

Northwestern Telegraph Company.

Z. G. SIMMONS, Pres. } Kenosha.
H. B. HINSDALE, Sec'y. }
C. H. HASKINS, Gen'l Supt. Milwaukee.

GENERAL SUPERINTENDENT'S OFFICE, MILWAUKEE, WIS.

March. 4, 1876,

My Dear Pope:

I've been away -

for some weeks, nearly all
the time - working in the
State Legislature, to prevent
an oppressive law -

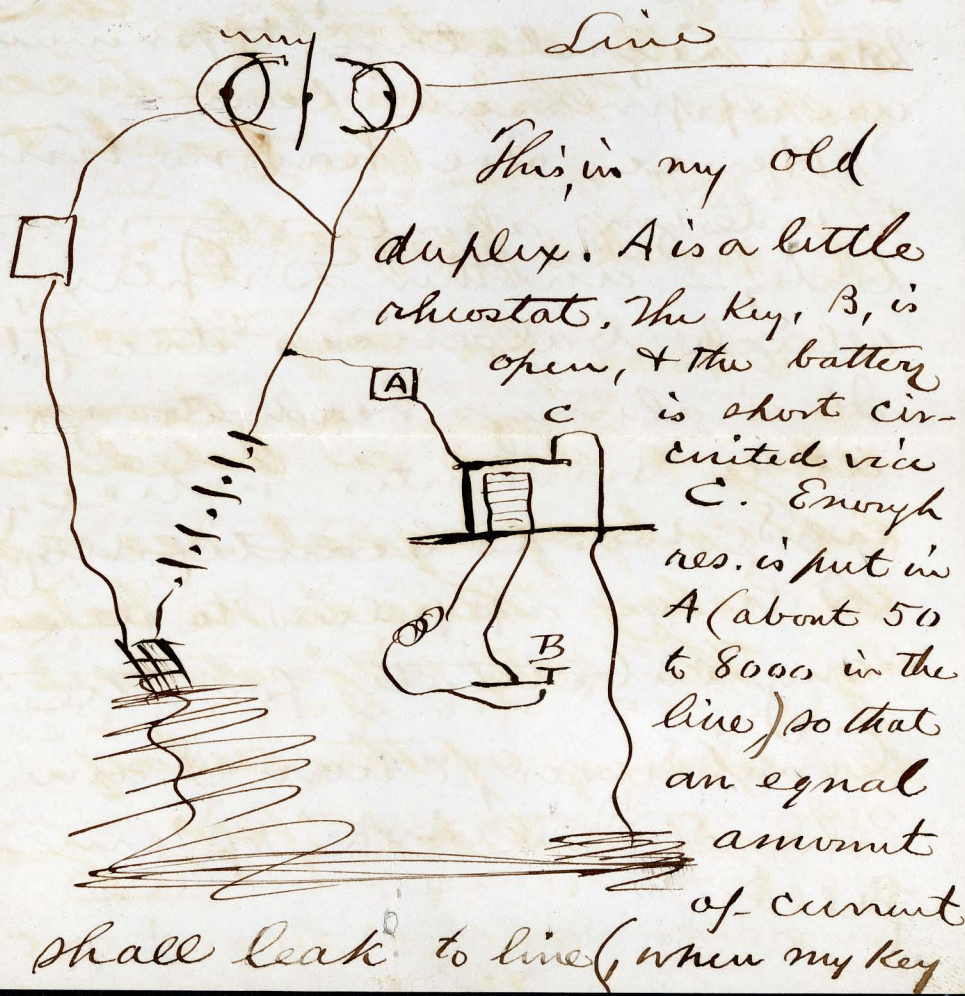
Hence, I've had no time
to write you about my new
baby - another Duplex,
which balances itself!!

It is always ready to go,
at a minute's notice,
and works beautifully.

I have applied to it,
my substitute for the
Condenser, & now I am
ahead, I think, of 'em
all.

My papers are filed, but I would not like to have it made public yet.

My method of dispensing with the condenser, is this



This, in my old duplex. A is a little rheostat, the key, B, is open, & the battery is short circuited via C. Enough res. is put in A (about 50 to 8000 in the line) so that an equal amount of current shall leak to line, when my key

Northwestern Telegraph Company.

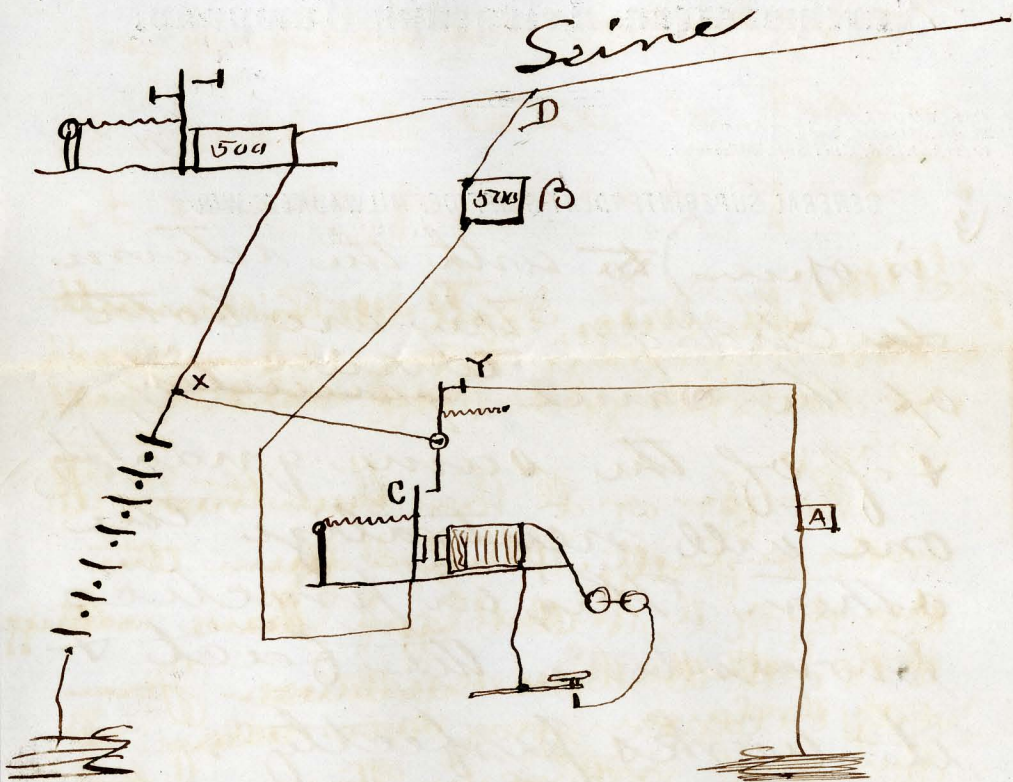
Z. G. SIMMONS, Pres. }
H. B. HINSDALE, Sec'y. } Kenosha.
C. H. HASKINS, Gen'l Supt. } Milwaukee.

GENERAL SUPERINTENDENT'S OFFICE, MILWAUKEE, WIS.

3 is open) to with the return
~~to~~ charge. They are both
of the same ^{intensity} ~~quantity~~
& if of the same quantity,
one will neutralize the
other. This, in practice
proves to be the fact &
it works perfectly.

Now for my new
form, I use a common
relay & and a solid res.
coil of equal res. as
the relay. There is no balanc-
ing. The only adjustment is
the spring of the relay.

I will sketch it for you.



My key is shown open, & the current shunted from line, via X - Y & A. The route via B, is open. Dots are received through relay as in Morse. Close the key. Y opens & C closes, simultaneously. The current divides equally at X; half through relay - half through B. The relay spring is too stiff to allow the Relay armature to close, on half my current. If the other office closes, his current divides at D, also & my relay gets half his current & half mine, & closes.

In other words - when I am open,

Northwestern Telegraph Company.

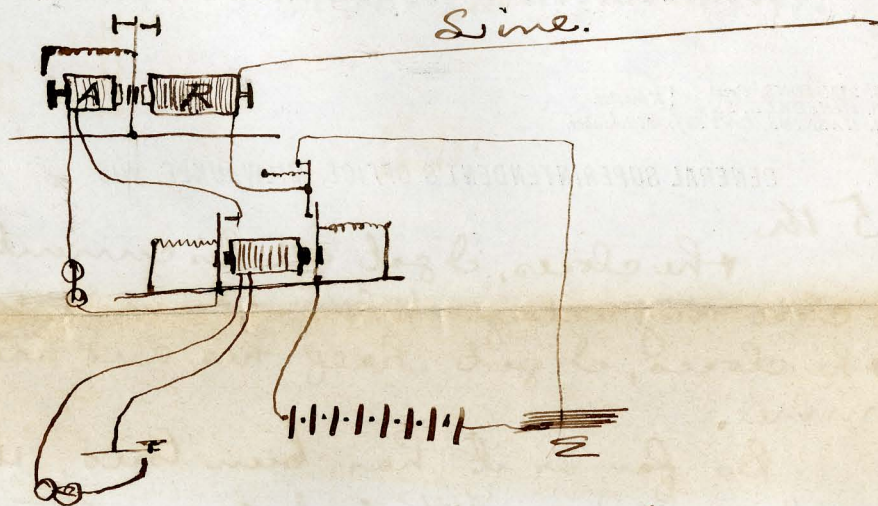
Z. G. SIMMONS, Prest. } Kenosha.
H. B. HINSDALE, Sec'y. }
C. H. HASKINS, Gen'l Supt. Milwaukee.

GENERAL SUPERINTENDENT'S OFFICE, MILWAUKEE, WIS.

5th
When she closes, I get all his current to close my relay. When I am closed, she closes, I get half his, and half mine.

So far as it has been tried, it works perfectly. What I deem the beauty of it, is that you have nothing to do with the line resistance. You only balance your own relay. I can find nothing in Farmer, to better it.

Dr. Hill & I made one, some years ago, which worked finely & which also, sent all the current to line. Our patent was allowed but we never took it out, as we became frightened on the constant contact key & the discharge bothered us, on long lines. I have a set of the insts here now. Gerritt Smith's mechanical one does the same thing. If Jim wants to publish it, he can. I will make a picture of it, as we had it. This was in 1871 ~~or~~, in the fall before the fire



We adjusted the back coil A, to balance our current in the Relay R, so that our relay would not close without the current from the other end of the line. — What do you think of my new one? It is not a constant contact key, as Stearns & Garner, for it does not put the line alternately to battery & ground. The line is always to battery.

— Has Sister Jerusha got the Ox out of the pit yet? Regards to her.

Mrs. Haskins asks frequently, & our Landlord, antisebel, how you are, but I can't tell her, for you don't tell me.

Tell Hamilton I'm vexed that he did not come to see me, or even let me know he was in Chicago, that I might go & see him. Yrs, CH Haskins