

The Robinson Hot-air Engine

DEAR SIR,—It was with great interest that I read the article "First-hand Experience of a Second-hand Engine" in *THE MODEL ENGINEER* for May 16th, as I am the proud possessor of one of these engines in a pretty good condition.

These engines were used extensively by the Post Office at the beginning of this century for running the bell magneto-generators at small country telephone exchanges which did not have an electricity supply. I made their acquaintance in 1911, when I entered the Testing Branch of the Post Office Engineering Department, as we occasionally had a batch of these little engines in for test after undergoing overhaul in the factory at Mount Pleasant. They ran all day with no attention and with very little noise.

I can relate a rather funny story about these engines. We had a very clever, but misguided genius, who was always trying out new ideas. Well, he conceived the idea of putting some petroleum jelly as a lubricant in the cylinder

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(after removing the piston). The effect was magical, the batch of engines ran so well, and at such a high speed, that we had to run them for nearly a week to get rid of the lubricant, as we knew we should get complaints if we allowed them to go out in this condition. We couldn't adjust the governor to reduce the speed by such a large amount and, the excuses we had to make for having the engines under test for so long! The governor, incidentally, is a flat disc with a spindle and control-spring regulated by a nut; when the engine went too fast and the suction increased, the disc was sucked in and opened the port at the rear of the cylinder, and the engine pulled up almost dead. It was only used to prevent the engine running away or as a convenient means of stopping by pressing the spindle in.

There is a short account of this hot-air engine in Professor Andrade's book on "Engines." My particular engine I espied in a marine store dealer's in Haslingden, Lancs., in 1920, and succeeded in knocking the price down to £6 and managed to have it packed and sent down to Dulwich. Some weeks later, I anxiously unpacked the prize and set it to work. I was very disappointed to find that it wouldn't drive my 75-watt dynamo at a sufficient speed to generate more than a volt or two. The engines, in new condition, developed about a third of horsepower, but I suspect the regenerator of mine requires overhauling; I have always been chary of taking the engine down, because of the danger of spoiling the large asbestos packing ring, which could not be replaced. I attempted to carry out a brake test on one occasion, but the result only came out at a ridiculously low figure of about one-hundredth of a horsepower, probably due to the unsteadiness of the spring-balance reading—the engine was obviously developing far more than this.

Finally, if and when I return to my home in Welling, Kent, I should be very pleased to show this historic novelty to "B. C. J.," if he should happen to be in the London district, or to any other interested reader by appointment.

Yours faithfully,

Carlisle.

J. F. PERRIN.