

Types for the blind / [George Gibson].

Contributors

Gibson, George, of Birmingham.

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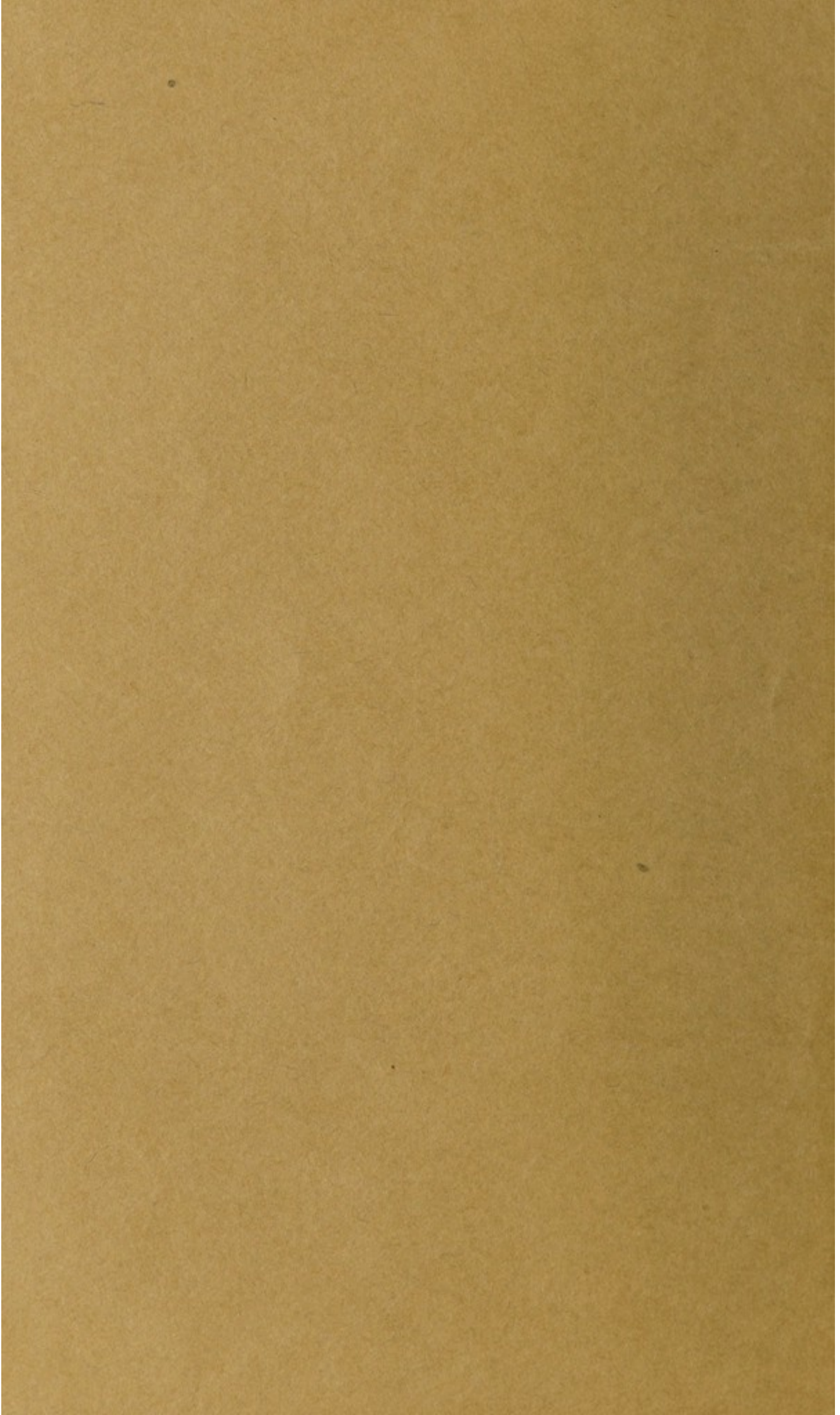
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Gibson.

Types for the use of the Blind.



spaces back as there are notes to be joined, and then drawing the joining line. A fork, fig. 9, is inserted into the brass edge of the ruler *k* (as shown in fig. 1) as a guide, between the prongs of which any words, as *allegro*, &c., are to be written.

Further Details.

Fig. 1 is a top view of the instrument.

Fig. 2 is an elevation, the side *ff* being removed by drawing the screws *hh*: the side *ff* is shown by itself, fig. 13.

Fig. 3 is an elevation of the board, and of the slide *k*, at right angles to fig. 2: the same letters in each indicate the same parts.

The board *ac* is covered at top with tin plate, in order to oppose a firm pressure against the writing style. A sheet of paper previously dampened is laid on the board, and is secured steadily in its place by pressing the wedges *ee* into the grooves *dd*, which they are represented as occupying; and this is done most conveniently by removing the side *ff*.

The side *ff* being now replaced, and the blacked paper being laid smoothly over the white one, the slide *k* is to be introduced, by placing the edges *mm* into the grooves *ii*, fig. 3.

The slide *k* consists of the following parts: a knob or handle to move it by; a spring click, composed of, *v* a stud, in which is inserted a steel spring, terminated by the wedge-shaped click *u*; a brass plate *qq*, secured by the screws *rrr*, having ten sets of lines raised on its surface, and its exterior edge being serrated with teeth, to indicate the position of the ledger lines; holes *ww* are also made intermediate between the raised lines, in order to receive the pin *x* of the fork, figs. 9 and 10, the



square extremity of which, z , takes into the holes $y y y$. There is also a series of holes $\acute{a} \acute{a}$ on the slide, into any one of which may be put the pin b' , to show at what line the person using the machine left off, and therefore, where he is to begin again.

Figs. 7 and 8 are an edge and top view of the brass plate, of the full size.

Figs. 4 and 5 are the ruling slide; l the body, $m m$ the feather edges of brass which are received into the grooves $i i$, fig. 3; $n n$ a flap hinged to the body; $o o$ the ruler, formed of pieces of stiff wire; $p p$ the handle. This slide is to be introduced at the end of the board, fig. 1, opposite to that by which the slide k is inserted, and is to be brought up in close contact to k , so that the ends of the wires $o o$ touch the ends of the raised lines $s s$; pressure being then made, and the ruling slide being at the same time slowly drawn out of the board in the direction c , the lines b will be ruled on the paper.

The slide l , of which fig. 6 is an edge view, is now to be introduced in place of slide j , and the musical notes, &c. are to be written as already described.

When the whole is finished, the peg, fig. 12, is to be introduced into the holes, beneath the wedges $e e$ shown in fig. 2, and by moderate pressure, the wedges are forced up, and the paper may then be removed.

III.—TYPES FOR THE BLIND.

The GOLD VULCAN MEDAL was this Session presented to Mr. GEORGE GIBSON, of Birmingham, for his TYPES FOR THE USE OF THE BLIND, a set of which has been placed in the Society's Repository.

At the Institution for the Blind, in Paris, the pupils were, more than forty years ago, taught to read by the Abbé

V B C D E F

Mr G. Gibson's Apparatus to enable the Blind to Write & Read.

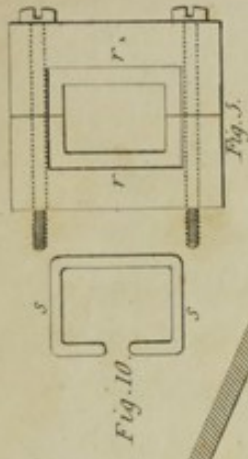


Fig. 5.



Fig. 6.

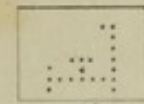


Fig. 7.

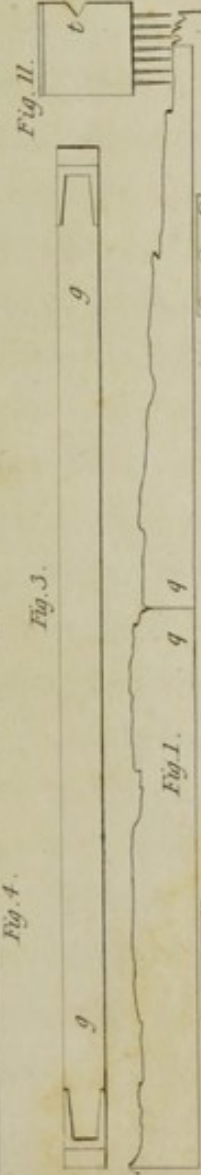


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 7.

Fig. 8.

Fig. 9.

Fig. 10.

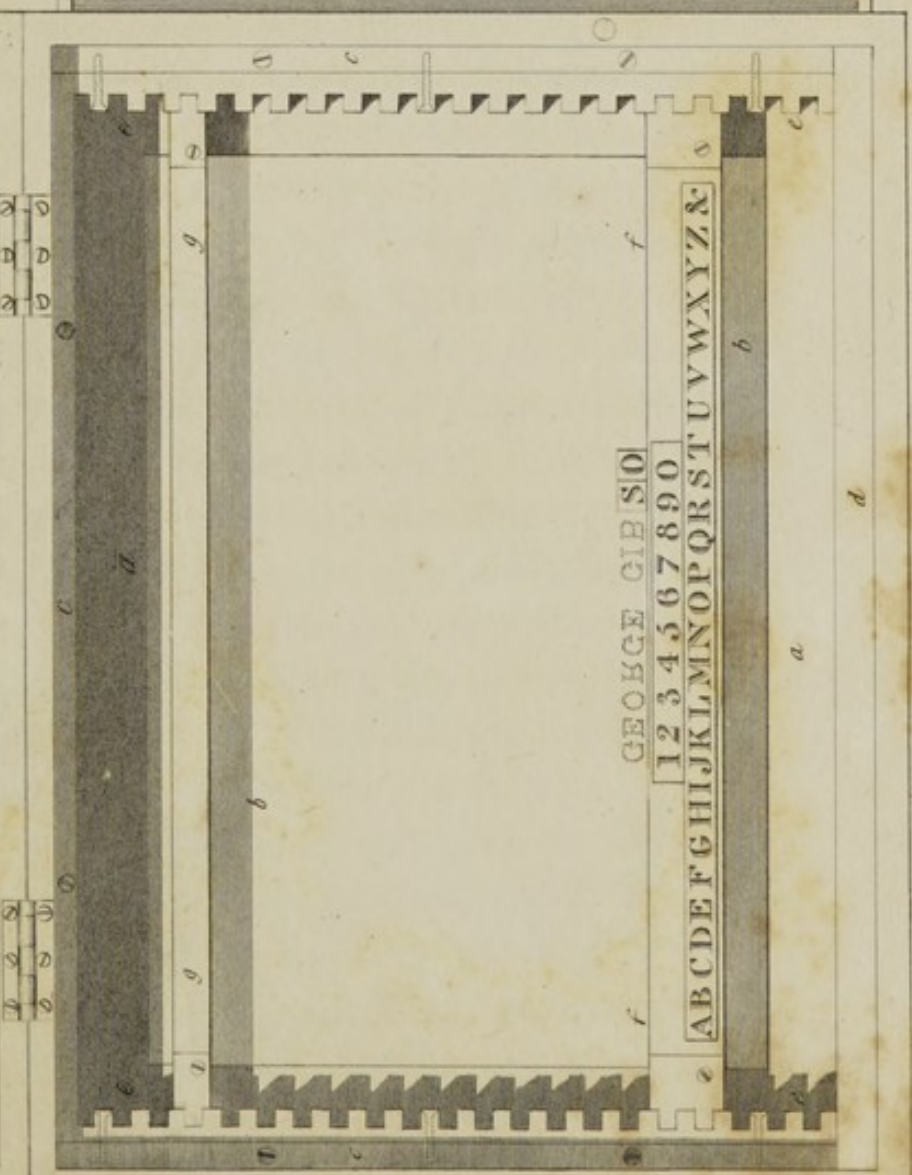


Fig. 2.

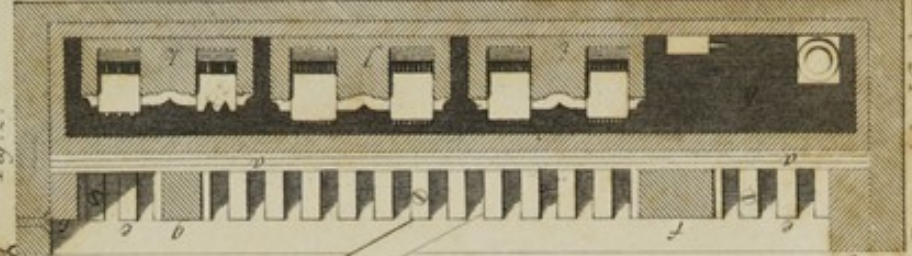


Fig. 3.



Fig. 4.

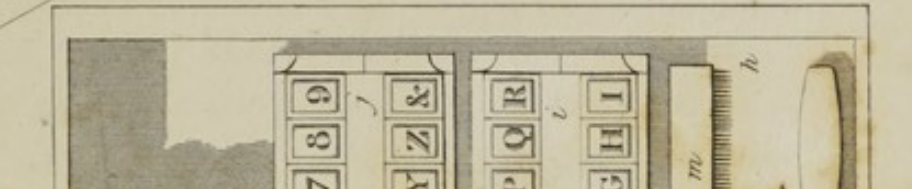


Fig. 5.



Fig. 6.

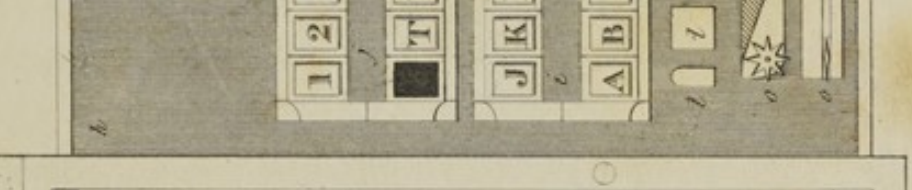


Fig. 7.

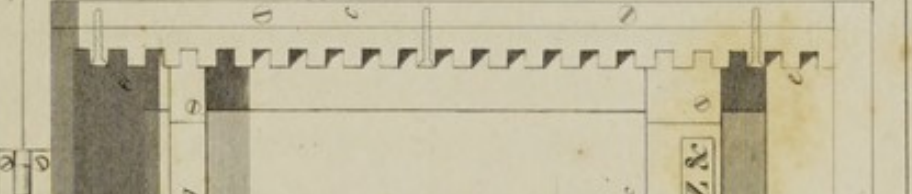


Fig. 8.

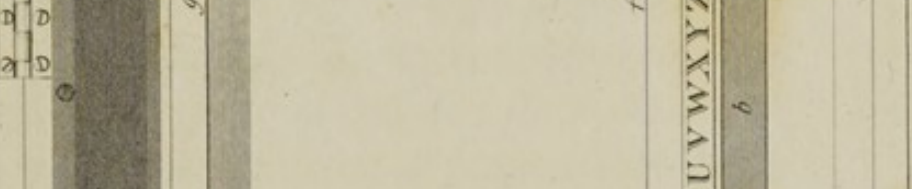


Fig. 9.

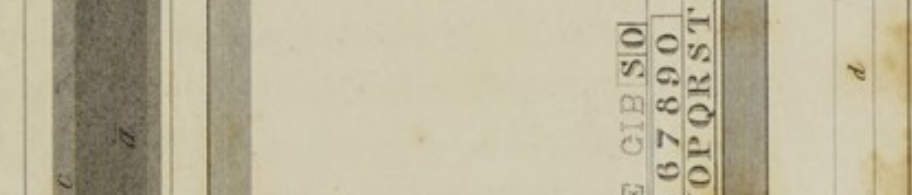



Fig. 10.



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Sicard, who adopted a mode of printing in embossed characters, the forms of which, in consequence of their projecting from the paper, were easily recognized by means of that fine touch in the fingers which the blind are so often found to cultivate as a substitute, however imperfect, for eye-sight. Mr. Gibson, who has been blind from the age of three years, has also adopted a species of embossed letters, but has very ingeniously made them the foundation of a mode of writing and keeping accounts, available by the blind, and perfectly intelligible without instruction to those who can see. It is, indeed, not very expeditious, but besides being an amusement, is also capable of very useful application, since Mr. Gibson hereby keeps his own accounts, and writes many of his letters.

A cube of wood, or of any other convenient material, the size of which will depend on the delicacy of touch in each blind person, is to have raised on one side of it a letter, or figure, or stop, in the manner of a printer's type. On the opposite or lower side of the cube, is the representation of the same character as is on the upper side, but formed of needle points inserted into the wood. If, therefore, a piece of paper be laid on a cushion, or surface of felt, and the type be pressed down, the points will enter the paper, and form on the under surface of it a raised or embossed representation, by the projection of the burs where the points have penetrated, and this embossed character may be distinguished, and consequently read, by the touch.

In applying this ingenious device, the inventor has a shallow rectangular box, with a wadded bottom, on which the paper is laid. It is held firm by means of moveable bars which stretch across from one grooved side of the box to the other, and represent the spaces between the lines.

A case contains the types, placed in alphabetical order, also the ten numerals, stops, spaces, breaks, &c. in a

known and invariable order, which is soon learnt. The first letter of the first word intended to be written, is taken out of its case, is applied to the edge of the box, and touching the ruler; it is then pressed down, so that the edges of the points shall pass through the paper. The next letter is applied in the same manner beside the first, and when this is done, the first is taken away and put into its place, and so on till the word is completed. A blank type, forming the space between two words, is then placed, and the second word is then begun and finished as above described.

Mr. Gibson truly observes, that an objection may be made to the cost of the paper, as it can be written in this way only on one side, and the characters must be at least as large as full-sized printing capitals; but this objection he states is by no means so great as it seems to be, because waste writing paper, such as has been written over with pen and ink, will answer the purpose of the blind quite as well as any other.

In the course of the inquiry which the subject underwent in the Committee, a specimen was produced of a short devotional piece, executed in pricked characters, and used in the school for the blind at Zurich. Whether this was pricked by hand or by a rolling cylinder, similar to that by which dotted patterns are impressed on printed calicos, does not appear, but the invention seems at Zurich only to be used in teaching the blind to read, as being cheaper and more convenient in its application, than the embossed types of the Abbé Sicard.

SIR;

Birmingham, May 2, 1827.

Annexed I hand you a complete explanation of the method by which I make my types, which I have no doubt you will fully understand; and with respect to the

apparatus, &c. I presented to the Society, it was always my intention that it should remain in the possession of the Society, if they thought it worthy of their attention. Of course I did never intend, after presenting it to the Society of Arts, to apply for a patent for the invention, it being my wish that the publication of it might be as useful to others as it has been to me. I feel highly gratified for the honour the Society has conferred on me, by voting me their Gold Vulcan Medal, and shall value it much more than any thing else that has ever happened to me in my life.

I am, Sir,
&c. &c. &c.

A. Aikin, Esq.

Secretary, &c. &c.

FOR GEORGE GIBSON,

M. GIBSON.

Reference to the Engraving.—Plate IV.

Fig. 1 represents an open box, and on the right hand an open drawer, which contains the apparatus for guiding the type, and in which the writing is to be performed.

Fig. 2 is an end view of the same in section; they are drawn one-fifth part of the real size: *a a* the surface on which the paper *b b*, fig. 1, is laid, it is made of different squares of green baize, or flannel, so as to form a soft and even cushion one quarter of an inch deep, in order to receive the impressions of the type through the paper without injuring them or preventing the bur. The box is one inch and a half deep above this bed or cushion; it is kept down by the frame or bars *c c c* and *d*; two brass racks *e e, e e*, are screwed against the end bars *c c*, to receive two moveable bars *f f* and *g g*; these serve to hold the paper *b b* down, also as rulers and as guides to

the type ; *h h* is a drawer also, one inch and a half deep, to contain the nests of type *i i*, *j j*, and *k*, they are shown in section in fig. 2 ; each type has a separate cell, lined at bottom with a sufficient thickness of baize to receive the type points, and preserve them from injury. Each type has a raised letter on its top the right way up, and as the words are composed by feeling these letters, the writing is direct, while the type formed with pins at the bottom is always upside down. The writing being performed on the back of the paper, it is placed upside down, and the writing is begun on the bottom line, and proceeds gradually upwards ; thus the puncturing type being upside down, enables the writer to begin at the left hand, and spell his words direct, as usual, to the right. The notches of the racks are just enough wider than the letters, to leave a space between the lines.

The writer begins by placing the bar *f f* over the lowest or rather nearest margin of the paper, and then with the right hand selects the first letter from its cell, suppose *G* for the name George, and beginning at the left, places it against the guide-bar, then with the left hand he presses it through the paper into the soft bed ; he then takes the next letter, *E*, and places it against the bar close to the first, and presses it in ; the first letter may then be removed back to its cell, and the third letter, *O*, taken and pressed in close to the second, which then may be removed, and the fourth brought, and so on till the word is finished ; then a piece of ivory, *l*, is taken from the drawer, it is of the right thickness to form the space, and is placed against the last letter ; the first letter of the next word is then brought and placed close to it, this leaves the right space to divide the words. Two types, *S* and *O*, are shown in fig. 1, as forming part of the name Gibson ; the type *S* is ready to be removed, and the type *N* is to be brought and pressed down close by the *O* ;

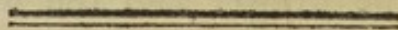
the name is then finished, and if no more is to be written on that line, the types are removed, and the bar *ff* placed one notch higher, for the next line. The bar *f* is made twice the width of *g g*, and fits into two notches of the rack, that it may hold firm and steady while arranging the types against it; two brass plates are fixed on its top, containing the alphabet and figures in raised characters, to initiate the pupil into the forms of letters and figures.

Fig. 3 is a side view of one of these bars. As the type last put in is the guide for the next, two sets of letters and figures are required; *m*, in the drawer, is a bar containing a line of pins; *n* is a short line of pins for making short lines; *o* is a pointed roller in a handle, which is also shown in section, for ruling marginal lines, or columns of pounds, shillings, and pence, the bar *g g* may be used as its guide. The nest *k* contains type with one, two, and three lines, to serve for one, two, and three farthings; also type with one, two, three, and four dots, made with so many pins, to serve for a comma, (,) semicolon, (;) colon, (:) and period. (.) The drawer and the writing-box being the same depth, the nests of type will shut in either. The space *p* in the lid, may be closed with a flap or doors *g g* to contain paper.

Fig. 4 represents a copper-plate or plates, with letters either cut out, or formed with holes, and upside down. Strips of thin lead and pasteboard exactly the same width as the copper-plate are provided. The copper-plate is to be placed upon the lead, the pasteboard being under it, and with a sharp-pointed instrument the holes to receive the pins are to be pierced through the plate, the lead, and pasteboard. The letter thus formed must be cut as shown fig. 7, to fit the chamber or recess *r r* of the mould, figs. 5 and 6. After the holes are filled with pins, as fig. 8, the pasteboard is to be separated from the lead, as fig. 9, so as to leave the points a certain length,

the lead must then be turned over the heads of the pins, which forms the skeleton of the type, as shown in the half mould, fig. 6. When placed in the mould, a small square rim, *s s* fig. 10, is sprung into the chamber upon the pasteboard, to keep it steady. Care should be taken that the type is quite upright in the mould, and sufficient room left for the metal to surround it. The metal used for this purpose is composed of eight parts Bismuth, five of lead, three of tin, which is fusible in boiling water, as metal which requires a greater heat would tend to soften the pins. The mould should be set upon sand to be filled with the metal. The impressions for the tops are raised with punches upon lead; the type to be filed or made even, and the letter cemented on with gold size, or any other cement.

Fig. 11 is a side view of the types when finished; they are all notched as at *t*, to distinguish the top from the bottom of the letter.



IV.—ICE SAW.

The LARGE SILVER MEDAL was this Session presented to W. J. HOOD, Esq. Sen. Lieutenant, H. M. S. Hyperion, for an ICE SAW; a Model of which has been placed in the Society's Repository.

SIR;

Newhaven, Sussex, March 6, 1827.

IN reply to your letter of yesterday's date, I have to avail myself of the occasion of a friend going to town, to forward a drawing of a saw and frame for cutting through ice, and as I deem the invention to be a decided improve-



