

## The Evolution of the Typewriter.

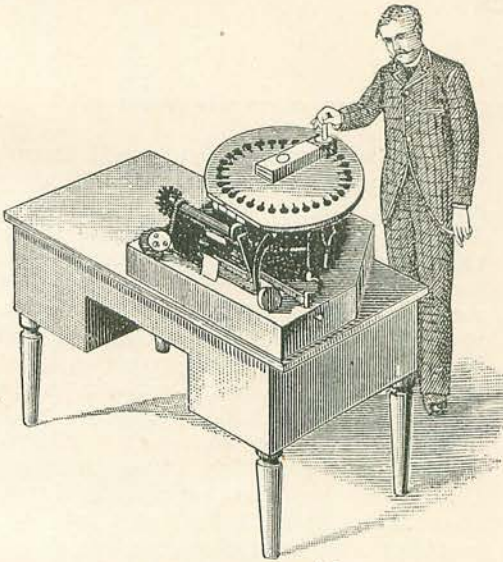
BY C. L. McCLUER STEVENS.

**I**T will doubtless surprise most people to learn that the first typewriter ever produced was manufactured, not in America and at a comparatively recent date, but nearly two centuries ago, and in England.

On January 17th, 1714, there was granted to a gentleman named Mills, an engineer in the employ of the New River Company, a

A similar machine, also for the use of blind people, was patented in France in the year 1784; but with these two exceptions no other effort seems to have been made to construct a writing-machine until 1829, when Mr. Austin Burt, an American, patented his "Typograph." This was a very pretty and exceedingly ingenious piece of mechanism, but, viewed from a commercial point of view, it was a decided failure. The same remark applies to the extraordinary-looking machine delineated here, the operator of which most certainly wears a decidedly worried look; as well as to Mr. Littledale's machine, exhibited in 1844 at a meeting of the British Association at York.

But these and other similar attempts, for the most part crude and ill-conceived, set practical men thinking. Among others, Charles Thurber, an American, went to work and constructed a machine, which is now generally admitted to have been the first practical typewriter ever put together. It was large. It was clumsy. And it was capable of being driven only at what would now be regarded as a ridiculously low rate of speed. But it embodied most of the mechanical devices common to nearly all modern machines, and to it was applied for the first time the paper-carrying roller, together with suitable machinery for line and letter spacing. That it was far from perfect, however, is evident from the specimen of its work shown on the next page. Thurber's machine, moreover,

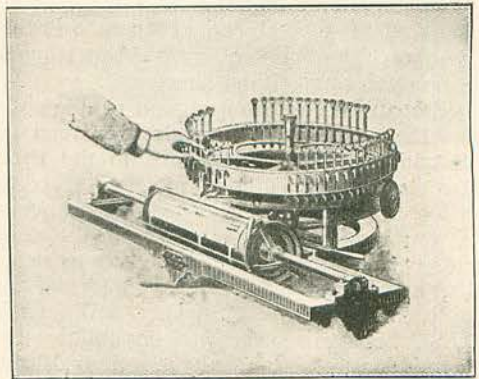


A TYPEWRITER OF 1836

patent for an invention described as follows: "An artificial machine, or method, for the impressing or transcribing of letters, singly or progressively, one after another, as in writing, whereby all writings whatsoever may be engrossed on paper or parchment, so neat and exact as not to be distinguished from print."

Thus was the typewriter born. No drawings were submitted with the specifications, so that it is now impossible to tell how the machine was constructed or what kind of work it performed. From notes found among the private papers of the inventor, however, after his death, it is assumed that it was intended to print embossed letters for the use of the blind.

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CHARLES THURBER'S TYPEWRITER.



NORWICH 8. FEBRUARY 1840

GENT.

WE HAVE, AT LENGTH COMPLETED ONE OF THURBERS MECHANICAL CHIROGRAPHERS. ALTHOUGH YOU WILL NOTICE IMPERFECTIONS IN THE FORMATION OF THE LETTERS IN THIS COMMUNICATION, YET THERE IS NOT A SINGLE DEFECT WHICH DOES NOT ADMIT OF AN EASY AND PERFECT REMEDY. I AM PERFECTLY SATISFIED WITH IT BECAUSE I DID NOT LOOK FOR PERFECTION IN THIS FIRST MACHINE.

BELEVE ME

YOURS, TRULY.

CHARLES THURBER.

MESSRS. KELLER &amp; GREENOUGH

PATENT ATTORNIES.

WASHINGTON, D. C.

FACSIMILE OF PART OF THE FIRST LETTER EVER TYPEWRITTEN—EXECUTED ON THE THURBER MACHINE.

like Littledale's, and indeed all the early typewriters, was intended solely for the use of the blind. So far the need of a machine to supersede the pen had not even been thought of.

After Thurber came many other inventors, notably Beach and Pratt, both of whom spent considerable sums of money and an immense amount of time and labour in improving the typewriter. In 1867 Mr. Pratt's machine was exhibited in London before the Society of Arts, and, as was only natural, attracted a great deal of attention. Most of the leading engineering and scientific papers devoted considerable space to descriptions and illustrations of the strange-looking piece of mechanism; and suggestions were not wanting to the effect that the inventor who could produce a successful machine of the kind, intended not only for the use of those whom misfortune had deprived of sight, but for mankind in general, would secure a fortune for himself, and confer an almost inestimable boon upon humanity at large.

Probably a couple of million people either saw the machine for themselves, or read the description of it as published in the Press. To the vast majority it merely formed an object of idle and somewhat languid curiosity. A very small minority examined the thing closely, and—pooh-poohed the idea as ridiculous and impracticable. One man, and one only, Mr. C. Latham Sholes, of Wisconsin, U.S.A., recognised the vast possibilities that lay hidden in the tangled collections of cams and cogs and levers.

Gifted with an indomitable will, shrewd business aptitude, and a sublime faith in his own powers which no failure was able to daunt nor any rebuff discourage, this man, the real inventor of the modern typewriter, saw at once that there was "something in" the idea, and laid his plans accordingly. Sholes was not a wealthy man himself, and his first difficulty lay in finding a capitalist who was willing to embark with him in the enterprise. This initial stumbling-block overcome, he set to work with a will and, between 1867 and 1873, turned out some twenty-five typewriters, all of which were theoretically perfect, and all of which went to pieces with depressing regularity after a more or less prolonged spell of practical work. But each model was a little better than the preceding one, and thus at length a fairly efficient machine was produced.

The manufacture of the finished and so far perfected article was intrusted to the Remington Manufacturing Company, Ilion, U.S.A., the makers of the famous rifle which to this day bears their name; but for a long time the demand was very small. Even after the lapse of nine years, not more than 1,500 machines were being sold per annum. This was in 1882. Since then, however, the popularity of the Remington typewriter has become such, that at the present time a finished machine is being produced for every five minutes of the working day.

Naturally the success achieved by Mr. Sholes induced both inventors and capitalists



to turn their attention to the production of other and, if possible, more perfect typewriters; the result being that within the last decade there have been placed upon the markets of the world nearly 100 different types of machines. Each of these claims some distinct advantage over its rivals, but upon this point, comparisons being proverbially odious, the writer does not care to express any opinion.

There is one peculiarity that immediately strikes the inquirer engaged in elucidating the history of the typewriter. With one solitary exception—the “North”—all the best-known machines are made in America. The question is often asked: “Why not manufacture typewriters in England?” One

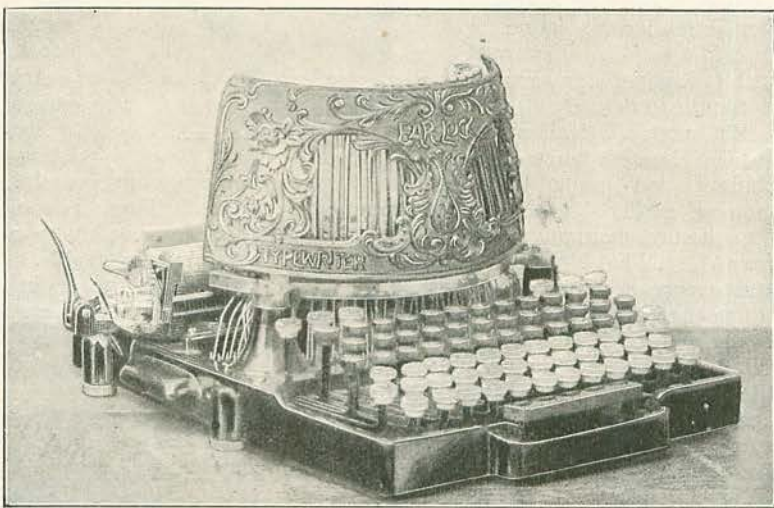
reason is that there is a very heavy duty on all machines imported into the United States, and as America still continues to take about three out of every five typewriters made, the advantage to be derived from manufacturing them on the spot is obvious. Another reason is that anyone establishing a typewriter factory in England would be obliged to train his own workmen; whereas in America, on the

contrary, he would find trained workmen applying to him for employment. This is one of the disadvantages of our free-trade policy. If the Government were to decide tomorrow to clap a 25 per cent. *ad valorem* duty on all foreign-made typewriters, there is not the slightest doubt that factories for manufacturing machines on English soil would quickly be established. “We might not like it, but it would be a case of ‘Hobson’s choice;’” was how the manager of one of the leading typewriter companies put it to the writer, one day recently.

Of course, there have been many curious and beautiful machines constructed from time to time to the order of various people, or for presentation. Perhaps the most elaborate typewriter ever produced was that made for the Czarina of Russia, by the Remington people. All parts of the machine ordinarily

black were enamelled blue, and those portions of the frame-work usually outlined in gold were inlaid with mother-of-pearl. The keys were of African ivory, and the bright parts of solid gold. A similar machine was presented on her wedding-day to the Duchess of York; and another was recently made to order for the Khedive of Egypt. The Queen also possesses an exceedingly elaborate typewriter. It is a “bar-lock,” ivory-keyed, gold-plated throughout, and very beautifully engraved.

An extraordinarily curious machine was that made by the “Hammond” Company for Li Hung Chang. It was fitted with twenty sets of characters—eighteen hundred in all—each of which, as no dies were available, had to be engraved by hand. *Apropos* of this



BAR-LOCK TYPEWRITER, SPECIALLY MADE TO THE ORDER OF HER MAJESTY THE QUEEN.

remarkable machine, its introduction into Peking was promptly followed by the appearance in London of an enterprising Celestial, bent upon forming a company for placing typewriters on the Chinese market. According to this gentleman, it is quite possible to write the Chinese language, or at all events a sort of modified phonographic version of it, with as few as 250 characters. The machines he proposed to manufacture, and for which he asserted there would be a ready sale in the Flowery Kingdom, were to have been about five times the width of an ordinary typewriter, and the sale price was to have been one thousand pounds apiece. The English capitalists, however, failed to “bite,” and China still does its writing in the old-fashioned way.

A somewhat expensive machine was recently built by the “Williams” Company



for the use, at Eton, of the young son of the Countess of Carnarvon. It writes the Greek alphabet, and is used by the lad, whose eyesight is somewhat weak, in preparing his exercises. This is believed to be the only Greek typewriter extant; but machines for writing Russian are fairly common, while typewriters have been built to order writing Arabic, Sanscrit, and even old black-letter English. This latter machine was made, at a cost of nearly one hundred pounds, for a mysterious individual who paid cash in advance, and declined to furnish either his name or his address. What he wanted with it, it is perhaps best not to inquire too closely.

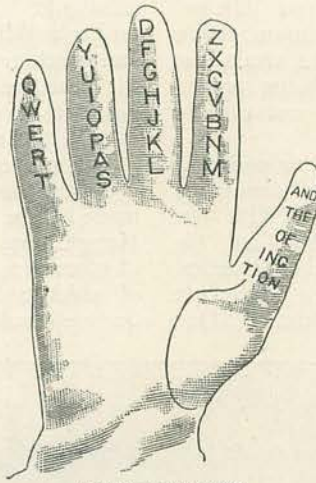
But after all, leaving for awhile these "fancy machines" and going back to the "common or garden" typewriter of commerce, the question naturally suggests itself—"cui bono?" "What is the use of spending time and energy in learning to work a machine when the pen will do the same work well enough?" Aye, but will it? There's the rub. Even a moderately quick writer with the pen will find considerable difficulty in keeping up, for many hours at a stretch, a speed of more than twenty words a minute. An ordinarily quick operator will easily treble that record, and that, too, without experiencing any undue fatigue.

Then, again, there is the great question of legibility. There is an old tale of the Duke of Wellington returning one of his *own* despatches to a member of his head-quarter staff, accompanied by the angry remark that he (Wellington) could make nothing of it, and that the writer had better attend school again. This incident could not have happened had Wellington been able to click off his despatches on a typewriter, as Sir Robert Low did during the Chitral campaign. For literary men, of course, the typewriter is almost a *sine qua non*.

It need scarcely be said that the "boom" which of late years has taken place in typewriters, both in this country and America, has produced the usual crop of "cranks"—of the human variety. Some of the contrivances introduced by these gentry have certainly not been lacking in ingenuity. Take, for instance, the typewriter glove, a

contrivance of wash-leather, upon which were embossed a set of rubber types. "Caps" were on the left hand. Small letters on the right. The ink was supplied by a couple of pads, fixed to the palms of the gloves; and the alternate opening and shutting the hands was supposed to bring it in contact with the type. Then, all that was necessary was for the operator to dab the impression of the particular letter he desired to use upon the paper in front of him. How the alignment was to be preserved, with even a tolerable degree of accuracy, the inventor did not deign to explain.

Another curious machine was to be driven by electricity, the operator manipulating one key only, which, in turn, conveyed the power to the various types. There is something to be said for this idea, but up to now it has been found entirely unworkable. Typewriters designed to imitate the natural handwriting of the operator are continually being brought forward. There is nothing impracticable in this notion. It would be quite an easy



A GLOVE TYPEWRITER.



MISS VIOLET POTTER, THE FASTEST LADY OPERATOR IN ENGLAND, AND WINNER OF LAST YEAR'S SOCIETY OF ARTS GOLD MEDAL FOR SPEED AND ACCURACY.

From a Photo. by A. & G. Taylor.







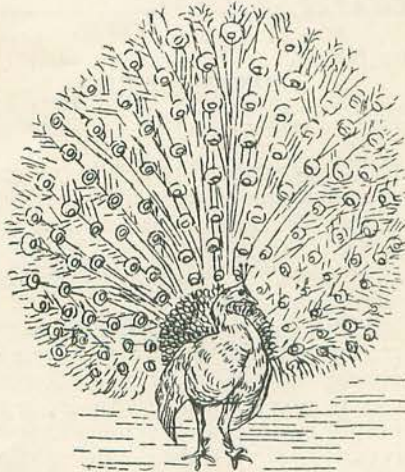
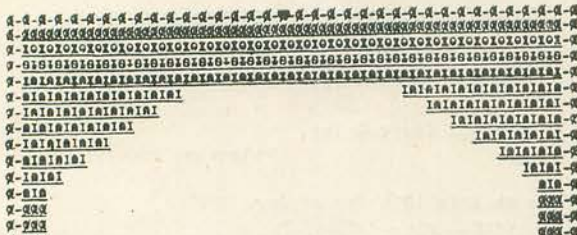
of straight lines it contained, a caricature by Mr. Harry Furniss which appeared in THE STRAND some time back.

No one who has not tried to make these pictures on a typewriter can understand how difficult they are to do. In comparison with the pictorial designs, ornamental borders, as shown in the peacock drawing, are fairly easy, being simple combinations of the figures, dashes, and numerical signs found on every keyboard. In this drawing, for

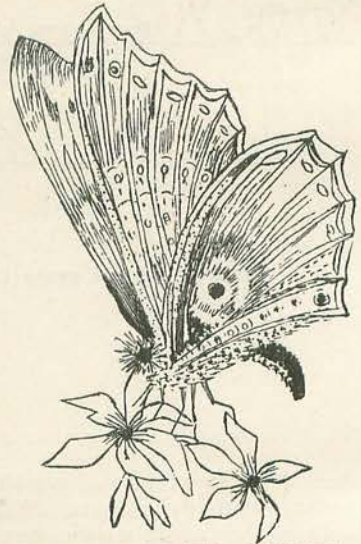


THE G.O.M. DEFENDING HIMSELF. DRAWN ON A WILLIAMS TYPEWRITER.

instance, the single border on the extreme outside is made of the sign for "cents"—an oblique line running through a small "c." The other details are easily distinguishable. The tail of the peacock is made of small o's and small parentheses inside of large parentheses, combined with straight and oblique lines, while the base of the tail is made of



PEACOCK, DRAWN WITH A TYPEWRITER.



A STUDY IN STILL LIFE. DRAWN ON A TYPEWRITER BY MISS FLORENCE STACEY.

a mass of small o's and parentheses. On the wings of the butterfly we again have this combination, and may rightly marvel at the result if we remember that everything depends upon skilful manipulation of the paper, a correct eye for pictorial effect, and a delicate appreciation of the possibilities of every bit of type on the machine.

It is somewhat remarkable, by the way, that this extreme delicacy of touch seems to be, almost exclusively, the prerogative of the fair





ST. PAUL'S CATHEDRAL. DRAWN ON A BAR-LOCK TYPEWRITER  
BY MISS FLORENCE STACEY.

feat will be appreciated by all typists, no matter what machine they use.

The three pictures on this page, particularly that of the cat's head, show that almost any subject is, to the art-typist, possible of execution. The drawing of St. Paul's is harder to do than it looks. It is exceedingly difficult to get correct perspective on the typewriter. In fact, it might be said that it is quite as difficult to draw even a straight line; and in this drawing there are scores of straight lines. In the drawing of "Ye Sad End of Ye Quill Pen," the mere construction of the spider's web is no mean feat. The "spokes," as it were, are run through a common centre (which requires skilful turning of the paper), and the cross bars are then put in with

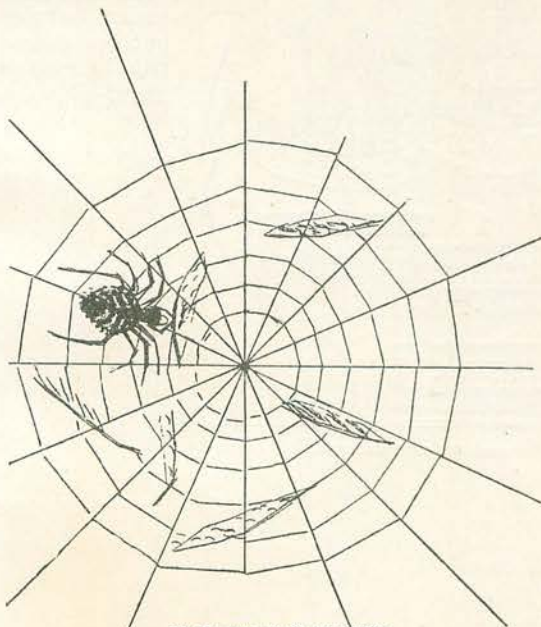
sex. So expert, indeed, do some lady operators become as to be able to discriminate automatically between the degree of force requisite to print, say, an "M," an "I," and a full-stop. The writer saw recently a machine driven at the rate of between seventy and eighty words a minute, the "I" having been purposely sharpened to a razor-like edge and the full-stop filed until it resembled the point of a needle; and yet, so perfectly trained were the hand and eye of the operator, that the characters in question neither cut nor pierced the paper. The remarkable nature of this



CAT'S HEAD. DRAWN ON A TYPEWRITER BY MISS  
FLORENCE STACEY.

straight parallel lines, beginning with the outer rim and working towards the centre or *vice-versâ*. On the cat's head, the hair is made with countless parenthesis marks. This drawing was a work of much minute labour. In the drawing of the *Santa Maria*, each curved line of the sails is the result of countless small lines, the curves being obtained by manipulation of the paper. In "The Royal Arms"—one of the finest and most intricate designs ever worked on the typewriter—note how effectively the lower inscription is bordered with a scallop of v's.

It is not necessary to be exactly an enthusiast on the subject to be able to foresee a great future for the typewriter. In America it is being used in the schools at this present moment to teach the young the elements of their mother tongue, and its use is considered obligatory by every up-to-date business



Y<sup>E</sup> SAD END OF Y<sup>E</sup> QUILL PEN  
AN ALLEGORY. DRAWN ON A BAR-LOCK TYPEWRITER.



man. In this country, on the other hand, we are only just beginning to appreciate its immense possibilities. It has had to contend against the prejudices, almost the ill-will, of a naturally conservative people. Even now there are scores and hundreds of old-fashioned firms where a writing-machine is absolutely tabooed; while only quite recently a distinguished barrister, well known on the home circuit, declined to receive a type-written brief.

This, of course, is mere blind, unreasoning prejudice, and can no more prevent the general adoption of the typewriter than the refusal, in the early forties, of certain old-fashioned people to make use of trains stopped the introduction into England of railways.

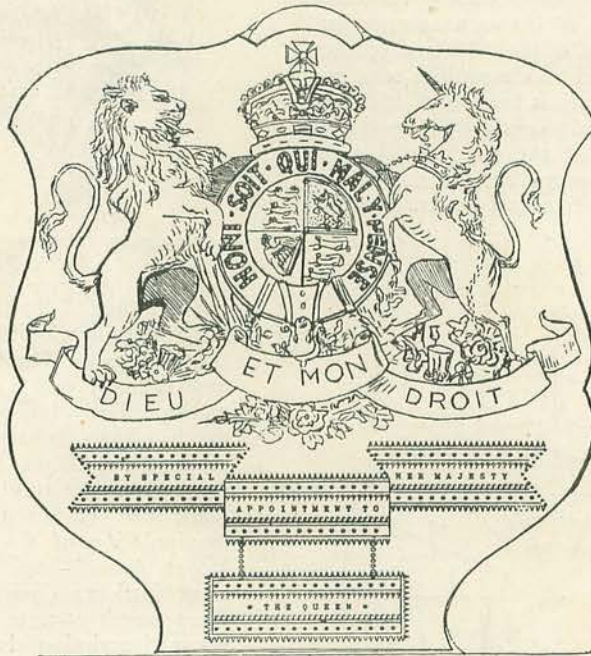
Is the pen then doomed? By no means. The fact of the



THE SANTA MARIA.  
DRAWN ON A BAR-LOCK MACHINE BY MISS STACEY.

matter is that the typewriter is to the pen what the sewing-machine is to the needle. Needles are still manufactured by the hundred million, despite the fact that a sewing-machine is an indispensable adjunct to every well-regulated home. It will be the same with the pen when a "writing-machine" is as common a sight in a middle-class house as is a sewing-machine to-day.

One word in conclusion. It is often urged that the typewriter is useless for original work. The writer does not find it so. A very little practice renders its use as automatic as that of a pen—nay, far more so, for it is easier to tap keys than to wriggle a scratchy point over paper. Just as it is easier to play a piece of music than to write it, so it is easier to play out one's ideas than to scribble them.



THE ROYAL ARMS. DRAWN ON A TYPEWRITER.