

VOL. 35
WINTER

THE

NO. 4
1936-7

MONOTYPE RECORDER

*A. F. Johnson on the Dutch inspiration of Caslon's first types;
Garfield Howe's summary of his Questionnaire on "ise or ize";
Technical articles, and a specimen of "Monotype" Albertus*

The MONOTYPE CORPORATION Ltd
LONDON

CONTENTS

A NOTE ON WILLIAM CASLOX, by A. E. Johnson. . . .
 With facsimiles and an advance specimen of "Moundjig" Vine (Spk).
 Considered as an "Introduction" (after C.E. 187)

CONGRATULATIONS TO THE "DEFENSIVE" BILLS AND LEGISLATION

Concordia is "Maxima" Walbaum 179 and 180 (with the new Atlantic form).

A SPECIMEN OF "MONOTYPE" ALBERTUS 6.12

TECHNICAL ARTICLES

Congress in "Manner" Times New Roman 12 pt. and 10 pt.

TRAINING OPERATORS

FARMINGTON AND COLLEGE-BASED RESEARCH 117

Einzelne die "japanische" Sprache zu verstehen.

THE 15-17 OF THESE

[illegible]TRENCHARD, DORRIS, AND OSWALD 2, 33

A 2007 Commission of the European Communities report on the impact of the 2004–2006 'fishery closure' on the economy of Scotland's 11 coastal communities found that the impact on the economy was significant. The Commission also found that the impact on the economy was significant. The Commission also found that the impact on the economy was significant.

It is important to note, however, that the model used in this paper is based on the assumption that the system is in a steady state. In reality, the system is not in a steady state, and the model may not be applicable in all cases. For example, the model may not be applicable in cases where the system is not in a steady state, or where the system is not in a steady state.

© 2000 Blackwell Publishers Ltd. *Journal of Internal Medicine* 247: 395–401

THE MONOTYPE RECORDER

*A quarterly journal for users & potential users
of 'Monotype' type composing & casting
machines, matrices and supplies*

VOL. 35: NO. 4



LONDON

The Monotype Corporation Ltd., 43 Fetter Lane, E.C.

Registered **MONOTYPE** *Trade Mark*

1936-7

imporis; & tempus *Adi*, seu frigus materis-
 cationis novum ita prope sit, *vidum est mihi*.
 & collegi: *mihi adjicere hoc anno dies triginta*.
 Sic legitur in *Gemara* & *Hiernim.* v. m. t. r. o. n. a. Tam in hac
 autem, quam in *Babylonia* tribuitur hoc editum
Gauzeli *tyrede*: *magri principi* *, *Rabban* *Si-*
monis filio, atque ut non immerito existimatum
 est, *Pauli Apostoli*: * *praeceptoris*. Commemorat
 quidem editum hoc, vir fortissimus *Iosephus* *Se-*
liger *, quia ante ad hoc modum praefatus.
Ab ista, inquit, *antiquitate consistorium ju-*
daeorum Hierosolymitarum ex libro * *Septuaginta*
Salomonis, de quo paulo ante agimus quatuor
in Galilaea *formam anni proximo imminenti*
vestiebant, item in alias regiones *finium* *tyral*;
 quod & *hodie a Samaritanis fieri in corpore con-*
spici demonstravimus. *Insuper* *scribitur* *pos-*
itum *modum*, & *consistorii ad Galilaeam* *sub*
anno. Deinde *scribitur* *formam* *editi* *a synedro*
anni *causa* *, de indicando tempore & *tyra*
 quod videtur ille *excessum*, & *tristitia* *voce*
exploratus, non dubitare quin editum ipsum sit
 anni communis praemortis, quam & sic fieri
 ait eleganter. Et decem pro anni proximo im-
 minenti intercalationis indicatione aliam supra
 statum locuit, quasi tam annum communem so-
 to, edito synedri praehel fuisse solitum (ex
 eo quod fruges jam maturificantes etiam tritum
 serius idonee essent) quia toto aliquam inter-

& dictum, & emississe editum illud intercalare,
 nec possit hoc per aliquem a *Tebuzis* qua-
 dam, ut mox dicetur, perennium, sed omnino,
 ut iudici hac de re dignis iustis, argatur. Con-
 traversa enim est aliqua etiam, editum illud de
 passum & celebrando mense * secundo sub *Ra-*
chis *rege*, ad intercalationem etiam anni arri-
 ter. Et plenius quidem ostendere cupitur,
 uti etiam ad synedri hoc potestatem. Dicitur e-
 nim * in *tyra* *tyra* id est, & *inter* *rex* *consistorii*
cum principibus suis, atque *inter* *rex* *consistorii*
tyrosolymis *ut fuerit* *posito* *in mense* *secundo*,
 seu ut vulgata, *deservimus* *ut facerent* *posito*
in mense *secundo*. Id quod complures non ac-
 ceperunt perinde ac si mense fiat, contra incli-
 natum munus, qui in annuum ordine est serua-
 dus, posita prima (aut uno ut secundum * *ty-*
rosolymis) fuisse celebrandum. Sed quatenus ante
 dies *Nisan* *decimus* *status* *, dum in templi sa-
 cerdotumque institutionibus occupantur, atque
 legitimam in anni communis ratione posita
 tempus praeterierat, ideo ne non omnia eo in
 anno celebrarentur, ante annum sic adjecto tem-
 poris intercalatum, ut rursus hoc secundus *Nisan*
 fieret sicut alter *Nisan*, primi veluti pro *Adre*
 secundo habito. Qua tamen de re loquuntur
 fere magistri in de eo, quod *tyra* *tyra* pro *sem-*
peris *necessitate* *factum* *est* *nec* *motus* *vera*
consuetudine. Nam neque ita intercalatione adji-

Salmon's *Septuaginta*, 1726, stated by *John Salomon* (1786) to have been printed in the type of *William Carter*, Abp. *Salomon's*
Septuaginta was then the only copy, apart from the same form, were cut by *David* *Salomon*, that sets out that of *Salomon's*
Septuaginta was not before 1727, and that the form was used to be cut (plus and capital), were then copies of *Salomon's* which
 were cut half a century earlier.

A NOTE ON WILLIAM CASLON

by ALFRED F. JOHNSON

of The British Museum

Such information as we have about the beginnings of Caslon's career as a type-cutter is contained in Rowe Mores' *Dissertation*, 1778 and in John Nichols' *Biographical and Literary Anecdotes of William Hooper*, 1782, p. 316, etc. Nichols' account is given again in his *Literary Anecdotes*, 1812-15. The story is repeated in Rial's *Old English Letter Foundries*, and in Updike. In brief, we learn that Caslon's first commission was to cut a font of Arabic, which was used in an Arabic *Psalter* of 1725, that he cut the Hebrew used in the edition of John Selden's *Works*, 1726¹, and further a font of Coptic which appeared in Dr. David Wilkins' *Pentateuch* in Coptic and Latin in 1731. What we are told about Caslon's first roman and italic types is somewhat obscure and in part incorrect.

Nichols says that "he (Caslon) cut the beautiful fount of English which was used in printing Selden's *Works* 1726". This statement is not in Rowe Mores. Updike copies Nichols, reproduces half a page from the Selden (fig. 290) and comments the types in "Caslon" for their superiority over contemporary Dutch founts in English books. After I had traced the English roman and italic back to a date well before 1700 I began to suspect that there was something wrong about this story, and a comparison with Dutch specimen sheets revealed the fact that the italic in question was cut by Christoffel van Dyck and not the roman also was Dutch. The Selden, apart from the words in exotic founts, and except for a part of the second volume, is an entirely Dutch types. The roman used in most of Vol. 2 is a Garmonswold.

¹ See an earlier issue of this *Journal*.

Van Dyck's types are known from a specimen sheet issued in 1681 by the widow of Daniel Elzevir, who had bought the Van Dyck foundry. The sheet is reproduced in Willson's *Les Elzevirs*, 1880,—also in Updike (fig. 207—voluntarily). Various editions of this sheet were issued by subsequent owners of the foundry, with little change in the types shown. A copy issued by Joseph Alluaud is in the British

Museum, the 17th century the art of punch-cutting fell into neglect in most countries of Europe, owing to the consequence of the wars of religion. But at the beginning of this century was born one of the supreme masters of this difficult art: Christoffel van Dyck. He was born in a village, apparently in 1600, but he was of Dutch extraction, and was practising as a goldsmith in Amsterdam in 1629. Like Nicholas Koster and many others, he must have first learned to engrave and acquired skill as the cutter of letters in the previous century to the still more difficult art of cutting steel punches. In 1650 he was carrying on business as an engraver, goldsmith and type-cutter, and for the first few years he seems to have met with many financial difficulties. But after 1650 his extraordinary skill began to earn him the international reputation which is reflected in the mention by the widow of Daniel Elzevir of "the best of van Dyck, the foremost master of his time and of ours".

An almost perfect specimen of "MONOTYPE" VAN DYCK, is that year which we are now entering in collaboration with Elzevir. [CHRISTOFFEL van DYCK, of Haarlem. The design is that as might be expected be the purchase of two golden and silver typefoundry, containing in part of original punches cut by VAN DYCK, and in part of contemporary specimens. This is a total cutting of the specimen sheet.

Museum. The italic used in the Selden is Van Dyck's Augustijn Cursijf, the third specimen in column 2 of the sheet reproduced by Updike. The roman used in the Selden is run on the Van Dyck sheet, but I find it in another specimen sheet of an Amsterdam printer, Johannes Kammevet, where it appears along with Van Dyck's Augustijn Cursijf. Nothing seems to be known about Kammevet, except

that he was a printer and not a typefounder. The question sheet is preserved in the Bagford collection in the British Museum and cannot be later than about 1715. Bagford died in 1716 and there is no reason to suppose that anything was added at a later date to his collection.

The English roman and italic used in the *Selden* can be traced back in books printed by William Bowyer, for example in Charles Lelie's *Theological Works*, 1711, in J. Le Neve's *Monumenta Anglicana*, 1719, and in *The Second Part of the Proceedings against Dr. Benson*, 1719. In Bowyer's edition of Pope's *Iliad*, 1713, the List of Subscribers is set in the italic. In Jacob Tonson's *Caesar*, 1712, the address "Tecton", and in the same printer's edition of Dryden's *Virgil*, 1709, the preface to the Pastorals, are set in the same font. The main text of the Dryden is set in Vosters' Median roman, a type mentioned below. The title of Virgil in the same volume shows another size of Van Dyck's type, the Text, both roman and italic, a size found also in William Henslow's *Woodstock Park*, Tonson, 1706. The University Press at Cambridge appears to have used these Van Dyck types even earlier than the London printers. His Augustijn roman and italic were used in editions of *Crisis* and *Huron* of 1699, and in a *Sermon* by Francis Hutchinson printed in 1698. That is the earliest date to which I can trace the use in England of the italic of the *Selden*. In Mr. A. C. Roberts' *History of the Cambridge University Press* it is reported that 32 alphabets of Dutch types had reached Harwich in January 1698 (p. 77). But even in 1697 the Press had the Text size of Van Dyck, both roman and italic being used in the *Grammatica Cantabrigiensi de calina Celsi* III.

If we may take books printed by William Bowyer as a safe guide, it appears that Caslon's first roman and italic was the Pica size. The Pica is found in the *Reliquiae Haereticarum*, 1726, and for the notes in the edition of *Ammian* in Greek and Latin, 1735. I cannot find the English size before 1730; in that year there is a fine example of the

English italic, with some of the roman, in the product of Richard Basker's *Chronicle of the Kings of England*, 1730. The main text of this edition is set in Caslon's Pica. The notes in Richard Mead's *Græcæ antiquariæ Hæreticæ*, 1724, are also set in a Pica, not Caslon's Pica but the type which Caslon copied even more closely than he copied the Van Dyck italic. This Pica is shown on the specimen sheet of Kannevet already mentioned and is described as Groote Mediaan Romeyn—there is no accompanying italic. It is shown also on the specimen sheet of the Widow of Dirk Voskens and we may assume that this roman was cut by Voskens, a contemporary of Van Dyck. The earliest use of it at Amsterdam, which I have found, is of 1684.

Of other sizes of Caslon's roman and italic types, I have noted that the Small Pica No. 1 of his specimen sheet of 1734 was used for the Latin text of Wilkins' *Pontatich*, 1731, already mentioned for the Copie. The Great Primer I have not found until 1732, when it was used in Mattiæ's *Marmurum Arundellianorum editio secunda*. It appears then that only one size of Caslon was much used before 1730, and that the two first sizes to be cut, the Pica and the English, were close copies of Dutch founts cut half a century earlier.

with those then entirely", one editor says he "doesn't know them", another is doubtful, and yet another "rather hazy" about them. The "*Monotype Recorder*" "stands by Oxford", adding, very justly, "If anyone has authority, it is the publishers of the O.E.D." A Scottish printer uses Oxford as "something to work on and from" (a criticism repeated from daily). Irish nationalists' opinions are reflected in other verbs. A weekly newspaper "about 30 years ago" did otherwise, "but more recently have done our best to adhere to Oxford spelling". Another weekly³ adopts the same rule through respect for "the Times" as "a serious and orderly journal".

The usage in "the Times" often may well serve as a pattern for newspapers which accept the authority of Oxford (though, for obvious reasons, not binding upon printing offices who receive printing orders from editors and publishers with other requirements). "We follow the Oxford rules, and also those given by the *Printer and Author*⁴, which may be said to coincide with them. In other words, we hold that *z* in English, so far from being an unnecessary letter, is a useful one which should be preserved in its proper place. . . . But *z* is often etymologically necessary, and literary usage has in certain cases made *z* the best style, even where it is not etymologically or etymological propriety. Therefore question (1) (or 2) can be answered as one or the other according to the particular word; (2) we try to be uniform in respect to any particular word; (3) authority and tradition govern our rule rather than personal preference; and our reason for the choice of one or the other is etymological rather than phonetic or visual. Finally, (4) our printers have instructions to make our contributors conform

to our style unless there may be a special reason for the contrary."

In at least two cases *z* is preferred for phonetic reasons, as one printer remarks, "for a sometimes pronounced *z* as in *praise*". For visual reasons, *z* is often preferred, evidently many feel that "*z* looks better". One editor "does not insist *z* is superior for phonetic reasons"; the "*Listener*" candidly asserts that "*z* is becoming obsolete". Another printer⁵ sets no reason why *z* should not be as acceptable to the eye as *s*. An authoritative Scottish press⁶ asserts its strong preference for using *z* "for simplicity and uniformity". The *Cornwall Press*⁷ was almost singular in endorsing rules that "prefer *z* in English, whether, but not in a number of cases even for visual reasons". "Personally I am all for phonetics", says Chas. B. Roper, while the editor of a technical paper⁸ says "like most Englishmen I regard phonetics except for euphony". The editor of "*John O'London's Weekly*", who refers me to a most comprehensive and sensible reply to a correspondent on May 16th of last year, states that "in recent years we still too easily learn from *z* to *s*, not from *s* to *z*, but the error may be winning again. . . . My opinion, positive in these columns proves nothing, because our printers do not *exclaim*". And quoting Mr. A. P. Herbert, he adds: "In your letter in 'the Times' you will be named *malice*, but in the 'Daily Telegraph' you will find that you have written *malice*; . . . and, surprisingly, the King's Regulations for the Navy have *submarine*, three for the Army *submarine*." Another Irish dust point of view (reflected, it may be said, in the "*Monotype Recorder*") is this "I am in favour of *z* for unfamiliar manufactured words because it saves much trouble."

¹ *Cole's Printed and Written Dictionary*

would, however, prefer to see it in every case. One put up with the American saying; but in that case I should never be so great a difficulty in getting the book into English."

At which point I inquired, "So much for the Oxford ruling in France, etc.," were it not for human frailty, for many will echo the exclamation of Mr. Herbert Band, writing as editor of the "*Dunlopian Magazine*," and as a strict follower of the usage of the O.C.P.: "But as a matter of pure convenience, and in itself more often using a rather than a merely, I believe, because it is easier to write."

In the matter of setting the subject down his own way, there is naturally not the same latitude in the technical press as among book printers. The rule in "*The Times*," which I have quoted, is confirmed by the rules from other papers, and need not be honestly by one's O.C.P.: "We follow the custom in this case in the use of a only in special articles (if consistent), and in short reviews where order is required," journals which conform to Oxford usage are usually more strict in this consistency than the others: "We keep our own rule and correct accordingly"; "we rarely change the author's *to* *is*"; "spellings are retained and given as sent by the authors, who usually accept the correction"; "copying is confined to conformity with our other rules"; "the author is always told—*but*—his never get complete." At least three journals who follow the style, however, are equally particular in pointing out errors: "In the case of conditions," does the "*Nineteenth Century*" allow the author to differ? "But," however, "follows the author's practice if consistent"—a good—marked article which does credit to our national heroism.

The question of book printers shows little

variation, and it is more important to consistency than others, but I look to the author or publisher for guidance. In the absence of a definite rule, it is not quite invariable, the house rule, nearly always some intermediate in Oxford, is followed. The two following replies, from opposite camps, will show the measure of agreement: "If consistent we follow copy; if not, we follow Oxford. It would be a great help if authors would state if they want copy strictly followed, or if version is spell and punctuation in our usual style."¹ "If author prefers we follow a and Oxford rules, if necessary, at the house a might be adopted. Usually if author shows evidence we follow his practice. In fact, if copy is good we follow copy." The non-committal reply of one printer² sums up the practice of all: "We have too many customers to make uniformity possible." "Occasionally," in marks our limited power, "an author will send a few words from a third, and as it is the best has missed dozens of other cases. Such people are in a hurry." "Copy in the line of what leads me to leave this printer uncondemned."

I would wish to be on the side of the angels, but my investigation leaves me in doubt, where virtue is to be found. The boys are certainly clever, and have appeared to have justice on their side. Logic is at work with conservatism. It is one of the partitions of the, "suppose more really in 1887." But the first one is so deeply embedded in human nature, and maybe, as he says, "his general use is less and the more because there are less exceptions to every rule."

¹ Mr. C. Jones & Sons.
² T. G. A. Casselle.
 The "*Western World*."
 The "*New Standard*."
 The "*Monotype Recorder*."
 The "*Express*."
 W. C. Marshall & Sons.

³ Messrs. W. & W. W. W.
 The "*Graphic*."
 Messrs. W. & W. W.
 The "*World's Press*."
 R. Clay & Sons.
 The "*Western Press*."

'MONOTYPE

ABCDEFGHIJ

KLMNOP

QRST

UV

SERIES 324

DESIGNED BY BE

HERE DISPLAYS
FOR POSTERS AND
THE CORONA

ALBERTUS

4 TITLING

WXYZ159?!

24, 36, 48

ERTHOLD WOLPE

60 & 72

PT.

ITS SUITABILITY

ND HEADLINES OF

ATION YEAR

TRAINING OPERATORS FOR NEW INSTALLATIONS

When "Monotype" machines are installed in a printing office for the first time, it is necessary and desirable (in accordance with the policy of The Monotype Corporation Limited and the expressed desire of the trades unions) to train the compositors of that printing office to operate the keyboard.

It is always preferable for the embryo operator to undergo the thorough and complete course of six weeks' training which is given at the school maintained by the Corporation.

But many master printers are naturally anxious to benefit as speedily as possible from this new asset, and the time which is available for training an operator may consequently be limited. In this event an individual and intensive course is given at the new master's own printing office by an expert of The Monotype Corporation, and the course is carefully planned and calculated to make the training as thorough as possible within the restricted period of ten days.

This training is directional and is concentrated on the class of work produced in that office, and normal "good" copy is taken up after a few hours' instruction. This instruction may, if desirable, be supplemented by practice at home on a dummy keyboard. Such a system of training is of paramount importance as it is quite probable that subsequent operators may receive their training at the hands of the compositor who becomes the

first operator of "Monotype" machines in the printing office.

Experience shows that, generally speaking, the good compositor makes a good operator, and that those who have had no previous experience on composing machines often qualify both as rapid and accurate operators after a few weeks of training and practice. This is largely due, of course, to the plan of "Monotype" keyboards, which is the polybital type-writer arrangement. The new operator easily learns to transform words into key-strokes at maximum speed with the minimum effort because it is no arrangement which enables him to hit one same key twice (as *the same letter* would be in setting capitals, initials or any other group of characters). This principle not only makes rapid learning but becomes a system of touch-operating which is soon translated into an unconscious habit of mind and movement.

There are many other things to be learned besides the position of the keys and their rapid operation, and these matters are taught by a series of simple exercises which become increasingly comprehensive in such a way that every exercise is not only a new one in itself but also includes previous exercises. Thus each new principle is rapidly absorbed and soon becomes a natural part of the operator's knowledge.

Most important is the preliminary training which is founded not only on

mechanical axioms but includes an appreciation of healthy attitudes of mind and body, and conservation of energy.

The quantity (and what is almost as important in type composition) the quality of a man's work depends largely on the conditions under which he works. Good ventilation and proper lighting reduce what the modern scientists call the "toxin of fatigue". Without reducing the craftsman to a *bonafide* anaesthetist, it is undoubtedly possible and advantageous to study and direct emotion with regard to conservation of energy, and so not only eliminate useless fatigue and increase the craftsman's output in working hours, but also increase his joy and appreciation of life in his leisure hours.

The new operator therefore is at the outset taught to sit properly, because correct posture governs accurate and effortless operation, avoidance of strain, and easy natural breathing. The position of the copy and direction of the light so that eyestrain is avoided is also considered, and the adjustable copy holder and lamp fixture are big assets in securing this object.

These preliminary matters settled, the new operator is now ready for a series of graded finger exercises, usually, at first, from the manual published by The Monotype Corporation Limited entitled "Operating a 'Monotype' Keyboard". This manual, together with the careful supervision of an expert, forms the backbone of the operator's course of study.

The compositor invariably takes to the new method of type-setting eagerly; he is able to appreciate, by his training and experience, to a far greater degree than the master printer, what an asset the new machine will prove, not only as a com-

posing unit and as a source of all kinds of typographic material, but as a safeguard against the waste of time spent in hunting for sorts, and "dissing" for type.

A student who takes the full course of instruction of six weeks at the Corporation's school can be taught conveniently and efficiently. Operators trained locally are instructed as well as possible within the time available, and may follow, more or less fully, the following sequence of training:

Having spent some time on finger exercises and acquired a working knowledge of the system of operating by touch, the student is taught to set his scale on various measures (which may vary from anything up to 60 ems apart). He has to learn to think in units rather than in thirds and thirds, as the air system is the basic principle of all composition on "Monotype" machines. The method by which the units are registered and the scale which indicates how the lines are to be justified soon becomes familiar to him, and he is perhaps rather amazed to realize that spacing, even on infinitesimal amounts, and justification, are far more accurate and flexible on a "Monotype" system than they are in hand composition in the studio.

Later on he commences in a carefully graded series of exercise, tabular work — each exercise being safely related to definite kinds of current commercial work and to the class of work performed in the office for which he is being trained. He finally receives instruction in most intricate work, both tabular and jobbing.

This instruction also involves work with letter-spacing by which any given amount of space (even as little as .0015") is added to the set of a letter or character. By this means awkward spacings and

letter-widths may be accommodated to any given measure. This part of his training may also be supplemented by exercises in wide-measure setting to 60 ems and in the "Mitre" work.

One important item in the instruction is a training in reading the paper ribbon. Operating a "Monotype" keyboard is not a matter of "blind" tapping of keys. After a few weeks of experience the operator begins to understand the relation between letters and characters and their recorded perforations on the paper ribbon, and the student later becomes as proficient in reading the ribbon as he is in reading type in the stick. Thus he is able to make corrections as it were, on the spot, and often saves unnecessary work for the compositor and proof. This proficiency gives him confidence, as he ceases to feel that an error is irremediably made. In addition he is always able, whether or for how long an interruption, to pick up his work exactly where he left it.

A course of instruction at Potter Lane is interspersed with speed tests an solid matter so that the instructor is able to follow the progress of each pupil in regard to the speed and ability with which he can set a clean proof. Normally a student has a speed test of three consecutive hours every week. This test, of course, is of great help to the student, who is thus able to check his progress.

There are two diplomas, Junior and Senior, open to all operators of "Monotype" machines, which are awarded to

those who attain a speed of 7,500 ems and 10,000 ems respectively for four consecutive hours' composition. A gold medal is awarded to an operator who is able to set in a rest 15,000 ems an hour for four consecutive hours.

An operator who has been trained to operate by the touch system can easily exemplify the saying without looking at them, and it is not altogether surprising to find that many operators reach a speed of 15,000 ems per hour and maintain it for long periods.

The school (which is at 44 Potter Lane, London, E.C.4) is always open to operators of "Monotype" machines, whether originally trained there or otherwise, and the instructors are ready at all times to discuss problems and advise operators on all matters concerning the operation of "Monotype" machines.

Many operators keep themselves informed of the latest developments in "Monotype" machine construction and methods of composition by means of the many publications of The Monotype Corporation Limited, and master printers and executives are greatly alive to the benefits which accrue by ensuring that all such literature is circulated both to operators and master printers. Many keen operators make a point of keeping in touch by paying a regular periodic visit to both the School and the Publishing Department of the Corporation, where the most recent information is readily accessible and as readily imparted.

The new type "Vernacular" Monotype Machine is applied, with other literature, instructions and machinery, extra copies to the list of machines, the Monotype Keyboard for composing, and the rest of the

Justification Wedge-Lifting and Galley-Starting Mechanisms on "Monotype" Machines

ON the completion of every line two things are required—the lifting of the completed line into the galley and the adjustment of the two justification wedges so that every space in the line has to be the

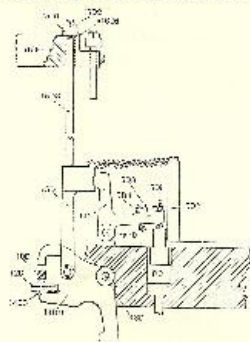


Fig. 1.—Mechanism for the justification wedge. The wedge is a block of cast iron, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109. The wedge is shown in two positions, the retracted position (left) and the extended position (right). The wedge is guided by a track (107) and has a pin (108) at its base. The diagram is labeled with various numbers (100-109) and letters (A, B, C, D, E, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z) to identify specific parts and points of interest.

same as the required thickness to make the line the correct length. These two operations take place simultaneously, and their mechanisms are connected.

At the end of each line the paper receives two sets of perforations, each set containing two holes. One hole in each set permits air to be conducted to the D pin block and the other to the B pin block. The air running to the D pin block blows up one of two plungers (100) (Fig. 1), which causes a corresponding hooked rod (101) to enter a slot in the side of the unreciprocating pin lever, whilst the latter is at the end of the down stroke. As the unreciprocating pin lever rises it lifts the hooked rod. These rods are connected to levers (102) and (103), which project under the justification wedge, and consequently these are also lifted. A projection on the end of the justification wedge becomes placed in the notch of the main jaws (Fig. 2), the wedges are thereby carried to the position of the pin block. As there are three plungers on the B pin block, each has a corresponding wedge (three plungers each). One justification wedge has a gradient of 0.005 per shift, and the other a gradient of 0.003 per shift. The smallest space obtainable at the base when the wedges are in the extreme forward (1-1) position, and this can be gradually increased by moving the finely tapered wedges to the second position. This wedge is then brought back to the first position, and the second wedge shifted to the second position, when 0.005 will have been added. By repeating these movements until every inch position of the 0.005 wedge has been used in combination with every inch position of the 0.003 wedge, a wide range of space thickness is obtained (12 x 0.005 = 0.06).

As to positioning of the justification wedges takes place after the completion of the preceding line, and as, whilst they are being positioned, no printing takes place, two things must happen: First, the completed line must be removed to make room for the line to follow, and, secondly, the pump mechanism of the mulling pot must be thrown out of action. These requirements are fulfilled simultaneously by mechanism in connection with the justification wedge levers. A continuation of the wedge lever (100)

T17. MONOTYPE REORDER

the loose rows should be covered. In this case, when passing the paper through the waste plate is in the reverse direction.

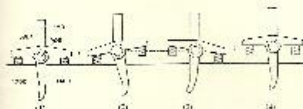
in which it travelled whilst being perforated, the double "S" mechanism causes both justification wedges to be moved in the 0th pin position, and the "T" perforation will then cause the "0055" wedge to be moved to the third pin position.

The "0055" wedge may be removed by first taking off the stop block (1570), raising the "T" trip rod (1195) (Fig. 2), and drawing the wedge towards the rear of machine, placing them under the rear motor jaw. In doing so, remember that the "0055" (100) wedge is placed next to the upper transfer wedge.

When it is desired to turn the machine around coming type, the handle (251112) (Fig. 3) must be pulled back and locked to the position (1175). The handle is connected by a spring box (251111) (5) (Fig. 3) carrying a pin (251114) with a cranked upper

end. When it is down to the left, this pin pushes the trip tube (251113), causing the coil (251114) to disconnect the pump until on next operating lever. The trip spring (251115) returns the pump trip rod (251111) and trip tube (251113) when the coil (251114) is released.

To remove the hand trip rod (251111), disconnect pump trip spring box (251112) by loosening the nut (251118) and removing the nut, washer, and spring at the end of the rod (passing pulley). Then remove the connecting pin (2245) from pump bell crank connecting rod (2210) (the nut must be removed from the machine), push the pump crank (251111) away to the galley side of machine so that the end clears the railing, and then draw the rod out from the spring pulley side of machine.



THE LEAST OF THESE

The essential point about branding goods and packaging them is that goods so marketed can easily be *recognized* by the purchaser if they do not come up to expectations. One takes a chance on an anonymous product, and if it happens to be poor value, the most that happens is he gets a bad one. But if one is disappointed with

remember it in order to refuse it if it fails to live up to promises.

But accidents will happen, and factory inspectors and operatives are human beings. Hence an immense variety of packaged goods create a purchaser's slip, saying in effect: "Some one made a real inspection of these goods to assure they

Examples of Pecker's Slip
(any surface, smooth. This
is Pecker's Slip. One side shows a
number to file. This is a real
slip printed on green paper.)

No. 933558
C.Na.

THIS IS A REAL INSPECTION OF THE GOODS
+ + + + +
PURCHASED BY THE
C.N.A.
In case of any complaint, please
return this slip to the factory.
This is a real inspection. Please
return this slip to the factory.
+ + + + +

In case of complaint, please
return this slip
Pecker's No.

This card must be
returned with
ANY COMPLAINT

packaged goods that make definite claims in advertising, one can say "This is an example of the appearance of the brand on this package shows that the goods passed the manufacturer's standards." And to the good side of all the boasting and blowing that is a plain on the retailer's shelves. The manufacturer who asks you to remember a brand-name is asking you to

live up to our promises. If that inspection was careless and sub-standard goods were passed, give us another chance: return the goods with this identifying slip so that you may have the thing you wanted—and so that we may tighten up the inspection."

Almost every piece of printing is an advertisement in its own right. It is the only

of other pieces in the edition. An exception is the place which bears the print or perforation of a manufacturing machine. The packer's slip must be numbered, or given some other variable identification. It must be small and light, compact and easily separable from any other literature in the package, as simple as possible, and yet so well placed and well designed as to perform its task without irritating the buyer.

This series has dealt to some extent with various "fourth century" jobs which have shown the printer-artisan at to-day setting his wits to work on technical problems unknown to the "first book" printer. Kinds of printing that used to be bracketed with the "mere jobbing"—time-tables, menus, etc.—have been re-styled with an eye to more efficient function, and as an almost unconscious result, we have had some catalogues and time-tables that are as attractive in their clean simplicity as any piece of printing. To-day the printer no longer turns his searchlight of logic into the darkest and darkest corners to find new problems. Even the packer's slip, which in our sense could be called the most "negligible" little thing that could come out of a printing office, has not escaped his vigilant eye. One might say that an exhibition of every kind of printing would come from the great Oxford Lecture Bible down to the packer's slip.

For it would be foolish to get further away from the idea of fine printing than that.

The least of these turns out to deserve all the care and ingenuity that a good copywriter, plus a good designer, can bring to it. It is the personal message of the manufacturer to the individual buyer of his good—not to the whole anonymous "general market". If it is very badly printed the effect of carelessness and laziness will counteract the purpose of putting in the slip at all. In other words, this is the ideal instance, in typography, of the fact that anything worth doing at all is worth doing effectively.

A reader of the *Chicago Record* has kindly sent us a most interesting collection of contemporary packer's slips. Most of them are so bad that it would be hard to the manufacturer to repeat them. We have therefore chosen four of them to show how even a small piece can say in format and typographical arrangement.

The examples speak for themselves, but it should be noted that some coarse numbers in the numbering machine or rubber stamp are bound to spoil the effect.

[We hope to return to this case in a future issue of *The Reader* when other small job work, like confetti, in its way, of the trade, will be dealt with at greater length.—ed.]

TECHNICAL QUESTIONS

ANSWERED BY R. L. KILGORE

Q.—A job on the keyboard is of tabular nature and consists of three columns 10 ems, 12 ems, 12 ems, making a measure of 34 ems of 10 pic. 12 set. In the first column of 10 ems, three words appear consisting of a total of 24 letters which, with two 4-unit spaces, make 10 ems and 6 units. How is it possible to reduce this unit value of the letters to provide a discernible space between the words and still be not more than 10 ems, as the nature of the job does not permit of turn over lines? The keyboard is about twenty years old and not fitted with any recent attachments since purchase.

A.—The trouble here is, not a simple problem, but is a really tangled up one, as it appears. There are three points to be considered: (1) the first type of the line measures 10 units in thickness, as it must range with the leading side of the column; (2) the two word spaces must be reduced to the permissible minimum of 2 units, even on the first letter of the last two words, leaving the line still 10 units long; (3) the surplus of 2 units must be taken from the remaining 24 characters, by reducing their set width. This reduction will be only .00057 per character, or one meter of the first just leading wedge. The two word spaces of 2 units each will be cut on the first type of the last two words.

Two units $\frac{1}{2}$ set measure .0150", and this divided by 24 shows a necessary reduction of each of the 24 type bodies by .00057. To obtain the needed wedge measurement, just 12-7. The excess the .00057 wedge is made in the figure.

Set the last letter of the words in the new manner, then the remaining characters of the first word, introducing the "S" perforation with each character, justify 5-7. Set the first letter of the second word, introducing the "S" punch, justify 5-8. If it is still minus 2 units to be added

on the left of the letter, set the remaining letters of the second word, introducing the "S" punch, justify 5-7. Set the first letter of third word introducing the "S" punch, justify 5-8. Set the remaining letters of the third word introducing the "S" punch, justify 5-7.

It should be remembered that above the justification wedges are in the 7-8 set line, the set width of the characters is normal and 12 has space between wedge is also put in justification, and from these positions of the justification wedges any movement to the right indicates the thickness of the type bodies, and any movement to the left, increase their thickness.

Q.—In the Garamond beyond the quad and spaces are found in a different position from that on the standard line beyond. Why is this?

A.—We think you are referring to the difference in the case of the ornaments, comparing those with the ornate initials in the H. A. section and those with the ornate quad marks in the D. 15 and 16. The lower letters are the more modern forms. In those beyond the roman characters, being too much frequently used, are positioned in the middle case of the matrices, 4 sets in addition to the lower and the only way.

Q.—It is necessary to work two forms of different set together in one layout. What is the greatest increase or decrease it is possible to work without the lines concerned appearing too "white" or too condensed?

A.—It is not advisable to mix in the same matrix case two sets, one "white" and one narrow. Use the colony of the lead of working in the smaller set. If the difference in the sets goes past the limit of the 5 unit characters would be set up .001" less than the normal width of the characters, but

TECHNICAL OVERVIEW

This 18-m² 1-thick rock could be used to cut the morning sunrise as based on the parameters to controlling the holes and time around the rock on the weather and impact the hole is justified, but it is particularly a form that can be achieved after by only 1/2 in. of the composition of it to be used to the larger set wedges. In this case the degree of change is slightly greater, but this is directly negligible. Some uses combine these with some a difference of 1/2 in, but going beyond this distorts the appearance of the specific hole to be a same number.

Q.—In my machine the 12-mil spacer read from the 345 justification wedge position is slightly less than the 14-mil read. Why is this?

4. *Result:* The data indicate that the wedge made a difference in controlling the flexion of the wedge and in turn, it provided a line of a given number of guide and measure exactly the same distance that took the upper or lower transfer wedge in operation.

Q: What is the cause of the perforations in the paper ribbon being out of alignment with the marginal holes?

1. **Introduction**

1).—What is the lowest air pressure required to run a highway, under, and occasionally a type and rule under?

A 4-T main pressure supply led to run "Mundtype" machines has been standardized at 10 lb. per square inch. To run keyboards at different air pressure causes undesirable differences in output.

Q.—In view of the amount of hand-work involved and also that the items might be out of course in their columns, would not the following method of sub-dividing the column be preferable to that advocated by Mr. E. A. Halliwell in the *Springer* of 1891 "The Recorder"?

For setting table headings with sub divided columns, the nut wheel should be turned back to allow for the rules that do not cut through the columns being set. This method eliminates all hand work and enables the operator to set to evenness of set—a great improvement.

The examples given will be set as follows: Measure, 22 cms (1 unit); rule allowance (2 pt. rules) 17 units $3\frac{1}{2}$ set; keyboard measure 31 cms 12 units.

When setting the first three lines the unit wheel is turned back 12 units, say, after making 2 quads, the lines being set and justified in the usual way.

The activity of lines 4, 6 and 8 is almost the turning back of 4 units on the 4 units level at columns marked X. Before these lines are justified the allowance for two rules is made by subtracting the number of units turned back in the line from the total rule allowance, in this case 8 units. Lines 7, 9 and 8 are set in the marginal, but before justifying the total rule allowance is reduced, 17 units.

There still exists the slight inaccuracy in allowing for a single rule, but in practice this makes no difference even in the most intricate work of this description. V. I. May.

4. The income section is those on E & S's valuable information all these very interesting things go between now and later, some of them for comparison. The method of string together our book by Mr. V. E. May has many arguments in its favour and is recommended to operators for their close attention.

THE MONOTYPE CORPORATION LIMITED

15 Fench Lane, London, E.C.2

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840. 84

Representatives of The Village of Chippewa would not be in any one of the categories of increasing casual, racial expenditure or of "heavy" welfare and public utility and municipal services, but rather and a few on one side only.

U.S. XCELLENCE

| | |
|------------|---|
| 9. Date | 25th India Street, 64 To whom from, Period 1944-5 |
| Remittance | Kelly's Court, 129 Colman Street, Choral 1200 |
| Billings | 15 Thomas Street, Choral 1200 |
| Members | 1 St. Anne's Manager, 25 St. Anne's 1200 |
| Notes | 70 Union, 1200 21 St. Anne's 1200 |
| Books | 25 St. Anne's, 1200 21 St. Anne's 1200 |

11619913, 00556118

| | |
|--------------|--|
| China | The Sincere Corporation Ltd., 17 The Raffles Building,
The Sincere Co. (Singapore) Ltd., 27-28, South Bridge Road, Singapore.
Singapore, 1011, Singapore, Sincere Road, Singapore. |
| South Africa | Montague Publishing & Printing Ltd., 6 & 7 Jackson Road, St. Albans, Kent, England.
1990, Cape Town. |
| Australia | The Monarch Publishing Co. Pty. Ltd., 1011, Victoria Street, Sydney, N.S.W. |
| New Zealand | 40 Victoria Street, Christchurch, New Zealand.
C. J. Morrison |

CONTENTS, INDEXES

| | |
|----------------|--|
| Spain | El Valle de Aragon (Monte Negro), 25 km N of Sierra de Guadarrama, Pinar, XXV/1 |
| Germany | Niederlausitzer-Park (Monte Negro) Garmisch-Partenkirchen, Baden-SW/1, P. 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, |

[illegible]

PRINTED IN GREAT BRITAIN AND PROMPTLY TO
THE LONDON CORPORATION PRINTERS, AT FLEET STREET, LONDON, E.C.4