

July 11, 1905

My dear Arthur:-

I was very glad to get your letter which relieves my mind greatly. Let me answer your points right away. In regard to the talk, my advice would be to tell only what you know. I am not aware of any book which covers the points you need and it would not be practicable to give them in correspondence. I may, however, say that in glazes are silicates, or boro-silicates if fritted, and the difference between bright and matt glazes lies in the oxygen ratio. In a bright glaze this is never below two; in a matt it is rarely higher than $1\frac{5}{10}$. Why this is I am unable to explain, unless it is that the alumina becomes acid. In regard to the kiln, Caulkins no. 3 should reach cone 3 without difficulty, and the probability is that they have not pushed it. It will probably take you about five hours and probably 6 or 7 gallons of oil to get there. If I were you I would write to Caulkins explaining the circumstances and asking what temperature no. 3 can be relied upon and requesting particulars and price of his different sizes of pottery kilns. In my judgment a Caulkins kiln is best for your purpose, partly because of satisfaction of using oil and partly because of the avoidance of saggars. I would not advise you to attempt to build one at present. If you can reach cone 1 your questions on glazes will answer themselves. Is there a local machinist who could make you an iron head. A blacksmith could make a prong or fork and you could make a plaster head and fit bat

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