

are sent to all parts of the world. To phonographers it is only second in point of interest to the Phonetic Institute at Bath. The proprietor of the office in Paternoster Row is Mr. Frederick Pitman, who is some years younger than his brother, Mr. Isaac Pitman. Some thirty-five years ago or so he opened a depot in London for the sale of Phonographic publications, and afterwards took a place in Paternoster Row, where he carries on the business not only of Phonetic publisher, but of musical and general publisher also. He takes no part in the publishing business himself, however, but leaves that in the hands of a manager, while he devotes his time to teaching phonography, having several classes per week, both public and private. He is also editor of the "Shorthand Magazine," established in 1866, and the "Phonographic Lecturer," established in 1871. Two magazines conducted by him for some time, viz., the "Phonographic Pulpit," and the "Phonographic Student" were discontinued in 1876.—*From the Phonograph.*

WANTED—BRAINS.

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THE capable Stenographer must not only think; he must *know*, and knowledge is his power. He must be skilled, of course, in the practice of his art; but he needs to be scholarly, too. His vocation gives him constant opportunity for acquiring knowledge, and makes continual demands upon him for its application; but he should not content himself with such means of education alone, as he stumbles across in his daily employments. He should cultivate habits of study and research. He needs such general information as is necessary to the journalist, and much of the special learning of the lawyer. It is of great advantage to him to be familiar with the nomenclature of the sciences, and to have some acquaintance with their general scope. It is a disgrace to a Stenographer not to be tolerably conversant with English literature, (he cannot be *too* much so) and not to be familiar with the phrases from foreign languages so commonly used in our own as almost to form a part of it, is likely, sooner or later, to render him ridiculous. He should be able not only literally to reproduce, with the accuracy of the phototypograph (as in the reporting of testimony), but to *interpret*. He should have the art readily to convey meaning in words more fitly chosen than those employed by a speaker, yet so accurately to express his thought that he shall recognize it as his own, and perhaps be agreeably surprised at the purity and flow of his own diction. This is often indispensable to render a report intelligible when read. Many speakers make their thoughts clear, and even eloquent, to an audience by the aid of gesture, facial expression and emphasis, whose language would be obscure to the reader unless remodelled.—*D. C. McEwen, at N. Y. State Stenographers' Association, 1879.*

THE STENO-PHONOGRAPH.



MR. J. HOWARD HUNTER, M. A., Principal of the Institute for the Blind, Brantford, in his last report gives an interesting description of an instrument which may sometime, next century, replace the ordinary shorthand writer. As our readers are interested in learning the latest developments of science, especially in connection with those appliances which are capable of annihilating them, we quote the description given by Mr. Hunter. The Steno-phonograph, it will be readily seen, is a most remarkable invention; and the only hope we can hold out to shorthand writers is that it may be some time before the wonderful Steno-phonograph shall have reached this hemisphere. If any of our readers can furnish further information in regard to this mechanical Stenograph, we shall be happy to receive and publish it. Mr. Hunter says:—

"Perhaps the most wonderful writing appliance ever invented was shown at Paris last year, in the Italian Section of the Exposition. M. Michela, the inventor, designed the instrument to replace the ordinary shorthand writer, and he calls it therefore the *Steno-phonograph*. The extraordinary speed that the operator could command attracted crowds of wondering spectators. M. Vitali, the Superintendent of the Milan Institution for the Blind, has studied the capabilities of this appliance with reference to the blind, and by experiments with his own pupils, he finds it quite within their reach. I here translate and condense the description furnished by M. Vitali. The instrument resembles a miniature harmonium with its case, key-board, and pedals. It is 17 7/10 inches long, 9 4/5 inches wide, 7 4/5 inches high, and by removing the pedals, it may be carried under the arm. There are 20 keys in two rows, and the intervening space is occupied by a cylinder of paper, feeding automatically, and extending nearly the whole length of the machine. The paper used resembles that in the Morse telegraphic register. The keys actuate levers, which print in slight relief the conventional phonetic characters, that are intended by M. Michela to constitute a universal alphabet and represent all articulate sounds. The words are written by syllables, each syllable being printed by striking together the necessary combination of keys. These syllables appear in a vertical order, the second directly under the first, the third beneath the second, and so on. The general principles of M. Michela's method remind one of Prof. A. Melville Bell's "Visible Speech," though the details and the characters themselves are quite different. Only six different symbols are employed in this new system, and these of the simplest form:—a single dot, two horizontal dots, a curve convex downwards, a straight line sloping from left to right, a curve convex upwards, and an inverted T. These symbols correspond respectively to the numbers 1, 2, 3, 6, 9, 18; and numbers other than these are expressed by combinations; thus, 4 = 3 + 1; 24 = 18 + 6. Ten vowels and 24 consonant sounds are recognized; but in these consonant or "accompanying" sounds are sometimes included *i* and *u*. The Abbe Vitali assures us from personal observation that the machine attains the wonderful speed of 175 to 180 words a minute, and that this speed can be maintained; also, that the manuscript can be read with the same speed that it is written. Now, the very best of our verbatim reporters cannot long maintain this speed, and their manuscript, from its personal peculiarities, is rarely intelligible to any but the stenographer himself. A blind operator can use Michela's instrument as rapidly as if he were sighted; and, usually having a cultivated ear, he would rather have the advantage in this phonetic work. The relief in which the characters are printed is almost too low to be legible to the touch, but this could be overcome, and at the worst the manuscript could be copied at length, or given directly to a compositor trained in the system. For a knowledge of the conventional signs sufficient to write words, 20 days suffice; but for stenographers' use six months would be requisite. The price at which the instrument now sells