

18 Pemberton Square

Boston May 31-74

Mr. H. G. Pope,

Dear Sir,

Yours of March 11
was duly received & I should
have replied sooner, but have
been expecting from Mr. Farmer
the particulars of his tests of
rubber insulations. - Am much
obliged for your explanation
of mode of testing which is
without doubt very reliable. -

Would you like to have
the exclusive control of my
patent "Detector" or "Whiskers
clock" for New York. -

I send by this mail a copy of the
patent & you will notice that
I use but two main wires
instead of a wire to every
station. - This reduces the

work, and I am now having
them put up at about two
thirds the price of the Hamble &
Howard clock. - I now have
over a hundred notions in
me. - It should be in all Rail
way stations & store houses. -

I have not offered it, out of
N. England, except to one party
for two western states. -

6.00
Will send you one clock, in
best-valued case with the attached
record instrument - and one ^{signal} key
for ninety dollars (\$90.) which is
the exact cost to me. - Get up
(with six additional keys) it should sell
for \$180. - Would then give you the
refund for some definite time and
price. - I should like to hear
from you soon, as I am going to
the shore in a few days. -

Yours very truly,
John M. Butcherider.

Copy.

Prof. R. C. Pickering.

In the Spring of 1853 I noticed the high electric quality of an india rubber cane, made by the process of Nelson Goodyear. In April 1853 I made a sketch for a "top" insulator, and one was made for me by Mr. Henry B. Goodyear. The first lot made for actual use were bell shaped, and were furnished by me to James Eddy, for the Boston and Portland line in 1853.

In May 1853 some were vulcanized upon wooden pins.

In order to save cost of transportation some were made for a line of telegraph in California, that weighed but one ounce each. These were fitted (in San Francisco) upon iron pins, half an inch in diameter; - this was in September 1854.

Of the first that were made, upon iron pins, a large number proved worthless in consequence of the action of the sulphur upon the surface of the pins. Oxidation began at the lower edge and extended upward, bursting the hard rubber and admitting moisture. As soon as this was known I had the pins tinned, and none that were thus treated have failed to adhere firmly to the iron pins and hooks.

I procured no patents on the insulators until 1858,
as my contract with the owners of the Nelson Goodyear
patent on hard rubber, prevented their manufacture
by other parties.

Yours truly

John W. Batchelder

I have samples of those that have
been exposed to the rigors of the
climate of Maine, for nearly
twenty years, that are as perfect as
when first put up by Mr. Eddy:-
J. W. B. -

The deterioration of the surface is
probably what is alluded to by Mr.
Drewitt, page 303, edition of 1877
and if any such effect is produced
by exposure to the weather, it is
entirely prevented by giving (in the
heater) a shining surface to the
rubber, like that of japanned leather.
The best part of all rubber insulators
should be thus finished: - The extra
work is very little. -

18 Pemberton Square.
Boston, Nov. 20 - 1878

Mr. Frank L. Pope

Dear Sir,

I wrote you on Feb. 28 - 1874 in relation to the invention of the "Hard Rubber Insulator", stating that in your book (edition of 1872) page 60, it is mentioned as the Farmer Insulator, - but do not now remember whether I heard from you in reply.

I now enclose particulars in relation to the same, being a copy of letter addressed to Prof. Pickering at the time of his Lowell Institute Lectures on the Telegraph.

Will you, after reading it, hand it to Mr. Prescott.

I have written Mr. Farmer in relation to the treatment of rubber insulators with paraffine, but have not yet heard from him in reply. My wife says that she remembers that I poured paraffine into the insulators but cannot give the exact date, but thinks it was about the year 1856. I made so many experiments at about that time that I do not remember them unless put down in my note book.

Yours very truly

John W. Butchelder

P.S.

The Patent that was taken by Mr. Farmer and myself on Hard Rubber Insulators, - as joint inventors, - related merely ~~to the cutting~~ so far as Mr. Farmer was concerned to his suggestion that a screw be cut upon the exterior.