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## THE TYPE WRITER.

In the month of July, 1867, we published an article describing a type writing machine, invented by a Mr. Pratt, of Alabama, which had then just been placed on exhibition in England. Referring to the subject of writing by mechanical means, we stated that "the manifest feasibility and advantage indicate that the laborious and unsatisfactory performance of the pen must sooner or later become obsolete for general purposes," and concluded our remarks with the suggestion that any one who should devise a practical machine of this nature would find before him a wide field and large demand for his invention.

It seems that the seed thus scattered broadcast through our columns has, in this instance, fallen upon fertile soil, for its fruit is now before us in the shape of a really practical typographer, accompanied by a letter from the inventor to the effect that his inspiration was derived from the idea advanced in these columns, and that he considers it due to our enterprise to inform us of the tendency of our labors.

The difficulty which everyone, heretofore attempting to construct apparatus of this nature, has encountered has been so to govern the types making the impressions on the sheet that the characters should follow each other in even lines and at proper intervals, in the same manner as the letters on a printed page. The ingenious manner in which this problem has been solved is shown in Fig. 2, which is a sectional view comprising the essential portion of the device. A is a lever or key from which a wire leads to the short arm of one of the type levers, B. These type levers, at the lower ends of which, C, the types are attached, are arranged in a circle, a section of which is shown in the engraving, so that when they are at rest they form a sort of pot, shaped like the frustum

of a cone. D is an inked ribbon passing over rollers and extending between the paper rolled on the cylinder, E, and the type. A pressure on the knob of the lever, A, pulls down the wire, which, drawing down the short arm of one of the type levers, causes the end of the corresponding long arm to rise up and strike against the ribbon, thus leaving the impression of the type on the paper. As these levers are arranged in a circle, and their long arms made equal to the radius of the same, it is evident that the type ends of all will strike exactly at the center, so that if a piece of paper be immovably held directly over that point, the entire alphabet, punctuation marks, etc., may be printed one letter over another on precisely the same spot.

The remainder of the instrument consists of various ingenious devices for moving the paper so that the characters may be printed in proper succession. Referring to Fig. 1, the operator is seen sitting before a keyboard or assemblage of knobs, each of which is marked with a letter or punctuation mark, and each attached to one of the levers represented by A in Fig. 1. The paper is placed on an endless belt and then passes over the cylinder (E, Fig. 2), situated on the top of the box inclosing the lower portions of the machine. This cylinder rests in a frame on wheels,

and is made to move bodily in the direction of its length by means of a weight.

We will now suppose that the operator begins to write. As she presses a key, it not only causes a type to fly up and leave its imprint on the paper, but, at the same time, it moves a rock shaft and dog, which, acting on a rack, permits the cylinder to be drawn, by the falling weight, a space equal to the proper distance between the letters in a word. The word being finished, the longer interval between it and the one following is obtained by pressing down the square frame extending beyond the keys in front, on which the left hand of

on a ratchet wheel on the side of the cylinder, causes the latter to rotate on its own axis a sufficient distance to place the paper, which rests on its surface, in a position to receive the impression of another line.

By means of other ingenious attachments, which we have not room to describe, the spaces between letters, words, or parallel lines can be altered at pleasure. Words or sentences may be underscored whenever it is required to do so. The instrument permits two or more copies to be taken at once, as in manifold writing.

It requires no especial skill in its manipulation. A child knowing its letters may use it after an hour's instruction, and indeed any one, after short practice, can easily become able to write from sixty to eighty words per minute. The motion of the hand is free, easy, and unconstrained, so that the monotonous movement of the pen is avoided and the labor of writing performed with far less fatigue to the muscles of the hand and arm. The resistance of the keys to the fingers is not more than from four to five ounces—the same as that of the keys of a piano—while their movement under the hand is about five sixteenths of an inch.

The advantages gained by substituting plain letter press for manuscript are necessarily very important. It is well known that, notwithstanding the practice of a life time, barely a title of ordinary manuscript is universally legible, while an almost incalculable amount of time is wasted in telegraph, post, printing, and law offices in deciphering obscure handwriting. To authors who are but slow penmen, the rapidity with which their ideas can be put in permanent form by this machine will prove of the greatest assistance. Others, whose penmanship is of the Greeley order, an undistinguishable mass of hieroglyphics, will have the satisfaction of producing manuscript that can be read, while the work of both amanuensis and printer can be performed at one and at the same time.

The instrument, in its present practical form, was patented by Mr. C. L. Sholes, of Milwaukee, Wis., under date of October 29, 1871, applications, however, for other patents on further improvements being still pending.

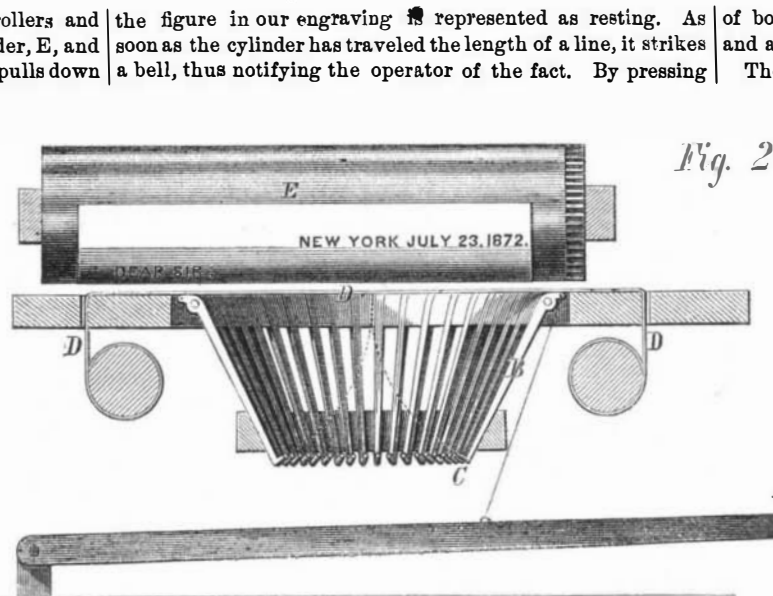
Those of our readers desiring further information should call upon or address Messrs. Roudebush, Densmore & Co., No. 4 Hanover street, New York city.

**ELECTRIC LIGHT.**—The Alliance Company at Paris, are now manufacturing improved magneto-electric machines for the electric light. These are now made with four disks, and supply from 230 to 300 carcel jet burners, with a speed of 350 revolutions per minute, and driven by a 2½ horse power steam engine. The machines certainly seem expensive, costing £320 each; but it is estimated that thereby the combustion of a few pounds of charcoal gives an illuminating effect equal to that of 25 pounds of colza oil. This mode of illumination, therefore, is ultimately inexpensive,

especially when applied on the large scale, for ships, large halls, lighthouses, etc., for which it is well adapted; and we shall, no doubt, soon hear of new applications of the invention.



SHOLES' TYPE WRITER.



down the treadle under the machine, the cylinder is drawn back to its starting point, the weight raised ready to descend again, and at the same time a lever is moved which, acting