

Nov. 2, 1941

Dear Byron,

I am really very ashamed not to have answered your letters before now. For the last couple of months I have been working six days a week, always till six thirty and very frequently till eight or nine in the evening. The result is that in the little time I do have to myself I just rest. Sundays I usually spend reading the paper between naps.

To make matters worse George has been travelling for Signode for the last few weeks, so now work has been done on the car for a couple of months.

Rather a discouraging picture

as far as progress is concerned, but I think we will do a little better in the future. Actually, the car is virtually complete and I am almost certain we will get steam up next weekend and try to coordinate the engine and boiler units which are now interdependent due to the engine driven feed water pump. On first thought it may seem wrong to make the boiler in any way dependent on the engine, but for reasons of simplicity and efficiency I believe it is the thing to do. In fact, George and I have decided that we must run the burner fan and fuel pump, and the boiler circulation

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pump from the main engine. So that way the auxiliary power system will be done away with except for a small electric motor for starting, comparable to the starter on a gas car. It will, in fact, be a starter motor and although it will run somewhat longer till there is one or two hundred pounds in the boiler, enough to allow the engine to take over, the electrical drain on the battery will be little more than that on a gas car's battery because the amperage will be very much less.

There are some unknowns to be solved to make the engine run all auxiliaries, but I am sure it is the right thing to do. It will

make for greater simplicity and allow a standard electrical system." The greatest virtue a machine can have is simplicity". — Well said, I believe.

I have read The Doble articles with much interest and must confess I am not so sure of some of my beliefs now. But, Byron, The complication of one of his Triple expansion engines must be Terrific. Take just for example packing glands: there are six of them in his engine, not one in George's latest ~~&~~ four, and every packing gland is a source of trouble probably, and certainly will require maintenance. And again, there appear to be no less than thirty piston rings in The Doble design, ^{and} I'll bet he would have to add oil control rings to the crosshead

guides too, which would bring the grand total to nearly forty. George's four has only 16. The piston valves and pistons must be lubricated which means oil in the steam line and an oil pump. It's hardly necessary to go over the tremendous objections there are to this latter feature.

BUT probably the biggest objection to Doble's engine is that the Skinner engine company who make all the smaller steam engines that are made, 100 to 600 H.P., apparently favors single acting poppet valve engines, and one of the biggest reasons for so doing, they give as efficiency.

well, I could go on for some time as you well know, but I had

P.S. I almost forgot the point of all this—

To thank you very much for letting me see
6. The Doble articles, My forgetfulness is due to my
one track mind that was completely occupied digesting
Doble's remarks, which is proof, in a way, of how much
I appreciated the reports. Jack.
better save something for the next

time I see you which ~~that~~ will
~~be~~ be soon, I hope.

I am going to write Mr.
Lincoln from whom I received a
letter asking for an article on the
car and tell him I can send
him something in 3 or 4 weeks.

I would have sent you the
pictures you asked for, but unfortunately
in moving George mislaid the
only pictures that were ever taken
of the new engine in and out
of the car.

The next time you are out this
may be sure and give me a ring. I
think it is more than likely that I will
be able to make some definite report on
the performance of the car. Sincerely, Jack