character, history, art, and other library works : it is suffi­ciently large for weak eyes, and not too great for moderate­ly sized 8vo pages, being in fact the just medium. There are 71 ms to a foot, and it is equal to two Nonpareils.

Small Pica (Fr. *Philosophie ;* Ger. *Brevier)* is perhaps the most extensively used of all the founts, being a very useful and well-proportioned letter. Novels are almost always printed in this body. 83 ms to a foot ; equal to two Rubies.

Long Primer (Fr. *Perit Romain;* Ger. *Corpus)* is like­wise much used, being very well adapted for works in 12mo, dictionaries, and other works in which much matter is to be got into a small space : it is the type of the Waverley Novels and of this Encyclopædia. 89 ms to a foot: two Pearls.

Bourgeois (Fr. *Gaillarde ;* the Germans have none to cor­respond) is much used for the same purposes as Long Pri­mer, and in solid matter is difficult to distinguish by the eye from that body. 102 ms to a foot: two Diamonds.

Brevier (Fr. *Petite Texte;* Ger. *Petit* or *Jungfer)* is so called from its having been much used for printing breviaries. It is much employed for small works, and for notes. 1121 ms = 1 foot

Minion (Fr. *Mignonne ;* Ger. *colonel)* is chiefly in use for newspaper advertisements; it is a very pretty fount and well adapted for pocket editions. Prayer-books, and Bibles : it is perhaps the smallest of readable sizes. 128 ms = 1 foot : half English.

Nonpareil (Fr. and Ger. *Nompareille),* used for the same purposes as Minion. 143 ms = 1 foot: half Pica.

Ruby (no body to correspond in France or Germany), used for pocket dictionaries, prayer-books, &c. ; but it is too small for any but the strongest sight 163 ms = 1 foot: half Small Pica.

Pearl (Fr. *Parisienne ;* Ger. *Perl),* used for the same pur­poses. 178 ms = 1 foot: half Long Primer.

Diamond (Fr. and Ger. *Diamond)* is the smallest body cut; it is distressingly small, and is used mostly for notes to works in Nonpareil and the descending bodies. The French have succeeded in cutting the face so small as to be illegible, and an annual lately sold in London in this letter is accompanied with a magnifying glass. 205 ms = 1 foot: half Bourgeois.

The principal apparatus in the casting of type are the punch, the matrix, and the mould. The punch (or puncheon) is a piece of steel bearing upon one end a single letter, which is formed by hammering, filing, and other processes, and differs in no other respect from ordinarv punches than the unusual care and accuracy with which it is worked. It must be remembered, that as each letter is but one of a large number with which it is to harmonize, the height must be obtained with the greatest precision, the breadth both of the heavy and the fine strokes must be carefully proportioned, the turns graceful. This general harmony is not very difficult to attain in the coarser fancy tvpe, there being in this, as in other arts, little merit in imitating the vulgar or the grotesque; but the elegant and symmetrical face of book type is as difficult to attain as the exquisite grace of the higher productions of the arts ; and yet, to such perfection have modern artists attained, that the prac­tised eye has little difficulty in assigning an individual letter to its proper fount, and even, if the printer has turned his attention to the particulars of his art, to the foundery and the artist, the punch-cutter of a foundery of character having **a** professional reputation, like a painter or engraver. Mr Moxon, a mechanician of great ingenuity, in his Mechanical Exercises, has the credit of first assigning rules for the shap­ing of letters, laying down geometrical rules for the angles of inclination, the curves, and for adjusting the base from which the shoulders of the letter should rise to obtain the greatest strength. From this the modern artists have varied, obtaining great sharpness of appearance combined with strength and durability. Although beyond a doubt Mr Moxon’s formulæ have been of great advantage to subsequent punch-cutters, he was by no means a successful artist himself; his type, cut upon the most philosophical principles, being uglier than that of his contemporaries. The matrix is a small piece of copper into which the punch is struck. Much care is also requisite in doing this, although, provided it be struck suf­ficiently deep, the surface of the copper may be filed down so as to leave the impress of the exact depth. It has been explained in the article Printing, that to obtain equa­lity of impression the face of the composed type must be in an exact plane, from which it will be easily understood that the just depth of the impression in the matrix is a mat­ter of much importance. The copper must now be care­fully dressed at the ends and sides, in order that when ad­justed in the mould, the character, when cast, may be so placed upon its body that it shall stand exactly even with its brother characters : the nicety required in this is sur­prising.

The mould is a very simple but very ingenious appara­tus, consisting of two parts, so contrived that, being pro­perly placed together (viz. *a* 2 in *a* 1, *b* l in 6 2, *c* 2 on *c* 1, and *d* 1 on *d* 2), they form, in the centre *e,* a space, which is geometrically described as a parallelopiped, being, in fact, the mould in which the type is formed ; the ma­trix *f* is placed at the bottom ; the metal is poured in at the orifice formed by the closing of the upper parts. It will be seen that the two parts which form the mould slide upon each other, and that the extent to which they close is regulated by the width of the matrix ; and that therefore all types of one fount, whether the broad 4-m quadrat or the narrow i or 1, may be cast in the same mould. The spring at the bottom of figure 2 retains the matrix in its place, and without removing it the rew letter cannot be disengaged ; the hooks at the top are used to remove the letter from the mould. *f* is an enlarged drawing of the matrix.

The caster, with this apparatus, stations himself by the side of a furnace containing the melting pot and the fluid metal, of which he takes a portion with a very small ladle, and having poured in a sufficient quantity, jerks the mould into the air with his left hand (a very singular movement), which has the effect of expelling the air and forcing the metal into the finest strokes of the matrix. He then with one finger releases the spring, separates the mould, and hooks out the letter with one of the pieces of bent wire represented at the top of the mould ; and so proceeds with considcrable rapidity, casting about 500 letters in the hour, of ordinary sized type, although the smaller and the larger