

Theoretically the gas-turbine offers as good a thermo-dynamic efficiency as the piston engine, but the main difficulties in its progress are the apparent necessity of working at such high initial temperatures that no known constructional material could long withstand their action; the high rotative speed demanded in order to realise good efficiency; and the difficulty of compressing the elements of combustion to the high pressure of the turbine, and burning them under this pressure. It is believed that the wet gas turbine will remove the first two of these difficulties, and that it is the third which will prove the most serious. When it has been overcome the engine will be a splendid drive for the automobile.

Before concluding, I would like to mention only a few instances of the present position of the turbine ashore. Neuchatel has now a combined system of steam turbine and hydraulic power for delivering current. At the Rhenanian-Westphalian Electricity Works at Essen two units are being (or have been) installed of 10,000 h.p. each. These are the largest stationary machines ever built in Europe. and a Westphalian mining company intends putting in another 10,000 h.p. engine, also of the Boveri-Parsons type. The French-Belgian syndicate control a number of electric plants at St. Denis (30,000 h.p.), Sclessin near Liege (15,000 h.p.), and Charleroi (3500 h.p.), all turbine-driven. New plants are being erected at Brussels, Ostend, Cairo, etc., bringing the total horse-power up to 65,000, all installed within three years by the same company. In America progress is also reported; but I must return to Mr. Parsons himself for a moment, and leave the foregoing figures to stand for themselves. They can easily be verified.

Mr. James Denny tells a good story of the trial of the *Viper* which throws a light on Mr. Parsons' character more vivid than any words of mine could pass. A preliminary trial trip was made early in the day, and the bearing of the engineers was ominous. They differed with Mr. Parsons as to the trial trip rate of wages, and as the latter knew his own mind the engineers walked off the ship. Every one thought the day's proceeding must end there and then; but Mr. Parsons thought otherwise. He turned on his apprentices to do journeymen's work, picked up some men off the quay, borrowed some more from Messrs. Hawthorn, Leslie and Co., who had the contract for the hull and boilers, and made all into a scratch crew for the trial trip. Under these extraordinary circumstances the *Viper* ran her trial, and on that day did the unparalleled speed of 37 knots. When Mr. Parsons emerged from the engine-room, dirty and warm, all crowded round him to congratulate him, but he took the whole thing as a matter of course. It is a modern instance of how dangers retreat when boldly they're confronted. But it is not given to every one to confront mechanical difficulties so successfully. The incident is typical of the character of the creator of the marine steam turbine.

Displaces Celluloid.

United States Consul McFarland, who is stationed at Reichenberg, Bohemia, reports that a substitute for celluloid has been discovered by a Gablontz experimenter. The new material is durable and cheap, costing but little more than glass.

Mr. E. Sutton, of Thornbury, has installed a milking-machine, and manages his herd of 26 cows with the help of a boy, his usual time of working being one hour. He has been using the machine for a month, and has had no trouble with sore teats. His return of milk for the month was 28,780 lb., the butter-fat test being between 3.7 and 3.8.

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THE GRAPHOPHONE.

We all know the difficulties of getting right away with the correspondence. It is bad enough for the methodical man of business who has to wait for his stenographer and sometimes to postpone his duty to let the stenographer deal with the press of other work. When the letter in reply has to be written quickly and there are so many points that in writing some of them may get dropped out, the reflection is disturbing enough to produce that very consummation. In each of these cases how pleasant to have a graphophone at your elbow. You just sit down and talk into the machine: result—your typist comes when the other work is done to find a voice ready made and in possession of the subject, to type or take down whichever is most convenient.

Now take the lawyer, the journalist, and the prime minister. The first has to jot down the telling points for his briefs, the second wants to transcribe a long and important document, full of information to be used, and the third must issue a complete set of instructions. If the Graphophone is the friend of any of these once, it is their friend for life: never apart, never far off.

Have you ever watched a typist reeling off copy stopping every now and then to find the place, stopping the click clack of the machine and the flow of good temper to find it? Watch one typing from the Graphophone and it will take you a long time to see any stoppage from that cause.

Have you ever remarked how men differ about a thing they have all heard? Have you ever noted that there are differences of meaning in shades of expression which one hearer may miss and another make much of? A Graphophone settles such doubts very simply.

Do you remember your horror when reaching your friend's house in full fig with that gorgeous button hole, and the most perfect dancing pumps in the world on a certain memorable Tuesday evening? His house was in darkness, all but his study and the nursery. He received you in his comfortable old coat, and he eyed you over a cigar cocked up at the angle of ridicule, and you heard him announce in the voice of a Chief Justice settling a law point for ever that he had said "Wednesday my dear fellow". What were your feelings then?

What were they when on tendering Mr. Coper the dealer five and twenty for the little horse with the curby hocks, price so low because of those very curby hocks—he said "ocks" the villain—he scornfully asked if you proposed to give a "P Hen, for the balance of the fifty quid you agreed for don't you know?"

How much more were you disgusted when he calmly added "You know dear boy"—yes-dear-boy and to you—"you said that the little nag was dirt cheap at the money."

Remembering all these things buy a Graphophone and secure lifelong happiness which as the privileged people of the world know, consists of accuracy punctuality and right understanding, besides music bottled up for daily life use.—ADVT.

Concrete Pipe Line.

A concrete aqueduct recently completed at Cambridge, Mass., affords a remarkable example of the growing tendency to replace iron, brick, clay, tile, and other materials of construction in the building of waterways with concrete, and there by secure permanency. The new conduit, which is said to be the first of this kind in the United States, is 2½ miles long and 6 feet in diameter, and is designed to sustain any pressure. It replaces an old iron pipe line.

In this connection it may be interesting to note that the Syracuse (New York) University contemplates establishing a complete course upon cementing and concrete construction, for which a new building is now being erected, to be devoted exclusively to this branch of instruction.

Your concern should be, not so much what you get, as what you do for what you get.

A farmer of long experience in the Bruce district informs the *Herald* that the present dry season is really the best thing the farmers could have. He argues that the land has been so soured by constant wet that farming for grain and root crops was becoming an expensive matter. The present dry spell opens up the ground particularly the heavy clay lands, lets the air in, and aerates it, making it more fruitful, sweeter, and better in every way than all the manures in the world could do. A normal season following on a dry one has always seen abundant crops.

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