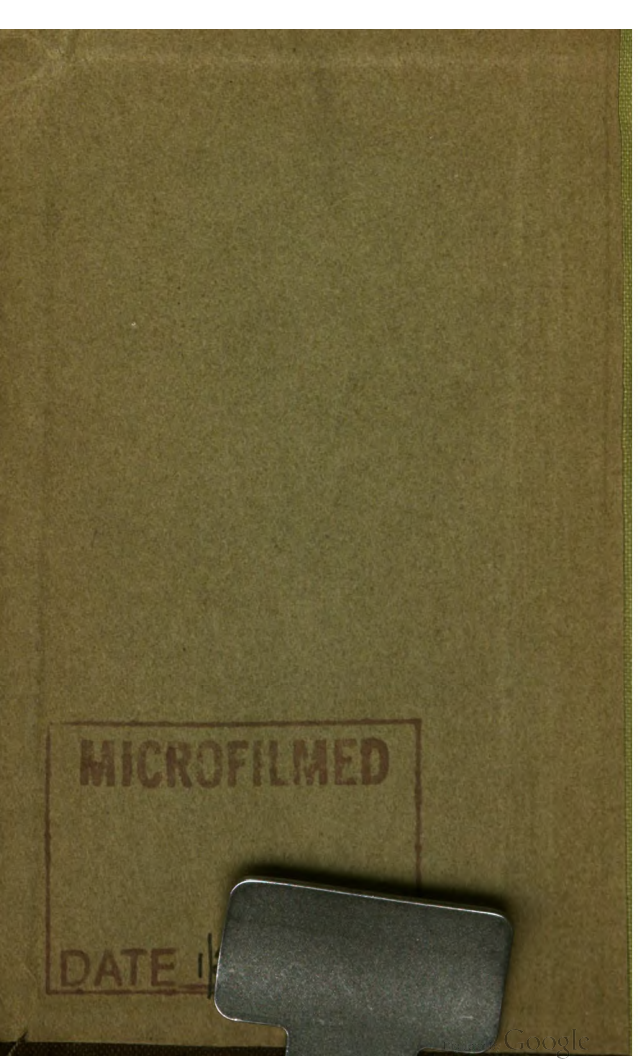
# The early history of the typewriter

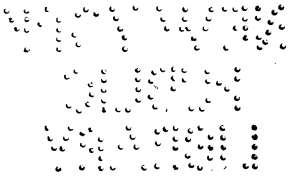
Charles Edward Weller

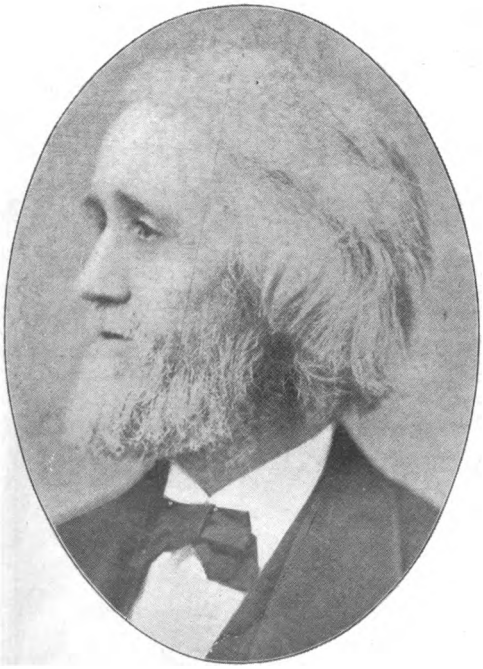


# THE EARLY HISTORY
## of the
# TYPEWRITER

By
CHAS. E. WELLER
Secretary National Shorthand
Reporters' Association

LA PORTE, INDIANA
CHASE & SHEPHERD, PRINTERS
1918





**CHRISTOPHER LATHAM SHOLES**
**"The Father of the Typewriter"**
Born Feb. 14, 1819—Died Feb. 17, 1890.

## PREFACE

The history of invention is always an interesting subject, dealing as it does more directly with the philanthropic and humane phase of character. Millionaire merchants, manufacturers and captains of industry who have sprung up during the past half century have accumulated their collossal wealth through their ability to make the best use of the material which nature has so lavishly bestowed; and yet how little could they have accomplished without the aid of the thousands of useful appliances from the least to the greatest which have entered all fields of industry in this wonderful age of invention.

It is to the patient toil of the inventor who in his laboratory or workshop has embodied the product of his brain in the perfection of a mechanism which has inured to the benefit and happiness of mankind that the world owes its greatest debt of gratitude and honor.

In following this simple narrative of the inception and development of the first practical typewriter the reader is asked to put aside all thoughts of the many excellent typewriting machines that flood the market today, each with its own claim of peculiar excellence over its competitor, while we revert back to a half century, when nothing existed to replace the painfully slow and tedious method of reducing thought to writing by means of pen and ink, and follow the details of the creation and development of a mechanism, crude and cumbrous in its first workings, but destined in time to create a revolution in the conduct of affairs in all parts of the civilized world.

The narrative grows out of the recollection of one who is the only person now living of those who composed the little group who watched the construction of the first typewriter from its first inception to its successful completion in the little machine shop in the city of Milwaukee during the late summer and fall of 1867.

## THE EARLY HISTORY OF THE TYPEWRITER

(From a paper read at the Tenth Annual Convention of the National Shorthand Reporters' Association.)

Sometime during the month of July, 1867, while employed as chief operator in the office of the Western Union Telegraph Company in the city of Milwaukee, Wis., Mr. C. Latham Sholes, whom I had known for some years, called at the office and asked for a sheet of carbon paper, something which was rarely used in those days, except in making duplicate copies of Associated Press reports received by telegraph for the daily press.

Upon complying with his request he casually remarked that if I would call at his office the next day at about noon he would show me something that he thought would be interesting. Knowing that Mr. Sholes

possessed a remarkable inventive genius, having been the first to conceive of the method of addressing newspapers by printing the names of subscribers on the margin, and having later invented a machine for paging blank books and the consecutive numbering of bank notes, I was prepared for an exhibition of something novel in this instance. Upon calling at his office the next day in the Federal building where he then occupied the government position of Collector of the Port of Milwaukee, I found him in company with a gentleman explaining a little piece of mechanism on the table before them, the base of which consisted of a piece of pine board, above which, supported by wooden pegs was a ring rudely fashioned out of wood with a jack knife, on the edge of which was set four other pegs supporting a circular piece of glass; on the side of the ring was pivoted a small brass bar about two inches in length, on the upper end of which was cut the letter "w." Beneath this bar and on the wooden base was affixed an ordinary Morse telegraph "key" arranged in such manner that by

striking the round button end of the key a smart tap with the finger the type bar was quickly thrown up against the circular piece of glass above, striking it exactly in the center. By holding a piece of carbon paper with a thin piece of white paper against the piece of glass and moving it slowly with one hand while the key was being struck rapidly with the other hand, a regular and perfect line of w's was produced similar to this:

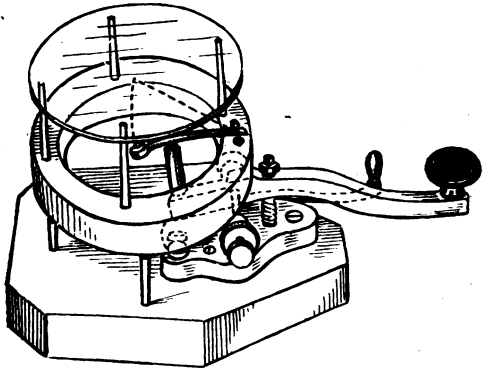
wwwwwwwwwwwww

I have since prepared a model of this little device which is here shown, and is a reproduction as near as it could be made in the absence of the original.

**The First Model**

If you will bear in mind that at that time we had never known of printing by any other method than the slow process of setting the types and getting an impression therefrom by means of a press, you may imagine our surprise at the facility with which this one letter of the alphabet could be printed by the manipulation of the key. But while the printing of one letter in this manner was very clearly demonstrated, it was not easy to understand how the principle could be extended to printing words arranged in regular lines, which Mr. Sholes stated could be done, and then proceeded to explain the method. He explained to us that a number of brass bars would be made similar to the one before us, each bar having a letter of the alphabet cut on the end

at a slight angle, and striking upwards at a common center in such manner that one letter would follow the other as the keys were struck, in regular order and alignment. In order to accomplish this he proposed to construct a metal rim or disk with



a circular aperture; around this metal rim would be cut a series of slots corresponding to the number of characters to be used, into which would be pivoted the type bars in such manner that each type bar would move freely up and down in its particular

slot. This metal rim with the type bars thus fastened in the slots was to be firmly fastened inside of a circular aperture to be cut in the center of a small table, the aperture to be slightly larger than the metal rim, to allow free play for the wires connecting with the keys, the typebars to be held in place by a large wire running around the inside of the rim, and at the butt end of the type bars and back of the hole through which the wire ran attaching them to the slot would be drilled another hole connecting the type bar with the key. The front of the small table was to be cut out sufficiently to allow a little key-board to be placed, similar to the key-board of a small melodeon. The wire connected with the end of each key would run down to a small wooden trivet which worked on a rod, similar to the rod connected with the treadle of a sewing machine. On the opposite end of each trivet would be attached another wire reaching up to the end of the type bar, so that when a key was depressed the wire attached to it would raise one end of the trivet, and at the same time pull down the

wire attached to the other end and connecting with the type bar above and throw it up against the paper, producing an impression of the letter by means of an inked ribbon passing above the paper.

In order to furnish a base or platen against which the letters would strike it was proposed to affix a metal arm firmly attached to the back of the table and curving over to the center of the aperture constituting the common center at which each letter would strike; the inked ribbon which passed between the paper and the platen would be wound and unwound upon spools at each end of the table, the spools being connected with the key movement in such manner that with each stroke of the key a fresh surface would be exposed for the printing of the next letter. The paper which was to move simultaneously with the ribbon was to be enclosed in a flat metal frame, clamped at each corner, and moving the space of a letter with each stroke of the key. The paper carriage was to be affixed to a ratchet, a steel bar at the back of the table in which teeth were cut at equal distances apart, in

which played the little escapement dog connected with the keys by means of a universal bar, thus making the necessary space for each letter as it moved back and forth with each stroke of the key, while a blank key served as a space key when struck between each word. The motive power controlling the movement of the paper frame and ribbon was an ordinary clock-work mechanism, a drum around which passed a cord to which was attached a leaden weight, to be wound up at intervals as it ran down. A little bell at the end of the ratchet would give the signal for changing the line, which was done by pressing the foot on a treadle at the right, connected by a cord with the paper frame, which movement would bring the frame back to the starting point and at the same time automatically changing the line.

I have endeavored in a crude way to describe the general operation of the machine as it was explained to us by the inventor at that time. With my extremely limited knowledge of mechanics and the technical terms used in connection with such matters

I have not been able to make it as plain as I would like to do. In order to convey a better idea of the various parts entering into the first machine that was constructed I take the liberty of quoting from the patent some of the chief claims under which it was issued to Mr. Sholes and his associates.

The patent is dated July 14, 1868, and is granted to C. Latham Sholes, Carlos Glidden and Samuel W. Soule of Milwaukee, Wis. The device is described as "a new and useful improvement in typewriting machines." I quote from the application as follows:

"Our invention relates to that class of machines designed to write with types instead of a pen, and the nature and principal feature of our improvements consist of a circular annular disk, provided with slots and grooves to hold and guide the type bars, a concentric groove around the periphery of the disk, to hold, support and guide the pivots of the type bars, the combination of rods, levers and keys for working the type bars, a carriage combined and provided with a pivotal pawl, arm and pins,

and attachments to move the paper vertically and laterally, and the combination of a rod and clamps, to hold the paper fast in the carriage."

Then follows a detailed description of the machine by reference to the drawings attached thereto. This brief description, however, is probably sufficient for our purpose at this time. It will be noticed that the device described contains the main principles which are seen in all type-bar machines of the present day.

The gentleman who was present with Mr. Sholes in his office on this occasion was Mr. Carlos S. Glidden, who afterwards became interested with Mr. Sholes in the manufacture of the machine. I afterwards met Mr. S. W. Soule, a practical machinist of Milwaukee who was to have the immediate oversight of its construction, and to whom, as well as Mr. Glidden, Mr. Sholes at a later date freely acknowledged his indebtedness for many valuable suggestions in connection with the mechanical features of the machine.

bars and the cutting of the letters on them, the slotting of the disk, the arrangement of the basket in which the type bars would rest, and the adjustment of the various devices, most important of which was the making and adjustment of the little steel "dog" with its escapement which controlled the action of the paper carriage.

Each of these processes was watched with almost breathless interest by the two or three interested spectators who made their daily pilgrimage of a mile or more to the dingy little machine shop in which the work was being carried on. I have been using the word "machine" in this connection, because it was the only name by which it was designated at that time. The adoption of a suitable name, however, was being discussed at this time by Mr. Sholes and his associates. "Printing machine" was first suggested, but the name did not meet with favor as describing the work it was designed to accomplish. "Writing machine" was also suggested, but as the work would be in printed letters the word "writing" seemed inapplicable. At length Mr.

Sholes suggested the name "typewriter." This was subject to the same objection, and there was some discussion as to whether the name "printing machine" was not a better name after all, but "typewriter" was an unusual name and had a unique sound, and so it was finally adopted, and then for the first time was heard a name, sounding oddly enough at that time, but which has now become so common throughout the civilized world that we wonder that any other name was thought of.

Our interest in the work became more and more absorbing as it progressed, and the various parts completed and assembled. The keys were of black walnut, about three inches long and a quarter of an inch wide, with the letter of the alphabet to which it was attached painted in white on each key while between each key was a space sufficient to insert shorter keys similar to the black keys of the piano, which were used for the figures and punctuation marks. The figures ran from 2 to 9, the letter "I" being used for the first figure and "O" was used for the cypher. Added to these were

the semi-colon, the dollar mark, the hyphen, the period, the comma and interrogation point, and a diagonal stroke which was used for the parenthesis. The keys being attached to the type bars and working in unison with the carriage movement enabled us for the first time to test the work of printing words and sentences. We were then in the midst of an exciting political campaign, and it was then for the first time that the well known sentence was inaugurated,—"Now is the time for all good men to come to the aid of the party;" also the opening sentence of the Declaration of Independence, "When in the course of human events," etc., which sentences were repeated many times in order to test the speed of the machine.

At about the time of the completion of the first machine, in the late fall of 1867, I removed from Milwaukee to St. Louis, at which place Mr. Sholes in accordance with his promise shipped to me the first machine that went out of the shop. It arrived in St. Louis about the middle of January, 1868. In the meantime I had become connected

with the shorthand firm of Walbridge & Allen who were the only verbatim reporters in the city at that time.

**Note:** Since the writing of this paper I have received the following clipping from the St. Louis Star, dated January 15th, 1918, which corroborates the above statement as to the date of the shipment of the first machine to St. Louis. This item appears under the head of

**"FIFTY YEARS AGO TODAY,"**

and reads as follows: "At this time the first practical typewriter made its appearance in St. Louis. The small item reads: 'A Printing Machine—We saw today in the office of Messrs. Walbridge, Allen & Weller, phonographic reporters, a machine for printing, which they use in transcribing their notes. It is the invention of Hon. C. L. Sholes of Milwaukee, practical printer and prominent citizen. It is capable of printing fifty words a minute, the impressions being all in capital letters. Its principal advantage is in producing legible copy, and will be a joy to printers who now labor with the bad penmanship of writers."

This item is dated January 15, 1868, which was more than five years before the manufacture was turned over to the Remington Arms Co., Ilion, N. Y.

In the meantime Mr. Sholes with the little means that he could obtain had manufactured several machines in the Kleinsteuber machine shop, each embodying some new feature as

the work progressed, which will be shown in Mr. Sholes' letters which fortunately have been preserved, and which will appear later.

During the winter of 1868 shorthand reporting was in its infancy in St. Louis, especially as to its use in the court in reporting testimony. The lawyers looked with suspicion on shorthand, which they considered very unreliable, probably by reason of the crude work of novices with no skill or experience in the work of court reporting, and our efforts during that season were principally confined to attempts to persuade lawyers to abandon their old method of taking scraps of testimony in longhand, and afterwards disputing with each other as to just what the witness had stated, until with the aid of the rough notes that the judge had taken together with his recollection of what was testified they were finally able to patch up a bill of exceptions.

During the entire court season of that year by much persuasion we succeeded in securing the reporting of two and a half cases in court. The "half case" which in-

volved some two hundred thousand dollars had been running several days before they would consent to have the balance of it reported, and we probably wouldn't have secured that case, were it not for the fact that Mr. Allen, had studied and graduated as an attorney at law in a Massachusetts court before coming to St. Louis, and had a somewhat intimate acquaintance with the members of the St. Louis bar which was considerable assistance to us in securing work.

A funny little incident comes to my mind right here, which illustrates another objection which we had to encounter in those early days of shorthand, in connection with the commercial end of it, and the horror with which our rather modest charge was regarded by the unfortunate clients who were required to pay our bills. In this half of a case our transcript was naturally quite voluminous, involving as it did about three days solid note-taking, and when Mr. Allen presented our bill, duly certified by the attorney, to the dignified president of the corporation, a gentleman of the old school, he

studied it carefully from beginning to end, including the instructions to pay it, signed by his chosen attorney whose word was law to him, then called his bookkeeper and directed him to make out a check for the amount, which was about $150, and after signing the check and receiving the receipted bill he said to Mr. Allen with the utmost gravity, "I would like to ask you one question. Does anybody ever employ you gentlemen more than once?"

In this condition of affairs we certainly fared very poorly so far as the legal work was concerned, but we were much more fortunate with our newspaper work, which was an important feature in those days, when the winter course of lyceum lectures and all meetings, whether political, professional or religious, were reported in full for the Missouri Democrat, an evident misnomer for a Republican paper, which was the leading morning daily in St. Louis,—now the St. Louis Globe-Democrat. Added to this newspaper work, however, was a long impeachment trial of a circuit court judge out in the state, which Mr. Walbridge had

reported during the previous year, and had been holding his notes until the meeting of the legislature, when the transcript was ordered by the state, and with that work we put in the most of our time during the winter.

It was on that case that we had the opportunity of testing the practical working of the first typewriter, and I am happy to say that in spite of crude workmanship in some of its parts we were able to do considerable work with it. As the transcript was prepared for the printer it did not require the neat work that would have been demanded in depositions and transcripts of testimony and court proceedings.

**Practical Work of First Machine**

One of the principal objections to the use of the machine for depositions and transcripts of court testimony was the fact that in the construction of the first machine it was thought necessary to use very thin paper, and in order to get a satisfactory impression that the type should first strike the paper and get its impression through the paper from the ink ribbon passing over it, so that although the first typewriter was a visible machine, it was made so from the fact that it was thought that only in this

way could the work be done. Sometime afterwards, however, when the roller took the place of the flat paper frame it was found that by putting the ink ribbon next to the type instead of between the paper and the platen a good impression could be obtained on paper of any thickness, but in doing so the visible feature had to be abandoned. When this was discovered Mr. Sholes laughed over his own obtuseness and that of his associates, that they should have been so long in discovering this simple little change which made so much difference in the character of the work.

To those familiar with the modern typewriter with all its latest improvements it is indeed a wonder that a machine of the crude construction that I have attempted to describe would do any kind of practical work. It had no bearings of finely polished steel in which each type bar could rest and do its work properly. The type bars were simply pieces of straight brass, with the letters cut on the end, the type bar being fastened in the slot by a large brass wire set in a groove inside the circle of the disk,

and as may well be imagined there was more or less sticking of the type bar in the slot, instead of quickly returning to its place after being struck, and it was not an uncommon thing to find a few type bars bunched up in the center, which of course stopped all operations until they could be pried apart and gotten back into their places preparatory to a fresh start.

Then, too, the clock-work motor was not always equal to the occasion, and we would have to increase its power by adding to the leaden weight a jack knife or a paper weight or a pair of shears or whatever might be at hand for the purpose; this added weight was sometimes too great for the cord, which would occasionally break, letting the weight down with a crash, and in such cases it was very necessary to keep one's toes out of the way or suffer some rather serious consequences.

The machine also had a habit of stuttering, so to speak, occasioned by the sticking of the type bar in the slot which I have described, which was extremely annoying when one was in a hurry. For instance,

when one started out on a sentence commencing with the letter "T" in place of the sentence we would have a long row of T's, indicating that the T had stuck in the slot, and the other letters were hammering up against it in a vain attempt to do their duty. Then again, at times the little steel "dog" with its escapement working back and forth in the ratchet which controlled the movement of the paper frame would fail to do its work properly, and the carriage would jump an inch or two, or perhaps half a line, stopping with a sudden jerk, which was calculated to make one nervous, to say the least.

I have been describing the actions of the machine in some of its worst moods. But don't imagine for a moment that this was a continuous affair. There were times when everything worked beautifully, and the speed that could be gotten out of it at such times was something marvelous, especially when we got onto that familiar sentence, "Now is the time for all good men to come to the aid of the party." When we talk about "greased lightning," why, it wasn't

in it at all. I wont say but that our expert typist, Mr. McGurrin here, if he had been there with his little speed-dog and his hair-trigger adjustment and was in a mood for doing some of his stunts, might possibly have beaten us just a trifle, but he would have had to hump himself to do it.

**Primitive Typewriter Ribbon**

It may be interesting at this remote period to note the manner in which we procured and prepared our ink ribbons in those primitive typewriter days, when one became worn out and useless. In those days we couldn't telephone for a black, blue, or purple record or copying ribbon and a few minutes later behold a messenger at the door with a little tin box containing the best up-to-date article wrapped in oiled paper with an envelope of tin foil, and a reel with which to attach it to the ribbon device. No, indeed. On such occasions it became necessary to visit the nearest dry goods establishment and select a bolt of silk or satin ribbon which was the only material that we could find to answer the purpose, and having purchased it, we would buy a pint bottle of black ink and pour it into a wash bowl, and after unrolling the bolt of ribbon we would immerse it in the ink and allow it to remain until it was thoroughly

saturated, and then towards evening before going home we would take it out of the ink and string it back and forth over the chairs and other furniture, and leave it to dry over night. It was anything but a pleasant job, and would hardly have been allowed in our modern offices with their fine outfit of mahogany furniture and Brussels rugs, but in those days of rough, bare floors, box wood stoves, sawdust cuspidors and Windsor chairs and smoke-blackened walls such operations could be carried on, as Mrs. Partington would say, "with perfect impurity."

In the meantime Mr. Sholes and his associates were doing everything within their power to further improve and perfect the machine, and some time later I received a letter from Mr. Sholes suggesting that I send my machine back, to be replaced by another containing the latest improvements. This was done, and sometime afterwards the perfected machine was received, embodying a number of changes, in the fall of 1870. This machine was a great contrast, compared with the former one, and so far different in its outside appear-

ance as to be hardly recognizable. The machine varied but an inch or two in size from the present typewriter, but the iron frame instead of being open at the sides was inclosed with thin wooden boards handsomely polished, painted and varnished, which gave it a very neat and attractive appearance.

I have many times wished, however, that the first machine which was manufactured under the patent of 1868 had been preserved intact. It would have been a most interesting and valuable relic as an exhibit in this day, when typewriters are flooding all parts of the civilized world; but the original machine together with several others which were made during the experimental stage of the work was undoubtedly broken up and relegated to the scrap pile, except those parts that could be worked into other machines.

It is somewhat amusing, however, in passing one of our elegantly appointed typewriter salesrooms to find among the latest up to date machines exhibited in the plate glass show window a sorry looking

old specimen that would appear to have passed through fire and water, bearing in prominent letters the legend "The First Typewriter," knowing it to be a type of machine that was manufactured fully ten years later than the one I have attempted to describe.

We also find here and there a person referred to in the daily press as being the one who operated the first typewriter.

A few years ago an article appeared in the Sunday edition of the Chicago Tribune, giving the name and residence of a gentleman in the east who was credited with the distinction of having possessed and operated the first typewriter that was manufactured sometime about the year 1878. A statement was sent to the Tribune at the time giving the facts briefly as to the date on which the first typewriter was constructed and the name of its inventor, which was omitted from the statement, which the writer probably thought wasn't worth mentioning. This correction was returned to the writer with a polite note from that reliable journal to the effect that a rule

of the office prohibited the publication of corrections of that character, which of course settled the business, so far as that journal was concerned, and in all probability the gentleman, who happened to be a man of some note, is still modestly wearing his honors and enjoying the fame which some enterprising writer had thrust upon him.

Occasionally too, there are some of our lady typewriter operators who are wont to claim that distinction. Very lately a young lady who had recently come to St. Louis from Chicago claimed to have brought the first machine from that city to St. Louis, but inasmuch as the young lady couldn't have been older than 20, and the first typewriter was built fully twenty years before she was born, the validity of her claim is somewhat doubtful. Probably, if the truth were known there is a lady in this audience today who may rightly claim to have operated the first typewriter that was manufactured, during the winter of 1868.

**Improved Machine of 1870**

The second machine which was sent to me in the fall of 1870 was, as I have stated, so decidedly different from the first construction that it will bear a description as to some of its parts. In the first place, the rude wooden keys contained in the first machine were replaced by metal rods with a thin brass button on which the letter or figure was cut and painted black. The connecting wires instead of running down to trivets near the floor ran directly from the end of the key to the type bar above, and instead of the plain slot in the brass disk, which had given us so much trouble in the first machine the type bars were set in steel bearings, very much the same as we see in the latest modern construction. The carriage movement and paper holding device was so widely divergent from the first construction that it will require some explanation. Instead of the flat paper frame there was a rubber roller, which varied from the roller now in use,

being twice as large in circumference, and instead of moving laterally from left to right in printing the lines the roller moved forward with each stroke of the key, in the same way that it now moves in changing the lines, while the line was changed by the roller moving down the space of a line on the rod after it had completed a revolution. In other words, the movement of the roller in printing and changing the line was exactly the reverse of the present construction. The paper was the same length as the roller, and was curved around it lapping over sufficiently to allow a margin, and secured at the ends by steel clamps very much like the ankle guards that a bicycle rider uses today. Notwithstanding this peculiar arrangement of the paper on the roller the work accomplished was very satisfactory and far superior to the flat paper frame. Bear in mind that this was away back in 1870, and during the three years following while the construction was being carried on under Mr. Sholes' direction other important changes were made, resulting

in the paper passing under an ordinary sized roller the same as is done today.

These various changes are mentioned in the letters from Mr. Sholes which were received by me between 1870 and 1873 which fortunately have been preserved while the earlier ones that were written between 1868 and 1870 were lost or destroyed, not realizing at the time their value in after years in exhibiting the work of the first machine.

These letters were written in Mr. Sholes' free and easy style, as an older man would naturally write to a young friend.

Under date of April 21, 1870, he writes as follows:

**"Nil Desperandum"**—which, being liberally interpreted, means 'don't despair.' Notwithstanding I had the machine done some time ago, I still continue to make valuable improvements * * * * I have now but one spacing wheel, instead of two, as on your machine. The weight is connected directly with the printing shaft, without the intervention of any pulley and belt. This machine runs thirty lines without winding. It is so fixed also that I can make paragraphs

by merely touching a key, as in spacing the letters. This is a very great improvement, as you will readily understand. You had better have an entirely new machine, as it is scarcely worth while to work that over with so few characters in it. I am in a hurry, and must stop.

SHOLES."

MILWAUKEE, WISCONSIN, APRIL 21, 1870.

CHARLIE----

NIL DESPERANDUM.--WHICH BEING LIBERALLY INTERPRETED, MEANS DONT DESPAIR. NOTWITHSTANDING I HAD THE MACHINE DONE SOMETIME AGO, I STILL CONTINUE TO MAKE VALUABLE IMPROVEMENTS. THIS MACHINE IS CLEPHANES, WHICH I HAVE MADE OVER TO THE NEW STYLE.

I HAVE NOW BUT ONE SPACING WHEEL, INSTEAD OF TWO, AS ON YOUR MACHINE. THE WEIGHT IS CONNECTED DIRECTLY WITH THE PRINTING SHAFT, WITHOUT THE INTERVENTION OF ANY PULLEY AND BELT. THIS MACHINE RUNS THIRTY LINES WITHOUT WINDING. IT IS SO FIXED, ALSO THAT I CAN MAKE PARAGRAPHS BY MERELY TOUCHING A KEY, AS IN SPACING THE LETTERS. THIS IS A VERY G R E A T IMPROVEMENT, AS YOU WILL READILY UNDERSTAND. YOU HAD BETTER HAVE AN ENTIRELY NEW MACHINE, AS IT IS SCARCELY WORTH WHILE TO WORK THAT OVER WITH SO FEW CHARACTERS IN IT I AM IN A HURRY AND MUST STOP.

YOURS, ETC. SHOLES.

Under date of July 30th, 1870, Mr. Sholes writes as follows:

"Yours came to hand yesterday. I will make one of the new machines for you. It will be done before November. This is a specimen of the manner in which it will work; that is to say, a specimen of the style of work. I think the machine is now as perfect in its mechanism as I know how to make it, or to have it made. It develops no difficulities whatever. I think this has not failed to space once since it has been started—now a week, and I see no reason to fear that it will fail to space in a year. The belt has too much ink on it yet, but that is not so bad as having too little. I know of no respect in which I can improve it.

The paragraphs are made by simply touching a key, as in the case of spacing the letters, and by bearing a little on the key it operates as a brake, and keeps the cylinder from shooting around too fast. It is as easy to write or copy poetry on it as prose.

The machine is done, and I want some more worlds to conquer. Life will be most flat, stale and unprofitable without something to invent."

Nevertheless, it would seem that the machine is not quite done yet, as he writes under date of September 28, 1870, two months later, as follows: (See page 43.)

"I have made another most important change in the machine, having dispensed with the slotted disk altogether. My disk now consists simply of a flat ring about an inch broad and a quarter of an inch thick, around which the hammers are hung, each one on an independent journal of its own. The top of the disk is, of course, all open on the plan, and easily accessible with a brush to clean the types, or the hand to arrange anything that may be out of order, and the hammers can never stick, as they never touch anything but the little steel journals on which they swing. The ease and freedom and beauty with which this machine works is truly wonderful. I do not refer to the beauty of its print, but the beauty of its working. The type are

MILWAUKEE, WISCONSIN, SEPTEMBER 28, 1870.

CHARLIE---

I REALLY FORGET WHETHER I ANSWERED YOUR LAST LETTER OR NOT. I AM WORKING NOW ON AN AVARAGE ABOUT SIXTEEN HOURS A DAY AND HAVE NOT MUCH TIME TO DO ANY THING ASIDE FROM MY REGULAR WORK, NOR INDEED TO RECOLLECT ANY THING. YOU INVITED ME DOWN THERE BUT IT IS QUITE IMPOSSIBLE FOR ME TO COME UNLESS I ABANDON EVERY THING HERE I CAN SCARCELY GET AN HOUR'S LEAVE OF ABSENCE FROM THE BOARD, MUCH LESS A DAY OR A WEEK. DENSMORE HAS JUST TELEGRAPHED ME TO COME IN ALL HASTE TO NEW YORK, BUT I CANNOT GO UNLESS IT PROVES TO BE FOR SOMETHING IMPORTANT ENOUGH TO WARRANT ME IN CUTTING LOOSE FROM ALL MY PRESENT BUSINESS PURSUITS.

I AM ANXIOUS TO HEAR FROM YOU FURTHER DENSMORE, I THINK, IS NEGOTIATING WITH SWEET IN NEW YORK, WHO WANTS THE MACHINE IN CONNECTION WITH HIS TELEGRAPH INTERESTS. WITH WHAT PROSRECTS OF SUCCESS HE IS NEGOTIATING I DO NOT KNOW, NOR DO I KNOW WHETHER IT IS IN THAT CONNECTION HE WANTS ME.

I HAVE MADE ANOTHER MOTT IMPORTANT CHANGE IN THE MACHINE---- HAVING DISPENSED WITH THE SLOTTED DISC ALTOGETHER. MY DISC NOW CONSISTS SIMPLY OF A FLAT RING ABOUT AN INCH BROAD AND A QUARTER OF AN INCH THICK AROUND WHICH THE HAMMERS ARE HUNG EACH ONE ON AN INDEPENDENT JOURNAL OF ITS OWN. THE TOP OF THE DISC IS OF COURSE ALL OPEN IN THIS PLAN, AND EASILY ACCESSIBLE WITH A BRUSH TO CLEAN THE TYPES OR THE HAND TO ARRANGE ANY THING WHICH MAY BE OUT OF ORDER. AND THE HAMMERS CAN NEVER STICK AS THEY NEVER TOUCH ANY THING BUT THE LITTLE STEEL JOURNALS ON WHICH THEY SWING. THE EASE AND FREEDOM, AND BEAUTY WITH WHICH THIS MACHINE WORKS IS TRULY WONDERFUL. I DO NOT REFER TO THE BEAUTY OF ITS PRINT BUT THE BEAUTY OF ITS WORKING. THE TYPE ARE TOO LARGE. IT WAS A SETT I HAD ON HAND, AND AND AS I WAS TRYING AN EXPERIMENT THE RESULT OF WHICH I THOUGHT VERY DOUBTFUL I DID NOT WISH TO GET ANOTHER SETT. I AM MYSELF SURPRISED AT THE RESULT OF THE EXPERIMENT. I HAD VERY F INT HOPE OF ITS SUCCEEDING, BUT THOUGHT IT POSSIBLE, BY CAREFUL ADJUSTING OF EVERY HAMMER THAT IT MIGHT WORK. YOU CAN THEREFORE GUESS BOTH MY SURPRISE AND PLEASURE WHEN I FOUND THAT IT NEEDED NO ADJUSTING AT ALL THAT ON THE CONTRARY IT ADJUSTED ITSELF.

IT IS NOT ONLY A WONDERFUL IMPROVEMENT IN THE WORKING OF THE

MACHINE, BUT IT ANSO WONDERFULLY CHEAPENS AND SIMPLIFIES THE MANU FACTURE. THE DISK CAN NOW BE CAST AND NEEDS NOTHING ON THE LATHE BUT TO HAVE THE FACE SMOOTHED UP. THE HAMMERS CAN ALSO BE CAST OF TYPE METAL A INASMUCH AS THEY TOUCH NOTHING WHATEVER IN THEIR WORKING AND THESEFORE THERE IS NOTHING TO WEAR THEM OUT. MY PLAN IS TO CAST THE HAMMERS AND AT THE SAME TIME CAST THE TYPE IN THEM HAVING OF COURSE PREVIOUSLY PREPARED THE TYPE OF BRASS OR STEEL AND PLACED IT IN THE MOULD. IN THIS WAY THE TYPE AND HAMMER WIL -L COME OUT OF THE MOULD READY TO GO INTO THE MACHINE WITHOUT FUR THER PREPARATION. I THINK IT IS A VERY GREAT THING TO HAVE GOT RID OF THE SLOTTED DISC, WHICH ALWAYS THREAUENS OR MANAGES IN SOME WAY TO HOLD ON TO THE TYPE, OR SOME ONE OF THEM. IN THIS MA -CHINE THERE IS NOTHING FOR THE TYRE TO STICK IN, IF A TYPE PAU-SES AT ALL IT MUST BE IN THE OPEN AIR, FOR THERE IS NOTHING ELSE TO STOP IT. I EARNESTLY HOPE WE SHALL SOON GET TO MANUFACTURIN -G WITH A ALL OF THESE IMPROVEMENTS, IN WHICH CASE WE SHALL KEEP YPOU SUPPLIED WITH THE BEST. BUT I CANNOT THINK THAT ANY FURTH-ER CHANGES ARE POSSIBLE TO ADVANTAGE. THE DISC WAS THE ONLY THI-NG LEFT WHICH I HAD NOT REVOLUTIONIZED. THAT IS NOW GONE, WHICH MAKES THE MACHINE COMPLETELY A NEW ONE COMPARED WITH ITS ORIGINAL CONCEQTION AND CONSTRUCTION. ALL OF ITS PARTS HAVE BEEN THE SUB-JECT OF MOST THOROUGH EXPERIMENT, AND I DO NOT BELIEVE ANY OF THE M CAN BE CHANGED TO ADVANTAGE. EVERY THING NOW, SEEMS TO ME AS PERFECT AS IT CAN BE MADE, AND I FEEL NO INSPIRATION TO ALTER ANY THING FURTHER.

BUT LET ME HEAR FROM YOU. YOURS, &C.,

SHOLES.

too large. It is a set I had on hand, and as I was trying an experiment the result of which I thought was doubtful, I did not wish to get another set. I am myself surprised at the result of the experiment. I had very faint hopes of its succeeding, but I thought it possible by careful adjusting of every hammer that it might work. You can therefore guess of my surprise and pleasure when I found out that it needed no adjusting at all; on the contrary, it adjusted itself * * * * I think it a very great thing to get rid of the slotted disk, which always threatens or manages in some way to hold on to the type or some one of them. In this machine there is nothing for the type to stick in. If a type pauses at all it must be in the open air, as there is nothing to stop it. I earnestly hope we shall soon get to manufacturing with all these improvements * * * * Everything now seems to me as perfect as it can be made, and I feel no inspiration to alter anything further."

The next letter is dated March 14, 1871, nearly six months later, from which it ap-

pears that our inventor has not lost all of his inspiration, as his previous letter would indicate, and still further improvements are being made. I quote from the letter as follows:

"I have now a machine on which I am doing this work, which is an entirely different thing. It has not the same appearance. The key board is not the same; the disk is not the same; very little similarity in any respect.

"I have been running this about two months, and it seems to get better, rather than otherwise. In all that time it has not developed a single difficulty. In fact all such thing as trouble or bother has ceased to enter into the calculation. Densmore is very sanguine of very valuable results from the thing. Since this machine has been running I am getting more hope in the premises; but I must close on account of press of other duties."

Of the association between Mr. Sholes and Mr. Densmore who came upon the scene for the first time in 1870, two years after the manufacture of the first machine

I can say little or nothing, except that I remember about that time Mr. Densmore came to St. Louis to see me and satisfy himself in regard to the practical work that had been done on the machine and obtain a testimonial from me in regard to its work. I afterwards learned that he obtained from Mr. Sholes a right to manufacture a machine under his patent for a stipulated sum, and sometime afterwards I saw a card with a cut of a machine that was manufactured under the name of Densmore & Porter and was being used in a commercial school in Chicago, of which Mr. Porter was the principal. The machine contained the same features as the Sholes machines, except that it dispensed with the long wires running from the keys to the bottom of the table attached to the trivets and thence to the type bars as previously described. I understand that this machine was known as the "cantilever" machine, and was operated by means of short stiff wires running laterally with and soldered to the ends of the keys and connected with the type bars in such manner as to throw them up against

the paper as each key was struck. I am unable to describe the machine in detail, never having seen it. The principal effect of the change was to reduce the leverage between the keys and the type bars several inches and confine the movement to a space of not more than two or three inches in depth, which would seem to be an improvement, but the machine did not prove a success for the reason, as I understand, that it was found that the wires were unable to sustain the lateral strain, and would naturally become bent out of shape, and for that reason its manufacture was abandoned. In the meantime, however, Mr. Sholes continued to manufacture his machines, and the process of evolution was going on, looking also towards reducing the size of the machine and getting all its parts into the shortest possible compass, which was the result of the machine sent to me in the fall of 1870, which I have already described.

I will close the reading of this correspondence by reading the last letter in my possession which was written in the spring of 1873, at the time that Mr. Sholes found

himself compelled by lack of financial means to abandon the control of the manufacture of the machine and place it in other hands.

Reading between the lines in this letter we detect a vein of sadness, very much akin to the feelings of a mother who is compelled to abandon her child by placing it in the hands of others who are better able to nourish it and care for its future growth.

Under date of April 30, 1873, Mr. Sholes writes as follows: (See page 50.)

"I presume not having heard of or from the machine for so long a time you have about concluded that that machine does not live, whatever may be the case with others. But if I am right in that conjecture, you would be entirely mistaken. It not only lives, but apparently at present is in a most vigorous condition. The kind of work it will do you observe in this specimen, but the amount of labor we have been compelled to perform and the amount of money to expend to get it into its present condition of efficiency has been fearful to contemplate, and, I might add, the number of

MILWAUKEE, WIS. APRIL 30, 1873.

FRIEND CHARLIE:---

IN CONVERSATION TO-NIGHT, WITH ALFRED, I LEARNED THAT YOU STILL LIVED, AND HE GAVE ME ONE OF YOUR CARDS, BY WHICH I NOT ONLY LEARNED THAT YOU STILL LIVED, BUT THAT YOU LIVED AT ST. LOUIS, IN YOUR REGULAR BUSINESS OF PHO-TO---NO, PHONOGRAPHING. I PRESUME, NOT HAVING HEARD OF NOR FROM THE MACHINE FOR SO LONG A TIME YOU HAVE ABOUT CONCLUDED THAT THAT DOES NOT LIVE WHATEVER MAY BE THE CASE WITH OTHERS. BUT IF I AM RIGHT IN THAT CONJECTURE, YOU WOULD BE ENTIRELY MISTAKEN. IT NOT ONLY LIVES, BUT APPARENTLY AT PRESENT, IN A MOST VIGOROUS CONDITION. THE KIND OF WORK IT WILL DO, YOU OBSERVE IN THIS SPECIMEN, BUT THE AMOUNT OF LABOR WE HAVE BEEN COMPELLED TO PERFORM AND THE AMOUNT OF MONEY TO EXPENS, TO GET IT INTO ITS PRESENT CONDITION OF EFFICIENCY, HAS BEEN FEARGUL TO CONTEMPLASE. AND I MIGHT ADD, THE NUMBER OF MORTIFYING FAILURES WE HAVE ENCOUNTERED, WHEN WE THOUGHT WE HAD THE THING ENTIRELY COMPLETED IN GOOD SHAPE, HAVE BEE-N ENTIRELU TOO NUMEROUS TO MENTION.

BUT WE FEEL THAT WE HAVE GOT OUT OF THE WOODS AT LAST. THE MACHINE IS NO SUCH THING AS IT WAS, WHEN YOU LAST SAW IT. IN FACT YOU WOULD NOT RECOGNIZE IT AS THE SAME THING AT ALL. I SCARCELY KNOW HOW TO DESCRIBE IT; AND I PRESUME IT IS NOT NECESSARY I SHOULD MAKE THE ATTEMPT. IT IS NOW, WHAT WE CALL THE 'CONTINUOUS ROLL'' MACHINE, SO CALLED, BECAUSE IT WAS MADE ORIGINALLY TO ACCOMMODATE THE AUTOMATIC TELEGRAPH COMPANY BY PRINTING FROM A CONTINUOUS ROLL OF PAPER; THAT IS, PAPER OF ANY LENGTH. THIS ALTERES THE WHOLE CHARACTER OF THE MACHINE, AND WE FOUND AFTER IT WAS ALTERED THAT THA STYLE ACCOMMODATED AL-L WANTS BETTER THAN THE OLD STYLE, AND SO WE MAKE NO MORE OF THE KIND THAT WE MADE WHEN YOU

WERE INTERESTED IN IT. IT IS SMALLER, HANDIER, NEATER, MORE CONVENIENT, WILL DO ALMOST EVERY POSSIBLE KIND OF WORK, THAN IT WAS OR WOULD DO IN ITS OLD FORM.

A CONTRACT HAS BEEN MADE WITH THE ILION ARMS MANUFACTORY OF THE REMINGTON'S AT ILION, NEW YORK, FOR THE MANUFACTURE OF A THOUSAND MACHINES, WHICH ARE NOW IN PROCESS AND PROGRESS OF CONSTRUCTION. WE ARE MUCH ENCOURAGED WITH THE PROSPECT OF THE VALUE OF THE THING IN VIEW OF ITS UTILITY.

I HAVE NOTHING PARTICULAR TO SAY, AND YOU WILL OBSERVE I HAVE SAID IT. I TRUST THIS MAY FIND YOU WELL. YOURS,

C. L. SHOLES.

mortifying failures we have encountered when we thought we had the thing entirely completed have been entirely too numerous to mention.

But we feel that we have got out of the woods at last. The machine is no such thing as it was when you last saw it. In fact you would not recognize it as the same thing at all. I scarcely know how to describe it, and I presume it is not necessary that I should make the attempt. It is now what we call the continuous roll machine.

so-called because it was originally made to accommodate the Automatic Telegraph Company, by printing from a continuous roll of paper; that is, paper of any length. This alters the whole characfer of the machine, and we found after it was altered that the style accommodated all wants better than the old style, and so we made no more of the kind that we made when you were interested in it. It is smaller, handier, neater, more convenient, will do almost every possible kind of work than it was or would be in its old form.

A contract has been made with the Ilion Arms Manufactory, or the Remingtons, at Ilion, N. Y., for the manufacture of a thousand machines, which are now in process or progress of construction.

"I have nothing particular to say, and you will observe that I have said it."

This last letter, as you will observe by an inspection of the original, is a fair specimen of the work that was done on the machine for some time after it passed into the hands of the Remington company, the work being in capital letters the same as the other ma-

chines up to that time. The most important improvement by which the lower and upper case letters were produced by means of the present shifting apparatus was not conceived until some time later.

**Original Features In Present Machines**

Notwithstanding the vast improvements that have been made in the mechanical movement and superior workmanship, and the many little ingenious devices which have been added, and characterize the typewriter of the present day, still we find that the main features which constituted the invention are the same now as those contained in the first typewriter, which consists of the circular disk or metal ring around which are hung the type bars, each striking at a common center, the ribbon movement and movement of the paper carriage connected with the keys by the universal bar, the spring motor which was substituted by Mr. Sholes in place of the awkward clock work movement with the weight, which was a troublesome feature of the first machine, and although the change in this feature is not referred to in the letters which have been preserved, it was done away with in the machine that was sent to

me during the fall of 1870. This change, however, was purely mechanical, and was naturally suggested by the evolution of the clock from the weight to the spring motor. All of these features were the result of much study and experiment on the part of Mr. Sholes and his associates during the five years that intervened before turning over the manufacture of the machine to the factory at Ilion. The real invention, however, consists in the circular metal ring or disk, with the type bars striking at a common center which is found today in all type bar machines. I may add also, that since the manufacture of the machine passed out of Mr. Sholes' personal supervision he still continued to work on improvements up to the day of his death in 1890, giving the benefit of his work to the company to whom he had turned over the manufacture in 1873.

The discouraging feature connected with the manufacture of the first machines, and which it seemed impossible to overcome, was the crude workmanship which tended to impede the action of the machine, which required smooth and certain movement of its most delicate parts. The workmen in the little machine shop did the best they could with the imperfect appliances at hand; but it was like trying to make a watch in a blacksmith shop, and it was only after repeated and heroic efforts to overcome these obstacles that Mr. Sholes was compelled to relinquish personal control of its manufacture and place it with the Remington company at Ilion, N. Y., as stated in his last letter. Previous to this he had expended with the aid of his financial backers large sums of money in an endeavor to perfect his invention to the extent of producing a thoroughly reliable working machine that would find favor with the public, in which

**Discouraging Features**

effort I am told that he expended all of his private funds, even to the sacrifice of his little home in order to raise the necessary means for the attainment of that end. Failing in that endeavor he made a contract with the Remington Arms Company, where skilled workmen were employed with all the appliances at hand for working in steel in the manufacture of their fire arms.

It was these defects that compelled us to abandon the use of the first machine in our regular work. The second machine that was sent to me in the fall of 1870 although a great improvement on the first one and very well adapted to correspondence and ordinary light work was still subject to impediments and stoppages necessitating more or less delay in repairing and remedying the difficulties, and as time was an important element with us we were compelled to return to the old method of preparing our transcripts.

This is all that can be said, so far as the writer's personal recollections are concerned, as to the early history of the typewriter. A most interesting volume could

have been written by those who at the time had full knowledge of all the details connected with the many experiments that were tried and abandoned from time to time, and the numerous disappointments that resulted from the efforts that were made to surmount the obstacles that arose here and there, standing in the way of the manufacture of an absolutely reliable machine that could be passed into the hands of the ordinary operator and used for months without a hitch or break of some kind, occasioning vexatious delays, which naturally militated against the use of the machine, and I may say here that it was nearly ten years after the work was undertaken in an establishment where the most skilful mechanics were employed with all the necessary appliances for accomplishing the finest work in steel, that a machine was manufactured that was entirely devoid of the defects, which stood in the way of its general use.

**Personal Notes**

In this connection it is proper that something should be said of the life and character of the man whose inventive genius has lightened the labors of shorthand reporters and materially lengthened their lives. Speaking for myself, I have no doubt but that without the valuable aid of the typewriter I would have been laid on the shelf, so to speak, years ago, a sufferer from writer's cramp or some other affliction superinduced by overwork, and I have no doubt that many others of our profession can bear testimony to the same effect.

With those who were so fortunate as to know Mr. Sholes during his life, the acquaintance was one which carried with it the most pleasing recollections. Old residents of Milwaukee will remember his appearance on the street, his tall slender figure, his long flowing hair and his remarkably clear bright eyes, with that far-away look in them peculiar to men of his genius.

His genial nature is reflected to some ex-

tent in the few extracts that have been read from his letters. He was a devotee of the royal game of chess, and never so happy as when seated at the board opposite an opponent worthy of his steel. A quiet vein of humor ran through his ordinary conversation, and he would frequently quote passages from the poets, paraphrasing them in a grotesque style which was calculated to cause those worthies to rise up in righteous indignation at the unwonted liberty that had been taken with their lines, but nevertheless intensely amusing. He was also an inveterate punster. The pun crept into his ordinary conversation in the most natural way and he was never guilty of carefully paving the way for a choicely preserved specimen of that character which is a most exasperating feature of some of our would-be wits.

As an illustration of his happy facility in that line, a friend at one time accompanied him to his modest home, which was lighted with kerosene lamps, which was the bane of all good housekeepers in those days, and upon entering the front door he beheld a

large grease spot on the hall carpet caused by the dripping from a hanging lamp. Raising his eyes to the ceiling he broke out with Byron's well known apostrophe,

"Ye isles of Greece, ye isles of Greece,
Where burning Sappho loved and sang."

In the midst of a game of chess, seeing a check-mate loom up in the distance he would hurl defiance with Goldsmith's couplet, embellished in rustic style,

"E'en though that cloud were thunder's
wust,
And charged to squash him, let it bust."

A man of most gentle and modest demeanor, he was not lacking in moral courage when occasion required it. At one time during the civil war we were lunching at a restaurant at the capital of Wisconsin. The restaurant was fitted up with small booths in which patrons could enjoy their meals in semi-privacy. As we were waiting for our order two officers of the union army passed us and sat down in the adjoining compartment, when one remarked to the other "That's the fellow who wrote us up in his paper and said we ran like white cats

at Wilson's Creek." The remark was made in a low tone, and might have been passed by with one less sensitive of personal criticism, but Mr. Sholes' quick ear caught it, and rising at once he appeared at the entrance of the booth with the question "Are you alluding to me, sir?" The officer was naturally taken aback with the sudden appearance of the tall form, and the question propounded in the most quiet even tone, and somewhat defiantly replied, "Well, you are the editor of that paper, and I suppose you are responsible for its statements." Mr. Sholes replied, "You are very much mistaken sir. I had nothing to do with the publication of that statement, and if I had seen it in time it never would have been published. I have too much regard for the boys who are fighting our battles while we are enjoying the comforts of our homes to allow them to be slandered in the public press." The explanation was made in such a manly way and with such evident sincerity that it called forth a most profuse apology, and after a few pleasant remarks

in which Mr. Sholes expressed his regret that his age prevented him from serving in the field in defense of his country, the two separated the best of friends.

I have noted with some anoyance statements which have been made lately in articles written in connection with the invention of the typewriter to the effect that "C. L. Sholes who assisted in perfecting the typewriter was a mechanic by trade." A short time ago a friend sent me a clipping from a southern paper in which an old gentleman in his 94th year was claiming the distinction of being the original inventor of the typewriter, having given his design to "a mechanic named Shoals who developed the first Remington machine." Another mention has been made still more recently which spoke of "a crude model of a machine invented by Sholes and Glidden, two mechanics of Milwaukee," a term which cannot be strictly applied to either of those gentlemen, and while undoubtedly Mr. Sholes with his democratic ideas would have felt honored in being placed in that catagory if such was the fact, I take the

liberty of copying the following brief sketch which appears in "The National Cyclopedia of American Biography" published some 10 or 12 years ago:

"Christopher Latham Sholes, inventor, was born in Columbia county, Penn., February 14, 1819. His ancestors were New Englanders and served with distinction in the Revolutionary army. His grandfather on the maternal side was a lineal descendant of John Alden.

"At the age of fourteen young Sholes was apprenticed to the editor of the Intelligencer, Danville, Pa., to learn the printing trade, but at the age of 18 determined to join his brother, then living in Green Bay, Wis. A year later, when but 19 years of age he took charge of the House Journal of the Territorial Legislature and carried it to Philadelphia, a long journey at that time, to be printed. At the age of 20 he went to Madison, and took charge of the Wisconsin Inquirer, owned by his brother Charles, and in 1840 at the age of 21, edited the Southport, afterwards Kenosha Telegraph, and four years later became the postmaster, re-

ceiving his appointment from President Polk. Later, during his residence in Milwaukee he was postmaster of that city, and still later was appointed to the position of Commissioner of Public Works, and Collector of Customs. He was for a long time editor of the Milwaukee Daily Sentinel and the News.

"It was while he was Collector of Customs in 1866 that he became interested with an old friend named Soule in the making of a machine for consecutive numbering, especially on bank notes and pages of blank books, at which time his attention was directed to an article published in an English journal regarding writing by a mechanical device, by John Pratt.

"With a quick intuition he saw the possibilities of a revolution of the handling of the pen. From that moment he devoted his whole time and thought to the idea which has given to the world the typewriter.

"This wonderful creation is the result of his inventive genius. In 1867 the first crude instrument was made, and in 1873 the in-

vention was so far perfected as to warrant the production of machines on a large scale. The world has felt the benefit. For a long time the financial returns were small and Mr. Sholes who was to receive a royalty on each machine, disposed of his right for a comparatively small sum. Later he invented several improvements, which, with an excess of conscience characteristic of the man, he gave to the persons in control of the manufacture.

"In addition to his inventive powers, Mr. Sholes did much as an editor and politician. He witnessed the evolution of the state of Wisconsin from its wild beginnings, and contributed no small share in shaping the laws that were necessary to set the new state government in successful motion. He served in the state Senate in 1848-9 from Racine County, and in 1852-3 represented Kenosha County, in the legislature. In 1856-7 he was state senator, being president pro tem for more than a year.

"He was a man of such generous sympathies that he naturally took to the side of the minority. His innate abhorance of

wrong and cruelty made him an abolitionist, and he was one of the most active founders of the Republican party in the State. He disliked the details of business, and the painstaking necessary to make money was his particular aversion. He was a man of excessive tenderness of conscience, viewed from the usual business point of view. It was because of this that he did not reap the pecuniary reward of his invention of the first typewriting machine. He lived to see the work of his genius accepted throughout the world, and hear the pleasing compliment rendered him, that he was "the father of the typewriter."

**An Incorruptible Legislator**

There is one notable circumstance connected with Mr. Sholes' public life which is not referred to in this brief biography, but which deserves mention in this connection, as illustrating his sterling honesty and integrity, and his high ideal of the duty of a representative towards his constituents while acting in that capacity. I refer to it with some hesitancy, for the reason that it seriously involves the character and reputation of certain men who had hitherto stood very high in the State of Wisconsin, and while my memory may be at fault as to the minor details of the transaction, the main facts are matters of history, which cannot be successfully controverted.

Away back in the early 50's, when the railroads were pushing their way into the new State, a scheme was concocted in connection with the building of a railroad from Milwaukee to LaCrosse, which was to give

the promoters certain valuable lands along the right of way through the State of Wisconsin. In order to carry out this scheme it was necessary to obtain authority from the State Legislature, and a bill was framed embodying the necessary legislation, which was introduced during the session, and was afterwards known as the LaCrosse Land Grant. The measure was what is commonly termed a "steal", and the promoters well knew that it could not be carried through in the ordinary way. In order to facilitate its passage a series of bonds were issued secured by this land, which was exceedingly valuable. The bonds were in denominations of five thousand dollars each, and were intended for distribution among the members of the legislature with the purpose of influencing their votes in favor of the bill. These bonds were quietly passed around among the members by an agent of the syndicate, and accepted, with the usual result, and the bill was passed and signed by the governor, and thus became a law. It was one of the worst cases of wholesale bribery ever known in the his-

tory of legislation, involving, as it did, not only the members of the Legislature, but the governor himself, who received a large share of the bonds.

The facts in connection with this disgraceful proceeding came to light some two or three years afterwards in a legislative investigation, and revealed the fact that but one man in the entire assembly refused the bribe, and his name stands out in the history of the State of Wisconsin as a bright particular star, where all else is dark.

The name of that man is C. Latham Sholes. He indignantly spurned the bribe, while others accepted it, and with it in some cases laid the foundation of what in those days would be termed a fortune.

Mr. Sholes returned to his contituents as poor in purse as when he left them, but he preserved his purity and integrity, and sacredly kept inviolate the oath which he had taken when he entered the halls of legislation as a servant of the public.

Throughout his pure, blameless life he cared nothing for money, except as a means of providing for the simple wants of his

family and himself. He once remarked to a friend in his facetious way that he had been trying all his life to escape from being a millionaire, and thought he had succeeded admirably in that regard.

The life of Christopher Latham Sholes, regarded from the coarse and sordid standpoint of the business world would not be pronounced a success, but viewed from the higher and nobler standard by which all human lives are measured in the eternal years of God, his life was a grand and glorious success, far exceeding all the material wealth which has been produced in this age of multimillionaires, in that he devoted his God-given genius, not for selfish gain, not for his own enrichment at the expense of others, but for the benefit of mankind, and for the welfare and happiness of future generations.

# APPENDIX

Extract from the Proceedings of the 18th Annual Convention of the National Shorthand Reporters' Association.

Photograph of Burial Lot of the Inventor of the Typewriter.

Photographs of Models of the First Typewriter on which the Patent was granted July 14th, 1868.

Resolutions Adopted at the 19th Annual Convention at Cleveland, Creating the Sholes Monument Commission.

## APPENDIX

Extract from the Annual Proceedings of the National Shorthand Reporters' Association at Philadelphia, Pa., Aug. 16, 1916.

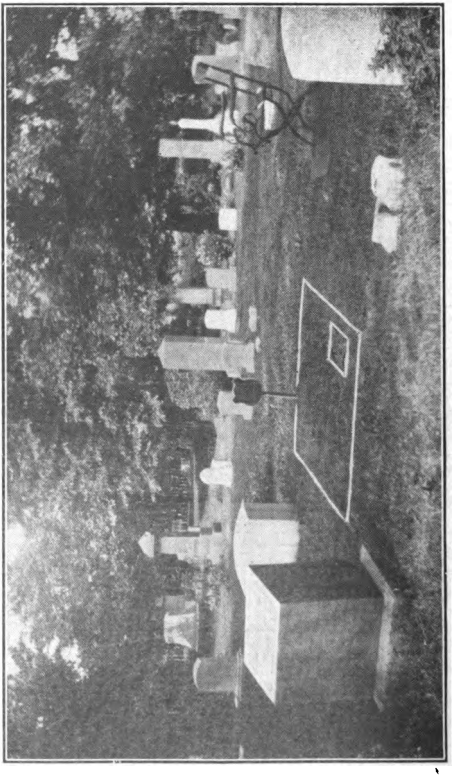
Secretary Weller:

I have a matter here which I think will interest our members and I promise to be very brief, and not encroach upon the regular order this afternoon.

During our 10th annual convention which was held in Milwaukee in 1908 a number of our members took occasion to visit a little machine shop in the northern part of the city in which was constructed the first typewriter during the summer and fall of 1867.

They failed, however, to visit another spot, no less interesting and replete with sacred memories of the man whose inventive genius must always link his name in the enduring chain of great inventors of the nineteenth century.

In Forest Home Cemetery, Milwaukee, surrounded by the many magnificent and imposing monuments which distinguish



that beautiful city of the dead, is a nameless grave, with nothing to note the spot, save the simple corner lot markers which are found on every burial lot,placed there by the cemetery authorities to mark the boundary line that separates it from other lots.

Probably no person, except the few descendents of the family would think of taking the trouble to search out this modest grave; and yet beneath the sunken mound are the bones of one whose inventive genius gave to the world that wonderful mechanism known as the typewriter.

It was his brain that conceived the main features of an invention which has lightened the labor and added to the comfort and happiness of countless thousands of young men and women who are today earning an independent livelihood in fields of usefulness created by this invention—fields of labor far exceeding the most sanguine expectation of the patient inventor who was struggling to produce a mechanism which has today found its way into every part of the civilized globe.

Crude and cumbrous as was the first attempt at reducing to a practical working model the product of his brain, nevertheless the main principle of the invention was there, and it did its work, despite the many handicaps that developed during its con

struction in the little workshop that gave it birth.

The inventor not only conceived the main principles of the invention, but at the same time christened it, by giving it a name, which sounded oddly enough at the time, but has since become a household word throughout the world,—"The Typewriter."

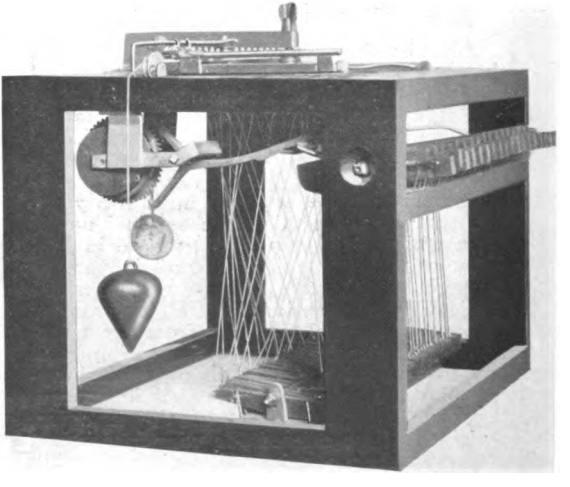
He perfected his invention so far as possible with the rude machinery in the hands of workmen unskilled in the manufacture of its most delicate parts, and patiently labored in an effort to construct a machine that would accomplish the work and meet with favor with the public, aided in the first place by the pecuniary assistance of a friend whose interest was enlisted to the extent of furnishing the necessary funds for the first trial of the invention, and afterwards practically sacrificing his own modest home in order to procure further funds for carrying on the work, until he was compelled to turn it over to a factory in the east, whose fine work in steel finally brought it to a marketable stage, after which he still continued the work of perfecting some of its most intricate parts, propped up in his bed during the last stages of a lingering illness, never ceasing his work, up to the time of his death.

Such, in brief, is the story of the man and his work.

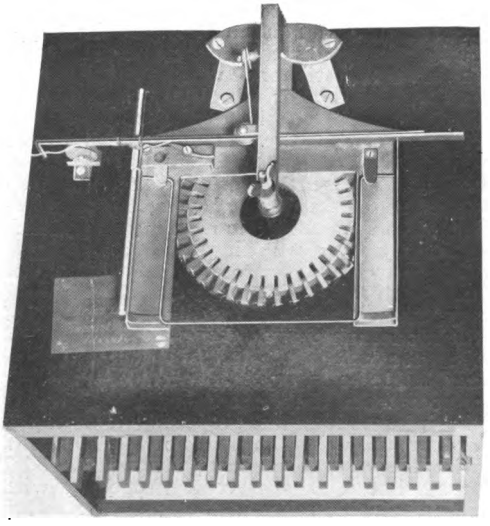
He died a poor man, so far as the world's wealth is concerned. He left a heritage that has been the making of millionaires and has blessed the lives of hundreds of thousands of toilers in the world's work.

It has been to me a matter of great regret that I was unable to preserve the first typewriter which was sent out of the shop and shipped to St. Louis in the winter of 1867-8, but which was soon afterwards recalled by the inventor to be replaced by another machine with various mechanical improvements, and it was not until two years ago that I learned that the original model upon which the patent was granted in July 1868, was still in existence, and in passing through Washington on my way to our Atlantic City convention in 1914, I arranged to have the model removed from the warehouse and unpacked for inspection, and having secured the services of a Washington photographer we succeeded in procuring two excellent views of the machine, which are here offered for your inspection.

Cut number one is a side view showing the keyboard with connecting wires running down, and fastened to trivets, with wires connected at the other end of the trivets, and from thence running up to the machine and connected with the type bars. It also shows the clock work mechanism with weight attached, which was afterwards replaced by the spring motor.



Cut No. 1.



This is a top view, showing the brass disk, slotted and connected with the type bars, also the platen, consisting of a metal bar rigidly fastened to the frame of the machine, and extending to the center of the aperture in the disk with sufficient surface for each letter to strike at a common center; also showing the flat paper frame moving

beneath the ribbon and platen, the paper being clamped at each corner of the frame. The ribbon movement apparatus having been lost or mislaid is not shown on the model. It consisted of spools fastened on each side of the frame, attached to the carriage movement in such manner as to move and present a fresh surface with each stroke of the key, and automatically reversing when the end of the ribbon was reached.

Shortly after returning from the Atlantic City convention I wrote to the director of the Smithsonian Institute at Washington, suggesting that they obtain possession of the model which was then lying exposed in the basement of the Patent Office building, and liable to injury, and received in reply a note from the director with thanks for the information, and promising to take the matter up with the Interior Department, with the view to securing the model, and I trust that it is now safely reposing with other valuable relics in the Institute.

Now, recurring to that nameless grave, we old men are in the habit sometimes of dreaming dreams and seeing visions, and I think I see a vision in the not far distant future when above those sacred remains will arise a beautiful monument of marble, in which is set a bronze tablet, bearing in base relief the strong features of a man of

the type of Elias Howe of sewing machine fame, with the inscription

"CHRISTOPHER LATHAM SHOLES.
**The Father of the Typewriter."**

"Erected by the National Shorthand Reporters' Association, aided by the free will offerings of thousands of men and women in grateful memory of the man whose genius has lightened labor and brought comfort and happiness to millions of toilers in the world's work."

I am not making a motion, but simply offering a suggestion which may or may not be deemed worthy of consideration by the Association. A plan that I am about to suggest will not take a dollar out of the treasury of the National Association. The undertaking would lose all of its charm and grace, were it not accomplished by the free will offerings of the many thousands of young men and girls who are today earning their living in the new field of labor which had its origin in the brain of this remarkable man.

* * * * * *

It is eminently proper that the shorthand profession through its national organization should take the lead in this work, inasmuch as the first man who made a practical test of its efficiency was a shorthand court reporter, and when the agents started out with the perfected typewriter and

endeavored to get it into the market their first and strongest friends were the shorthand reporters, and it was mainly through their recommendation and influence that they were able to make sales of their machines.

Is there a man or a woman who is now or ever has been employed as a court reporter or commercial stenographer who would not be willing to contribute 25, 50 cents or a dollar to such a fund? Is there a member of this Association who would not do the same, when the matter is properly presented with a brief history of the man whose memory we seek to honor?

I would suggest the appointment of a body to be known as "The C. Latham Sholes Monument Association," the members to be selected by the President of the Association, with authority to appoint agents to solicit contributions to a fund, to be kept separate and apart from the funds of this Association, to be devoted to the purpose for which it is created.

* * * * * *

There is no commercialism in this proposition. The typewriter of 1867 stands in a class by itself. It is unique, in that it had no competitor, with no dream of colossal wealth in the mind of the inventor, whose sole aim and effort was the construction of a machine that would lighten the

labor of the toiler and inure to the benefit and happiness of mankind.

On motion of Mr. Farnell, duly seconded the matter was referred to the Executive Committee.

---

At the Nineteenth annual convention which met in Cleveland on August 13, 1917, the following proceedings were had:

Mr. William L. James, of Chicago:

Mr. President, I have a very important resolution in my pocket. I was just discussing it with Mr. Taylor here for the moment, and might I present it now?

It is just ninety-eight years ago since one of the greatest benefactors of shorthand in the world was born, a man who should take a place almost as elevated as that occupied by Isaac Pitman, in our esteem. He lies buried in an unmarked grave.

Every day we live, every day we work and every dollar that we earn should remind us of our debt of gratitude to this man.

I refer to C. Latham Sholes, the inventor of the typewriter.

The resolution which I propose to offer does not involve the expenditure of any of the money of this Association. It in-

volves the appointment of a committee to collect voluntary subscriptions to erect a suitable monument at the grave of C. Latham Sholes.

It will be a hundred years in 1919 since he was born.

He is buried in Milwaukee. There is, so far as I know, but one member of our Association who knew him. That member is well along in years.

In the proceedings of our 1908 convention there appears a rather exhaustive paper describing the work of Mr. Sholes in the invention and perfection of the typewriter, a paper that I have read many times, because of its great value to shorthand writers.

Here is my resolution:

**Whereas,** at our last annual convention it was suggested that a suitable monument be erected under the auspices of the National Shorthand Reporters' Association, over the unmarked grave of Christopher Latham Sholes, the inventor of the typewriter; and

**Whereas,** the members of this Association realize that they in company with many hundreds of thousands of people in this country and elsewhere owe a debt of gratitude to the man whose genius gave

birth to the first practical typewriter, which has since proved a valuable adjunct in affording them a means of earning a livelihood,

**Therefore, Be it resolved,** that the incoming president of this Association be authorized to appoint a Committee of not less than three nor more than five, who shall be empowered to select such persons as in their judgment may be best qualified to assist them in devising and putting into execution proper methods for soliciting small contributions for the purpose of defraying the cost of such monument, to be erected during the year 1919, which is the hundredth anniversary of the birth of the inventor; it being distinctly understood that the appointment of such committee carries with it no obligation on the part of this Association to assist in such undertaking financially or to contribute to such fund by the payment of money out of its treasury.

I move the adoption of the resolution.

Mr. James' motion being seconded was unanimously carried.