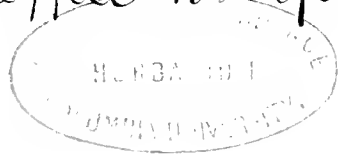


U.S. Patent Office 43 Sept 1853



My Dear Sir

Wm W. Schaffer

I learned a day or two ago, that you were engaged to analyze the water of the Potomac in regard to the supply of our city with water, and that you would be glad to have a quantity of the water evaporated in my furnaces and sand bath, but that you did not like to give me the trouble to do it. I take this opportunity to offer you the use of my Laboratory in any way you choose for your purposes, or what may perhaps be preferable, to collect the amount of water you may designate ^{from the river above Georgetown} and evaporate it to such a point as you may desire and send it to you by express or in any other way you may suggest. It will give me great pleasure to serve you in this matter, and I hope & trust you will not again hesitate to allow me the pleasure of repeating some of the obligations of my former days.

Since I have had the pleasure of seeing you I have had the good fortune to find what I believe to be the real Bartram oak within a couple of miles of the capital on the borders of the forest. It is a tree some

fifty feet high and twenty inches diameter at the base.
I have taken much pains in examining the Oaks of this Dis-
trict and have found 12 species including the Heterophylla

Namely

- Q. Alba
- Q. heterophylla
- Q. tinctoria
- Q. falcata most abundant
- Q. obtusiloba
- Q. cinerea -
- Q. coccinea very common
- Q. palustris common
- Q. phillos only in wet places
- Q. imbricaria capital grounds - introduced I think from a distance
- Q. prinus monticola
- Q. prinus discolor - rare, only seen two trees

Is the heterophylla or ~~Barkham~~ oak a hybrid? If so of what species is it
derived? I have made up my mind if so at all, it comes from
the falcata & Phillos. I have not the evidence & do not see how it
can be obtained except a hybrid might be got from the two trees
favorably situated by scattering the pollen of one upon the pistils
of the other. This I have attempted for the three last years but thus
far without any success. I got good acorns from the Barkham
last autumn and planted many ~~them~~ young trees in
my yard of this years growth. I have been led to give special
attention to the Oaks preparatory to a series of experiments I am
conducting on the various yielding plants & trees. The persimmon
has many interesting features in this relation. The changes in
ripening the fruit are very remarkable and ^{present} a beautiful illus-
tration of the conversion of tannic acid into glucose. The

green fruit-stains parchment beautifully.

Ryche Bye, your late pupil Mr Smith told me when he was here of your & Ellet's plan of analyzing illuminating gas, and Dr Ellet when here gave me a little explanation partly verbal and partly on paper, but I have mislaid the memorandum will you not give me a description of it (confidentially if you prefer that it should not go out) I want to examine the gas of our city for my own satisfaction and privately for I am satisfied that it is badly purified.

My kind regards to your lady & daughters

Wm Torrey

I remain yours truly



