used by type-founders a fount of 125 ft Roman with, as its comple­ment, 10 lb Italic, includes 8 oz. of E, M, C ; 9 oz. of T ; 8 ft of e ; 5 ft each of a, h, n, o, t ; and so on, down to 3 oz. of z. To estimate the quantity of type required for a page, the number of square inches it contains is measured and divided by 4, the quotient being the approximate weight of the matter in pounds. In small founts, however, 50 per cent. is added, and in large ones 30 to 40 per cent., to allow for the letters generally left in the cases, not being required in the job, and for sorts, &c. These figures, although useful, are only approximative, the proportion of the several ingredients of type-metal used by different founders for the various sizes of type greatly varying the calculation.

Each of the parts of a type has a technical name. In the an­nexed diagram (fig. 1) of the capital letter M the darkest space *a, a, a, a,* is called the *face* ; and only that part of the type touches the paper in printing. The face is divided into the *stem,* marked 1, which comprises the whole outline of the type M ; the *serifs,* or the hori­zontal lines marked 2, which complete the outline' of the letter ; the *beard,* consisting of the bevel or sloping part marked *b, b,* and the *shoulder* or flat por­tion below *b.* The shank is the entire body of the letter, *d,* the front part (that shown) being known as the *belly* and the corresponding part behind as the *back.* The spaces at *h* and *h* are the *counters,* which regulate the distances apart of the stems in a line of type. The hollow groove extending across the shank at *e, e* is the *nick,* which enables the work­man to recognize the direction of the type and to distinguish different founts of the same body. The absence of this simple expedient would retard the operation of composing types by fully one-half. The earliest type-founders did not know the use of the nick. In some letters, such as j and f, a part of the face overhangs the shank ; this is called the *kern.* The groove *g* divides the bottom of the type into two parts called the *feet.* An impression from that part of a type on which it stands would be as Types must be perfectly rectangular, the minutest deviation rendering them useless. Any roughness at the sides is called *burr,* and any injury to their faces a *batter.* Smoothness, sharpness of angle, and perfection of finish are also prime requirements. A line of types, when viewed along the back, presents the appearance of a solid bar of metal.

Types which have the face cast in the middle of the shank, as a, c, e, m, &c., and thus leave an open space above them corresponding to that below, caused by the beard, are known as *short letters.* Those whose stem extends to the top of the shank, as b, d, f, &c., are called *ascending letters.* Those that have a stem extending over the shoulder, as g, p, &c., are called *descending letters.* Those that are both ascending and descending, and extend over the whole of the shank, as Q and j, are *long letters.* Small letters and figures cast upon the upper part of the shank, as lα, are called *superiors ;* those very low down on the shank are *inferiors,* as H3. Types that are very heavy and massive in appearance are called *fat-faced ;* those that are fine and delicate, *lean-faced.* A type whose face is not in proportion to the depth of the shank *(e.g.,* a small pica cast on a pica body) is a *bastard type.*

Types are of various sizes, ranging from those used in printing pocket Bibles to those for large placards. The variation is con­fined to the superficial dimensions of their ends, or *bodies,* as they are called. Each body has a distinctive name. The following are specimens of the principal bodies of ordinary types, and show the relation of the various bodies one to another—

It is a confusing and inconvenient anomaly that the types made by different English founders vary in size, although they bear the same name. The above figures refer to the types of Messrs Miller and Richard, the royal type-founders for Scotland ; but other eminent makers supply, for instance, long primer which is 89½, 90, or 92 lines to the foot. This has been remedied in America by an agreement on the part of the founders to adopt one standard pica, to divide that pica into a certain number of equal parts, and to cast all their types as multiples of one of these parts. They divide the pica into twelve points, and the point is the unit upon which the system is based. There is also another practical advan­tage in this multiple system : each type bears a simple proportion to the others, and therefore can be used in exact combination. Thus pearl is 5, nonpareil 6, minion 7, brevier 8, bourgeois 9, long primer 10, small pica 11, and pica 12 points. In Germany, France, and other countries of the Continent a uniform system of points has been adopted, based on a scale of 133 “ Ciceros” (corpus 12) to 60 centimetres. The types which most nearly correspond to those already mentioned are :—

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Point Ems to | Size in  Centi- |  | Point Ems to | Size in  Centi- |
|  | Foot. | metre. |  | Foot. | metre. |
| Perl 5 | ..162∙15 | •1879 | Borgis 9 | .. 90∙08 | ∙3383 |
| Nonpareille 6 .... | .135∙12 | •2256 | Garmond 10 | .. 81∙07 | ∙3759 |
| Colonel 7 | .115∙83 | •2632 | Cicero 12 | .. 67∙56 | •4511 |
| Petit 8 | .101∙34 | ∙3008 |  |  |  |

The number of lines given to the foot in the above specimens of bodies is the theoretic and practically the only approximative standard. The height of types varies slightly with different founders, the mean being 29/32 in. The old Scotch height is about 1/100 in. higher. Types lower than the ordinary dimension are said to be *low to paper,* and if surrounded by higher types will not give a perfect impression. Spaces and quadrats were formerly only three- fourths of an inch in height ; but, since electrotyping has become so common, they are almost invariably cut high, *i.e.,* up to the shoulder of the type. Six lines of pica and twelve lines of nonpareil each cover an inch in depth. It is, however, not possible to know the size of a type in a printed page by placing a rule measure upon it, as many books are not set solid : the lines are not close together, but leaded out with pieces of lead, to make them cover a larger space. A communication of great importance contributed to a newspaper may be set up in the same type as the leading article ; but if not leaded it will appear to the non-technical reader to be in a smaller character.

The width of pages or columns, in the technical language of the printing office, is expressed according to the number of “ems,”—