R.S.R.S. NEWSLETTER

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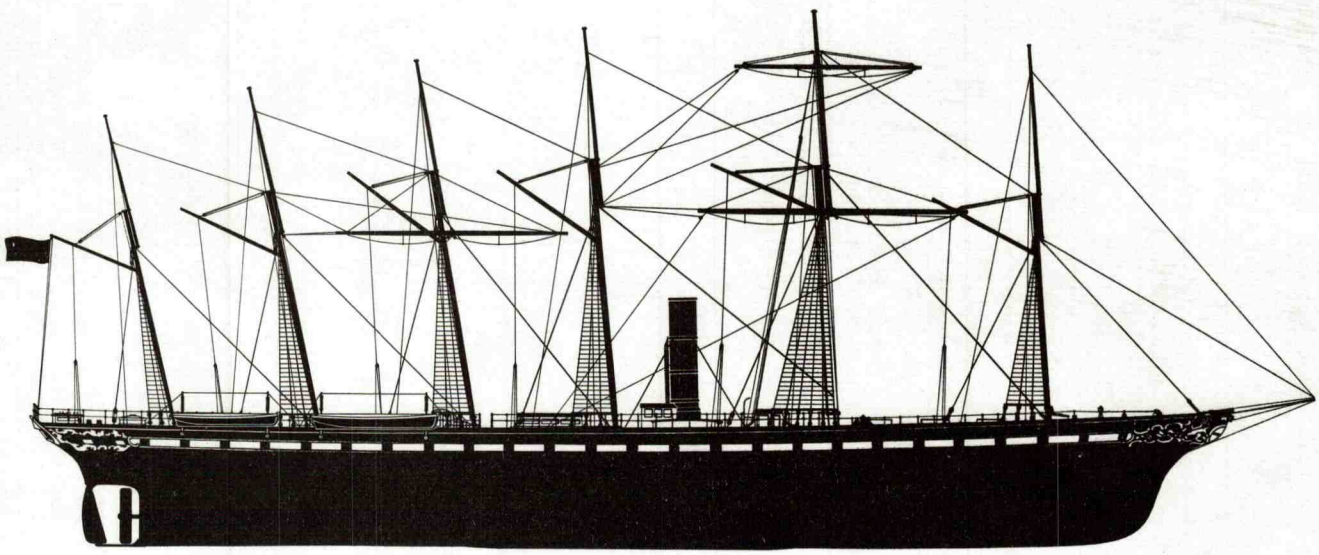

Great Britain, 1843 *From the Science Museum Collection*

Foreword

The Great Britain and her story have become familiar to many R.S.R.S. staff during the more than two decades that our Falkland Islands Outstation has been established. Although not normally a journal devoted to shipping matters, the inclusion in the Newsletter of the following contribution by Les. Mitchell may, to use phrases current when Brunel's vessel was made, serve to amuse and instruct the general reader and to rekindle the light of other days in those who knew her. - Ed.

THE OLD LADY OF BRISTOL

Car drivers who discover they are hopelessly lost in the maze of under and over passes now comprising the centre of modern Bristol will find an astonishingly large number of the junctions signposted "S.S. Great Britain". Fear not! This does not indicate an upsurge of a British type Schutz Staffel and if only to have some respite from the confusion it is well worth following these signs to S.S. Headquarters.

At the end of the route you will find quite reasonable parking facilities and the hulk of the famous Old Lady recently returned home from the Falklands.

The S.S. Great Britain was designed by Isambard Brunel and built and finally launched on the 19th July 1843 from the very same dry dock in which you see her resting now. Actually she arrived back in this dock on the 19th July, 1970 exactly 127 years after her launching.

This fine vessel was built to break the American monopoly of the trans-atlantic passenger trade and was the largest ship in the world at that time. It was the first really large vessel to be built of iron and to use screw propulsion instead of paddle. She is 322 ft. long and 51 ft. wide and carried a crew and passenger total of 382. (For critics who see her as just another rusty old hulk it is as well to remember that she was launched only 38 years after the Battle of Trafalgar!)

Among many innovations introduced was what must surely be one of the earliest examples of electrical telemetry. The ship's log was of a new type wherein the impeller closed a contact after a given number of revolutions and an electrically operated register displayed the run at 'some convenient place such as the captain's cabin'. It was given in sufficient detail to enable speed to be calculated after noting distance gone in one minute.

Her best time on the trans-atlantic run was 13½ days. In 1846 she ran aground on the Irish coast and was finally refloated in 1847. In 1852 she commenced runs to Australia her best time being 67 days outwards and 63 for the return. (Via the Cape - the Suez Canal was not opened until 1869.)

During the Crimean War she became a trooper before returning once more to the Australian run. In 1861 she carried the first All England cricket team to Australia on the start of what became Test Cricket.

In 1882 her engines were removed and she was converted to a sailing ship and put on the San Francisco run via Cape Horn. (The Panama Canal was not opened until 1914.) On her third trip she was damaged so badly by storms off the Horn that she put back to the Falkland Islands. As repairs were considered too costly she remained in the Falklands as a coal hulk for the next fifty years. In 1937 she was towed to Sparrow Cove where she was holed and sunk. There she remained on the bottom until she was salvaged, refloated and towed back to Bristol in 1970.

Whilst practically everything moveable has disappeared from the hulk it still retains a wonderful atmosphere and is well worth a visit. The sheer size and modern lines of the hull are extremely impressive and it is difficult to realise just how old the vessel is.

Do make the pilgrimage if you are in the Bristol area as you will find it most rewarding. By the way a kiosk on the quayside offers books, prints and mementos etc., to visitors and whilst you are there buy a Guide Book and you too can become as wise as the writer!

L. R. MITCHELL

Obituary

Mr. R. T. Clough

We much regret to report that Mr. R. Clough died on 22nd October 1971 after a long illness.

Ron Clough, who was 60, spent most of his career in industry, joining R.S.R.S. in October last year. A man able and willing to assist his fellow citizens in private life, he brought the same attitude to his work in the Finance Section. His gift of dry humour, capable of defusing tense situations, was valuable indeed. Acquaintance was short, yet his colleagues will truly miss his companionship.

We all offer our sincere sympathy to his wife and family.

STATION NEWS

Consequent upon the Science Research Council's approval of the recommendations made in the Station Review Panel's Report, the Space Policy and Grants Committee has now appointed a panel, of which the Director is a member, to examine the full scale and nature of support for space research in the universities of the United Kingdom which the Station is to be called upon to provide. The panel is to report to the S.P.G.C. by the end of the year, and it is expected that its findings will be reflected in next year's Forward Look.

The Central Office of Information has organised the making of two films dealing with the work of the Research Councils. One film will be suitable for showing to schools and the other is aimed at audiences with a good scientific background, both in the U.K. and abroad.

R.S.R.S., which was one of the stations chosen to illustrate the work of the S.R.C., was visited by the film unit on 20th September. Films were made of the Solar Observatory, a rain gauge installation and a rocket payload. The unit later filmed sequences of the Chilbolton aerial and a rocket launch at South Uist.

Staff News

Congratulations to :

Mr. J. A. Lane on his proceeding to D.Sc. of the University of London.

Welcome to :

E. A. Buck	A.E.O.
P. R. Burrell	S.A.

Resignations

Miss S. E. Bain	Vacation Worker
S. Mrowka	Vacation Worker
R. A. Raphael	Sandwich Course Student
H. J. Convey	Sandwich Course Student
J. E. Byles	Vacation Worker
N. R. P. Milway	Sandwich Course Student
A. J. Wilton	Sandwich Course Student
C. Pickering	A.E.O.

Other Changes

S. K. Bhattacharyya	E. O. Left Singapore on completion of tour (returning to duty at R.S.R.S. 3.11.71)

E.S.R.O.

J. S. Wright	A.E.O. Left U.K. for Falkland Islands (Arrived Falkland Islands)
A. Peake	E.O. Made Operations Supervisor SR(W) Falkland Islands

Sports and Social Club News

The annual burn-up (or conflagration, depending on your style) will be held on November 5th at 7.15 p.m.

Tickets, price 25 p. for adults and 10 p. for children, are on sale now from committee members. Hamburgers and coffee, etc. will be available after the firework display.

As usual, children from local children's homes have been invited to come along and drivers are still needed to transport them. It would be appreciated if any volunteers could sign the notice on the notice board.

The Sports and Social Club wishes to apologise for any inconvenience caused to customers of the bar while alterations are taking place. The bar will remain open as usual and the alterations are scheduled to be finished in time for November 5th, when the bar will be open during the evening.

Table-Tennis

The "A" is finding life a little difficult in the 2nd division of the Slough League. The standard is considerably higher than in the 3rd division. So far the team has played 4, won 1 and lost 3. We are hoping that as more experience is gained the results will improve.

The "B" team however is going great guns. Results to date are played 5, won 5, the worst result being an 8-2 win. So although it is very early in the season the "B" team is looking forward to some success in division 4.

P. MUZLISH (Hon. Sec.)

Car Club

It is not generally realised that C.S.M.A. oil and anti-freeze are available for purchase by all members of the staff whether or not they are members of the C.S.M.A. and/or the Car Club. Also prices are lower than those charged by Snowdrift to individual C.S.M.A. members. This is due to the discounts obtained from bulk purchasing by the Car Club.

I have had a number of inquiries about the use of old anti-freeze mixture which have been topped up with water. The Car Club does not posses an Anti-freeze hydrometer as commercial hydrometers tend not to be sufficiently accurate. At $20^{\circ}C$ the specific gravity of the mixture is 1.040, and the S.G. of a 20% mixture is 1.035. A recent review of a commercial anti-freeze hydrometer costing £3.50 said it was accurate to $\pm$ 1%, which is not really good enough to distinguish between 20% and 25% mixture. A temperature check which could be made of 25% mixture should show the formation of first crystals at $-12^{\circ}C$ giving a safe limit of $-26^{\circ}C$. The S.G. is then 1.037. Don't forget that it is not only the overnight temperature that can cause damage. The passage of cold air through the radiator block just after starting off, before the thermostat has opened could cause freezing.

A word of warning. Some anti-freeze preparations are sold in two qualities. The cheaper contain methanol and ethylene glycol. This is usually stated clearly on the container. What is not stated is that methanol evaporates and also lowers the boiling point of the coolant, whereas to-days vehicles are designed for higher boiling points with the system under pressure.

P. MUZLISH (Hon. Sec.)

Bridge Club

The Bridge Club season got off to an enthusiastic start when 16 players attended the opening club evening of the season on the 28th September. It is hoped to hold monthly club meetings, details of which may be found on the notice board outside the library. Lunchtime (1 p.m.) bridge is played regularly in Room E127, where absolute beginners may learn the rules.

In the first match of the season we beat N.P.L. by 110 IMPs to 47, a very encouraging start.

M. JOHNSON

PROPAGATION PROGRESS

Extract from article on "Montgomeryshire" in Civil Service Motoring for July 1971.

> "Meifod is the site of the new radio telescope, chosen largely because of the clearness of the air."

Now we know! We thought that it was the clarity of the ether that mattered.

LETTER TO THE OUTSTATIONS

Dear Colleagues,

The only thing unchanging is, as they say, change. A suitably trite truism for starters but it sprang, or at any rate seeped, into mind the other week when the term 'aerial felling' crossed my path.

First reactions were that it was some new and improved timber technique - a sort of lofted lumberjack hanging from a balloon or helicopter. How R.S.R.S. came into the act was not obvious, though various of us here have some experience of either or both forms of skyhook and their attendant problems.

Truth lay to the North. North Park in fact, for the skyline in that direction was different, the familiar lattice towers towered no more. These totems so long guardians over our doings, have fallen from their high estate. Their part in things is done. For decades they contributed to electromagnetic wave propagation studies; now they are felled.

Their going was not unmarked; film footage has on record the approach of the executioners, the grisly preparation of pulleys and ropes, almost more horrible than the dispatch; then the drop and the post mortem cluster about the feet of that colossal wreck. (Why bother to write your own lines when there's a good script available.) For those on the de Sade kick there's one slow motion sequence showing each joint crumple.

Examination revealed the pure country air had almost eaten away iron plates used in the construction, but wood sections were found to be well-preserved. Indeed their E/M prop. task is not quite done. Final appearance is scheduled for November the fifth when, playing a supporting role no longer, the mortal remains of our lattice masts shall be transfigured and serve as an R.F. source, albeit at somewhat shorter wavelengths than heretofore.

Who knows, but that they may rise from the ashes and at dark 'o moon be seen striding the land back to their original sites, visible to all as credulous as,

Yours sincerely

The Editor.

OCTOBER 1971

List of Reprints

D. Eccles, J. W. King and H. Kohl	Further investigations of the effects of Neutral-Air Winds on the Ionospheric F layer J.A.T.P. Vol. 33, 1371-1381, 1971
P. A. Bradley and E. N. Bramley	Wave polarization and its influence on the power available from a radio signal propagated through the ionosphere Proc. I.E.E., Vol. 118, No. 9, 1190-1196, Sept. 1971

Internal Memoranda

I.M. 347	A comprehensive printed-circuit board for operational amplifier integrated circuits	J. A. Crawford
No. 348	Rainfall records at the Radio and Space Research Station, Slough, 1970	J. R. Norbury, W. J. K. White and B. N. Harden
No. 349	Magnetometers for ground support of Commonwealth Rocket Programme flights from Thumba	M. J. Usher, K. Burrows and T. S. G. Sastry