

# DIRIGIBLE

THE JOURNAL OF THE AIRSHIP MUSEUM

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**DIRIGIBLE** is the journal of the Airship Museum and is published by Friends of Cardington Airship Station. It is published quarterly and distributed free to all members and associate members of FOCAS and, through our close associations, to the Friends of the British Balloon Museum and Library.

■ The objects of **FOCAS** are to foster and promote the study of the history of airships in every aspect, and to present the results of such study to the public, and to stimulate public interest in the role of Cardington as an airship base and in the conservation of the principal buildings thereof, and in particular to promote and assist in the formation and operation of a museum and study centre devoted to the airship.

Full Membership of FOCAS is limited to persons who, having a particular interest in or knowledge of airships, are approved by the Governing Council, the Trustees, who are elected by members from among their number. There is also provision for Associate Membership, which is open to the public generally. Further information and application forms can be obtained from:

Norman Pritchard, Windsor Loft, 75 Albany Rd, Old Windsor, Berks SL4 2QD. Tel 0753-862977.

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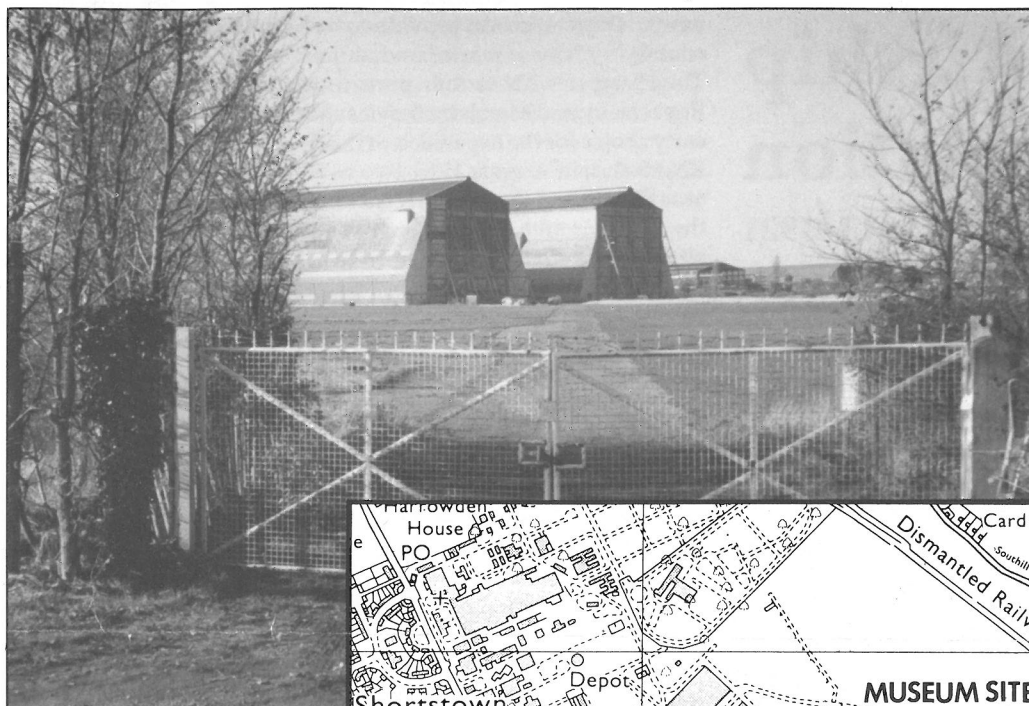
Editor: John Christopher  
Walnut House,  
Old Rectory Road,  
Kingswood,  
Wotton-under-Edge  
Glos GL12 8RE  
Tel: 0453-843985

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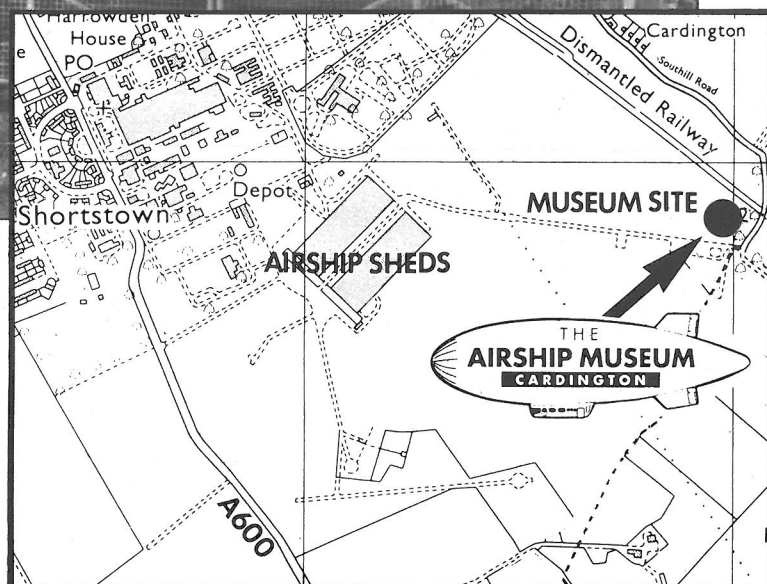
FOCAS

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4 Goldington Rd,  
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The map (right) indicates the location of the museum at the north eastern corner of the Cardington site, and the photograph shows the view through the gates back towards the sheds: In this picture the museum's land is to the right of the airfield road.



## THE MUSEUM SITE:

On 22 December 1989 the Airship Museum at Cardington took a major step toward realisation with the acquisition of a six acre site from Airship Industries. This is not the original site under discussion with Airship Industries - adjacent to their former proposed office development on the A600 side of the sheds. However, this new site also offers commanding and unobstructed views of the great airship sheds, with the added advantage of its very own access. (See above)

FOCAS is grateful to both Airship Industries and to Holgrove Properties, who have purchased the remainder of AI's land and the No.1 shed (which they will lease back) at Cardington, for their assistance in obtaining this important site for the Airship Museum.

Our next step is to obtain the necessary planning permissions required and to commission a suitable museum building. In order to carry this through, the fund raising appeal is being prepared for a launch in the near future. More in the next edition.

# Howden Airship Station

1915 -1921

*Tom Asquith of  
the Barnes Wallis  
Trust writes on the  
early years of  
Howden which was  
later to be the  
birthplace of the  
R100*



During the early months of World War One Britain's little airships greatly impressed the Admiralty by their success in escorting convoys of troopships and merchant shipping on their voyages between the south coast ports and France. By their ability to fly at the speed of the slowest ships and yet be able to accelerate to investigate signs of U-boats or mines they proved ideal for the important task they were undertaking.

As a result of their early success more airships were added to the RNAS fleet when, in 1915, more of the C (Coastal) class were ordered. At the same time the decision was taken to build new airship stations to provide cover for all the country's major estuaries and shipping lanes. The Humber with its four ports in use by the Royal Navy and Merchant Service ships was an early choice for the expansion of the fleets of the RNAS and, in August 1915, two naval lieutenants Flower and Burke were sent to reconnoitre the Humber area to find a suitable site for an airship station.

The two officers reported that they were having some difficulty in finding a site because of the number of rivers, canals and drainage canals. By 3 September, however, they found the best possible location, three miles north of Howden.

Things now moved remarkably rapidly, by government standards, and by 27 September the necessary land had been taken over from its various owners and arrangements made for the transportation of construction materials to Howden station on the Selby to Hull branch of the North Eastern Railway. A single track extension was built to the site and later extended to all four sheds.

Through the winter of 1915 - 1916 construction work went ahead on the site to the north of the Howden to Bubwith road. A service road was made to give access to living quarters, offices, workshops, stores and to recreation areas. The arrival of RNAS personnel and contractors' work staffs together with their families made a great impact on the social and economic life of Howden and surrounding villages.

The first shed to be built was Coastal shed "A" which was 323ft 11ins long, 120ft 5ins wide and 81ft high. Coastal shed "B" had similar dimensions. These hangars were designed to house the non-rigid (Blimp) Coastal class airships. Subsequently other classes of non-rigids, Parseval (P), North Sea (NS), and Sea Scout (SS and SSZ) joined the Coastals.

Gradually a network of airship stations grew up across the country from Cornwall to Aberdeen and eventually there were sixteen main stations with eighteen out-stations. Of the main stations four were selected to house rigid airships being built by Vickers at Barrow, Beardmore at Inchinnan, Shorts at Cardington and Armstrong at Barlow, Selby. The four rigid bases were at Howden, Pulham in Norfolk, Cranwell and East Fortune near Dunbar. In the war years Britain built eight rigids and of these six were delivered to Howden.

Howden had two sheds for rigid airships

and the first of these completed early in 1917 was 714ft long, 148ft wide and 100ft high. The second large shed was not completed until 31 March 1919. It was huge measuring 750ft long, 300ft wide and 130ft to the top of its doors.

When Coastal shed "A" was completed Howden's first aircraft arrived, not airships but BE aeroplanes. My study of Howden's daily flight reports in the archives of the Public Record Office revealed this information. Curiously there is no record of these aircraft ever flying. They were always under repair or awaiting parts. The wartime reports also tell of occasional flights by "free flight" balloons. The longest reported flight by one of these craft was to Stalybridge.

By mid-June 1916 there is mention of an airship - C4 - which was being assembled. These small airships were delivered in kit form to air stations. On 24 June the airship was ready for inflation. Until hydrogen making plants were built Howden received its gas supplies in cylinders. The assembly of a non-rigid airship was quite a complicated task - for example, the inside of the envelope was not an empty space but through it passed ropes to operate fins, rudders and non-automatic valves. Securing points, known as ETA patches had to be fixed to carry the quite heavy weight of the gondola.

While work was going well on C4 her sister ship C11 was taking shape at Kingsnorth in Kent. C11 was the first to take to the air and on 26 June left Kingsnorth at 1.45pm and arrived at Howden five hours later.

Because of normal summer weather no flying was possible until 3 July when more history was made. First, C4 flew down river, passed over the Humber defences and followed the coast from Spurn to Flamborough before returning to base. On this memorable occasion C4 was captained by Sub Lieutenant Booth who was destined to become one of the greatest airship commanders. He took R100 out from Howden on her maiden flight and so was in charge of the first and last flights from Howden.

Later on that day C11 flew over Selby and York so that 3 July was a day when very many East Riding folk had their first sight of an airship.

For some months these two ships maintained coastal patrols with flights as far north as Hartlepool and as far south as Cromer. For most of the war Howden airships served the shipping lanes from the Humber to the Tyne. Mariners in 1916 could not have been too impressed by the help they received from Howden because C4 and C11 were frequently missing because of broken parts, non-delivery of hydrogen and bad weather. Things were to improve as the Howden fleet grew, crews were better trained and hydrogen, in adequate quantities, was manufactured at the air station.

Crew training included practising dropping bombs - without any sophisticated equipment to help in accurate aiming. The carrying of bombs in the gondola must have been quite hazardous and on 14 November C21 flying out on patrol accidentally dropped a bomb "opposite Hull."

On 27 December there were two minor

accidents. C11 landed at Ingoldmells with a broken propeller, and Parseval 4 struck a tree also breaking a propeller and damaging the gondola. It was not only airships which had their mishaps. In January 1917 the winches used to open the doors were reported as being broken.

By March 1917 patrols were being extended both in terms of time and distance. On 12 March C19 did a ten hour flight and two days later C11 covered 230 miles.

On 1 April mention is made of a gas-holder which had a capacity of 28,000 cu ft of hydrogen. Three days later HM Airship 9 arrived from the Vickers' factory at Barrow.

Later that month C11 had come down near Scarborough and the airship was so badly damaged that it had to be brought back by lorry. Repairs were undertaken and the airship did a first trial flight on 20 July. The following day the airship set out on another flight when it crashed into flames into the Humber. Three members of the crew were drowned but two were rescued by a Mr Higham and his son who swam out to the wreckage.

On 14 October R25 made the short flight to Howden from Armstrong's factory at Barlow. The following day R23 arrived from Barrow and the rigids undertook trial flights and joined their smaller sister ships on patrols, submarine spotting and convoy escort duties.

During 1918 Howden's fleet grew and the station had a busy programme of operational flights and training courses. In addition airships called when on flights to or from other airship stations. As a diversion from operational duties airships flew over various towns dropping leaflets encouraging folk to invest in War Savings.

One of the big problems with airships was that they required a large number of men to manhandle them before take off and when landing. An experiment was tried at Howden in the use of tanks as an aid to airship mooring. Turrets were constructed on army tanks and attachments provided to the airship but the effort was a failure. Another problem to be dealt with was the effect of cross winds when an airship was emerging from its shed. This was reduced by the erection of wind screens - meshed metal extensions from the sheds. There were mixed opinions about these.

Howden was now reaching the peak of its activities with two out-stations opened, over a thousand service and civilian personnel based at the station, an American group attached and a fleet of fourteen non-rigids and one or two rigids.

The reports despatched from Howden during the summer of this year were very impressive. Up to a dozen sorties from the station and a total daily flight mileage of around two thousand.

On 16 August Howden had its second

wartime fatal accident. Five airships were moored in the rigid shed when an engineer's blowlamp ignited the vapour remaining in an empty petrol tank. The fire spread to two of the non-rigids and to R27 and some one and a half million cubic feet of hydrogen ignited. Miraculously only one man was killed and one injured.

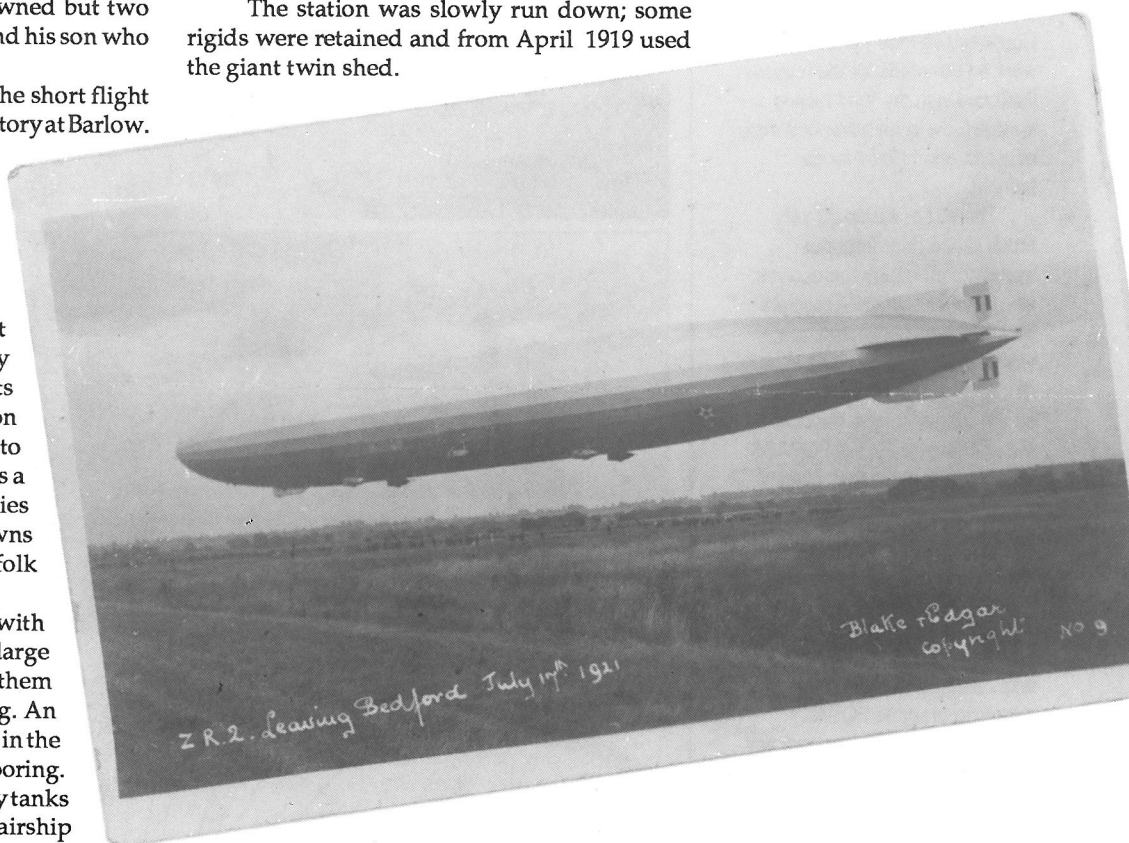
The shed roof was torn open by the explosion but, since the giant shed was still under construction, it continued in use.

In September R31 arrived from Cardington en route to East Fortune. It stayed overnight but soon after starting out had to return. R31 was one of two airships constructed with wooden girders. These were not able to withstand the many strains imposed and when R31 landed the crippled airship was housed in the rigid shed. The rain poured through the damaged roof and hastened the end of R31.

The war ended and most of the non-rigids were deflated. C4 was among these - this ship had flown 17,252 miles, mostly from Howden.

The station was slowly run down; some rigids were retained and from April 1919 used the giant twin shed.

*"Howden had been the Allies' largest airship station and, had the Great War lasted another year, it was planned to make it home for five rigid and twenty-six non-rigid airships."*



Then came the saddest year in the life of Howden. On 28 January 1921 R34, the first aircraft to make a double crossing of the Atlantic, broke up after landing. She had been flying off the Tees estuary when she was recalled because of gale warnings. In the dark she struck the North Yorkshire Moors, but managed to limp back to Howden, only to be destroyed.

In the summer an American crew trained at Howden on R80 in readiness for the arrival of R38 from Cardington. This airship was being bought by the US government. On its final trial on 24 August it crashed into the Humber at Hull with the loss of a fine crew.

By the end of the year Howden was closed and demolition work began. The twin shed was spared and later brought back into use for construction of the R100.

Contemporary postcard of the ill fated R38 or ZRN2 leaving Cardington for Howden

*This article is taken from a leaflet originally published by Howden Civic Society in 1989.*



## The Associate Members

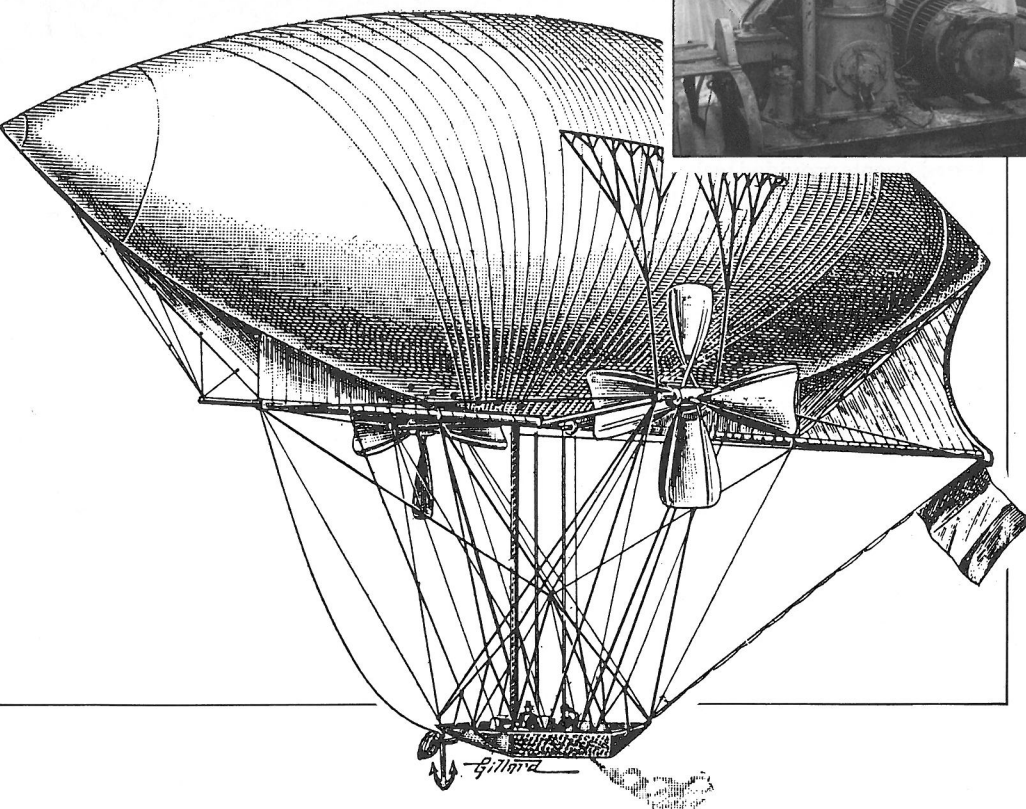
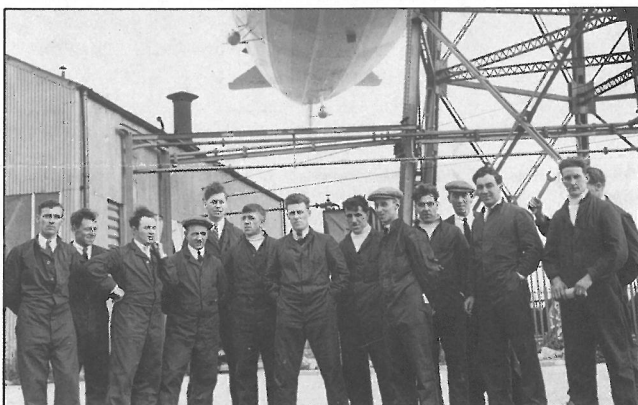
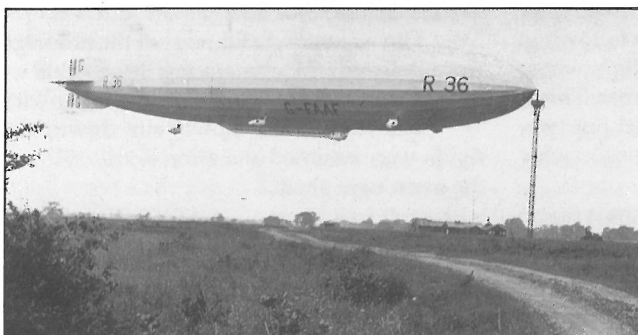
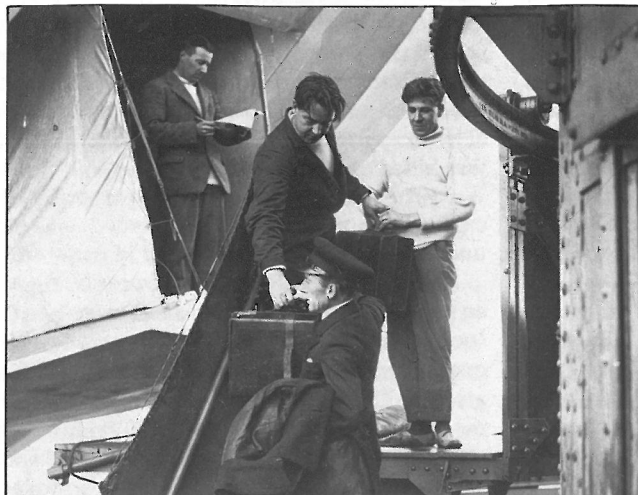
Now that the significant step of obtaining a museum site has been achieved, it is time to give the Associate Members some more attention. The scheme was started in April 1989 to involve people interested in airships and the activities of the airship museum. So far we have over fifty members and hope numbers will continue to grow, but up until now we have had little more to offer than the *Dirigible* four times a year.

So we feel that this group of enthusiasts has remained very much an untapped resource. The problem at this stage of the Museum's development is that the members of the Management Council have their hands full with work on the plans for the museum itself and with the fund raising appeal (now in an advanced state of preparation ready for its launch).

Therefore, we would very much like to hear from our associate members themselves:

- What should the Associate Membership involve and how would you like to see it develop?
- Is anyone interested in taking on the running of the Associate Membership branch of FOCAS? This might involve arranging meetings or special trips connected with airship history or whatever else you might propose.
- Are you interested in helping FOCAS more directly - through practical means such as assisting with cataloguing, or by attending events to promote FOCAS?
- Finally, can you suggest any contacts that we might approach as part of the fund raising effort.

The Associate Membership clearly has enormous potential and we hope that more of our members will become more involved in the future. Please let us know what you think on this matter by writing to the Associate Membership Secretary: Norman Pritchard, 75 Albany Road, Old Windsor, Berks SL4 2QD). Or if you have any items for publication please send them to *Dirigible*.



## Building the collection

While work on the museum begins to gather momentum, efforts are also in hand to start gathering the many airship relics and documents for exhibition and study.

Naturally the Cardington crates are a rich source of material and these photographs (shown left) are just three from this extensive collection: top - Flight Officer Steff boards the R101 at the mast; centre - the R36 at Pulham; bottom - some of the men who flew the R101.

One of the most recent acquisitions is this electric powered hydrogen compressor (below): Built by Bellis & Morcomb of Birmingham around 1924, it was bought by the RAF in 1949 for filling gas bottles and deflating balloons. It was obtained for the museum from Stephen Wells Valves in Bristol.

The reference library and study area will be an important facility when the airship museum opens. The engraving (below) of Gabriel Yon's dirigible is from *La Navigation Aerienne* (1909) - one of the many books in our collection.

