Travels of an Engineer

"I WAS THERE"—PART I BY H. M. BURROWS

Mr. Burrows is one of those engineers whose work for the Company in the early days took him all round the world

TIMES HAVE CHANGED. When I reported for duty—along with Jimmy James—in September '05, the Works were on the corner of Hall Street and Mildmay Road, and the administration was carried on in a creeper-covered cottage next door. We began on £5 8*s*. 4*d*. a month, lived on it and even got away on it for an occasional weekend.

1906 found me at Poldhu. I remember Mr. Marconi coming there from time to time and experimenting to evolve apparatus capable of splitting up the condenser discharge, and giving a musical note easy to read through atmospherics. We got to know his long pensive silences in the course of which he would glare at each of us in turn. It was a heartbreaking task at times; disappointment followed disappointment. We once tried, I remember, a machine called a "B.T.H. Constant Current Arc Lighting Dynamo", for the sake of high voltage. After one extra heavy "splash", Mr. Marconi relapsed into one of those glaring silences. What, we enquired nervously at length, would he like us to do next? "Take the —— thing", he replied, "and throw it over the cliff!"

I moved on to Clifden in the extreme west of Connemara in 1907. The place was desolate beyond words—a large rock outcrop surrounded by miles of bog, lake and more rock, inhabited only by a handful of peasants who lived in earth-floored, thatched, stone cottages. At first, in the absence of a silence cabinet, the noise of our spark could be heard for miles and miles, and with the intense light of it on clear nights caused a good deal of fear to the simple-minded natives.

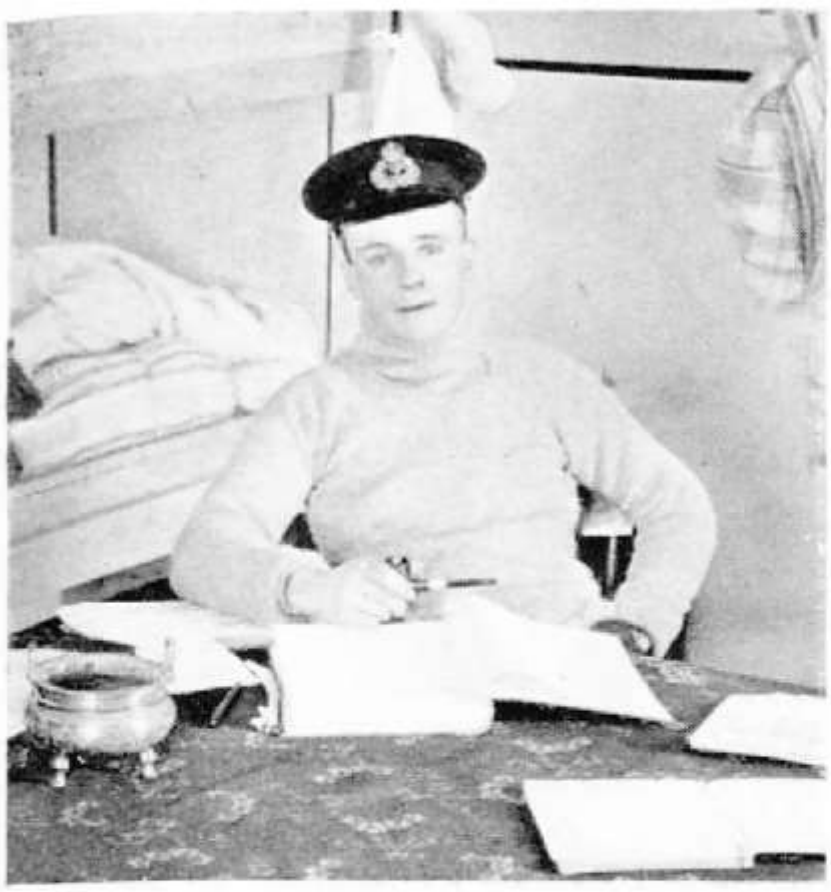
We progressed at Clifden in time from a spark to an asynchronous disc which gave a rough musical note. Now and then the wooden tables supporting the side discs would catch fire. We kept a piece of wet sacking handy for these emergencies, braking the main disc with a baulk of timber. With such equipment we started a commercial transatlantic service that year with Glace Bay in Nova Scotia.

Two years later, in 1909, I went to Glace Bay myself.

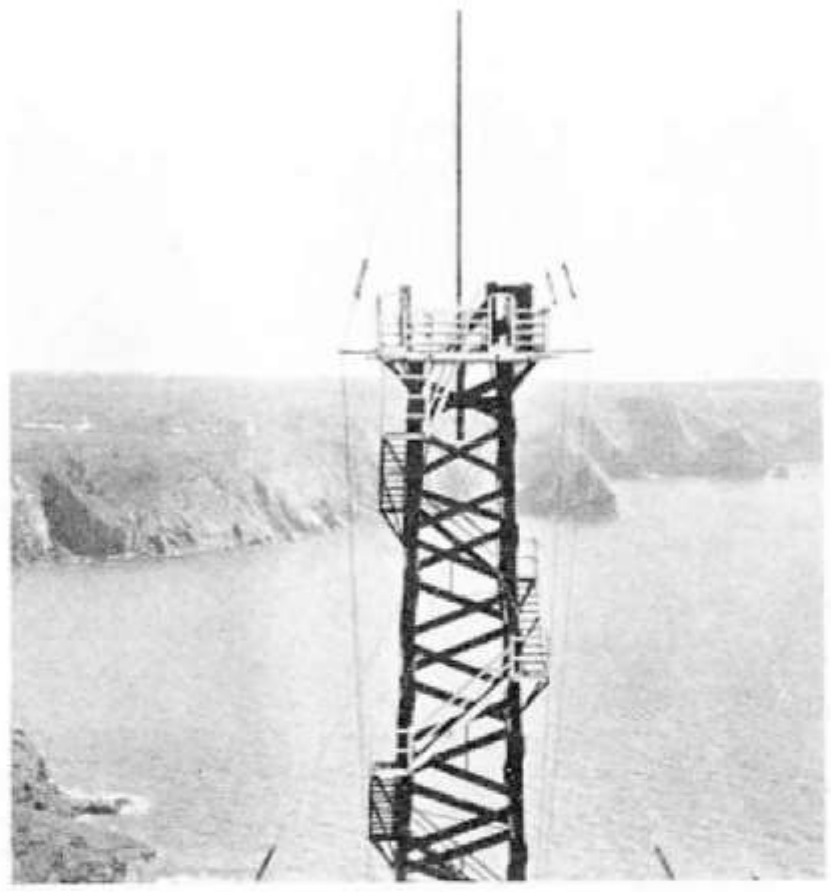
The station stood in a spruce and birch forest three or four miles from the big coal-mining district of Glace Bay, a town of wooden buildings and boarded sidewalks. The population embraced many nationalities and constituted a pretty rough crowd.

We were very isolated, approached only by tracks through the woods; we rode by buggy in the summer, in the winter by sleigh.

Silverthaw or ice formation was our big bogey there in the winter. Our aerial wires of 9/19 phosphor bronze were in long spans. A breakage could put the station out of action for days. We had to be always on the alert; the rate of ice formation was never constant. The only way to check it was by sending heavy currents through the aerials to melt it. Sparking would sometimes occur between some metal bracing and bolts in a leg of one of the four wooden towers. Now and then the leg caught fire, right up at the top as a rule, where the aerial field was strongest. This presented us



The author in the cabin he shared with R. C. Quick at St. John's, Newfoundland. Mr. Quick is now Chief of the I.D.O. at Chelmsford and Mr. Burrows is retired



Poldhu 1906; looking beyond one of the towers to Mullion Cove. Below, silverthaw on aerial wires at St. John's. A breakage could put the station out of action for days.

with the task—unpleasant at the best of times but especially so on a dark windy night—of climbing the Jacob's ladder with a fire extinguisher and coping with the situation. The tremendous frosts would sometimes penetrate under our four to five foot foundations, lift the buildings slightly, and upsetting the spacing of the sheets in the air condenser building, cause them to arc across. This meant re-adjusting suspension bolts, a job which had to be done from the roof, crawling about on steel at a temperature of 20°–30° F. below zero in the middle of the night.

I left Glace Bay in 1911, and was not sorry. Still, I retain vivid memories of the snow, the silences, and what Robert Service has described as:

". . . the winter, the brightness that blinds you,
The white land locked tight as a drum,
The cold fear that follows and finds you,
The silence that bludgeons you dumb."

I came back to England to work on the building of Caernarvon in 1913. Then came the war.

By 1915 our total losses of shipping had become alarmingly high. It was now decided to erect a number of wireless stations at various points on the globe to broadcast to shipping warning messages about areas in which U-boats were reported to be operating. The Admiralty made a contract with the

Company to erect, equip, and partly man these stations for a twenty-four hour watch. One at St. John's in Newfoundland fell to me.

I shall never forget the journey in midwinter from Port-au-Basques to St. John's. According to schedule the 550 miles should take thirty hours. Snow and the effects of frost could easily lengthen this time to a couple of weeks. Actually, I got through in three days in spite of one derailment.

At St. John's R. C. Quick joined me. The station was urgently required. Locally, we were given to understand, no outside work is ever attempted before May. This was March. We had to get on with it.

Everything had to come up from the docks and town by sleigh and the only road was blocked by snow drifts. With the mercury seldom above zero the ground was frozen to two or three feet. No pickaxe could touch it. There was

Frozen earth was dug out for concrete mast foundations with the aid of fires. The masts were erected in sections by hoist

St. John's 1915. *A station which transmitted warnings to shipping of the areas in which U-boats were operating. The figure astride the roof gable during building operations is R. C. Quick*

In summer and winter the builders' men camped in tents in the spruce forest about the station

nothing for it but to get gangs busy in the woods cutting logs, to light big fires over the ground to be excavated, rake off the ashes, dig an inch or two—then more fire—more digging—till the frost line was reached.

Concrete had to be mixed with warm water, and each block when completed had to be covered with spruce boughs and buried in snow against frost till it was set. Local labour trickled in and had to be accommodated on the site, which meant putting up bunk houses, providing cooking equipment and laying in stocks of food. Quick and I lived in a wooden shack on the job, with a couple of bunks. Chairs, a table, and packing cases for furniture—a tin pan for a bath in one corner—and a stove to warm us. Our first job on emerging from our blankets in the morning was to remove the slab of ice on the top of the blanket where our breath had frozen in the night.

We got the job done by the beginning of July—four months and a few days from scratch—with three 300 foot masts, 30 kW disc transmitters, and 110 h.p. Gardner oil engines, plus the usual auxiliaries, all complete. Everything was in duplicate.

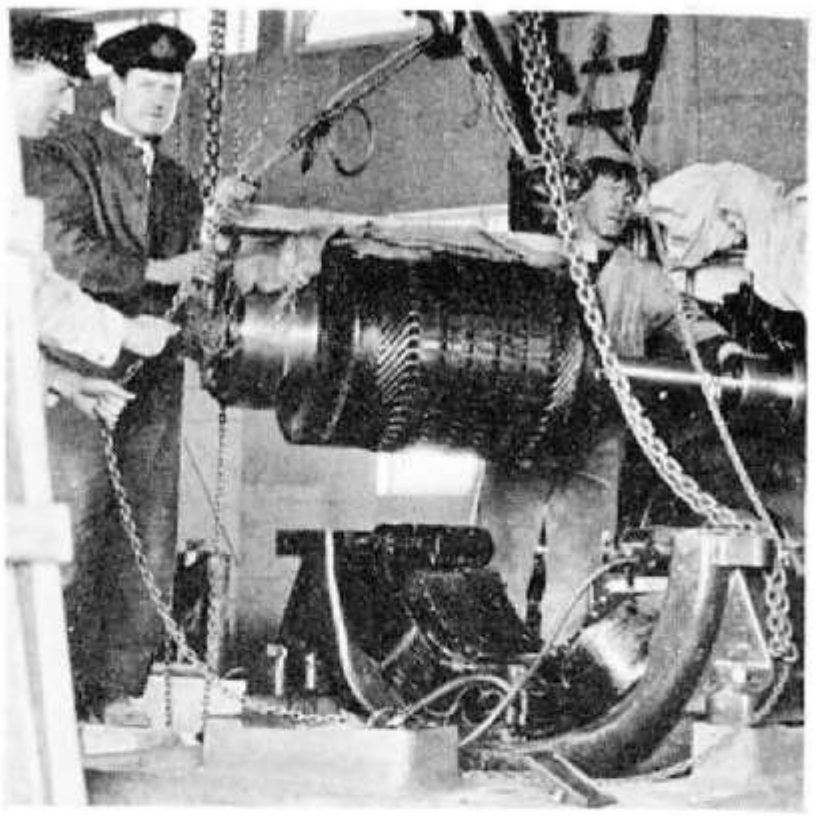
We could then get down to the important business of a little fishing and shooting.

The country was wild, there were no restrictions. We shot and fished for the pot as much as for sport—we needed to. In a partition of our shack, with bunk and stove, lived George, our cook and general factotum. Pork-and-beans was George's stand-by, plum duff his speciality. Often it defeated us, that plum duff. More than once we stole out and buried it to avoid hurting his feelings, for George was a good fellow. Salmon or trout or partridge was a welcome change from his homely fare. Quick seldom went out without returning with a partridge.

Life, of course, was very uneventful in so small and isolated a community,

and rod and gun gave us a break. We skated, too, and played ice-hockey. We trapped a bit, not without success, for silver fox and muskrat. Now and then we would do a whole day's trek in snowshoes, steering by compass, straight across frozen lake and river, and going the whole day on a couple of hard-tack biscuits and tea brewed over a camp fire. It takes a lot of snow, we discovered, to fill a kettle with water.

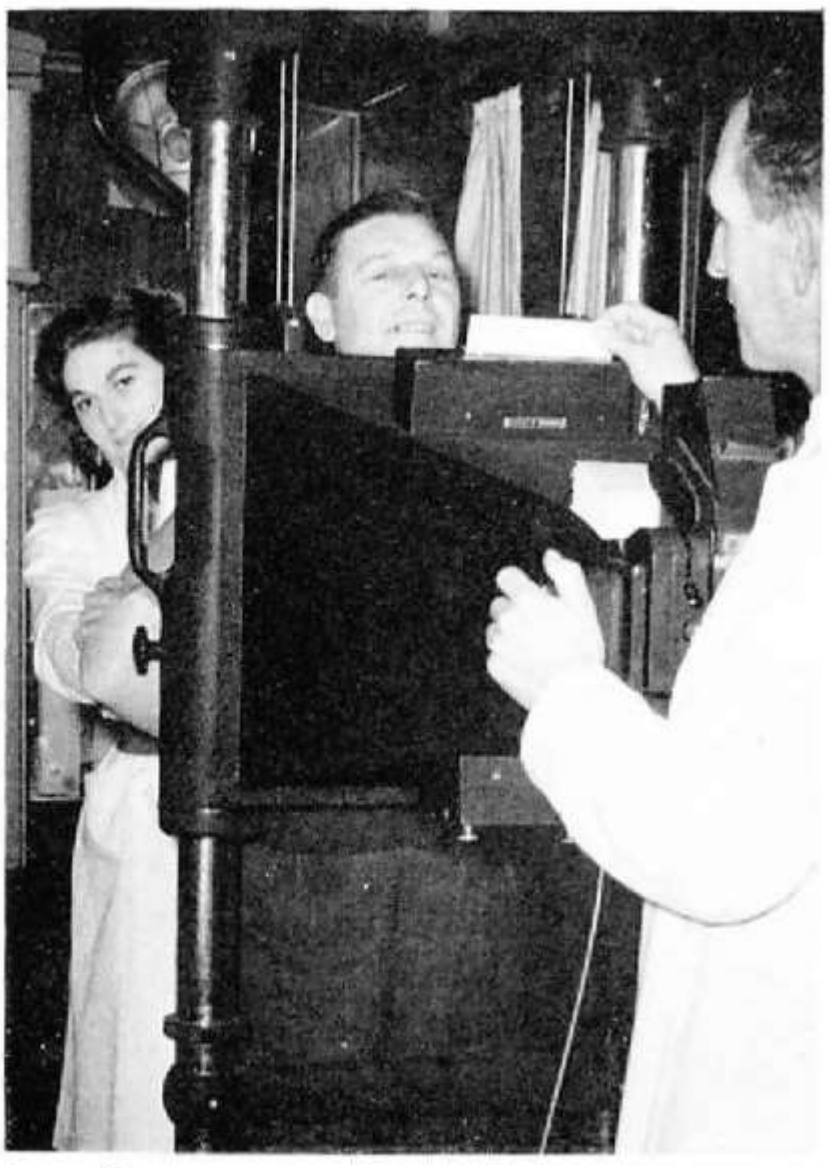
We came back, Quick and I, to London in the middle of 1916. Our next assignment, by way of going from one extreme to another, was to be Bathurst, in Gambia, on the then dreaded West Coast of Africa.



Installing machinery at St. John's

Mass Radiography at M.I.

"Breathe in", said the radiographer to Bob Griffiths, M.I. Service Department



"MY GOODNESS, but they're fast workers!" was the remark made by more than one member of Marconi Instruments referring to the skilled team of the Mass Radiography Unit which visited the Works and X-rayed over 600 chests.

Most people were surprised at the speed and efficiency with which they were X-rayed. According to Mr. L. R. Pigden, Organising Secretary of the unit, they can be handled at the rate of 150 an hour. The unit X-rayed 77,000 last year. It is one of six in service with the North-West Metropolitan Regional Board which looks after four and a half million people. There are sixty-three units covering the country. Since the scheme was originated by the Ministry of Health in 1943, over eleven million people have had their chests X-rayed by Mass Radiography Units.

The service, of course, is free and perfectly safe. Its purpose is to find any chest complaints so that they can be dealt with in the early stages.