## Personal Recollections of the Late Charles Minot.

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The biographical sketch and portrait of Charles Minot published in your issue of April 16 interested me greatly. I was carried back in memory to the year 1851 or 1852 when I, as a boyish clerk in the pioneer electrical establishment of J. W. Norton, at 177 Broadway, New York, became quite intimately acquainted with Mr. Minot. He was then the general superintendent of the New York and Erie Railway, and was intensely interested in the construction and equipment of the pioneer railway telegraph line then in course of construction along the iron link between the New World metropolis and the Great Lakes. Much of the material for this line was purchased from Mr. Norton, and if my memory is not at fault all of the equipments were the product of the Norton electrical shops.

As Mr. Norton's chief factotum and only clerk or salesman, it fell to my lot to take Mr. Minot's orders for materials and apparatus. I thus became quite well acquainted with him and was fortunate enough to win his regard which was exhibited in his becoming my sponsor and guardian when my parents decided to return to their  ${f V}$ irginia home, and after much persuasion accorded their permission for me to remain in New York. Not until my mother had seen and conversed with Mr. Minot did I secure her consent to the separation, and not until Mr. Minot had promised to give me employment on the New York and Erie telegraph line as an operator, and assume the role of guardian and mentor of the callow youth of sixteen, would either of my parents consent for me to remain.

The morning after my parents took the train for Virginia I reported to Mr. Minot, who gave me a pass and orders to report for duty to Superintendent Charles Loring Chapin at Piermont, N. Y., then the eastern terminus of the Erie road, as his assistant in that office.

For the next two or three years Mr. Minot took a real fatherly interest in my welfare. At stated intervals I would be handed a communication from him enclosing a pass and instructions for me to turn my office over to the bearer, and report to him in New York forthwith. At first with sad misgivings as to the reasons for the order, I would return to the great city to receive from Mr. Minot a warm and kindly welcome, and the gratifying information that he thought I deserved a little recreation and wanted me to spend a week or ten days there with him. During each of these visits Mr. Minot would make me board and lodge with him, and every few nights I would be treated to a concert or theatrical performance, and usually return to my duties with a new suit of clothes forced on me by his generous bounty.

Frequently, however, we would spend the evenings at his rooms somewhere on Broadway, near the Irving House, I engaged in poring over

his files of the London publication "Punch," while he was engaged in writing. He would, however, often kindly stop his work to answer some boyish question about the admirable skits or caricatures published in the columns of Punch in ridicule of some of the prevailing English fads and fashions, and would explain the conditions that gave them birth, thus displaying his native kindliness of heart and disposition, and arousing in my mind a thirst for information and in my heart a love that has never abated. He was certainly kind and good to the lonesome and homesick boy who was for the first time in his life released from his mother's apron strings, and who sadly needed the sustaining influences of a kindly heart and hand to encourage him in his fight for a correct and independent manhood.

While unable to do all I would like in furtherance of the praiseworthy enterprise of erecting to Mr. Minot at Turner's, a monument in commemoration of his historical telegraphic train order, I will enclose herewith my mite—\$1—in aid of the enterprise, only regretting that I am not able to defray the entire expense of the project. In my gratitude to a whole-souled benefactor I would do it if I could.

While the story about Mr. Minot transmitting the first telegraphic train order from Turner's is historically correct, the first use made of the telegraph for the preconcerted movement of a train of an inferior class in the teeth and time of a delayed train of a superior class, was not undertaken for several years after. That occurred on the Susquehanna Division of the New York & Erie road and the orders were transmitted from the office of Division Superintendent D. C. Mc-Callum, at Owego, to the train crew at Hornellsville, where the time-table then in force provided a meeting place for the east-bound stock express, second class, and the Cincinnati express, first class, but which meeting was arranged by telegraph to take place, and did take place several hours later at Owego.

But I have told of that circumstance and many others of that early railroad and telegraphic

period in my "Reminiscences."

I had lost all recollection of Mr. Minot's personal appearance, but his portrait in your journal brings it all back to me, in spite of the lapse of almost sixty years since I saw him. My last interview with him must have been in 1857 or 1858, just before I returned to my Virginia home to remain, and that was just in time to witness and participate in the stirring scenes enacted on the soil of the Old Dominion from 1861 to 1864. Through all these years the names of Charles Minot and D. C. McCallum have been kept fresh and green in my memory. They were both good and helpful friends to the helpless and otherwise friendless boy.

According to the records on file in our office Mr. Charles Edward McCluer, the author of the foregoing article, was been in Indianapolis, Ind.,



March 28, 1836. In the spring of 1852 he entered the telegraph service for the New York and Erie Railway (now the Erie Railroad) at Piermont, N. Y., which was then the eastern terminus of the line. During the next three years he was operator and depot agent at various places along the Erie road, and between 1855 and 1857 he served as operator on the Virginia and Tennessee Railway at Central Depot, Montgomery County, Va. He afterwards became auditor of transportation accounts and superintendent of telegraph for the Virginia Central Railway, now the Chesapeake and Ohio Railroad, with head-quarters at Richmond, Va. When Virginia passed the ordinance of secession Mr. McCluer volunteered with his command, the First Company of the Richmond Howitzers, and went into camp with them, but was a few days afterwards detailed by Governor Letcher (Honest John), for special duty with the Virginia Central Railway Company and was never permitted to bear arms in the field. During the civil war Mr. McCluer was superintendent of supplies for the Confederate Telegraph Company, with headquarters at Richmond. After the war he filled the positions of operator at Richmond and Knoxville, and in 1867 was appointed manager of the Western Union Telegraph office at Lynchburg, Va. In 1880 he became superintendent of the first district of the Southern Bell Telephone and Telegraph Company and manager of the Richmond, Va., exchange. He left the service of this company in 1900 to become manager of the Independent Telephone Exchange in Richmond, and on the absorption of this company by the Bell interests, in 1902, Mr. McCluer found himself out of employment. In 1903 he moved to Norfolk, Va., where he and his son started a business as electrical engineers and contractors. At the end of a year the business was closed up. Since that time Mr. McCluer has been engaged in various employments outside of the telegraph.

## QUESTIONS TO BE ANSWERED.

[The success which has attended our plan of publishing in each issue a list of questions covering the subjects considered in Jones' Diagrams, has encouraged us to maintain the work through other books. Students of telegraphy throughout the country are finding these questions of great assistance in their studies of the general principles underlying the operation of the apparatus with which they come in daily contact. Many consider this the best plan which has yet been devised for a systematic study of the technical side of the telegraph. Having completely covered Mr. Jones' book we will now take up "The Quadruplex," by Maver and Davis, and bring out, in a like manner, all the facts that every telegrapher should know about duplex and quadruplex telegraphy as found in this book!

## CHAPTER II.

Of what two duplexes is the quadruplex a com-

What are the four main instruments used in a quadruplex?

What is the function of the single-current transmitter?

What is the function of the pole-changer?

What is the function of the neutral relay, and of the polar relay?

How are both relays wound?

How can a bar of soft iron be made a magnet? How is the polarity of a magnet determined?

What happens when the current ceases?

If two equal currents are caused to pass around the iron bar in opposite directions, what is the effect?

Describe the principles employed in the Stearns differential system?

What is the office of the transmitter in the Stearns duplex?

What other name is frequently given this instrument?

Does the transmitter substitute the battery for ground and vice versa without an actual break in the circuit?

Does the home battery have any effect upon the coils of the home relays?

What is the effect of placing a battery in circuit at the other end of the line?

What is the object of the duplex and quadruplex? What is an artificial line?

What is the artificial line used for in duplexing

and quadruplexing a wire?

What is the name of the instrument used in providing artificial lines?

What is the instrument used for?

How are coils of a rheostat connected to the brass discs?

What is the effect of inserting a plug between two discs?

How are the resistance coils wound, and why? How is a wire with a given resistance balanced by the rheostat?

When the weather is wet what is the effect on the line resistance, and how is this change compensated on the rheostat?

Why is it necessary to change the artificial resistance to make it correspond with the line resistance?

What would be the effect if a balance between the artificial and line resistances was not preserved?

What do the figures on the brass discs of a rheostat indicate?

If an insulated conductor is electrified what is the effect upon surrounding objects?

What is induced electricity?

What substance permits of the least inductive effect to take place through it?

What substance permits the greatest effect?

What is the effect of bringing the plates, or surfaces of a condenser, closer together?

How are condensers generally constructed?

What insulating substance is used to separate the sheets of tinfoil in a condenser?

What is meant by the "capacity" of a condenser? How is the capacity of a condenser varied?