

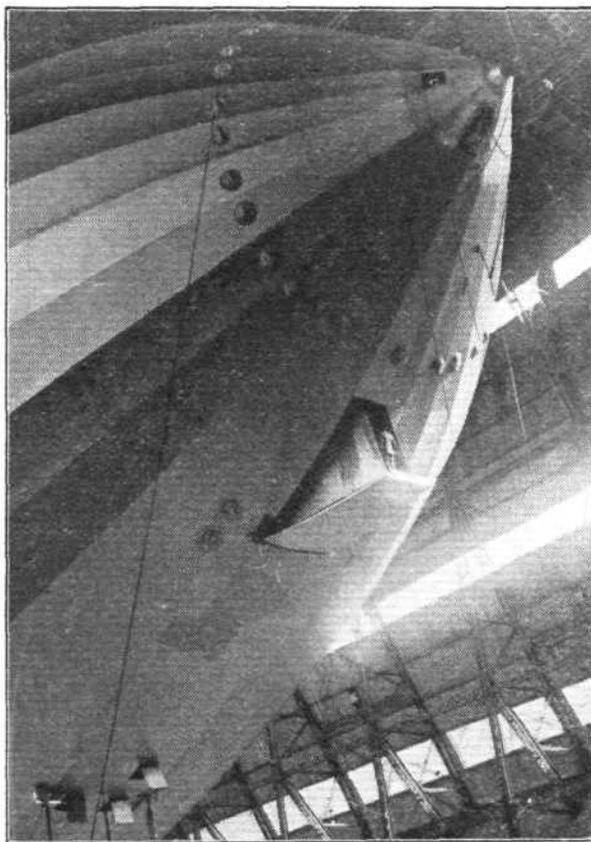
**R.101: Portion of the structure, before putting on the outer cover. Some of the gas bags may be seen in place. Note also the placing of the fuel tanks. ("FLIGHT" Photo.)**

whose choice of the title "Thomson of Cardington" was probably no mere chance or coincidence. The airship development policy established by the Government in 1924 called for the simultaneous construction of two airships, each of approximately 5,000,000 cub. ft. capacity, one to be designed and constructed at the Royal Airship Works at Cardington, Bedfordshire, and the other by Commander Burney's company, the Airship Guarantee Co. (a Vickers concern). The Airship Guarantee Co. secured the land and premises at Howden, Yorkshire, and there has been designed and built the Vickers airship R.100.

After certain changes and modifications in the details of the airship policy, the production of the two rigid airships proceeded independently, the designers of the Airship Guarantee Co. deciding on Duralumin as the chief structural material, while in the Cardington airship, R.101, it was decided to use steel where the employment of this material promised to give an improved strength/weight ratio, Duralumin elsewhere. One result of the freedom given to the two designing offices has been that we have now completed two airships, both larger than any hitherto built anywhere, differing in almost every essential detail not only from each other, but also from any rigid airships built abroad. Neither airship follows Zeppelin practice, but whether one or the other will prove the "better" type still remains to be seen. The breaking away from the accepted Zeppelin form of con-

struction was, in neither case, dictated merely by the desire to "do something different." There were very good reasons for a radical change in the type of construction. The

increase in size, to nearly twice the capacity of previous airships, at once afforded an opportunity to adopt other methods, and British designers had, in any case, not a great deal of experience with the Zeppelin type, so that whichever form was chosen, much research would be necessary before the construction of such large airships could be undertaken with any degree of confidence. This is not the place for a comparison between the R.100 and the R.101, the details of the former being reserved for a future occasion, but it may be of interest to state here quite briefly that the main feature of the R.100 is the use of Duralumin girders in which the hollow booms are made up from relatively narrow strips of the material, wound into spirals which form the tubes, the overlapping edges of adjacent convolutions being riveted together. In the R.101 the outstanding features are: the use of rigid unbraced transverse rings with main longitudinals of steel tube girder construction, and a "parachute" type of ballonnet suspension.



**Nose of R.101: Note the vent holes for maintaining an internal pressure on the envelope. The hinged gangway by which the interior will be reached from the mooring mast platform is also clearly shown, as well as the three hatches through which the guy ropes will be dropped. ("FLIGHT" Photo.)**

#### Research Work

Before actual construction was commenced, and even before the design work had proceeded beyond the stage of broad outlines, it was necessary to carry out a great deal of