ment interfered with our work, taking our chemists for one thing and another.

What I am now going to say will seem at first as if one were trying to lift himself by his boot straps, but it is not so and is mathematically correct. For instance, the steam going to the condenser contains a very high per cent of the total heat which is put into the evaporator. Assuming under a vacuum that it contains 1100 B.T.U. most of which is latent heat, if you had electric power so that you could compress that steam, raising it to a high potential of temperature, you are only adding about 100 B.T.U. to it, but you are recovering 1000 B.T.U. plus the 100 B.T.U. which you have added in compression, and that steam can be put right into the first effect so that the only heat then that you lose is what you lose by radiation and what goes out in your drip liquor. Mathematically it is a sound proposition. Practically we do not know what difficulties are going to come up in the compression as we have not completed our experiments and do not know if we can get over the mechanical difficulties, but from what experiments we have made, it looks as if a large portion of this steam can be put into a positive blower and compressed say to somewhere near atmospheric pressure, and then putting it into a reciprocating pump and compressing it up so that you get your temperatures required in the first effect, then you get the whole latent heat of your evaporation into your first effect and could cut down your coal bills tremendously. As I say, we have not gone far enough to give any definite results on this, but I think it is a subject the possibilities of which chemical engineers do not realize, and if they will go into the mathematics of it they will see they are not trying perpetual motion. Of course, if you tried to compress that with steam you could not do it, because a steam engine would use up more than the heat which you would get by compression, but if you had electric power to furnish the power of compression then you get the most of the heat for your compression, and all the heat practically that goes out is in the drip, and in the final product which comes out in the last effect-which by the way is at a high temperature-but very small in amount, and what experiments we have made seem to show that this will in a short time be worked out on a practical basis.

There is another thing I wish to mention here, that is the action of the phosphide of soda on the silicates. Some years ago I was interested particularly in cheap production of ethane and

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