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BULLETIN

Light from the Face of the Deep?

In September 1973 I caught 'flu. My wife said to me, with callous indifference to my misery, "Stop lying there looking sorry for yourself. Why don't you solve the energy crisis?". It seemed a good idea at the time. What she wanted was something which would provide the vast amounts needed, which would be clean and safe, would work in the winter in Scotland and would last for ever. It is a good thing for an engineer to have the design objective clearly specified.

by Stephen Salter

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I thought about several things and then did a few sums about the energy in sea waves, guessing at their sizes. I was amazed at the amount of power that seemed to be available. The obvious extraction mechanism was

something like a lavatory ball-cock bobbing up and down working a pump. I am fortunate to work for a University enlightened enough to provide me with my own workshop facilities. I could get hold of enough balsa wood and transistors to try some tests. It took me very little time to make a dynamometer which could measure the work done by a bobbing ball-cock. Clive Greated in the Department of Fluid Dynamics was kind enough to lend me a tank with a wave-maker in it. The ball-cock floats got out about 15 per cent of the available energy. But I found that if they were tipped so that the hinge was below the surface the extraction was much higher, about 60 per cent. It looked as if the to and fro movement was better than the more obvious up and down.

I then tried a vertical flap. Its movements displaced water behind it to make a new wave with about 25 per cent of the energy, and the extra impedance that this

