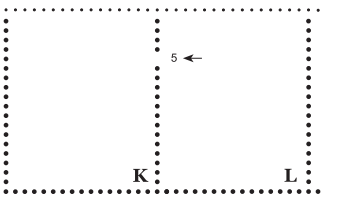
(Fig. 21.15)

Normal



Normal

Normal (2d)



Inverted

Description of variety: A/B 14

Number of states: One.

Issues showing variety: 1*d* (SG Spec C1) and 2*d* (SG Spec F1).

Plates on which variety is recorded:

1*d*: 155, 162, 164, 165, 166, 167, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181.

2*d*: 4.

Plates on which variety is recorded inverted:

1*d*: 162.

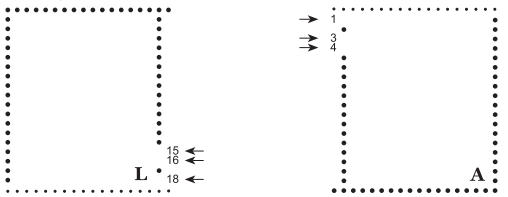
When variety occurred: The earliest cover recorded with a stamp showing this variety is dated 19th May 1854. That almost certainly rules out as the cause the incidents on 15th and 16th May 1854 when the punches were damaged by a 'pinch' (see Chapter 10, page 87). Other similar damage was recorded on 19th and 29th April, but in both cases three punches were broken.

Despite being a common variety it is not found on Plates 182 or 183 which were put to press on 24th and 26th April 1854, so the breakage is likely to have been early/mid-April.

Comments: The variety is the most common of those found on the perforation 16 stamps.

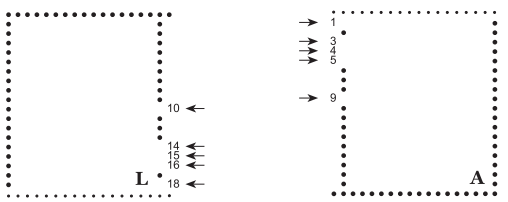
Variety 4

(Fig. 21.16)



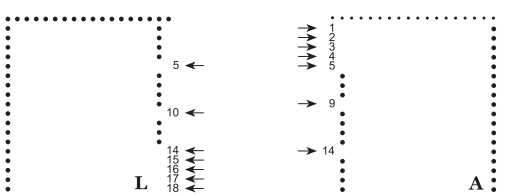
Normal *State 1* *Inverted*

Normal *State 1*



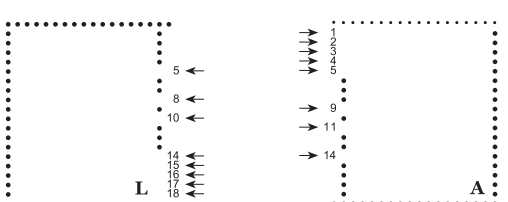
Normal *State 2* *Inverted*

Normal *State 2* *Inverted*

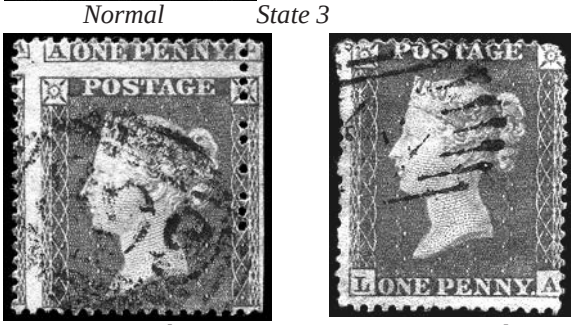


Normal *State 3* *Inverted*

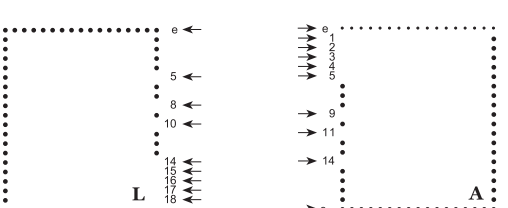
Normal *State 3*



Normal *State 4* *Inverted*



Normal *State 4* *Inverted*



Normal *State 5* *Inverted*

Normal *State 5*

Constant perforation varieties

Description of variety: L(Marg) 5,8,10,14-18;e

Number of states: Five recorded, but possibly six. As indicated in the notes on L(Marg) 17,18 of Variety 2, it has yet to be conclusively established to which variety stamps with only pin L(Marg) 18 broken belong. Subject to the resolution of that point, the states recorded for this variety are:

State 1: L(Marg) 15,16,18.

State 2: L(Marg) 10,14-16,18.

State 3: L(Marg) 5,10,14-18.

State 4: L(Marg) 5,8,10,14-18.

State 5: L(Marg) 5,8,10,14-18;e (where 'e' is the perforation hole which normally extends into the sheet margin to the right of the stamp).

Issues showing variety: 1*d* (SG Spec C1) and 2*d* (SG Spec F1).

Plates on which variety is recorded:

State 1: 1*d*: 155, 162, 164, 166, 167, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181.

2*d*: 4.

State 2: 1*d*: 155, 162, 164, 166, 167, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 183.

2*d:* 4.

State 3: 1*d*: 164, 169, 174, 175, 178, 179, 180.

State 4: 1*d*: 155, 162, 164, 166, 167, 169, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183.

2*d*: 4.

State 5: 1*d*: 176, 181.

Plates on which variety is recorded inverted:

State 1: 1*d*: 181.

State 2: 1*d*: 169, 176.

2*d:* 4.

State 4: 1*d*: 180.

When variety occurred: Damage to the punches caused by a 'pinch' (see Chapter 10, page 87), was recorded on 19th April 1854; this resulted in the breakage of three punches. A similar incident with identical results occurred on 29th April. The earliest covers recorded with stamps showing this variety (State 1) are dated May (17th, 19th and 25th) 1854. As Plate 183 was not put to press until 26th April, that rules out the 19th April breakage as the cause of this variety. It is, therefore, probable that (State 1 of) the variety was the result of the incident which occurred on 29th April. Numerous other covers from June onwards are also known. States 2 to 5 are thought to have developed within, at most, hours of the original break, suggesting that the pinch incident which is assumed to have given rise to the variety had in fact caused more extensive damage than that noted in the records. Information about earliest recorded dates of usage of the later states is of limited value, but is included here for completeness. State 2: 16th June 1854. State 3: 17th June 1854. State 4: 4th July 1854. State 5: 12th July 1854.

Comments: The variety is common in all states, except State 3 which is very scarce, and State 5 which is quite scarce for the reasons given below.

As noted in the comments on the preceding variety, some previous commentators have confused the two varieties. Moreover, there has been considerable confusion over the progression of the

breakages and the number of states of this variety. State 1 has three broken pins (15,16 and 18) as noted above. Some have claimed an earlier state with only pins 16 and 18 broken, but no such state has been illustrated, nor have any of the numerous examples seen by the authors and their collaborators conformed with this description. It should also be noted that the Stamping Department records refer to three broken punches, and if the identification of this incident with the occurrence of this variety is correct, it is an argument against the existence of an earlier state with only two broken pins (16 and 18).

The existence of an intermediate state between States 1 and 3 has also been claimed. It has been described as L(Marg) 10,14,16,18. This is, in fact, an impossible progression as both States 1 and 3 have pin 15 broken whereas it is said to be present in this claimed intermediate state. The likely explanation is that the stamp in question had a fortuitous tear at perforation 15 which gave the impression of a perforation hole. In the absence of any confirmatory evidence for such a state (or anything approximating to it), it is presumed not to exist.

The existence of a further broken pin, i.e. the extension pin at the right of the stamp (which constitutes State 5) is a recent discovery, and is the only recorded example of a broken extension pin on the 'stars' issue. Its presence or absence is discernible only on that minority of stamps which still have a sufficient portion of the margin attached, so, in that sense, confirmable State 5 varieties are not common. But, since much of the evidence has been lost with the removal of the selvedge, it is not possible to be certain about the relative scarcity as between States 4 and 5. Judging from the few examples of stamps which display an adequate portion of the margin, State 5 appears to be somewhat scarcer than State 4.

The existence of at least three of the five states of this variety on the 2*d* value may be regarded as confirmatory evidence that the progression of the breakages was rapid. The relatively limited demand for the 2*d* value made it unnecessary to perforate sheets of these stamps on a daily basis. In fact, enough sheets of the 2*d* stamp could be perforated in the course of one machine day to meet demand for several weeks (Hyde estimates only 59,000 sheets of SG Spec F1 were perforated—equivalent to less than 18 machine days' output over a 16 month period). Thus, it is a reasonable assumption that the supplies of the 2*d* stamp required would have been perforated during the course of a single working day and that this coincided with the day on which the progressive breakages occurred.

State 1: Inverted

State 2: Normal

State 1: Normal

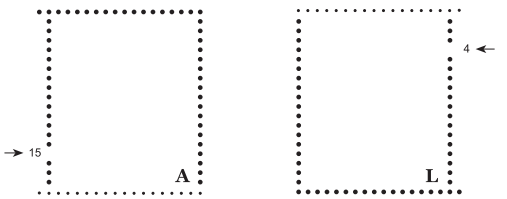
State 2: Inverted (2d)

State 4: Normal (2d)

Fig. 21.16

Variety 5

(Fig. 21.17)



Normal *Inverted*

Normal

Description of variety: A(Marg) 15

Number of states: One.

Issues showing variety: 1*d* (SG Spec C1).

Plates on which variety is recorded: 155, 173, 176, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193.

Plates on which variety is recorded inverted: None recorded.

When variety occurred: No significant incidents were recorded during September and October 1854 other than on 29th September when the bed of the punches on machine No. 4 was broken. This was changed the next day. The only other recorded incident resulting in the breakage of punches happened on 13th November when two were broken on machine No. 3. Later, on 17th November another 'pinch' resulted in 13 punches being broken, but no breakage of this magnitude has been recorded on the stamps and it is unlikely that the damaged punch was used again before being sent for repair.

Since this is one of the scarcer varieties few dated pieces exist. The earliest recorded date of use is 23rd November 1854. Whether this is an early or late use is not known. It is, however, unlikely that either of the incidents recorded in November was responsible, especially as the 13th November breakage affected two punches. The possibility that the 13th November incident could have been responsible for the A 5; A(Marg) 2 variety is considered under Variety 6.

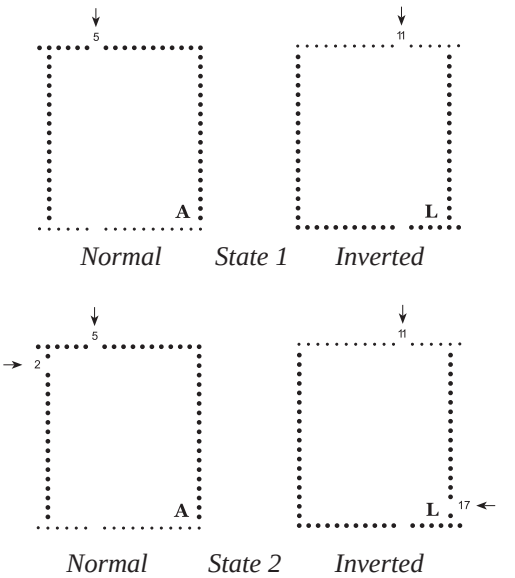
Comments: This is one of the scarcer varieties.

Variety 6

(Fig. 21.18)

State 1: Normal

State 2: Normal



Description of variety: A(Marg) 2; A 5

Number of states: Probably two. The vast majority of stamps with this variety are found where a vertical and horizontal pin have broken. Some copies have been seen where the vertical perforations appear normal and this suggests that the vertical pin (A(Marg) 2) was intact. On closer inspection, however, the 'perforation' is the result of a fortuitous tear. The stamp illustrated above as State 1 has perforations which, under strong magnification, are generally ragged and not clean cut, so there is still some measure of doubt about this first state.

State 1: A 5.

State 2: A 5; A(Marg) 2.

Issues showing variety: 1*d* (SG Spec C1).

Plates on which variety is recorded:

State 1: 195, 196.

State 2: 190, 191, 192, 193, 194, 195, 196, 197.

Plates on which variety is recorded inverted: None recorded.

When variety occurred: In addition to the incidents of punch damage recorded in the commentary on A(Marg) 15 above, two others were noted in the period preceding the earliest recorded use of this variety on 15th January 1855 (which is for State 2; no dated items of State 1 are known). The bed of the punches was 'found to be injured' on 25th November 1854, and a similar problem occurred on 23rd December.

While it is tempting to attribute this variety to the 13th November breakage of two punches, one argument against that is that there are two states of this variety. Moreover it is not known used until 15th January 1855. But neither of these arguments is conclusive. The breakage might only have been

noted by the time it had progressed to the State 2 form (examples of State 1 are rare which implies that it had only a brief existence in this state). The late use point carries no real weight. Few covers or dated pieces with this variety have been recorded and, in these circumstances little reliance can be placed on the limited evidence available; late-dated covers of even the best documented varieties are common.

Neither of the two recorded incidents of damage to the bottom plate is likely to be responsible for this variety. The note on the 25th November incident states that the plate was sent over to Napier; the implication is that this was done immediately and that the damaged punch set was not used. The 23rd December incident is the prime candidate for responsibility for the most dramatic of all the broken perforation pin varieties—the so-called 'Perf 7' variety (see next variety).

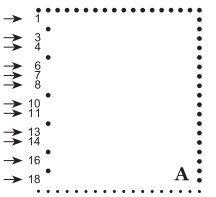
Comments: State 1 of this variety is rare; State 2 is quite scarce. As with all broken perforation pin varieties, collectors must exercise care because a copy of State 2 with a fortuitous tear at A(Marg) 2 can easily be mistaken for a copy of the rare State 1, see notes in 'Number of states' above.

Variety 7 ('Perf 7')

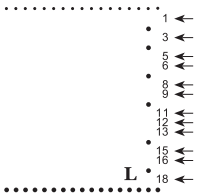
(Fig. 21.19)

Normal

Inverted



Normal



Inverted

Description of variety: A(Marg) 1,3,4,6-8,10,11,13,14,16,18 (the 'Perf 7' variety)

Number of states: One.

Issues showing variety: 1*d* (SG Spec C1).

Plates on which variety is recorded: 193, 194, 195, 196, 197, 198, 200, 201, 202, R1, R2, R3, R4, R5, R6.

Plates on which variety is recorded inverted: 194, 200.

When variety occurred: The incident post-dates 22nd November 1854 when Reserve Plates 1-6 were put to press. As noted previously, the bed of the punches was 'found to be injured' on 25th November. A similar problem occurred on 23rd December. The relevant note relating to machine No. 4 states: 'Stopped work at 3.15 in consequence of damage to the bed of punches'. A further note for 27th December refers to the loss of one hour and twenty-five minutes taking out the punches. Clearly the delay was because of the Christmas holiday.

For the reasons given below, this variety is considered to involve both broken perforation pins and a damaged die plate. If this is correct, whilst either of the breakages mentioned could have been responsible for the variety, reference has already been made to the implication of the statement in the note of 25th November that the plate was sent over to Napier. Moreover, if the normal time lapse of seven to eight weeks between printing and issue applied in this case, these stamps would not have been printed until 17-24th November. Allowing time for gumming, packing and conveyance to Somerset House, they would probably not have reached the Perforating Room until after the 25th November incident. On this reasoning the 23rd December incident is the one most likely to have been responsible for this dramatic perforation variety. This date fits well with the large cluster of January/February dates of use, the earliest of which is dated 12th January 1855.

Comments: This is commonly known as the 'Perf 7' variety due to only seven pins out of the normal nineteen remaining on the left-hand side of the A column. It is a scarce variety, though its prominence has probably contributed to the survival of a larger number of examples than remain of less spectacular varieties.

Various theories have been advanced to explain this variety. All recognise that something went seriously amiss during the perforation process, and most theories postulate some kind of emergency action to enable the stamps to be separated from the margin of the sheet. Some have suggested that the sheet was rouletted after the failed perforation operation. Others, noting the apparent difference in the size of some of the remaining pins, have suggested that a temporary repair was effected, possibly using oversize pins. Neither of these theories is convincing. Firstly, there would have been little purpose in such an exercise because inability to separate the stamps from the sheet margin

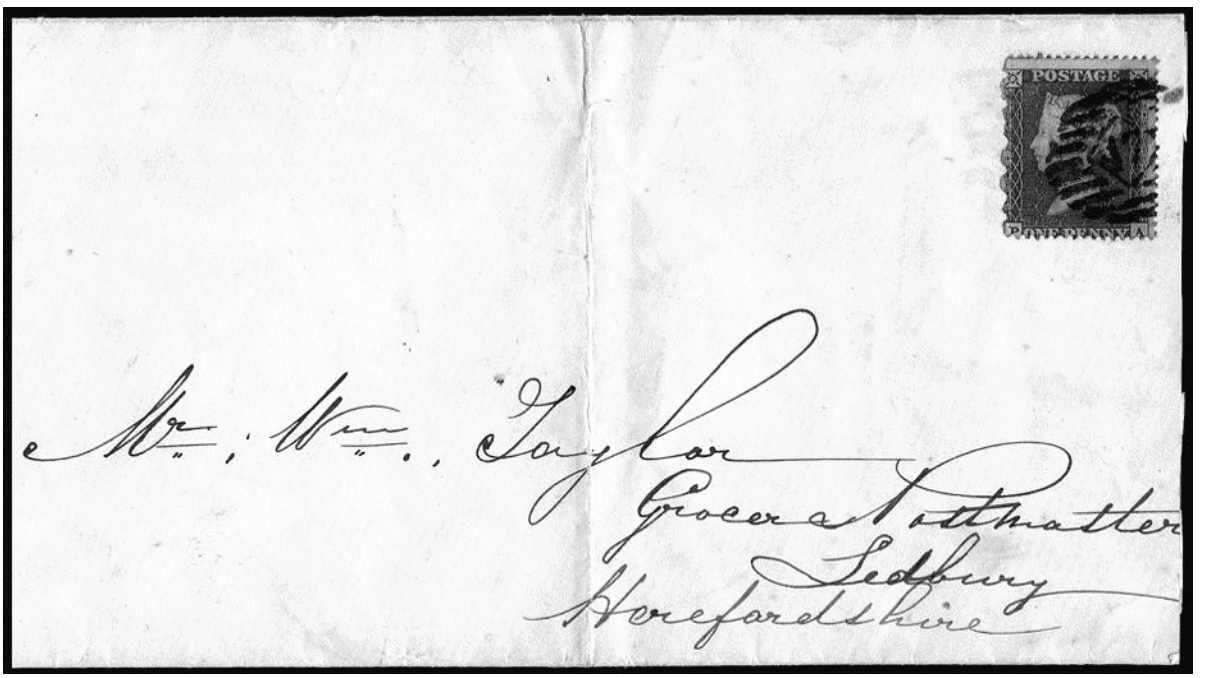


Fig. 21.19 Normal (above) and inverted (below)

(Courtesy of the British Library (H. G. Fletcher Collection—ref. 125162))

would have caused minimal inconvenience (c.f. the 1870 $^{1}/_{2}d$ value which was deliberately left imperforate on one margin). Secondly, no evidence exists to support the view that a rouletting tool of the kind necessary to produce such an irregular pattern was available. Thirdly, no repairs to machines, whether temporary or permanent, were undertaken at Somerset House during this period, and it is inconceivable that Napier would have been satisfied with a repair of such inferior quality. As for the suggestion that oversize pins were used, there is no confirmatory evidence for the existence of such pins, but even if there were, the plain fact is that they would not have fitted the smaller diameter holes in the die plate and so could not have been used in the way suggested.

The only convincing explanation for how this variety was produced has been advanced by Tony Guy (who has also kindly provided the drawings below—Fig. 21.20). Clearly, the variety is not simply the product of broken perforation pins. There is another contributory factor, and that is damage to the die plate. The precise sequence of events can only be imagined, but it is probable that the breakage of the die plate occurred first and imposed a sudden lateral strain on the perforation pins, the majority of which broke. The remaining seven continued to function for a while but, because the majority were operating with, at maximum, 180° of hole in the die plate, they severed only that portion of the paper in the vicinity of what remained of the original hole. The remainder of the sheet to the outside of the pins was largely or completely unsupported and gave under the pressure of the pins. The effect of this may have been more evident on the lower sheets of the batch. To some extent these may have provided some support for the top ones. In consequence only a small portion of the paper around each of the remaining pins was properly severed, but in the vast majority of cases no paper was removed. This can be clearly seen from the stamp illustrated in Fig. 21.21 which has a cut margin to the left of the perforations; whilst this appears to be imperforate, the paper is in fact partially severed. The effect is comparable to an elliptical roulette, there are therefore no holes until the selvedge is removed and it is this act which completes the characteristic profile of the stamps with this variety. The extent of the tear dictates the apparent size of the holes, but careful examination confirms that the clean cut portion of the holes basically conforms to the size of the standard perforation pin.

One stamp has been reported with only four pins remaining on the left hand side. As it has not been possible to check whether the paper has been severed as with the other stamps, it has not been recorded as a second state.

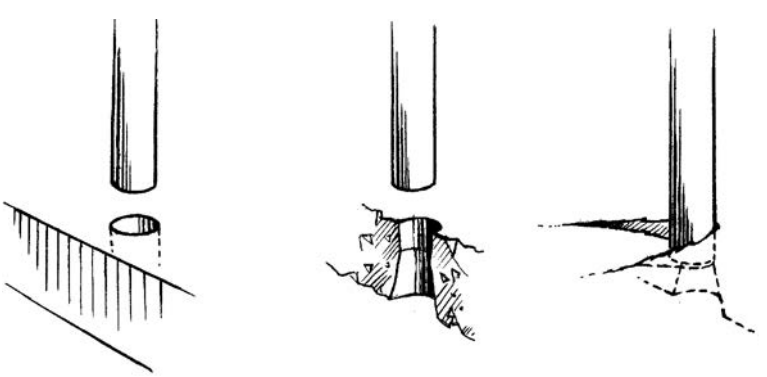
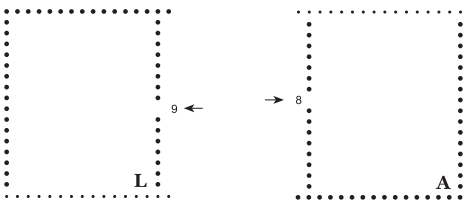


Fig. 21.20 Unbroken die plate; Break in die plate; Stamp sheet cut by pin only where partially supported, remaining area uncut or partially torn

Fig. 21.21 Normal

Variety 8

(Fig. 21.22)



Normal *Inverted*

Normal

Description of variety: L(Marg) 9

Number of states: One.

Issues showing variety: 1*d* (SG Spec C2).

Plates on which variety is recorded: R4.

Plates on which variety is recorded inverted: None recorded.

When variety occurred: There are no recorded covers or dated pieces with a stamp displaying this variety. The new perforation 14 punches were first fitted to machine No. 4 on 1st January 1855 and were used the next day. On the assumption that the variety does not appear on Die II plates, this variety is likely to date from the first two weeks of January since the Die I plates began to be superseded by the Die II plates from 16th January onwards. There is no record of damage to the punches during this period.

Comments: This is a rare variety. Only two copies are recorded. It is one of only two recorded varieties on the new perforation 14 (SG Spec C2) stamps.

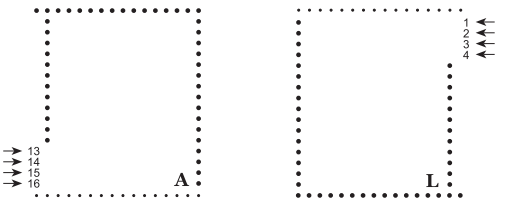
Variety 9

(Fig. 21.23)

Normal *State 1* *Inverted*

Normal *State 1* *Inverted*

Normal *State 2* *Inverted*



Normal *State 2* *Inverted*

Description of variety: A(Marg) 13-16

Number of states: Two:

State 1: A(Marg) 13,14.

State 2: A(Marg) 13-16.

Issues showing variety: 1*d* (SG Spec C2 and C3) and 2*d* (SG Spec F2).

Plates on which variety is recorded:

State 1: 1*d* (SG Spec C2): 194, 196, 198, 200, 201, 202, 203, 204, R1, R2, R3, R4, R5, R6.

1*d* (SG Spec C3): 1, 2, 3, 4.

2*d* (SG Spec F2): 4.

State 2: 1*d* (SG Spec C2): 194, 201, 204, R1, R6.

1*d* (SG Spec C3): 4.

Plates on which variety is recorded inverted:

State 1: 1*d* (SG Spec C2): 198, 201.

State 2: 1*d* (SG Spec C2): 194.

When variety occurred: The earliest recorded cover with a stamp displaying this variety (State 1) is dated 31st January 1855. Later dated pieces from mid-February onwards are common. The earliest of State 2 is 6th March 1855. The new perforation 14 punches were first fitted to machine No. 4 on 1st January and were used the next day. The Die II plates on which this variety occurs were not put to press until 16th January (Plate 1), 20th January (Plates 2 and 4) and 22nd January (Plate 3). It follows, therefore, that the variety must have occurred late in January. There is, however, no record of damage to the punches during this period.

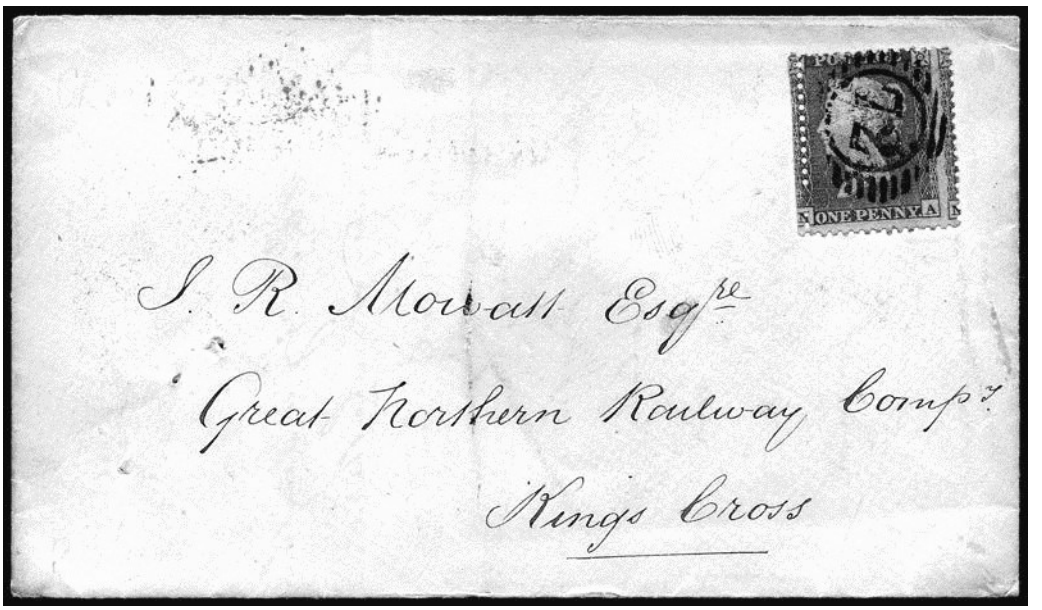
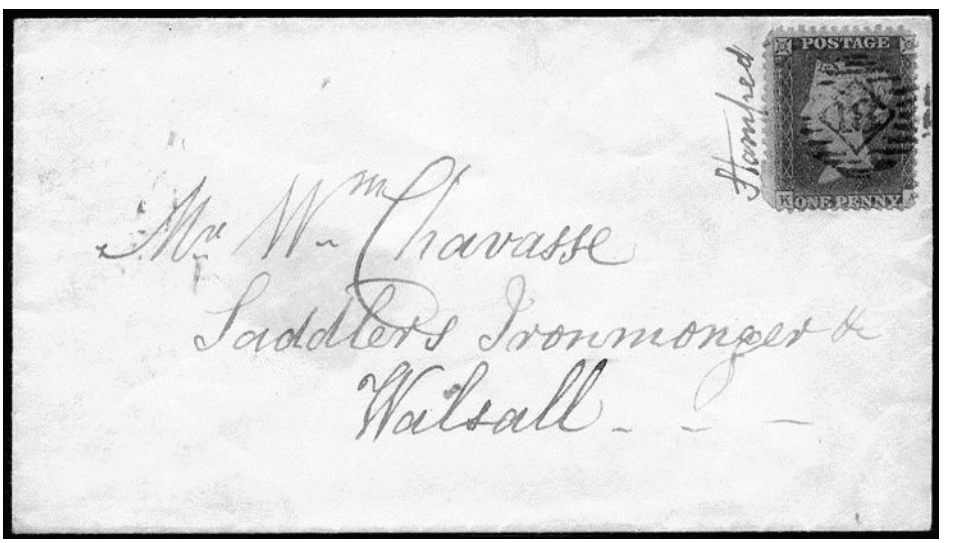
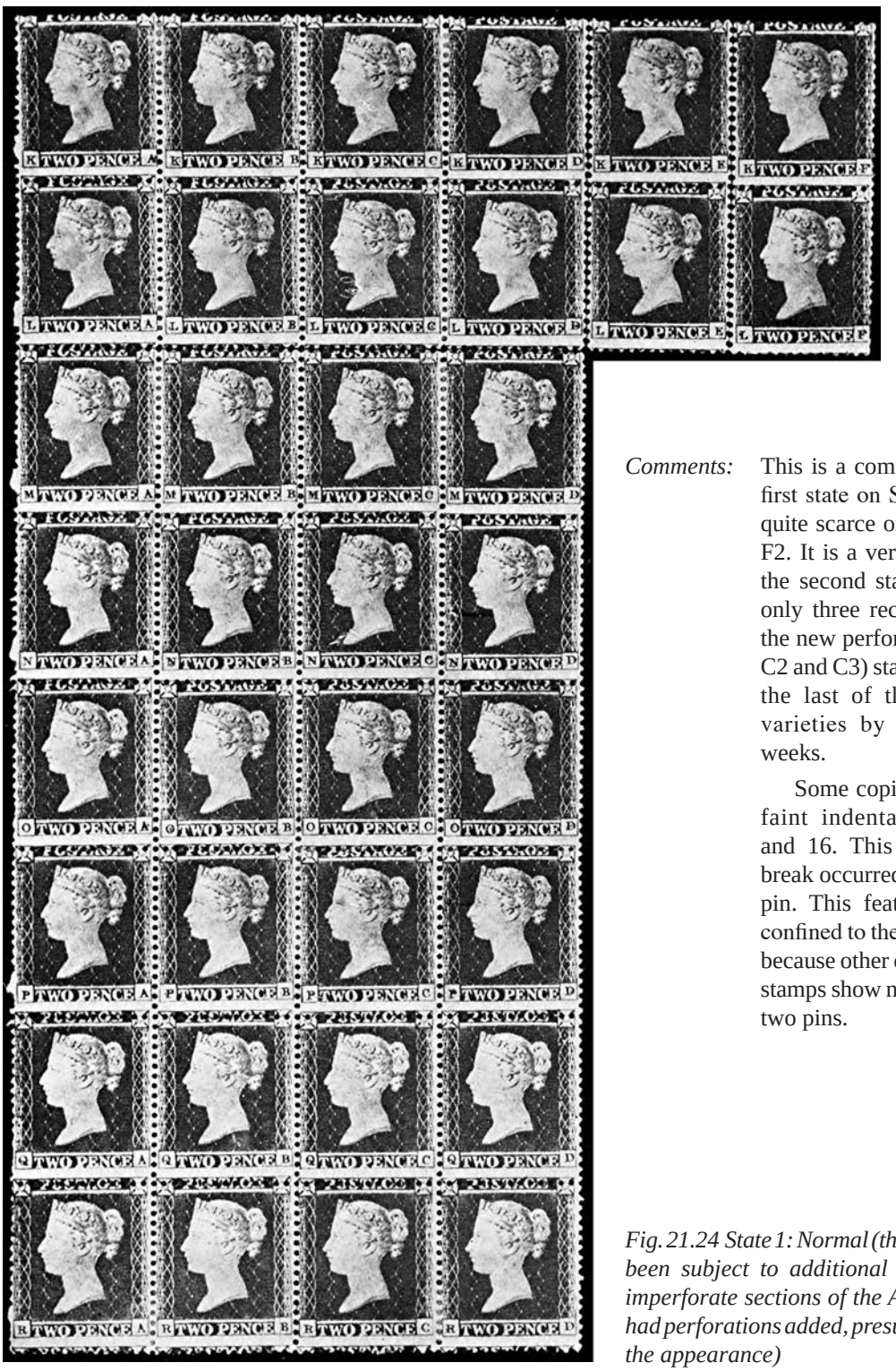


Fig. 21.23 State 1: Normal (above) and State 2: Normal (below)





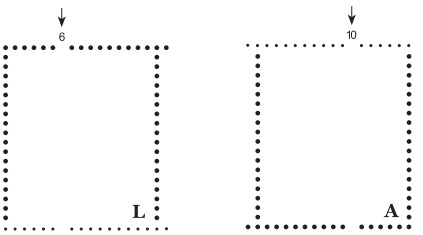
Comments: This is a common variety in the first state on SG Spec C2, but is quite scarce on SG Spec C3 and F2. It is a very scarce variety in the second state. This is one of only three recorded varieties on the new perforation 14 (SG Spec C2 and C3) stamps, and pre-dates the last of the perforation 16 varieties by some five to six weeks.

Some copies of State 2 show faint indentations of pins 15 and 16. This suggests that the break occurred near the tip of the pin. This feature was probably confined to the top sheet or sheets because other examples of State 2 stamps show no evidence of these two pins.

Fig. 21.24 State 1: Normal (this 2d sheet has since been subject to additional manipulation—the imperforate sections of the A column have now had perforations added, presumably to 'improve' the appearance)

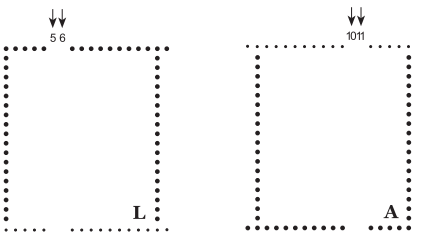
Variety 10

(Fig. 21.25)



Normal *State 1* *Inverted*

State 1: Normal



Normal *State 2* *Inverted*

Normal (2d) *State 2* *Inverted*

Description of variety: L 5,6

Number of states: Two:

State 1: L 6.

State 2: L 5,6.

Issues showing variety: 1*d* (SG Spec C1 and C4) and 2*d* (SG Spec F1).

Plates on which variety is recorded:

State 1: 1*d* (SG Spec C1): R1, R2.

State 2: 1*d* (SG Spec C1): 194, 196, 198, 199, 200, 201, 202, 203, 204, R1, R2, R3, R4, R5, R6.

1*d* (SG Spec C4): 1, 2, 3, 4, 5, 6, 7.

2*d* (SG Spec F1): 4.

Plates on which variety is recorded inverted:

State 2: 1*d* (SG Spec C1): 200, 202, 203, 204, R1, R2, R3, R4, R5.

1*d* (SG Spec C4): 1, 2, 3, 4, 5.

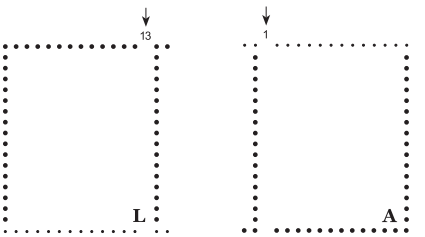
When variety occurred: The earliest dated item recorded is 5th March 1855. This is consistent with Reserve Plates 1 and 5 being taken from press on 13th March. Relevant incidents were the bottom plate breakage on machine No. 3 on 24th January; a 'defect in the punches' on machine No. 3 on 13th February; and the 'punches of No. 4 causing trouble' on 15/16th February (probably referring to the new perforation 14 punch sets). The most likely incident was that on 13th February.

Comments: State 1 is rare. State 2 is common, but quite scarce on SG Spec C4 and scarce on the 2*d* value. It is the only variety recorded on both SG Spec C1 and C4. There is an unexpectedly large number of State 2 inverted examples. It is the last variety recorded for perforation 16 stamps.

Variety 11

(Fig. 21.26)

Normal



Normal *Inverted*

Description of variety: L 13

Number of states: One.

Issues showing variety: 1*d* (SG Spec C3).

Plates on which variety is recorded: 2, 4, 5, 6, 8, 9, 10, 11, 12, 13.

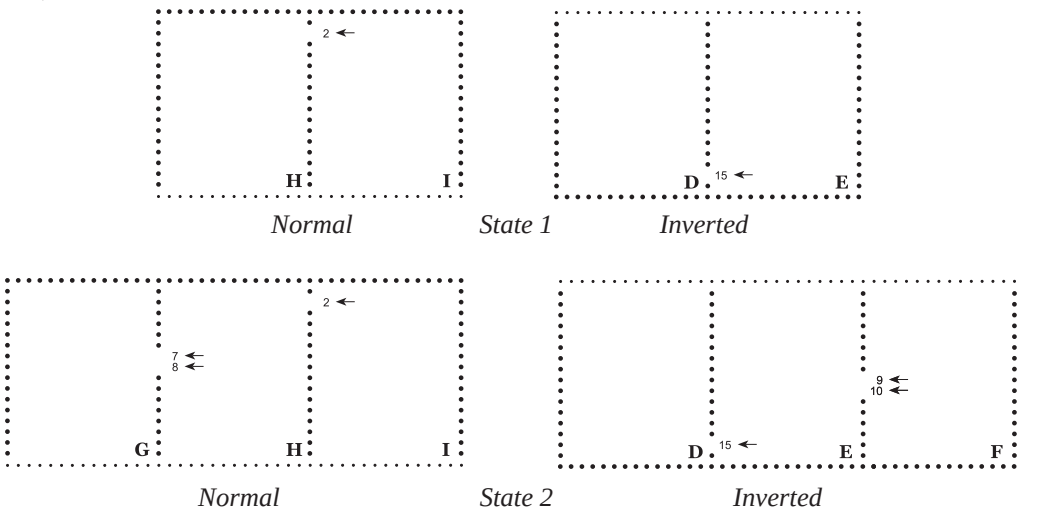
Plates on which variety is recorded inverted: None recorded.

When variety occurred: Plate 13 was put to press on 23rd April 1855, and the earliest recorded dated cover is 22nd June 1855. In the intervening period the only recorded instance of punch damage is for 18th May when two punches were broken. If this occurrence were responsible for this variety, the existence of another contemporary variety would be expected, but nothing else has been recorded. The possibility that the extension pin next to the broken one might also be broken has been investigated, but that pin is present. It is probable therefore that the variety arises from an unrecorded breakage.

Comments: The variety is one of only two recorded on SG Spec C3. It is very scarce, but that may be due in part to its position on the stamp which can cause it to be overlooked.

Variety 12

(Fig. 21.27)



Description of variety: H/I 2; G/H 7,8

Number of states: Two:

State 1: H/I 2.

State 2: H/I 2; G/H 7,8.

Issues showing variety: 1*d* (SG Spec C8, C9 and C10—see notes below).

Plates on which variety is recorded:

State 1: 27, 31, 34, 35, 36, 37, 38, 40, 42, 43, 44, 45, 46, 47, 48.

State 2: 27, 31, 34, 35, 36, 37, 38, 43, 44, 45, 46, 47, 48.

Plates on which variety is recorded inverted:

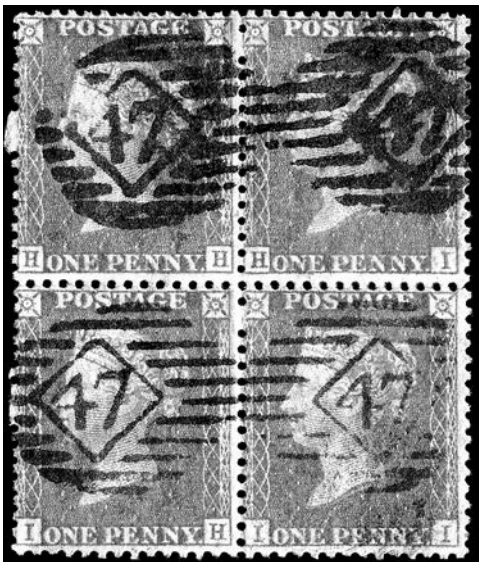
State 1: 31, 37, 40, 42.

When variety occurred: Plate 48 was put to press on 2nd February 1857. The earliest recorded dated cover is dated 24th March 1857 which is for State 2. The earliest State 1 is 14th April 1857.

Comments: This is a relatively common variety in both states, but some manifestations of it are scarce. SG Spec C8 and C10 issues with the variety have been reported, but there are some doubts about their existence. The SG Spec C9 issue (so called) is the most common. Many stamps are in the distinctive orange red shade. The earliest recorded dated cover is 24th March 1857 which tends to suggest that stamps with this variety were probably printed and perforated before the fire at Perkins, Bacon on 11th March. It is just possible, however, that they were from the stock perforated after the fire and that they were distributed immediately to maintain post office stocks pending the re-establishment of Perkins, Bacon's printing capacity.

States 1 and 2 of the variety are not, of course, distinguishable on individual stamps from the I column.

State 1: Normal

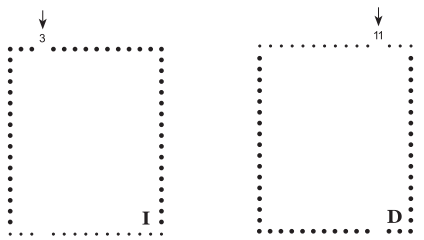


State 2: Normal

Fig. 21.27

Variety 13

(Fig. 21.28)



Normal *Inverted*

Normal

Inverted

Description of variety: I 3

Number of states: One.

Issues showing variety: 1*d* (SG Spec C9 and C10).

Plates on which variety is recorded:

1*d* (SG Spec C9): 27, 31, 34, 37, 38, 43, 44, 49.

1*d* (SG Spec C10): 27, 36, 38, 43, 47, 49.

Plates on which variety is recorded inverted: 1*d* (SG Spec C9): 37.

When variety occurred: Plate 49 was put to press on 3rd April 1857, and the earliest recorded dated item with this variety is 20th June 1857. No incidents of punch damage are recorded during this period, but there can be little doubt that the variety is contemporaneous with Perkins, Bacon's period of exile from the fire-damaged Whitefriars premises (see page 97).

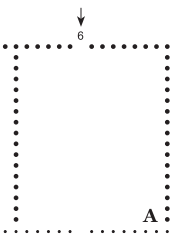
Comments: This is a common variety. The generally distinctive colour of these stamps (and others issued around this period) is dictated more by the circumstances of the aftermath of the Perkins, Bacon fire than any other factor. Ormond Hill in a report dated 21st April 1857 notes a change in the colour of the issued stamps. He states that in part this is due to the fact that, because of the fire, stamps were reaching the public shortly after printing instead of the normal seven to eight weeks. As a result the colour changes from pink to brown which normally occurred while the stamps were in stock had not had time to take place before issue, and the pinker colour change had been noted by the public. But the perceived change was not the only problem. Hill also suggests that Perkins, Bacon had been less careful than normal in the preparation of the ink in their hurry to produce stamps after the fire. In a letter to Perkins, Bacon of 11th May 1857 he draws attention to 'variation in the tint of the 1*d* label color [sic]' which he considered to be greater than it should be. He goes on to describe the ink as 'thin and gritty and very difficult to work satisfactorily.' He adds that the 'tint appears pretty good.'

Many stamps with this variety are in the distinctive pale rose and pale red shades of the post-fire printings carried out at the temporary location at Savoy Street, Strand (handily close to Somerset House) using the limited number of plates. There are some stamps, however, whose shades are similar to the pre-fire printings.

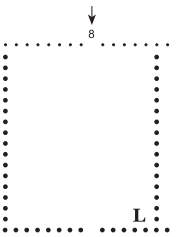
Variety 14

(Fig. 21.29)

Normal



Normal



Inverted

Description of variety: A 6

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 27, 34, 36, 37, 47.

Plates on which variety is recorded inverted: None recorded.

When variety occurred: Plate 47 was put to press on 15th December 1856. The earliest dated item recorded is 1st July 1857.

Comments: This is a rare variety. As the earliest recorded dated item is 1st July 1857, before printing recommenced at Perkins, Bacon after the fire, it is believed that stamps with this variety were printed at Savoy Street.

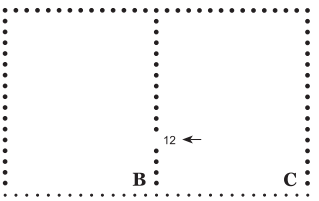
Key dates relating to the fire at Perkins, Bacon's Whitefriars premises—varieties 13 and 14

- 11th March 1857: the fire (printing stops on all 16 presses)
- 17th March: printing starts at Savoy Street (initially with 7 presses and increasing to 10)
- 20th March: last of the 'old' stamp stocks are perforated at Somerset House
- 23rd March onwards: post-fire and salvaged stamp stocks are perforated at Somerset House
- 26th June: printing ends at Savoy Street
- 14th July: printing recommences at Perkins, Bacon.

(For further details see page 97).

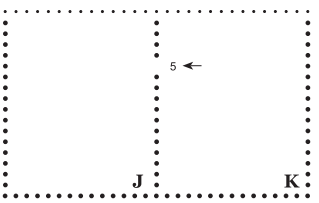
Variety 15

(Fig. 21.30)



Normal

Normal



Inverted

Inverted
(Courtesy of
Eric Paul Ltd.)

Description of variety: B/C 12

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 27, 33, 34, 36, 37, 38, 42, 43, 44, 47, 55, 56, 59, 60.

Plates on which variety is recorded inverted: 33, 56.

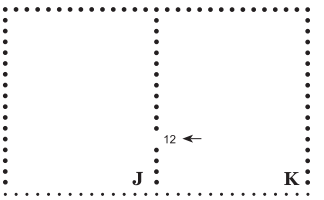
When variety occurred: Plate 60 was put to press on 14th July 1857 and the earliest recorded dates of use of this variety are 16th and 19th September 1857. The only incident of damage to the punches noted during this period occurred on 6th August when the die plate suffered damage, but the significance of this is doubtful.

Comments: This is a scarce variety. See next page for a variety which is possibly linked.

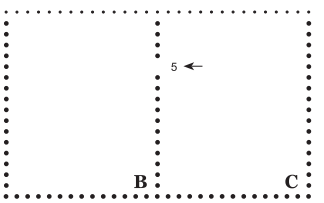
Variety 16

(Fig. 21.31)

Normal



Normal



Inverted

Description of variety: J/K 12

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 36.

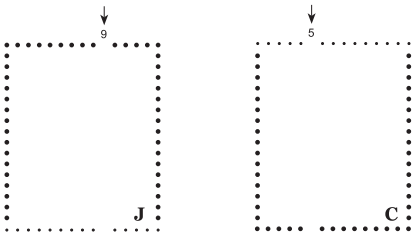
Plates on which variety is recorded inverted: None recorded.

When variety occurred: No information.

Comments: Only two examples have been reported. The variety is very rare. The question arises whether this is a variety in its own right, or whether it is the B/C 12 variety (see preceding page) on a sheet perforated in the reverse position, i.e. with the gummed side uppermost. While such practice is otherwise unknown so far as the 'stars' issues are concerned, sheets were undoubtedly reversed in later years and examples with broken perforation pins occur on the 'plates' issues. On balance, this explanation seems unlikely, but it cannot be ruled out.

Variety 17

(Fig. 21.32)



Normal *Inverted*

Normal

Description of variety: J 9

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 34, 42, 44, 48, 58, 59, 60, 61.

Plates on which variety is recorded inverted: None recorded.

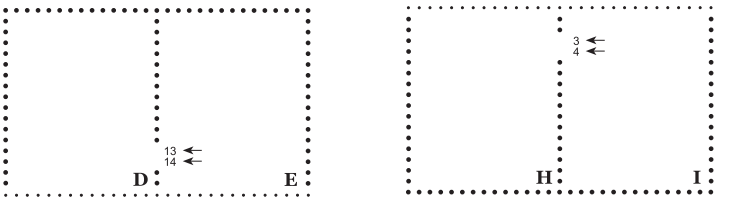
When variety occurred: Plate 61 was put to press on 8th May 1858. The first of the above plates recorded as being taken from press was Plate 58 on 10th April 1861. Plate 61 is recorded as being taken from press on 30th May 1861, but could in fact have been withdrawn late in 1859. No dated pieces have yet been recorded. It is not therefore possible to date the occurrence of the pin breakage more precisely.

Comments: The variety is very scarce.

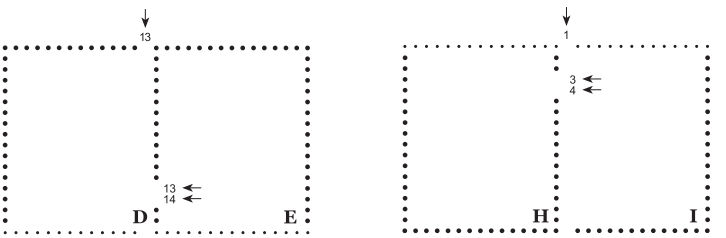
Variety 18

(Fig. 21.33)

State 1: Normal



Normal *State 1* *Inverted*



Normal *State 2* *Inverted*

State 2: Normal

State 2: Inverted

Description of variety: D/E 13,14; D 13

Number of states: Two:

State 1: D/E 13,14.

State 2: D/E 13,14; D 13.

Issues showing variety: 1*d* (SG Spec C10) and 2*d* (SG Spec F7 and G2).

Plates on which variety is recorded:

State 1: 1*d* (SG Spec C10): 47, 58.

State 2: 1*d* (SG Spec C10): 27, 34, 36, 42, 43, 44, 46, 47, 48, 49, 52, 55, 56, 57, 58, 59, 60, 61.

2*d* (SG Spec F7): 6.

2*d* (SG Spec G2): 7.

Plates on which variety is recorded inverted:

State 2: 1*d* (SG Spec C10): 46, 61.

When variety occurred: Plate 7 (2*d* Blue) was put to press on 19th July 1858. The earliest recorded date of use of stamps is as follows: State 1: 21st February 1859; State 2: 13th December 1858, however, the earliest known use is 27th November 1858 on a stamp from the E column which could be from either

State 2: Normal (2d 'plates' issue)

Fig. 21.34 State 2: Normal (2d 'stars' issue), also with double perforations (Courtesy of the British Library (H. G. Fletcher Collection—ref. 125127))

State 1 or 2, but more likely it is from State 2. No damage to punches was recorded in the Inland Revenue Work Account between January 1858 and June 1859. The probable date of occurrence was early/mid-November 1858.

Comments: While this is one of the commonest broken pin varieties in the second state, State 1 is rare. States 1 and 2 of the variety are not, of course, distinguishable on individual stamps from the E column.

Copies of State 2 have been recorded with what appears to be a perforation hole at the top of the stamp and the usual broken perforation at the bottom. It has been suggested that such stamps show the transition point at which the pin break D 13 occurred. If this particular breakage occurred while a batch of stamps was being perforated (rather than during the interval between batches), it is theoretically possible that up to five stamps with identical check letters could show the normal perforation at the top and the broken one at the bottom. (Incidentally, the preceding stamp in the column would show only State 1 of the variety).

In those cases referred to the authors where it has been suggested that the top D 13 perforation is normal, the appearance of this top 'perforation' suggests a random tear typical of those found on broken pin varieties. There is a further problem in identifying any of the surviving five stamps which could theoretically have shown the transition from State 1 to State 2. It would be a simple matter to fake the top perforation of one of the State 2 stamps. Collectors should, therefore, be on their guard against anything which might purport to be one of the transitional stamps.

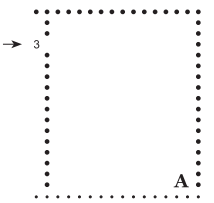
An interesting new find is the same variety of State 2 present on both the 2*d* 'stars' and 'plates' issues. The only copy of this variety recorded on Plate 6 of the 2*d* Blue is in the Fletcher Collection in the British Library (Fig. 21.34). It is surprising to find it on both this plate and on Plate 7. The expectation would be that all stocks of Plate 6 would have been exhausted within a few weeks of Plate 7 being put to press (19th July 1858); since Plate 7 is also recorded used in July it is surprising that the stocks of Plate 6 had not previously been used up. The only logical explanation is that the last remnants of the Plate 6 sheets remained in stock for longer than would normally have been the case and were perforated on the same day as a batch from Plate 7.

A possible explanation of this occurrence is that printers were seldom able to print the precise numbers of sheets required since some allowance had to be made for spoilage. Perkins, Bacon were however required to make up exact reams (500 sheets) for delivery to Somerset House. If a few surplus sheets of the Plate 6 stamps had been printed for the previous delivery, these could have been included in the next ream, the majority of which were Plate 7 sheets. It would be logical for a mixed batch of these two plates to be perforated on the same day.

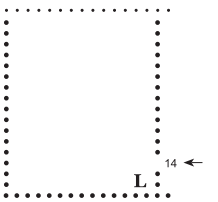
Variety 19

(Fig. 21.35)

Normal



Normal



Inverted

Description of variety: A(Marg) 3

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10) and 2*d* (SG Spec G2).

Plates on which variety is recorded:

1*d*: 27, 34, 36, 42, 43, 44, 46, 47, 48, 49, 52, 55, 56, 57, 58, 59, 60, 61.

2*d*: 7.

Plates on which variety is recorded inverted:

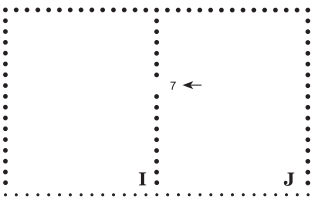
1*d:* 36, 46.

When variety occurred: Plate 7 (2*d* Blue) was put to press on 19th July 1858. The earliest dated piece with a stamp displaying this variety bears the date 7th April 1859, though a stamp with an apparent date of 1st April also exists. There is no record of damage to punches in the Work Account.

Comments: This is a common variety.

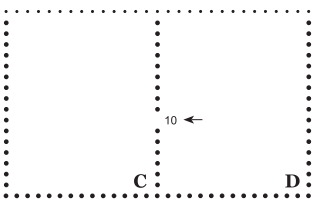
Variety 20

(Fig. 21.36)



Normal

Normal



Inverted

Inverted

Description of variety: I/J 7

Number of states: One.

Issues showing variety: 1*d (*SG Spec C10) and 2*d* (SG Spec G2).

Plates on which variety is recorded:

1*d*: 27, 34, 36, 42, 43, 44, 46, 47, 48, 49, 52, 55, 56, 57, 58, 59, 60, 62, 63, 64, 65.

2*d*: 8.

Plates on which variety is recorded inverted:

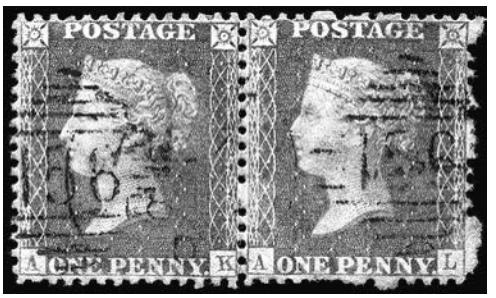
1*d*: 36, 57.

When variety occurred: Plate 64 was put to press on 5th November 1860 and the earliest dated piece with a stamp displaying this variety is dated 26th December 1860. A possible problem with the 26th December date is that a copy of Plate 65 apparently displaying this variety is recorded by the RPSL, and Plate 65 was not put to press until 14th January 1861. Other dated pieces are from February 1861 onwards. No Work Account records are available after October 1859.

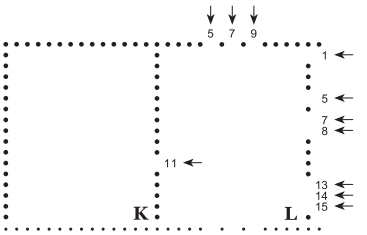
Comments: This is a common variety.

Variety 21

(Fig. 21.37)

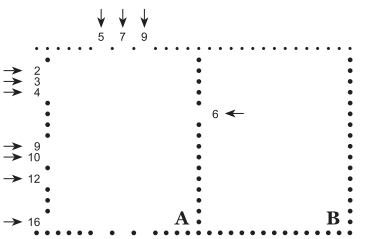


Normal



Normal

Normal (also a short stamp)



Inverted

Description of variety: K/L 11; L 5,7,9; L(Marg) 1,5,7,8,13-15

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 34, 42, 43, 48, 57, 59.

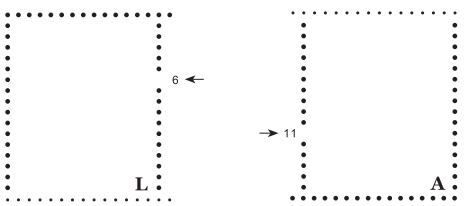
Plates on which variety is recorded inverted: None recorded.

When variety occurred: The only present indication of when this variety might have occurred is the existence of a dated stamp for 25th February 1861.

Comments: This is a rare variety. It is the only ‘stars’ issue where a variety affects all four sides of the stamp (L column). Very few copies have been recorded despite its striking appearance and easy detection—this underlines its rarity.

Variety 22

(Fig. 21.38)



Normal *Inverted*

Normal

Description of variety: L(Marg) 6

Number of states: One.

Issues showing variety: 1*d (*SG Spec C10).

Plates on which variety is recorded: 27, 34, 36, 39, 41, 43, 46, 48, 52, 56, 57, 59, 60, 66.

Plates on which variety is recorded inverted: None recorded.

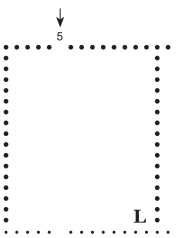
When variety occurred: Plate 66 was put to press on 13th February 1861. A small cluster of dated pieces from 17th June 1861 onwards is recorded. In the absence of other evidence, this suggests that the variety occurred in April/May 1861.

Comments: This variety is quite scarce.

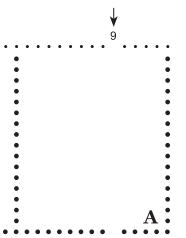
Variety 23

(Fig. 21.39)

Normal



Normal



Inverted

Description of variety: L 5

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10 and C12).

Plates on which variety is recorded:

1*d* (SG Spec C10): 27, 34, 36, 39, 41, 43, 46, 47, 48, 52, 55, 56, 57, 59, 60, 62, 66, 67, 68.

1*d* (SG Spec C12): 50, 51.

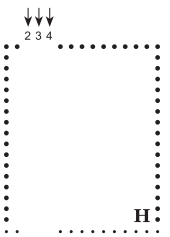
Plates on which variety is recorded inverted: None recorded.

When variety occurred: Plate 68 was put to press on 9th January 1862 and Plate 67 on 13th February 1862 while Plate 34 was taken from press on 25th March 1862. The earliest dated piece recorded is used on 18th April 1862. In the absence of other evidence, this suggests that the variety occurred in or around March 1862.

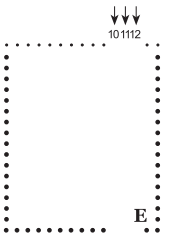
Comments: This is a relatively common variety.

Variety 24

(Fig. 21.40)



Normal



Inverted

Normal (2d)

Inverted

Inverted (2d)

Description of variety: H 2-4

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10, C12 and C13) and 2*d* (SG Spec G2).

Plates on which variety is recorded:

1*d* (SG Spec C10): 27, 36, 39, 41, 43, 46, 47, 48, 52, 55, 56, 57, 59, 60, 62, 66, 67, 68.

1*d* (SG Spec C12): 50, 51.

1*d* (SG Spec C13): R15, R16.

2*d* (SG Spec G2): 9.

Plates on which variety is recorded inverted:

1*d* (SG Spec C10): 33, 52, 66.

1*d* (SG Spec C13): R15.

2*d* (SG Spec G2): 9.

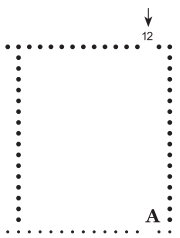
When variety occurred: Reserve Plates 15 and 16 were brought into use in April 1862. A cluster of covers with May to July dates is recorded, with the earliest of these being 27th May 1862. The occurrence of the variety must therefore have been late April-early May 1862.

Comments: This is one of the commonest varieties in its SG Spec C10 guise. To some extent this is likely to be due to the prominent nature of the variety which has probably guaranteed a higher than average survival rate. In its inverted form, and particularly on SG Spec G2, Plate 9, it is scarce.

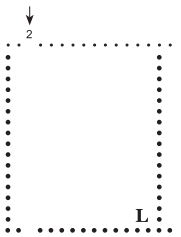
Fig. 21.40 Normal. Reproduced by gracious permission of Her Majesty The Queen

Variety 25

(Fig. 21.41)



Normal



Inverted

Normal

Description of variety: A 12

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10, C12 and C13).

Plates on which variety is recorded:

1*d* (SG Spec C10): 27, 39, 43, 47, 48, 52, 59, 62, 66, 67, 68.

1*d* (SG Spec C12): 51.

1*d* (SG Spec C13): R15, R16.

Plates on which variety is recorded inverted: None recorded.

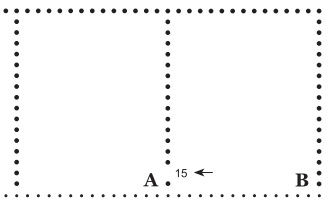
When variety occurred: Reserve Plates 15 and 16 were brought into use in April 1862, R16 on 28th April. The earliest recorded use of the variety is dated 23rd August 1862. It is not yet possible to date the variety with greater precision than summer 1862.

Comments: This is a scarce variety in all its forms.

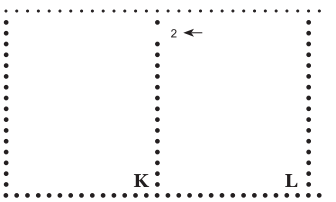
Variety 26

(Fig. 21.42)

Normal



Normal



Inverted

Description of variety: A/B 15

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10, C12 and C13) and 2*d* (SG Spec G2).

Plates on which variety is recorded:

1*d* (SG Spec C10): 27, 36, 39, 41, 43, 47, 48, 52, 55, 56, 57, 59, 60, 62, 67, 68, R17.

1*d* (SG Spec C12): 50, 51.

1*d* (SG Spec C13): R15, R16.

2*d* (SG Spec G2): 9.

Plates on which variety is recorded inverted:

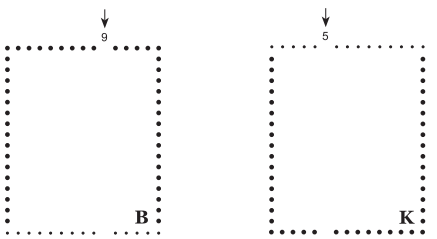
1*d* (SG Spec C10): 62.

When variety occurred: Reserve Plate 17 was brought into use on 4th August 1862. A small cluster of covers with late September/October 1862 dates is recorded, with the earliest of these being 25th September 1862. It is not yet possible to date the variety with greater precision than August/September 1862.

Comments: This is a relatively common variety in its SG Spec C10 form; the C12 and C13 examples are proportionately less common. Examples of G2 are scarce.

Variety 27

(Fig. 21.43)



Normal *Inverted*

Normal

Description of variety: B 9

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10).

Plates on which variety is recorded: 36, 48, 55, 56, 59, 62, 68.

Plates on which variety is recorded inverted: None recorded.

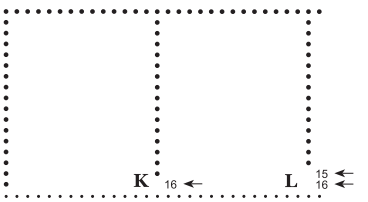
When variety occurred: Only one dated example has been found; it is on a cover dated 21st October 1862. Further dated items will enable the date this variety occurred to be described with greater precision.

Comments: This is a very scarce variety.

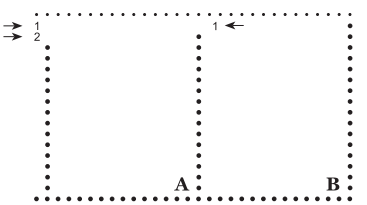
Variety 28

(Fig. 21.44)

Normal



Normal



Inverted

Description of variety: K/L 16; L(Marg) 15,16

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10, C12 and C13).

Plates on which variety is recorded:

1*d* (SG Spec C10): 27, 39, 41, 47, 48, 55, 56, 59, 60, 62, 66, 67, 68, R17.

1*d* (SG Spec C12): 50.

1*d* (SG Spec C13): R16.

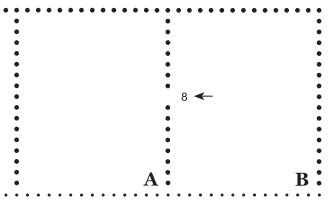
Plates on which variety is recorded inverted: None recorded.

When variety occurred: The variety post-dates 4th August 1862 when Reserve Plate 17 was put to press. Only one dated example has been found; it is on a piece dated 9th December 1862. Further dated items will enable the date this variety occurred to be described with greater precision.

Comments: This variety is quite scarce. Stamps from the L column may be mistaken for being long stamps (see Fig. 20.3, page 186) due to the broken perforation pins at the bottom of both sides of the stamp.

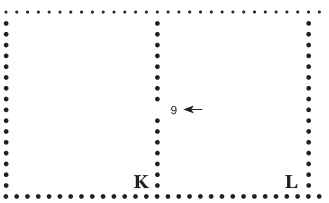
Variety 29

(Fig. 21.45)



Normal

Normal



Inverted

Description of variety: A/B 8

Number of states: One.

Issues showing variety: 1*d* (SG Spec C10, C12 and C13).

Plates on which variety is recorded:

1*d (*SG Spec C10): 27, 36, 39, 41, 43, 48, 55, 56, 57, 59, 60, 62, 66, 67, 68, R17.

1*d* (SG Spec C12): 50, 51.

1*d* (SG Spec C13): R15, R16.

Plates on which variety is recorded inverted:

1*d (*SG Spec C10): 66.

When variety occurred: A small cluster of covers with July/August 1863 dates is recorded, with the earliest of these being 22nd July 1863. It is not yet possible to date the variety with greater precision than early summer 1863.

Comments: This is a relatively common variety in its SG Spec C10 form; the C12 and C13 examples are proportionately less common.

Detailed listing of broken perforation pin varieties on 1*d*, 1½*d* and 2*d* 'plates' issues

This listing is alphabetical (using the conventional notation), thus enabling varieties to be identified by reference to the letter in the south-east corner square of the stamp. It identifies all recorded varieties on the 1*d*, 1½*d* and 2*d* values, plus inverted and reversed varieties. Other issues with the same varieties are mentioned in the *Comment* section, e.g. the 2½*d* rosy mauve surface printed issues, which are covered in more detail on pages 301-2. Two Grenada 1*d* broken perforation pin varieties are also included in the *Comment* section, and, as perforation records of these were kept, these varieties can be dated precisely. For reference to the individual pin numbers see Fig. 21.12 (perforation 14, standard format) on page 216, and for the sheet layouts of the 'plates' and 2½*d* issues, see Appendix II, pages 313-4.

Key to Symbols

* an asterisk before the notation indicates varieties affecting adjacent columns of stamps, e.g. A(Marg)6,7;A/B8;B/C4. It is not always possible to determine the exact progression of the missing pins on the two individual columns (A and B). For that reason, the states are shown separately for each column (A, B etc.) in alphabetical order.

< is used in conjunction with a date to denote that the variety occurred no earlier than the date shown. The dates are derived from recorded 'putting to press' dates (see Notes below).

> is used in conjunction with a date (abbreviated day/month/year) to denote that the variety is unlikely to have occurred later than the date shown. The dates are normally derived from recorded 'defacement' dates (see Notes below). Dates in italics viz., *17/11/75* are postmark dates.

c. [*circa*] is used when the recorded date for putting to press of a particular plate in the set of a variety coincides with the 'defacement' date of another plate in the set.

Plate numbers in heavy type (e.g. **187** in the second entry of the table) indicate that the plate in question falls outside the recorded putting to press and defacement dates for that set. It implies a query about the existence of the variety on that plate or the inclusion of the plate in the relevant set.

Notes

Pin breaks in identical locations. Where, as in the case of F/G16 or L(Marg)16, there are discrete instances of a pin at a particular location breaking on different occasions, decisions have had to be made about which group of plates has been affected on each occasion. This has been done taking account of recorded information about the dates when plates were put to, and withdrawn from, press, and of any date information on the stamps or covers. But date information establishes only that the variety occurred prior to the date shown; stamps are often used many months, sometimes years, after purchase. Another complication is that certain plates had an exceptionally long life, e.g. Plate 134 could have been at press when either F/G16(I) or F/G16(II) occurred. It is not normally possible to be certain from which period a variety of this kind dates. Plates shown in brackets, e.g. (134), have a life span which covers more than one discrete pin breakage, and which could be attributable to either.

Dates. Date information has been provided when there is sufficient information available to make it useful, e.g. when the likely date can be narrowed down to a period of around 12 months or less. A spread of dates denotes the period during which the variety is likely to have occurred. Other than dates gleaned from postmark information, the dates quoted are normally based on those which appeared in

W. de L. M. Messenger's article 'QV Line-engraved Plates: Withdrawal and Defacement' (*GB Journal*, Vol. 36, Nos. 4 and 5, pp. 61 ff.). Most of these dates are based on those originally given by Wright and Creeke. It should be noted, however, that the dates for defacement given in those notes are earlier than 'recommended for defacement' dates given in the Inland Revenue records (in some cases substantially so). The explanation is given in Messenger's article. The Wright and Creeke 'defacement' dates are assumed therefore to be the dates on which the plates were taken from press and partially defaced by filing. In a limited number of cases where strict adherence to the Wright and Creeke 'defacement' dates produces anomalies, a conservative approach has been adopted and the Inland Revenue defacement dates have been used. This is due to doubts about the accuracy of some of the dates recorded by Wright and Creeke. Another factor must also be borne in mind: stocks of stamps from a plate defaced on a specific date may be perforated some days after the 'defacement' date. Date information on the $1^1/_2d$, $2d$ and $2^1/_2d$ issues has also been taken into account.

Assignation of varieties. Whilst the listing above has been compiled on the best information available (based on collections of these varieties totalling 15,000+ stamps), the relative scarcity of some varieties (particularly some of the progressive breakages) means that the assignation of certain varieties to the place they occupy above is, to an extent, arbitrary.

Definition of varieties. Adjoining stamps where the only variety displayed is common to both stamps (e.g. C/D9) are classified as a single variety. Adjoining stamps displaying such a variety, but also displaying other broken pins (e.g. B/C16;A/B16) are classified as separate varieties. Varieties that occur in more than one state are classified as a single variety.

Inverted and reversed varieties. While inverted broken perforation pin varieties are noted on the 'stars' and 'plates' issues, reversed varieties (i.e. when the sheet was perforated gum side up) are also evident on the 'plates' issues, and these are included in the *Comment* section, abbreviated to Inv. and Rev. The method to determine the notation of inverted and reversed broken perforation pin varieties is best illustrated using the following example:

The south-east corner letter of a normal variety will, in both the inverted or reversed state of a variety, change from:

A	B	C	D	E	F	G	H	I	J	K	L, to
L	K	J	I	H	G	F	E	D	C	B	A,

so a broken pin between the A and B columns, would in both the inverted or reversed state be between the K and L columns. The best way to identify the pin number of the inverted and reversed state of a variety is to use the following formula. For the inverted state deduct each of the missing horizontal pins from 14, and deduct each of the missing vertical pins from 17. For the reversed state deduct each of the missing horizontal pins from 14, whereas the pin numbers of the missing vertical pins remain the same.

Thus, if A3,13;A/B12 is a normal variety

L11,1;K/L5 is its inverted state [i.e. A=L, B=K; 14-3=11, 14-13=1; 17-12=5]

L11,1;K/L12 is its reversed state [i.e. A=L, B=K; 14-3=11, 14-13=1].

If only horizontal pins are missing on a stamp, it is almost impossible to differentiate between an inverted or reversed state. In these cases it is assumed that the stamp shows the inverted state.

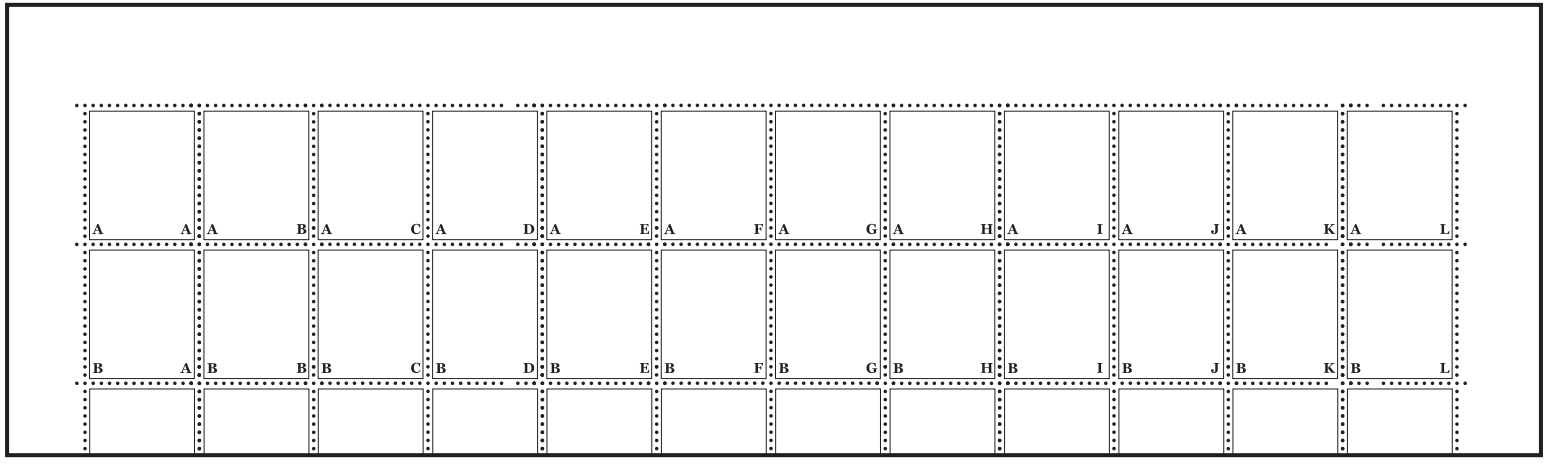


Fig. 21.46 Examples demonstrating broken perforating pins occurring across a comb, including a reconstructed block of three complete rows of 1d Red (Plate 127) exhibiting the varieties: D10, K13 and L4

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
A(Marg)2(I)	118, 120, 123, 124, 127, 130, 134, 138, 140-142, 146-148, 150		13	<30/5/71>*11/10/71*	
A(Marg)2(II)	**187**, 198, 200, 201, 204, 205, 207, 209-211, 214, 217, 221, 222			<6/5/79	Inv. 210, 211
A(Marg)3	153, 161, 164, 172			>21/6/73	Rev. 153
A(Marg)4,5,13;A/B0				<13/7/70>*4/11/70*	
State 1 A (Marg)4,5	111-113, 129, 130, 135-137, 139, 141				
State 2 +A(Marg)13	106, 111-113, 127, 129, 130, 135-137, 139, 140				
State 3 +A/B0	106, 110-112, 118, 120, 121, 136, 137, 142		13		
A(Marg)4,7,8 (see A/B10;A(Marg)4,7,8)					
A(Marg)5(I)	106, 107, 111-113, 115, 118, (119-125), (127), (129), (130), (136-140)			>7/5/70	Inv. (127) Rev. 106, 111, 112
A(Marg)5(II)	(119-125), (127), (129), (130), (136-140), 141, 142, 144, (145), (146), 147, (148), 149, (150), 151-153, (154), 155			<20/7/72>*26/8/72*	Inv. (127)
A(Marg)5;A/B7,1				11/10/75 (for State 2)	
State 1 A(Marg)5	(124), (150), (154), 156-158, 160, 165, 166, 171, 179, 180	3			
State 2 +A/B7	124, 140, 146, 150, 156-160, 162, 164-169, 171-173, 175-183	3			Rev. 173; State 2 also present on Grenada 1*d* SG14 (see Figs. 18.5 and 18.6)
State 3 +A/B1	140, 146, 159, 162, 163, 165-167, 172, 174, 177-183	3			
*A/B7,1;B2				11/10/75 (for State 1)	State 1 also present on Grenada 1*d* SG14 (see Figs. 18.5 and 18.6)
State 1 A/B7	140, 145, 146, 148, 150, 154, 159, 160, 163-168, 171-174, 176-183				

Variety	*Plate ranges*			*Date of occurrence*	*Comment*
	1*d*	1½*d*	2*d*		
State 2 +A/B1	145, 146, 148, 154, 157-159, 171, 173, 179	3			Rev. 171
State 3 +B2	145, 163-166, 171-175, 177, 178, 180, 182, 183				
A(Marg)5,11 (see A(Marg)11,5)					
A(Marg)6	172, 184, 193				
*A(Marg)6,7;A/B8;B/C4				<30/1/72>4/5/72	cf. L(Marg)11(II)
State 1 A(Marg)6,7	118, 120, 121, 125, 127, 129, 131, 136, 138, 140, 144, 146, 147, 149, 151, 152, 154				Rev. 147, 149
State 2 +A/B8	118-124, 125, 127, 129, (134), 136-140, 142, 144-146, 149-151, 153				Rev. 139, 140, 144 Inv. 129
*B/C4;A/B8					
State 1 B/C4	118, 120-125, 131, (134), (138), 139, (140), 141, 142, 144, (145), (146), 147, (148), 149, (150), 151-153, (154)		13, 14		
State 2 +A/B8	117, 118, 120, 121, 123, 124, 127, 129-140, 142, 145, 146, 148, 149, 151, 152				Rev. 117, 127, 137, 145, 149
A(Marg)6,7,8	176, 190, 193, 200, 202, 205, 212, 214			<6/8/78>2/9/78	
A(Marg)7,8	165, 175, 181, 196, 200		15	>23/6/77	
A(Marg)7,14,15,10,12				*c.* 15/5/75	
State 1 A(Marg)7	134, 137, 138, 140, 146-148, 150, 154, 155, 157, 159, 160, 162-164, 166-170, 172-174, 176-179				Rev. 148, 160, 162, 167
State 2 +A(Marg)14	122, 124, 134, 137, 138, 145, 147, 148, 150, 155, 157-159, 166-168, 170-177		14		Inv. 168 Rev. 137
State 3 +A(Marg)15	134, 137, 145, 154, 162, 163, 167, 170, 171, 173, 174, 176				
State 4 +A(Marg)10,12	140, 154-157, 163, 170, 175				

Variety	*Plate ranges*			*Date of occurrence*	*Comment*
	1*d*	1½*d*	2*d*		
A(Marg)8	170, 185, 186, 192, 197			>12/11/77	
A(Marg)10(I)	71-74, 80, 85-87, 89, 91, 92, 95, 99			>5/3/68	Inv. 87, 95
A(Marg)10(II)	149				
A(Marg)10(III)	186				
*A(Marg)10,12;A13;A/B0,16,10				<15/9/74	
State 1 A(Marg)10,12	165				
State 2 +A13;A/B0,16	155, 159, 164, 166, 174, 175				
State 3 +A/B10					
*A/B0,16,10;B1					
State 1 A/B0,16	155, 159, 164, 166, 174, 175				
State 2 +B1	167				
State 3 +A/B10	134, 173				
A(Marg)11,5				<13/7/70>7/10/70	
State 1 A(Marg)11	113, 140, 142	1			Inv. 113; Rev. 140
State 2 +A(Marg)5	107, 110, 116, 123, 129, 138-141	1			Rev. 123, 1
A(Marg)12,13,14	71, 73, 78, 79, 84, 86, 96			*>23/9/65*	
A(Marg)14,15;A12				<3/1/71>23/1/71	
State 1 A(Marg)14	113, 117, 121, 123, 124, 127, 129, 131, 133, 135, 137, 139, (140), (145)				Inv. 129
State 2 +A(Marg)15	113, 117, 123, 125, 135, 143, 144				
State 3 +A12	135				
A(Marg)14;A4				<18/12/75>8/1/76	
State 1 A(Marg)14	(140), (145), 146, 154, 156, 157, 159, 160, 162, 167, 173-175, 178, 180-185		14		
State 2 +A4	140, 146, 159, 162, 166-168, 170, 171, 174, 175, 177, 179-184, 186				

Variety	*Plate ranges*			*Date of occurrence*	*Comment*
	1*d*	1½*d*	2*d*		
A(Marg)15,14,16;A3				*>29/12/64*	
State 1 A(Marg)15	71-73, 76, 79-82, 85-87, 95		9		
State 2 +A(Marg)14,16	72, 76, 79, 80, 83, 85, 86, 89, 90, 92		9		
State 3 +A3	84, 93		9		
A(Marg)15(I)	110, 117, 121, 123, 130, 133, 135, 141, 143			<7/10/70>29/4/71	
A(Marg)15(II)	201		14		
A(Marg)15,16,0;A/B16				<22/4/72>*24/10/72*	
State 1 A(Marg)15,16;A/B16	120, 123, 129, 142, 144, 145, 148, 155				
State 2 +A(Marg)0	125, 127, 136, 144, 147, 150, 153-155, 157				
A1	123, 125, 127, 129, 138, 143, 145, 148, 155, 157, 159			<17/8/72>5/11/72	
A2(I)	106, 110, 111, 115-117, 119, (121-125), (127), (131), (134), (137), (138)			>7/5/70	
A2(II)	(121-125), (127), (131), (134), (137), (138), 141, 143-146, (148)	1		<23/1/71>30/1/72	
A2(III)	(134), (137), (138), (145), (146), (148), 178	3	14	<1/2/75	
A3(I)	72, 88, 90				
A3(II)	174, 216				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
A3,13;A/B12				*c.*18/1/73	
State 1 A3	117, 120, 122, 129, 130, 137, 138, 140, 144, 145, 148-153, 155-158, 162-165				Inv. 122, 140, 144, 148, 149, 162, 165
State 2 +A/B12	117, 120, 122, 124, 125, 129, 130, 134, 136-138, 140, 145, 147-149, 150-165				Rev. 124, 129, 136, 138, 140, 145, 148, 150, 158
State 3 +A13	117, 120, 122, 125, 129, 134, 137, 138, 140, 145, 147-151, 153-159, 161-166				Rev. 122, 129, 134, 150, 153, 155, 157, 161
A4	164, 167, 170, 181, 182			<19/6/75>4/12/75	
A4,12 (see A/B11,3,4,0;A(Marg)6,8,11,2,9;A4,12)					
A5	134, 137, 138, 140, 145, 147, 154-157, 159, 160, 162, 164-171, 173-176, 178			<30/3/75>15/5/75	Inv. 134 Also present on 2½*d*
A7(I)	73, 74, 78, 79, 82, 89, 95			>23/3/68	
A7(II)	113, 118, 119, 127, 129, 130, 135, 146, 147		13	<4/2/71>*2/3/71*	
A8(I)	71, 74, 81, 82, 84, 86, 88, 89, 91, 92, 94, 95, 97, 98		9	>5/2/68	
A8(II)	140, 146, 158, 167, 170, 171, 174, 177, 181, 185-190, 192-194, 196, 197, 199, 201-204		15	<23/6/77>8/9/77	Inv. 192 Same comb as E/F7(I)
*A8,11,12,9;A/B4,15,16;A(Marg)7,8 (see A/B4,15,16;A8,11,12,9;A(Marg)7,8)					
A9(I)	72, 73, 78, 81, 84-86, 90, 93-98, 101, 102			<16/4/66>*22/12/66*	
A9(II)	111, 117-125, 129, 131, 135, 137-148			<29/4/71>30/5/71	Inv. 135
A9(III)	187, 201, 205, 206			>11/3/79	
A10(I)	72-74, 76, 78, 81, 85, 86, 90, 92, 94, 101			<12/4/66>*9/8/67*	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
A10(II)	119, 121, 127, 129, 133, 136-138, 140, 142			<13/7/70>23/1/71	
A10(III)	170, 171, 174, 176, 177, 179, 181, 183, 184, 186, 187, 189-204, 206-210			<8/12/77>18/5/78	Inv. 171 Same comb as B1;A/B16,8
A/B0	101, 102, **104**, 108, 109, 113, 114, 116, 118, 123, 127, 129, 131		13	<3/8/69>1/11/69	
A/B0 (see A(Marg)4,5,13;A/B0)					
A/B1(I)	117, 119-121, 123, 125, 129, (134), 136-139, (140), 142, 144, (145), (146), 147, (148), 149, 151-153, 155, (156-159)			<27/12/71>17/8/72	
A/B1(II)	(134), (140), (145), (146), (148), (156-159), 160, 162, (165), 166, (167), (170), (171), (172), (174), (177), 180, 182, (186)			<19/6/75>3/1/76	
A/B1(III)	(134), (140), (146), (158), (165), (167), (170-172), (174), (177), (186), 192, 201			<21/4/77	
A/B1 (see also B2;A/B1)					
A/B1,2,9;A13	174, 185, 188-190, 193, 196				
A/B2(I)	108, 109, 112-114, 116-118, 124, 125, 127, 130, 131			<3/9/69>1/11/69	
A/B2(II)	**136**, 137, 143, 163, 164, 166, 171			<27/10/73	
A/B2,6				<31/1/68>29/2/68	
State 1 A/B2	71, 73, 74, 78, 81, 86, 92-94, 100, 101, 103				Inv. 78
State 2 +A/B6	71-74, 79, 80, 85-87, 89-91, 93-95, 97-99, 102, 105				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
A/B2,6;A(Marg)16,3,11				<30/5/71>*4/8/71*	
State 1 A/B2,6	117-125, 127, 130, 131, 134-148, 150		13		
State 2 +A(Marg)16	117, 118, 120-125, 127, 129, 131, 134, 136-138, 140-143, 145-150		13		Rev. 118, 127, 142, 149, 150
State 3 +A(Marg)3	118, 120, 125, 127, 130, 131, 134, 135, 138, 143		13		Inv. 134
State 4 +A(Marg)11	118, 121, 123, 127, 130, 131, 134-137, 141-143, 147, 150				
A/B3;B1				<19/6/75>9/8/75	
State 1 A/B3	124, 138, 156, 157, 164, 169, 179, 181, 182				
State 2 +B1	148, 150, 154, 156, 163, 168				
A/B4	156, 168, 170				
*A/B4,15,16;A8,11,12,9;A(Marg)7,8				<7/10/70>*10/12/70*	
State 1 A/B4,15	111, 138				
State 2 +A8	111				
State 3 +A11	123, 125, 129, 130, 133, 134, 138				
State 4 +A12	122, 136				
State 5 +A(Marg)7	106, 129, 135				
State 6 +A(Marg)8	135, 137				
State 7 +A9	113, 136, 139				
State 8 +A/B16	124, 129, 14?				
*A/B4,15,16;B12,13;B/C16					
State 1 A/B4,15;B12,13	121, 122, 136, 137, 143				
State 2 +B/C16	106, 110, 117, 122				
State 3 +A/B16	117				
A/B4,15,16;B12,13;B/C16 (see A8,11,12,9;A/B4,15,16 etc.)					
A/B5(I)	71, 79, 81, 82, 86, 88-91, 93			*>16/8/65*	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
A/B5(II)	134, 174, 176, 178, 180-183, 185, 187, 194, **198**			<13/11/76>20/1/77	
A/B6	118-120, 122		13		
A/B7,1;B2 (see A(Marg)5;A/B7,1)					
A/B7,15				>11/11/76	
State 1 A/B7	159, 165, 171, 175, 176, 179, 181, 182	3			
State 2 +A/B15	159				
A/B7 (see also A(Marg)5;A/B7)					
A/B8	134, 140, 146, 158, 165, 167, 170-177, 179, 181, 183-188, 190-200		15	<3/3/77>21/4/77	
A/B8 (see also A(Marg)6,7;A/B8;B/C4)					
A/B9(I)	79, 81-83, 85-87, 89, 90, 93, 94			<26/4/64>*28/10/64*	
A/B9(II)	113, 117, 119, 120, 122, 124, 125, 127, 129, 131, 134-138, 140-143, 145, 146			<23/1/71>15/5/71	Rev. 119, 122, 138, 145
A/B10;A(Marg)7,8,4				<5/9/74>12/12/74	
State 1 A/B10	122, 124, 134, 137, 138, 140, 147-150, 155-161, 163-166, 168-175				Inv. 174
State 2 +A(Marg)7,8	138, 155, 159				
State 3 +A(Marg)4	122, 137, 138, 140, 149, 150, 154, 156-159, 161-163, 165-168, 171-175				Rev. 167
A/B11	71-73, 80-85, 87, 89, 90, 97				
*A/B11,3,4,0;A(Marg)6,8,11,2,9;A4,12				<12/12/74>1/2/75	
State 1 A(Marg)6;A4	161				
State 2 +A/B11	122, 137, 138, 140, 148, 149, 156, 159, 164, 165, 170-172, 176				Rev. 176

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
State 3 +A/B3	122, 138, 140, 147, 150, 166				
State 4 +A(Marg)8,11; A12;A/B4	137, 138, 147, 163-165, 168, 169, 172-174				Rev. 137
State 5 +A(Marg)2,9;A/B0	154, 157, 174				Rev. 174
*A/B11,3,4,0;B/C12;B7					
State 1 A/B11;B/C12	138, 145, 155, 157, 162, 166, 168, 171, 175				
State 2 +A/B3	124, 150, 156, 160, 174				Rev. 124
State 3 +B7	154, 168				
State 4 +A/B4	122, 124, 140, 155, 157, 159, 160, 162, 166, 177				
State 5 +A/B0	154, 157				
*B/C12	122, 124, 134, 147-150, 154-157, 159, 160, 162, 164-168, 171, 172, 174-176				
A/B12 (see A3,13;A/B12)					
A/B12,8,11				*>7/12/67*	
State 1 A/B12	71, 72, 74, 76, 79-83, 85-95, 98, 100, 102, 103				
State 2 +A/B8	76, 80, 81, 86, 91, 96, 101, 103		9		
State 3 +A/B11	71, 73, 76, 78-81, 83, 85-87, 89-92, 94-96, 100, 102-**104**		9		
A/B14	177		13		
A/B15	129, 130, 137				
A/B15;A(Marg)3,4;A2,4,1				<20/10/75>20/11/75	
State 1 A/B15	124, 134, 145, 150, 154, 157, 159, 160, 162-164, 171, 172, 174-176, 178, 179, 181-184		14		
State 2 +A(Marg)3;A2	134, 150, 156, 157, 159, 160, 164, 166, 169-179, 181, 182		14		
State 3 +A(Marg)4	148, 162, 170, 171, 181		14		
State 4 +A4	145, 148, 156, 159, 160, 163, 166, 172-174,				

Variety	*Plate ranges* 1*d*	$1^{1}/_{2}d$	2*d*	*Date of occurrence*	*Comment*
	177, 181				
State 5 +A1	140				
A/B16(I)	90, 91, 100, 106, (120)				Rev. 106
A/B16(II)	(120), 125, 129, 138, 144, 147, 148, 153, 158, 164			*c*. 30/11/72	
A/B16 (see also B/C16;A/B16)					
A/B16,8 (see B1;A/B16,8)					
B1(I)	72-74, 76, 78, 85-87, 89, 92, 93, 95, 97, 99, 101, 102			>29/2/68	
B1(II)	121, 123, 125, 129, 137, 138, 143, 145-147, 149, 152, (154)			>17/8/72	
B1(III)	(154), 157, 163, 173, 179, 180			<22/5/75>18/12/75	
B1;A/B16,8				<8/12/77>18/5/78	Same comb as A10(III)
State 1 B1;A/B16	196, 201				
State 2 +A/B8	206				
B2	107, 111, 113, 116, 118-121, 123, 124, 130, 131, 135, 138, 140, 142			<13/7/70>7/10/70	Inv. 131, 142
B2;A/B1					
State 1 B2	173, 187	3			
State 2 +A/B1	173 or 178				
B3	171, 174, 181, 184, 190-193, 195, 196, 199-201, 203, 205-210, 212-220			<11/1/79>*3/4/79*	
B6;A/B2				*>27/10/75*	
State 1 B6	171				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
State 2 +A/B2	145, 173				
B6,8,4				<23/1/71>30/5/71	
State 1 B6,8	117, 120, 122, 127, 130, 134, 140, 141, 143, 145, 146		13		
State 2 +B4	111, 120, (?)134, 142				
B7 (see also A/B11,3,4,0;A(Marg)6,8,11,2,9;B7;B/C12)					
B8	171, 186, 187, 192, 200, 209, 210			<8/12/77>18/5/78	
B8;B/C0;C12				<21/4/76>3/7/76	Also present on 2½*d*
*B8;B/C0	134, 177, 179, 181, **199**, **200**				
*B/C0;C12					
State 1 C12	(170), (171), 172,(174), 175, (177), (179), 180, (181), 183, 186, (187), (189)				Also present on 2½*d*
State 2 +B/C0	134, 150, 158, 183				
B9(I)	106, 111, 113, 116, 119, 121, 123-125, 130, 135, 137-139, (140), 141	(1)		<7/5/70>*14/10/70*	
B9(II)	(134), (140), 144, 148, 159, 169, (170), (171), (174), (176), (177), (179), (183), (184)	(1)		>20/11/75	
B9(III)	(134), (171), (174), (176), (177), (179), (183), (184), 186, 187, 190-194, 196-212		15	<20/5/78>25/7/78	Also present on 2½*d*
B10	120-124, 127, 130, 136, 137, 140, 146, 148, 149, 151, 153, 155, 156, 158			<4/5/72>17/8/72	
B12	113, 117, 119, 122, 125, 129, 134, 136, 139-142, 146, 147		13	<4/2/71>*7/10/71*	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
B12,13;A/B4,15;B/C16 (see A8,11,12,9;A/B4,15,16 etc.)					
B13	110, 111, 120, 123, 140, 142, 143		13	<7/10/70>29/4/71	Inv. of K1?
B/C3(I)	96				
B/C3(II)	135, (140), (146)				
B/C3(III)	(140), (146), 158, 165, 172, 175, 178, 181, 186, 192			<19/2/76	
B/C3,4,5;A/B15				<29/12/74>*9/10/75*	
State 1 B/C3,4,5	163, 167, 173, 177				
State 2 +A/B15	145, 164, 167, 170				
B/C4	(124), (134), (138), (140), (145), (146), (148), (150), (154), 157, 159, 160, 162-166, 168, 170-176, 178-180, 182		14	<19/6/75>*28/9/75*	
B/C4 (see also A(Marg)6,7;A/B8;B/C4)					
B/C6	82, 96, 107		9	>*26/1/67*	Inv. 107
B/C7(I)	72, 96, 102				
B/C7(II)	124, (134), 145, 150, 155, 159, (160), 168, 169, (171-174), (176-179), (182-184), (186), (188)			>19/2/76	Inv. 168
B/C7(III)	(134), (160), (171-174), (176-179), (182-184), (186-188), 198, 200			>3/3/77	Inv. (176), (187)
B/C8	174, 177, 184, 191, 196, 198, 200, 203-205, 211-214, 216, 218-222, 224, 225		15	>*27/10/79*	Inv. 174, 184, 191

Variety	*Plate ranges* 1*d*	$1^1/_2d$	2*d*	*Date of occurrence*	*Comment*
B/C10	124, 140, 145, 154, 156, 158, 160, 168, 174, 177, 179, 180, 189			<8/1/76>19/2/76	
B/C12 (see A/B11,3,4 0;A(Marg)6,8,11,2,9;A4,12;B7;B/C12)					
B/C13(I)	120, 122, 124, 125, 127, 129, 136-139, 145-147, 150-158			<4/5/72>26/10/72	Inv. 125
B/C13(II)	170, 181, 185, 191, 194, 199, 200, 204		15	<3/3/77>12/11/77	Inv. 15
B/C14	119, 121, 123-125, 129, 130, 135, 137, 138, 141, 142, 144, 146, 147, 149		13	<15/5/71>*3/10/71*	
B/C15,16				*c.* 23/3/68	
State 1 B/C15	72, **86**, **91**, 98, 104, 107				
State 2 +B/C16	71, 73, 74, 76, 78-81, 89, 90, 95-110				
B/C16	106, 108, 111, 116, 119, 120, 121, 123, 131, 132, (134), 135, 136			<6/1/70>*27/5/70*	Rev. 132
*B/C16;A/B16				<15/8/79>*1/9/79*	
State 1 B/C16	(134), 171, 177, 181, 184, 190, 191, 193, 195, 198, 200-207, 209, 212-222, 224				
State 2 +A/B16	191, 222, 223				Inv. 223
*B/C16;C/D16					
State 1 B/C16	(as above)				
State 2 +C/D16	171, 174, 177, 184, 190, 191, 193, 195, 196, 198, 200-202, 204-209, 212-224				Inv. 204 Also present on $2^1/_2d$
C5	120, 122-124, 134, 138, 139, 144, 145, 147-155, 158, 160, 161			<17/9/72>26/10/72	Inv. 144, 145, 149
C8	71, 74, 76, 78, 79, 81, 85, 89, 91-94, 96-99, 102		9		Inv. 94, 98

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
C9	129, 138, 140, 144, 147, 149, 150, 152, 158		14	<4/5/72>30/11/72	
C12;B/C0 (see B8;B/C0)					
C12	(134), (170), (171), (174), (176), (177), (179), (181), (187), 194, 196, 197, 199, 201, 202, 204, 206, 208, 212, 213		15	<30/9/78>23/11/78	Also present on 2½*d*
C13	71, 94				
*C/D0	171, 174, 184, 190, 191, 200, 201, 205-207, 212-215, 217-219, 221-224	3		<23/6/79>6/9/79	
*C/D0;D/E0	171, 200, 212, 216, 221, 224				
*D/E0	171, 191, 193, 196, 200-202, 204, 206-209, 212-214, 217, 218, 221-224				
C/D2 (see D1;C/D2)					
C/D3;C5	119, 120, 123, 125, 127, 129-131, 134-136, 138-141, 143-147, 149-152			<14/11/71>17/8/72	Inv. 120 Rev. 138, 144
C/D4	122, 134, 137, 138, 140, 145-148, 150, 154, 155, 157-160, 162-180		14	>15/5/75	Inv. 159
C/D7	117-122, 125, 127, 130, 131, 134-152			<14/11/71>27/12/71	
C/D9	71-74, 76, 79-81, 85, 87, 89, 91-103		9		Inv. 74
C/D10	72, 73, 78-81, 84, 87, 89, 92, 95, 96, 98, 100, 102				
C/D11	134, 170, 184, 186, 189, 191, 193, 196, 198, 199, 202, 203, 205, 207, 208		15	<17/11/77>7/12/77	Also present on 2½*d*

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
C/D15	171, 174, (177), 181, 184, 187, 190-218		15	*c.* 30/11/78	Inv. 216, 15; Rev. 217
C/D16 (see B/C16)					
D1	146, 158, 165, 172, 173, 176, 178, 180, 182, 184, 185, 188-190, 197		15	*c.* 20/1/77	
D1;C/D2				>6/1/70	
State 1 D1	105, 112-114, 116, 119, 120				
State 2 +C/D2	101-103, 106, 111, 113-115, 118				Rev. 113
D8	146, 165, 170-173, 176, 179, 180, 183, 184, 186-189, 191, 192		15	<14/3/76>20/1/77	Inv. 15
D9(I)	72, 76, 79, 86, 87, 89-91, 93, 94, 98, 100, 103		9	*>17/2/67*	
D9(II)	134, 171, 174, 176, 179, 181, 183, 184, 187, 189-194, 196-202, 204-210	1		<8/12/77>16/3/78	Possibly also on 2½*d* (Inv.) Same comb as E/F4(II)
D10	118-125, 127, 129-131, 137-140, 142, 144-149, 151-157			*c.* 22/4 to 4/5/72	Inv. 120, 121, 130, 145, 149 Same comb as K13 and L4 (see Fig. 21.46)
D12	92, 118				
D13	107, 110-112, 116, 119, 120, 124, 125, 131, 135-140			<9/4/70>7/10/70	Inv. 110, 125, 135
D/E0 (see C/D0;D/E0)					
D/E1;E/F9				*c.* 21/4/77	Inv. 158, 191, 198
State 1 D/E1	140, 146, 158, 165, 167, 170-175, 177, 179, 181, 183-194, 196-201				Same comb as I 7 Also present on 2½*d*
State 2 +E/F9	165, 194, 196				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
D/E2	140, 146, 159, 160, **164**, 167, 172-175, 177, 180, 181, 183, 186, 188, 191, 192			<3/7/76>7/9/76	Rev. 175 Also present on 2½*d*
D/E4	72, 73, 76, 79, 81, 84-87, 91, 92, 97-99, 102, 103				Inv. 102 Rev. 81, 98
D/E7	171, 174, 177, 181, 184, 187, 190-216		14, 15	<30/9/78>*6/12/78*	Inv. 194; also present on 2½*d*
D/E8	71-74, 76, 78, 81, 85, 87, 90, 91, 93-95, 99-103				
D/E9	71-73, 76, 78, 79, 81, 85-87, 90, 92-96, 99-101, 103-106			*c.* 29/2/68	
D/E10(I)	117, 120, 123, 125, 131, (134), 135, 138, 139, 141, 144, (146), 148		13	<29/4/71>27/12/71	Inv. 13
D/E10(II)	(134), (146), 160		15	<14/3/76>3/3/77	
D/E13,14					
State 1 D/E13	164				
State 2 +D/E14	177				
D/E14	73, 79, 85-87, 89, 93, 94, **98**, **101**			*>21/1/65*	Inv. 87
D/E15(I)	85			>23/3/68	
D/E15(II)	118, 120, (134), (145), (152), (154)			>4/5/72	Inv. 118
D/E15(III)	(134), (145), (152), (154), 164, 166, 168			<8/5/73	
E2,1				*c.* 8/12/77	
State 1 E2	174	3	15		Inv. 174
State 2 +E1	134, 170, 171, 174, 176, 177, 179, 181, 183, 184, 186-194, 196-210	3			Inv. 207; also present on 2½*d* (see Fig. 21.8)

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
E3(I)	(134), 140, (146), 156, 160, (167), (170), (171), (174), 175, (176), (177), (179), (181), (183-192)		(15)	*>21/8/76*	Inv. (15)
E3(II)	(134), (146), (167), (170), (171), (174), (176), (177), (179), (181), (183-192), 194-202, 204-206		(15)	*c.* 14/9/77	Inv. (15) Also present on 2½*d*
E4	71, 80, 81, 85, 90, 91, 93-97, 100, 101, 103		9		
E5(I)	106, 111-113, 117-124, 131, 134-143			<7/10/70>*9/12/70*	
E5(II)	170, 175, 177, 180, 181, 184, 186, 190, 191			<19/2/76>20/1/77	
E7,8				<14/11/71>27/12/71	
State 1 E7	125, 135, 140, 141, 144, 146, 149, 152				
State 2 +E8	117, 120, 121, 131, 134, 142, 146, 148, 150, 151				Inv. 117
E9,10	125, 136, 137, 142, 153, 155, 158			*>7/12/72*	
E12,1;E/F4					
State 1 E12;E/F4	149				
State 2 +E1	127, 130, 145, 152				
E13(I)	(134), (171), (174), (176), (177), (179), (181), 182, (183), (184), 185, (186-201)			*>7/3/77*	
E13(II)	(134), (171), (174), (176), (177), (179), (181), (183), (184), (186-201), 202, 204-209	3	15	<24/11/77>*27/8/78*	
E/F0			15		

Variety	*Plate ranges* 1*d*	$1^1/_2 d$	2*d*	*Date of occurrence*	*Comment*
E/F1(I)	(146), 159, 166, (174), (179), 180, (181), (183), 185, (188), (191), (193)			>11/11/76	Inv. 166
E/F1(II)	(146), (174), (179), (181), (183), (188), (191), (193), 208, 213			<17/11/77	Inv. 213
E/F2	134, 140, 145, 146, 156, 159, 165, 170-172, 174-176, 178, 179, 181, 182, 185, 186, 188-190, 192			<3/7/76>2/9/76	Inv. 145 Also present on $2^1/_2 d$
E/F3(I)	71, 72, 74, 76, 78-80, 84, 85, 87, 90-93, 96-103			<8/8/66>*9/7/67*	Inv. 71
E/F3(II)	171, 174, 181, 184, 187, 190-193, 195, 196, 198-218			<30/11/78>*25/1/79*	Inv. 208, 210, 211 Also present on $2^1/_2 d$
E/F4(I)	106, 110, 111, 113, 114, 118, (120), (123), (125), 133, (134), 135, (137), (138), (140), 141			*c.* 7/5/70	
E/F4(II)	170, 171, 174, 176-179, 181, 183, 184, 187, 189-210			<8/12/77>16/3/78	Inv. 207 Rev. 208, 210 Same comb as D9(II)
E/F4 (see also E12,1;E/F4)					
E/F4 (see also F1;E/F4)					
E/F4,3				<22/4/72>17/8/72	
State 1 E/F4	(120), (123), (125), (134), (137), (138), (140), 142-144, 157				
State 2 +E/F3	121, 124, 127, 137, 139, 144, 149, 152, 156, 157				
E/F5	144, 147, 150, 158, 162			>30/11/72	

Variety	*Plate ranges* 1*d*	$1^1/_2d$	2*d*	*Date of occurrence*	*Comment*
E/F7(I)	(134), 140, 146, 148, 165, 167, 170, 172, 173, (174), 175, 176, (177), 179, (181), 183, (184), 185-189, (190-201)			<23/6/77>8/9/77	Inv. 175 Same comb as A8(II)
E/F7(II)	(134), (174), (177), (181), (184), (190-201), 202-216		15	*c.* 30/9/78	Rev. 15 Also present on $2^1/_2d$
E/F8	118, 123, 125, 136, 137, 141, 145, 146		14	<16/9/71>30/1/72	Inv. 145
E/F9 (see D/E1;E/F9)					
E/F10(I)	117, (120), (138), (140), 142, (149), (150), (154), (157), (159), (162), (164), (166)			>8/5/73	
E/F10(II)	(120), (138), (140), (149), (150), (154), (157), (159), (164), (166), 167, 168, 170, 172-175			<20/4/74	Rev. 175
E/F13	72-74, 76, 79, 84, 85, 91, 92, 94, 97			*>17/8/67*	Inv. 79
E/F14	121, 124, 125, 130, **133**, 140, 148			<29/4/71	Inv. 124
*E/F14,15;F/G16				<15/8/68>*10/11/68*	
State 1 E/F14	90, 106, 109, 110, 112, 117				
State 2 +E/F15	76, 96, 99, 103-114, 117, 118				
*F/G16;E/F14,15					
State 1 F/G16	71, 78, 79, 81, 90, 94-97, 99, 101-104, (105-107), 108, 109, (110), (111-113), 115, (116-119)	(1)			
State 2 +E/F14	104				
State 3 +E/F15	78, 92, 95-99, 101, 109, 111-113, 117, 119				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
E/F15	148, 160, (167), (171), 172, (174), (176), 182			<19/6/75>20/11/75	
E/F15,16				<19/5/77>*28/5/77*	
State 1 E/F15	140, (167), (171), (174), (176), 184, 186-188, 192				
State 2 +E/F16	134, 140, 146, 158, 167, 169, 170, 171, 174-177, 179, 181, 183-203	3			Inv. 184 Also present on 2½*d*
E/F16(I)	106, 107, 111-113, 118, (120), 121, 123, (124), 125, (130), 131, 135, (137), 139, (140), 141, 142	1	13	<13/7/70>7/10/70	Rev. 131
E/F16(II)	(120), (124), (130), (137), (140), 145, 149, 157, 171, 174			<20/4/74>1/2/75	
F1	(140), (145), (146), (156), (159), (160), 164, 170-172, 177, 179, 180, 182, 183, 189, 192			<19/2/76	Inv. 172
F1;E/F4				*c.* 17/8/72	
State 1 F1	119, 120, 129, 130, 136, 138, (140), 142, 144, (145), (146), 153, 154, (156), (159), (160)				Inv. 130
State 2 +E/F4	119, 121, 123, 124, 127, 129, 139, 140, 144, 145, 147, 148, 153, 156, 158-160				Rev. 119, 147, 148
F3,12				<23/11/78>30/11/78	
State 1 F3	171, 176, 184, 192, 193, 196-198, 200, 201, 204, 209, 211, 213		15		Inv. 184, 194, 196 Same comb as I 11(II)
State 2 +F12	197, 198, 211				
F5	120, 123, 137, 140, 143			>5/11/72	
F8	140, 146, 150, 157-160, 168-171, 179-181, 183, 187-189			<8/1/76>31/1/76	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
F10(I)	99, 101, 104, 106, 111-114, 116-118, 120, 122, 125, 127, 129, 130		13	*c.* 5/6/69	Inv. 106
F10(II)	170, 171, 176, 184, 191, 192, 197, 199-202, 204, 205, 207, 208	3	15	<17/11/77>7/12/77	Also present on 2½*d*
F11	134, 146, 158, 170, 174, 183-187, 189, 192, 194, 196, 197, 199, 200			<3/3/77>*26/9/77*	
F13	181, 187, 190-192, 198, 200, 202-204, 206, 207, 209, 213, 215-217, 219	3	15	<11/1/79>*21/2/79*	
F13;F/G0,1	120, 134, 145, 150, 154, 157, 159, 168			>5/9/74	Rev. 150
F/G0,16	140, 150, 172				
F/G2	184, 201, 202, 218		15	>*16/4/79*	
F/G3	71, 81-85, 90, 91, 96, 97, 100				
F/G4,5	117-125, 127, 129-131, 134-143, 145-150			<30/5/71>27/12/71	
F/G5	138, 147, 148, 150, 156, 162, 171, 180			>26/5/75	Inv. 180
F/G6	134, 170, 171, 174, 179, 181, 183, 184, 187, 190, 193-207, 209-212			<20/5/78>1/7/78	
F/G8	76, 78, 90, 92, 96, 99-101, 103, 105-109, 111, 113-115, **117**, **120**			*c.* 6/5/68	Inv. 76
F/G9	124, 150, 157, 160, 163, 164, 167, 169, 172-176, 179	3		<15/5/75>*22/7/75*	Inv. 150, 157
F/G11	120, 122, 124, 134, 137, 138, 143, 145, 147, 149-152, 154, 155, 157-169, 171, 172			<27/10/73>*16/3/74*	Inv. 151

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
F/G13	106, 107, 110-113, 118-121, 123-125, 130, 131, 135-140, 142			<13/7/70>3/1/71	Inv. 121, 130 Same comb as H/I 11
F/G15	123, 124, 134, 139, 140, 145, 148, 151, 157, (158)			*>24/7/71*	Inv. 124, 145, 157, (158)
F/G16 (see also E/F14,15;F/G16)					
F/G16(I)	120-125, 127, 129, (130), 132, 133, (134), 135, (137), 139, 142	1	13	*c.* 13/7/70	Inv. 127
F/G16(II)	(130), (134), (137), 140, 143, 145, 147-152, 154-156, 158-162, 164-169, 171, 172			<27/10/73>*1/4/74*	Inv. 140, 147, 160, 164
G2		3	15		Numerous on 1½*d* and 2*d* but none on 1*d*
G6	158, 167, 170, 175, 179, 181, 184, 185, 191-193, 197, 200			<3/3/77>23/6/77	
G7	177, 179, 181, 183, 187, 192, 193, 195, 197, 200, 201, 205, 206			<8/9/77>1/7/78	Inv. 187
G10(I)	120, 122, 124, 127, (134), 137, 138, (140), 143, 145, (146), 148-156, (158), 159-166, (167), 169, (170), (171), 173			*c.* 2/4/74	Inv. 122, 127, 138, 162-164
G10(II)	(134), (140), (146), (158), (167), (170), (171), 174, 176, 177, 179, 181, 184-188, 192, 195-199, 201-206			<8/9/77>12/11/77	Inv. 181, 195
G11	117, 119-122, 124, 127, 129-131, 134-137, 140-148			<29/4/71>*12/9/71*	Inv. 122, 131, 136 Same comb as H4
G/H1	72, 81, 85, 92, 99, 100, 102, 103				Inv. 85, 103; Rev. 100

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
G/H2	101-103, 105, 107-111, 113-124, 127, 129, 130-132			<4/9/69>1/11/69	
G/H4,3				*c.* 4/5/72	
State 1 G/H4	118-125, 127, 129, 131, (134), 138, 139, (140), 143-145, (146), 147, 151-157, (158)				Rev. 151
State 2 +G/H3	119-124, 127, 129, 130, 134, 136, 138-140, 142, 144-158				Inv. 153
G/H4	(134), (140), (146), (158), 167, 170, 171, 173-177, 179, 181-203	3	14	<19/5/77>23/6/77	Inv. 194
G/H5	122, 124, 130, 134, 137, 140, 146-148, 150, 154-175			<5/9/74>*28/11/74*	Rev. 170 Inv. 134, 140
G/H8	106, 110, 111, 113, 117-120, 122-125, 130, 131, 133-136, 138, 140-145		13	*c.* 16/1/71	
G/H9	106, 111, 118, 127, 129, 130, (134), 135-137, 139			<19/3/70>16/1/71	
*G/H9;H/I 1;I 5				<5/2/77>3/3/77	
State 1 G/H9	(134), 140, 158, 160, 167, 170-177, 179, 181, 183-199		15		Inv. 15
State 2 +H/I 1	134, 158, 188, 191, 193, 197				
*I 5;H/I 1				<5/2/77>3/3/77	
State 1 I 5	(134), 158, 160, (171), 172, (174), 175, (176), (177), (181), 183, (184), 186, (187), (190-199)				
State 2 +H/I 1	134, 158, 160, 165, 170, 171, 185, 189, 191, 195-197, 199, **204**				Rev. 170
G/H10	120, 122, 124, 134, 137, 138, 140, 143, 145-152, 154-174	1	14	<20/4/74>*28/4/74*	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
G/H11,12;G9,10				*c.* 20/10/75	
State 1 G/H11	148, 159, 184				
State 2 +G/H12	124, 140, 146, 150, 154, 156-160, 163-177, 179, 180, 182				Rev. 154, 156, 166, 179
State 3 +G9,10	140, 150, 156, 157, 159, 160, 162, 164, 166-169, 171, 172, 175, 176, 178-180, 182, 184, 185				Rev. 140, 166
*G/H11	215				
*H/I 6;G/H11	192		15		Rev. 192
G/H15(I)	89				
G/H15(II)	(134), (140), 145, (146), 150, 156, (158), 159, 164, (165), (167), (170), (172-178), (180), (181)			*>13/10/75*	Inv. (158)
G/H15(III)	(134), (140), (146), (158), (165), (167), (170), (172-178), (180), (181), 187, 188, 190-193, 199			<5/2/77>8/12/77	Inv. (158)
G/H16	187, 200		15	<3/3/77>*17/10/77*	
H1	137, 138, 158, 163, 165, 169			*>3/9/74*	
H4	(119), 124, 130, (134), 138, 139, (140), 142			<29/4/71>*12/9/71*	Same comb as G11
H4,5(I)				<28/10/68>17/12/68	
State 1 H4	106, 110, 113, 114, (119)		12		
State 2 +H5	92, 95, 97, 101-104, 106-108, 112-118		12		
H4,5(II)				<14/9/77>12/11/77	
State 1 H4	(134), (140), 170, 174, 179, 183, 184, 186, 187, 190, 192, 194, 198, 202				

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
State 2 +H5	134, 146, 147, 152, 158, 170, 171, 174, 176, 177, 179, 181, 183-194, 196-206		15		Inv. 147, 152, 185 Also present on 2½*d*
H5	190, 199, 206				
H12	71-74, 76, 79-81, 85-87, 89-92, 94-103		9	>*21/10/67*	Inv. 100 Same comb as I 3
H/I 0	146, 186, 188			>18/5/78	
H/I 1 (see G/H9;H/I 1;I 5)					
H/I 5	71, 76, 79, 84-86, 95, 99, 101			>31/1/68	Rev. 86
H/I 10	154, 157, 167, 173, 177-180, 183			<9/8/75>8/1/76	
H/I 11	101, 102, 106, 108, 113, 120, 121, 127, 130, 134, 135			<13/7/70>3/1/71	Same comb as F/G13
H/I 11 (see also I/J9;H/I 11)					
H/I 13(I)	137, 147, 150, 153, 163, 164			<30/11/72>*21/6/73*	
H/I 13(II)	177, **178**, 194, 198			<27/1/77	
I 2(I)	72, 80, 100			>23/3/68	Inv. 72
I 2(II)	130, 147				
I 3	71-73, 76, 78-81, 84, 85, 87, 89-97, 99-103		9	>*21/10/67*	Inv. 9, 79 Same comb as H12
I 4	129, 137, 140, 149, 152, 154			<30/1/72>*11/7/72*	
I 5;H/I 1 (see G/H9;H/I 1;I 5)					

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
I 5	(134), (170), (171), (174), (176), (177), (181), (184), (187), (190-199), 200-216			*c.* 30/9/78	Inv. 214 Also present on 2½*d*
I 5,6	74, 76, 86, 91, 93, 97				
I 7	134, 140, 146, 158, 165, 167, 170, 172, (174), 175, 179, (181), 183, (184), 185-189, (190-193), 194, (195), (198-201)			*c.*21/4/77	Inv. 165 Same comb as D/E1;E/F9 Also present on 2½*d*
I 7,13				<3/4/79>*7/5/79*	
State 1 I 7	(174), (181), (184), (190-193), 194, (195), (198-201), 203, 209, 213, 214, 217, 221				
State 2 +I 13	177, 184, 190, 193, 195, 198, 204, 209, 210, 212-214, 218, 219, 221		15		
I 11(I)	145, 156, 162, 163, 166, (171), 176, 178, 182, (184), 186			<18/12/75	
I 11(II)	(171), (184), 187, 194, 198, 200, 201, 208, 211, 212, 214, 217		15	<23/11/78>30/11/78	Inv. 201, 217 Same comb as F3,12
I 12	71, **73**, 74, 76, 78-81, 95-98, 100-102, 104, 106-108			<23/3/68>12/5/68	Inv. 76, 78, 101, 102
I 13	79, 85-87, 91, 92, 95			>*21/5/64*	Inv. 79
I/J4	78, 80, 84, 90, 93, 101			>31/1/68	Inv. 84
I/J4;J9	134, 170, 171, 174, 176, 179, 181, 186, 187, 189, 191, 192, 194, 197-205, 207-209			<24/11/77>16/3/78	
I/J6	175, 187				
I/J7(I)	122, 123, (124), 130, 135, 137-139, (140), 142, (145), (146), 148, (150)			<29/4/71>27/12/71	

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
I/J7(II)	(124), (140), (145), (146), (150), 156, 158, 159, 165, 167, 170, 172, 174-181, 184, 186, 187, 189			*c.* 21/4/76	Rev. 158 Same comb as L(Marg 13); K/L5
I/J9(I)	71, 73, 78, 81, 85, 86, 90, 91, 94, 95, 98, 100, 103			>5/2/68	
I/J9(II)	113, 119, 121, 123, 130, 138, 140			<9/4/70>15/5/71	Inv. 121
I/J9;H/I 11	78, 89, 103, 107, 110, 114-116, **121**			<12/5/68>10/10/68	
I/J10	71, 74, 76, 78, 79, 89, 90, 95-97, 101-111, 113, 114, 116-118			*c.* 9/6/68	
I/J15(I)	122, 125, 127, (134), 135-138, 140, 144, (146), 148, 150			<30/5/71>27/12/71	
I/J15(II)	(134), (146), 158, 170, 171, 174, 177, 179, 181, 183-185, 187, 190, 192-205			<8/9/77>12/11/77	
J9	181, 191-193, 196			>23/6/79	
J10;J/K9,10				<8/9/77>*1/11/77*	
State 1 J10	158, 183, 190, 198				
State 2 +J/K9,10	134, 140, 146, 158, 171, 174, 176, 177, 179, 181, 183-206				Inv. 204
J13	177, 195, 208, 213, 214, 218, 224			<23/6/79	
J/K4	140, 145, 156, 157, 164, 168		14	>4/12/75	
J/K4;K11				*c.* 16/3/78	
State 1 J/K4	134, 170, 171, 174, 176, 177, 179, 181, 183, 184, 186, 187, 189-211		15		
State 2 +K11	170, 174, 176, 183, 184, 186, 187, 190-194, 196-201, 203, 204, 206, 207, 210, 211		15		

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
J/K4;K/L8 (see A(Marg)6,7;A/B8;B/C4)					
J/K9(I)	138, 140				
J/K9(II)	174, 181, 185, 193, 201			>12/11/77	Inv. 181
J/K9,10 (see J10;J/K9,10)					
J/K10	117, 120, 125, 129, 130, 140, 142, 145, 146, 148, 149, 151, 153, 155, 156			<22/4/72>10/1/73	Rev. 120, 129
J/K11;I/J9				<13/7/70>7/10/70	
State 1 J/K11	112, 119, 121, 125, 135, 140				
State 2 +I/J9	107, 111, 119, 121, 123-125, 130, 137, 142				
J/K12(I)	(140), 145, 156, (158), (160), 169, (171), (174), (177), (184)			>31/1/76	
J/K12(II)	(140), (158), (160), (171), (174), (177), (184), 191-194, 196, 197		15	<20/1/77	Inv. 15
J/K15	203, 204				
J/K15;K/L7,15	140, 146, 150, 159, 167, 173-175, 179-181, 183, 186, 188, 191-193			<2/9/76>7/9/76	Also present on 2½*d*
J/K16,0				<19/5/77>*14/6/77*	
State 1 J/K16	146, 158, 167, 170, 171, 175, 177, 181, 185, 186, 189, 190-194, 196-198, 200-203		15		Inv. 181 Rev. 175
State 2 +J/K0	134, 140, 146, 158, 167, 170, 171, 174-176, 181, 183, 184, 187, 188, 191, 192, 194, 196, 197, 199, 200, 202-**204**		15		Rev. 176
K1	110, 111, 113, 117-125, 127, 129-131, 135-141, 143-147		13	<4/2/71>29/4/71	See also B13

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
K2	127, 130, 131, 137, 139, 140			>20/4/72	
K4(I)	142, 147, 149, 152, 155, 157				
K4(II)	171, 174, 176, 177, 181, 184, 187, 190-194, 196-199, 201-207, 209-215	3		<6/8/78>2/9/78	Inv. 171
K5	110, 111, 120, 121, 131, 136	1		<6/6/70>29/4/71	
K11	171, 177, 190, 196, **197**, **199**, 200, 201, 203, 204, 207-211, 215-218, 221, 222		15	*c.* 6/5/79	
K13	118-123, 125, 127, 129-131, 136-140, 142-149, 151-155, 158			*c.* 22/4 to 4/5/72	Same comb as D10 and L4 (see Fig. 21.46)
K/L0	134, 176, 177, 179, 184, 186, 187, 190, 195-201, 204, 207, 208	3	15	*>4/4/78*	Inv. 184, 190, 198, 204
K/L1(I)	73, 81, 85, 105				Rev. 73, 81
K/L1(II)	181, 185, 190, 210, 213				
K/L1,9;K13				<3/4/79>*3/5/79*	
State 1 K/L1,9	181, 184, 190-193, 195, 196, 198, 200, 201, 203-218, 220, 221				Inv. 211 Also present on 2½*d*
State 2 +K13	171, 174, 177, 181, 184, 190-193, 195, 196, 198-221				Also present on 2½*d* (see Fig. 21.9) and 1*d* Inland Revenue stamps (Fig. 6.4)
K/L2,3;L(Marg)16	123, 130, 131				
K/L5	140, 156-158, 165, 167, 170, 173-189, 191-196, 199			<5/2/77>21/4/77	

K/L5 (see also L(Marg)13;K/L5)

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
K/L6	150, 174				
K/L7	140, 160, 167, 170-172, 174, 175, 179, 181, 184, 185, 187, 189-193, 195-199			<5/2/77>3/3/77	Rev. 187
K/L7,15 (see J/K15;K/L7,15)					
K/L8 (see J/K4;K/L8)					
K/L9	134, 140, 146, 165, 167, 170, 172-177, 181, 183-185, 187-201			*c.* 21/4/77	Also present on 2½*d*
K/L10;L(Marg)12				*>22/2/75*	
State 1 K/L10	150, 156, 166, 170, 172				
State 2 +L(Marg)12	174				
K/L13(I)	106, 110, 111, 113, 121, 125, 129, 132, 133, 136, 137, 139, 140, 142	1		*c.* 13/7/70	Inv. 113
K/L13(II)	189, 212				
K/L13 (see also L(Marg)5;K/L13)					
K/L15	191, 205				
K/L16	117, 123, 127, 136, 141, 148, 150		13	<30/5/71>30/1/72	Rev. 127
L1(I)	(79), 81, (92), 97, (99), 100, (101-103)			>23/2/67	
L1(II)	(79), (92), (99), (101-103), 104-107, 110, 111, 113-125			<15/2/69>*1/5/69*	
L2	72, 85, 86, 92, 103			>23/3/68	
L2;L(Marg)14,15	111, 117, 125				

Variety	*Plate ranges* 1*d*	$1^{1}/_{2}d$	2*d*	*Date of occurrence*	*Comment*
L3	111, 130, 134, 135, 140			>30/5/71	
L4	118-125, 127, 129, 130, 136-140, 142, 144-149, 151-158			*c.* 22/4 to 4/5/72	Inv. 145, 147-149, 152, 154, 157 Same comb as D10 and K13 (see Fig. 21.46)
L5(I)	98, 101-103, 108, 109, (110), (111)			<23/3/68>12/5/68	Inv. (110)
L5(II)	(110), (111), 112, 113, 116-120, 122-125, 129, 130, (134), 137-141, 144			*c.* 3/1/71	Inv. (110), 113, 116
L5(III)	(134), 177, 184, 191, 198, 206, 208, 213, 214, 219			<11/1/79	
L(Marg)0	137		14		
L(Marg)3;L13				<23/6/79>*18/9/79*	
State 1 L(Marg)3	171, 174, 184, 190, 191, 193, 195, 196, 201, 206, 208, 209, 211-215, 217, 218, 220-224				Inv. 220
State 2 +L13	174, 190, 191, 195, 196, 200, 201, 204, 206, 208, 209, 212-222, 224				Inv. 200, 222
L(Marg)4	113, 142, 146				
L(Marg)5	71-74, 79-81, 83-87, 89, 90, 92-99, 102, 103			>*22/5/67*	Inv. 94
L(Marg)5;K/L13				<4/5/72>26/10/72	
State 1 L(Marg)5	122, 135, 138, 139, 143-145, 147, 149, 152-154, 157, 158		14		Inv. 153, 14
State 2 +K/L13	144				

L(Marg)6,7;K/L8 (see A(Marg)6,7;A/B8;B/C4)

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
L(Marg)7,8				<6/6/70>13/7/70	
State 1 L(Marg)7	120, 121, 130, 131				
State 2 +L(Marg)8	107, 110, 111, 113, 116, 118, 120, 123-125, 129-136, 138, 140, 141	1	13		Rev. 124, 133, 134
L(Marg)9	140, 145, 148, 150, 157, 158, 160, 162, 163, 167, 169, 170, 173, 174, 176, 180, 182, 183			11/10/75	Rev. 145, 148, 150 Inv. 150 Also present on Grenada 1*d* SG14 (see Figs. 18.7, 18.9 and 21.11)
L(Marg)11(I)	107, 125, 132			<4/9/69>13/7/70	
L(Marg)11(II)	158, 165, 170, 173, 176-179, 182, 185			<4/12/75>*15/12/76*	
L(Marg)13;K/L5				*c.* 21/4/76	Same comb as I/J7(II)
State 1 L(Marg)13	140, 156, 158, 159, 167, 170-172, 178, 179, 186, 187, 189, 192				
State 2 +K/L5	140, 158, 159, 167, 171, 178, 179, 181, 185, 186, 189, 192				Also present on 2½*d*
L(Marg)14(I)	73				
L(Marg)14(II)	124, 134, 140, 148, 150, 157, 163, 165, 166, 169, 170, 174-183			<9/8/75>20/11/75	Inv. 179, 183
L(Marg)15;K/L13				<3/1/71>*14/1/71*	
State 1 L(Marg)15	113, 122-124, 131, 135, 137, 139, 142				Inv. 124, 131, 135
State 2 +K/L13	106, 110-112, 119, 121, 123-125, 129, 131, 133-135, 137, 139, 143, 144	1			
L(Marg)16(I)	71, 73, 74, 76, 78, 79, 83-86, 88, 91-98, 101, 102		9	<16/4/66>6/6/66	Inv. 92, 96

Variety	*Plate ranges* 1*d*	1½*d*	2*d*	*Date of occurrence*	*Comment*
L(Marg)16(II)	111, 119, (120), 121, (122), 123, (125), (127), (129), 131, (136), (137), 141, (142), (145), (150)			<7/5/70>30/5/71	Rev. 121, (127), 131
L(Marg)16(III)	(120), (122), (125), (127), (129), (137), (142), (145), (150), 155, 158, 159, 161, (170), (176), (181), (183), (184), (186-190), (192), (193)			<30/11/72>2/9/76	
L(Marg)16(IV)	(170), (176), (181), (183), (184), (186-190), (192), (193), 195, 196, 200-210	3		*c.* 8/12/77	Rev. 204, 207 Also present on 2½*d*

Listing of broken perforation pin varieties on $^{1}/_{2}d$ 'plates' issue

This listing is alphabetical but, unlike the standard format issues, the $^{1}/_{2}d$ sheets were perforated side-ways. Thus, a broken horizontal pin will, when the stamps are viewed in their normal orientation, be seen at both sides of the stamp (see Fig. 21.6, page 205). Conversely, a broken vertical pin will be evident at either the top or the bottom of the stamp (see Fig. 21.7, page 205). The notation for these stamps has to be adapted to take account of this peculiarity. Instead of identifying the columns by reference to the check letter in the bottom right-hand, or south-east, corner as for the standard format stamps, the columns are identified by using the check letter in the bottom left-hand, or south-west, corner. Therefore, with the sheet turned sideways, as it was for perforation, the T column is that containing the stamps TA, TB, TC to TX. From this point the normal notation conventions apply, albeit with the stamp turned sideways (see Fig. 21.47). For the sheet layout of the $^{1}/_{2}d$ issue, see Appendix II, page 312.

Inverted and reversed broken perforation pins are noted on the other 'plates' issues, and although not yet noted on the $^{1}/_{2}d$ issue, it is extremely likely that they exist. The method to determine the notation of inverted and reversed broken perforation pin varieties is best illustrated using the following example:

The south-west corner letter of a normal variety will, in both the inverted or reversed state of a variety, change from:

A B C D E F G H I J K L M N O P Q R S T, to

T S R Q P O N M L K J I H G F E D C B A,

so a broken pin between the F and G columns would in both the inverted or reversed state be between the N and O columns. The best way to identify the pin number of the inverted and reversed state of a variety is to use the following formula, whilst remembering that the sheets were perforated sideways. For the inverted state deduct each of the missing horizontal pins from 11, and deduct each of the missing vertical pins from 14. For the reversed state deduct each of the missing horizontal pins from 11, whereas the pin numbers of the missing vertical pins remain the same.

Thus, if F6;F/G13 is a normal variety

O5;N/O1 is its inverted state [i.e. F=O, G=N; 11-6=5; 14-13=1]

O5;N/O13 is its reversed state [i.e. F=O, G=N; 11-6=5].

If only horizontal pins are missing on a stamp, it is almost impossible to differentiate between an inverted or reversed state. In these cases it is assumed that the stamp shows the inverted state.

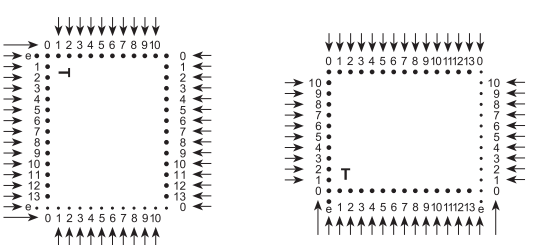


Fig. 21.47 $^{1}/_{2}d$ stamp turned sideways for perforation (left) and normal orientation (right)

Variety	*Plates known*	
A(Marg)12	11, 13, 14	
A(Marg)13	3, 5	
E3	10	
E/F13	14	(see Fig. 21.7, page 205)
F6	10, 13	
F/G13	10, 11, 15	
G1	15, 20	(see Fig. 21.6, page 205)
H8	11	
H/I 4	3, 4, 8	
H/I 13	4	
I/J3	6	(same comb as O/P3 and S/T0)
I/J10	3	
I/J13	11	
J/K1	10, 12	
L/M2	14	
M/N1	13	
N8	5, 12	
O/P3	6	(same comb as I/J3 and S/T0)
S/T0	6	(same comb as I/J3 and O/P3)
S/T0;T(Marg)5 (State 1)	19, 20	
S/T0;T(Marg)5,10 (State 2)	19, 20	(plus inverted: A/B0;A(Marg)4,9)
S/T10,13 (State 2)	8, 9	
S/T11	5	
S/T13 (State 1)	5, 9	

Listing of broken perforation pin varieties on surface printed issues 1855-1880

This listing is by value and by plate number. It uses the conventional notation, thus enabling varieties to be identified by reference to the letter in the south-east corner square of the stamp. Many varieties correspond to those affecting the 'plates' issues and further details can be found in the earlier detailed listing. Certain surface printed issues were perforated on different format combs from the 'plates' issues and these are noted as 'n/a'. The various sheet layouts of the surface printed issues are illustrated in Appendix II, from page 314.

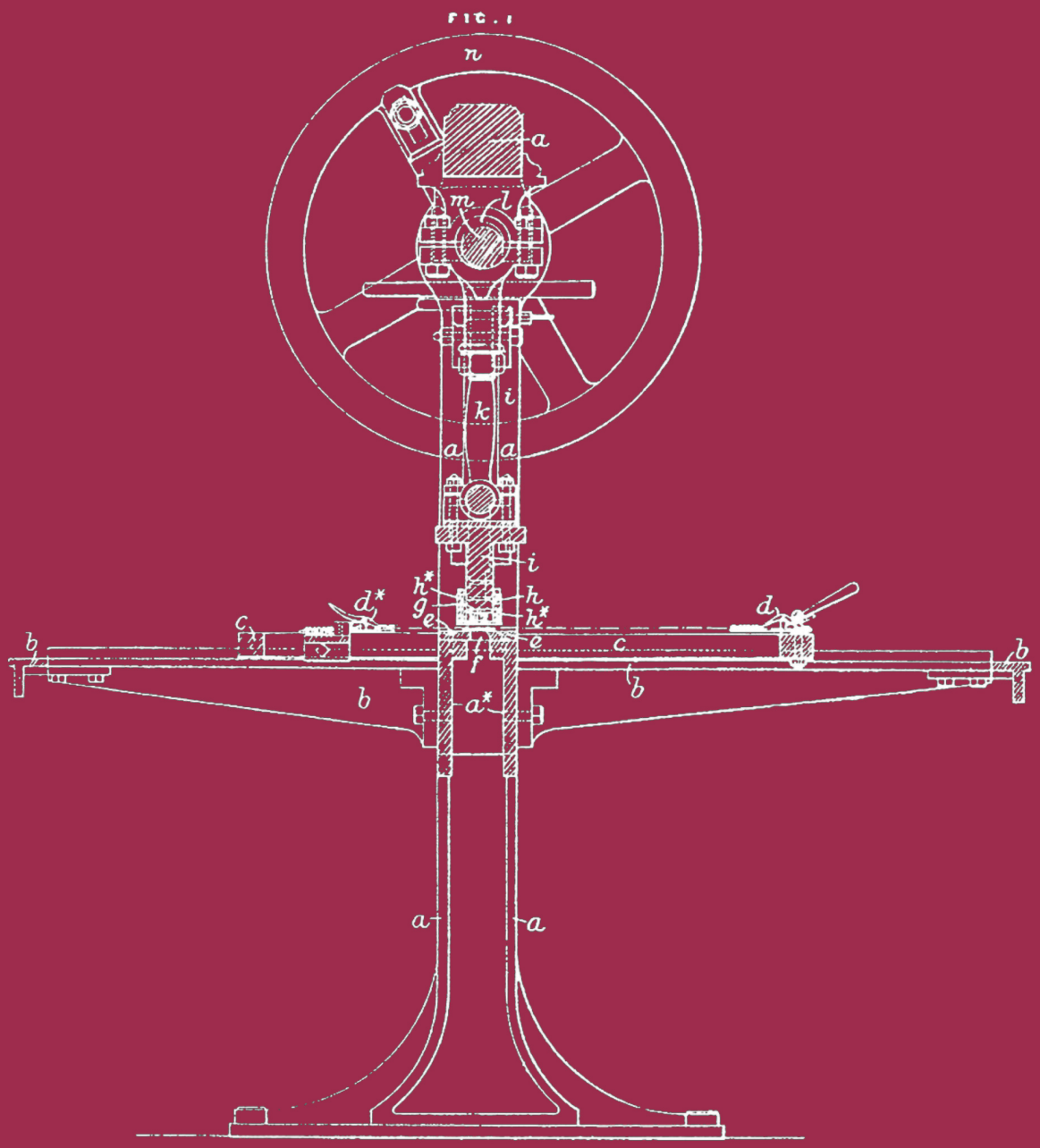
Value and SG Reference	*Plate No.*	*Variety*	*Matches variety on 'plates' issues*
$2^1/_2d$ rosy mauve (SG Spec J1)	1	A5	•
$2^1/_2d$ rosy mauve (SG Spec J1)	1	G10	
$2^1/_2d$ rosy mauve (SG Spec J2)	2	I 11	
$2^1/_2d$ rosy mauve (SG Spec J4)	3	L(Marg)13;K/L5 (State 2; see Plate 4)	•
$2^1/_2d$ rosy mauve (SG Spec J5)	4	B8;B/C0	•
$2^1/_2d$ rosy mauve (SG Spec J5)	4	B/C0;C12 (State 1)	•
$2^1/_2d$ rosy mauve (SG Spec J5)	4	L(Marg)13;K/L5 (State 2; see Plate 3)	•
$2^1/_2d$ rosy mauve (SG Spec J6)	5	C/D13	
$2^1/_2d$ rosy mauve (SG Spec J6)	5	D/E2	•
$2^1/_2d$ rosy mauve (SG Spec J6)	5	E/F2 (plus inverted: G/H15)	•
$2^1/_2d$ rosy mauve (SG Spec J6)	5	E/F15;F/G12	
$2^1/_2d$ rosy mauve (SG Spec J6)	5	J/K15;K/L7,15	•
$2^1/_2d$ rosy mauve (SG Spec J8)	7	D/E1;E/F9 (State 1)	•
$2^1/_2d$ rosy mauve (SG Spec J8)	7	E/F15,16 (State 2)	•
$2^1/_2d$ rosy mauve (SG Spec J8)	7	G/H4,15	
$2^1/_2d$ rosy mauve (SG Spec J8)	7	H/I 9	
$2^1/_2d$ rosy mauve (SG Spec J8)	7	I 7	•
$2^1/_2d$ rosy mauve (SG Spec J8)	7	I/J4 (State 1)	
$2^1/_2d$ rosy mauve (SG Spec J8)	7	I/J4;I 7 (State 2)	
$2^1/_2d$ rosy mauve (SG Spec J8)	7	K/L9	•
$2^1/_2d$ rosy mauve (SG Spec J9)	8	E3 (see Plate 9)	•
$2^1/_2d$ rosy mauve (SG Spec J10)	9	C/D11	•
$2^1/_2d$ rosy mauve (SG Spec J10)	9	E3 (see Plate 8)	•
$2^1/_2d$ rosy mauve (SG Spec J10)	9	F1 (see Plate 10)	
$2^1/_2d$ rosy mauve (SG Spec J10)	9	F10	•
$2^1/_2d$ rosy mauve (SG Spec J10)	9	F/G1	
$2^1/_2d$ rosy mauve (SG Spec J10)	9	H4,5 (State 2)	•
$2^1/_2d$ rosy mauve (SG Spec J10)	9	L(Marg)16	•
$2^1/_2d$ rosy mauve (SG Spec J11)	10	B9 (see Plate 11)	•

Value and SG Reference	*Plate No.*	*Variety*	*Matches variety on 'plates' issues*
$2^1/_2$*d* rosy mauve (SG Spec J11)	10	E1,2 (State 2; see Fig. 21.8, page 213)	•
$2^1/_2$*d* rosy mauve (SG Spec J11)	10	F1 (see Plate 9)	
$2^1/_2$*d* rosy mauve (SG Spec J12)	11	B9 (see Plate 10)	•
$2^1/_2$*d* rosy mauve (SG Spec J12)	11	I 5 (or inverted D9)	?
$2^1/_2$*d* rosy mauve (SG Spec J13)	12	E/F7 (see Plate 13)	•
$2^1/_2$*d* rosy mauve (SG Spec J13)	12	I 5 (see Plate 13)	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	C12	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	D/E7	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	E/F3	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	E/F7 (see Plate 12)	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	F12	
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	I 5 (see Plate 12)	•
$2^1/_2$*d* rosy mauve (SG Spec J14)	13	K/L1,9;K13 (State 1)	•
$2^1/_2$*d* rosy mauve (SG Spec J15)	14	K/L1,9;K13 (State 2; see Fig. 21.9)	•
$2^1/_2$*d* rosy mauve (SG Spec J16)	15	B/C16;C/D16 (State 2; see Plate 16)	•
$2^1/_2$*d* rosy mauve (SG Spec J17)	16	B/C16;C/D16 (State 2; see Plate 15)	•
$2^1/_2$*d* blue (SG Spec J19)	17	G/H9 (see Plates 18 & 19)	n/a
$2^1/_2$*d* blue (SG Spec J20)	18	G/H9 (see Plates 17 & 19)	n/a
$2^1/_2$*d* blue (SG Spec J21)	19	D/E10	n/a
$2^1/_2$*d* blue (SG Spec J21)	19	G/H7	n/a
$2^1/_2$*d* blue (SG Spec J21)	19	G/H9 (see Plates 17 & 18)	n/a
3*d* rose (SG Spec J30)	5	C12 (see 6*d*; State 1 of C10,12)	n/a
3*d* rose (SG Spec J30)	5	C10,12 (State 2*)	n/a
3*d* rose (SG Spec J30)	5	A(Marg)3 (see 6*d*, 9*d* & 1/-)	n/a
6*d* lilac (SG Spec J75)	6	C12 (see 3*d*; State 1 of C10,12)	n/a
6*d* lilac (SG Spec J75)	6	C10,12 (State 2*)	n/a
6*d* mauve (SG Spec J76)	8	C10,12 (State 2*)	n/a
6*d* mauve (SG Spec J76)	8	A(Marg)3 (see 3*d*, 9*d* & 1/-)	n/a
6*d* mauve (SG Spec J76)	8	J3	n/a
9*d* straw (SG Spec J96)	4	C10,12 (State 2*)	n/a
9*d* straw (SG Spec J96)	4	A(Marg)3 (see 3*d*, 6*d* & 1/-)	n/a
1/- green (SG Spec J104)	4	C10,12 (State 2*)	n/a
1/- green (SG Spec J104)	4	A(Marg)3 (see 3*d*, 6*d* & 9*d*)	n/a

* Variety C10,12 (State 2) is found on the 3*d*, 6*d*, 9*d* and 1/- (see Fig. 21.10, page 214)

STAMP PERFORATION

SIMPSON & SARGENT



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