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"Chauffeur of the Skies" by A. Roy Knabenshue, pages 101-201

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The ballonnet is a smaller vessel shaped along the general pattern of the balloon proper, and its function is to keep the pressure constant and to maintain the shape. The pressure is supplied by a blower and controlled by a sensitive pressure valve.

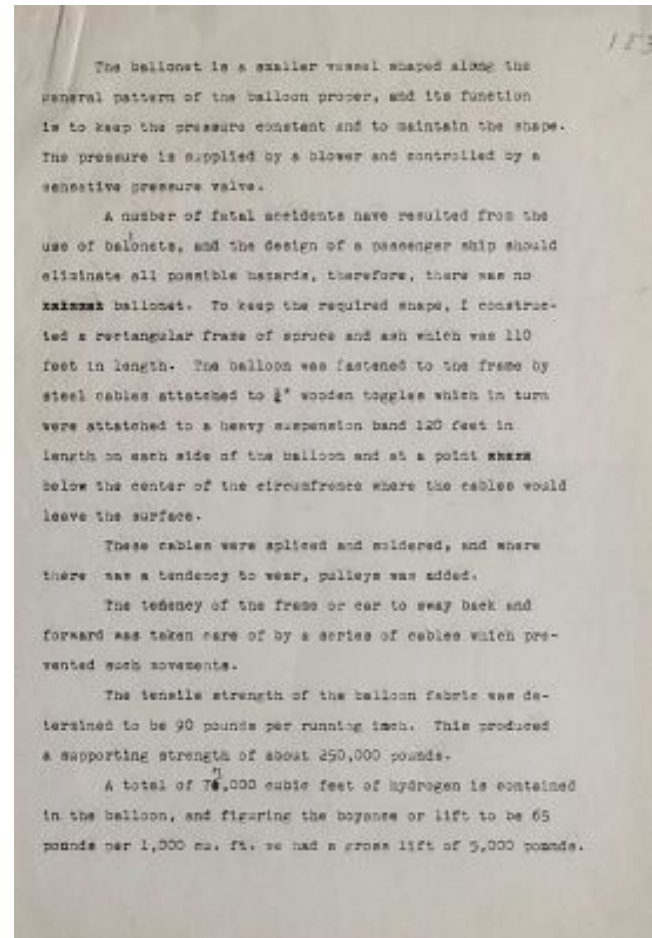
A number of fatal accidents have resulted from the use of ballonets, and the design of a passenger ship should eliminate all possible hazards, therefore, there was no ballonnet. To keep the required shape, I constructed a rectangular frame of spruce and ash which was 110 feet in length. The balloon was fastened to the frame by steel cables attached to 3/4" wooden toggles which in turn were attached to a heavy suspension band 120 feet in length on each side of the balloon and at a point below the center of the circumference where the cables would leave the surface.

These cables were spliced and soldered, and where there was a tendency to wear, pulleys were added.

The tendency of the frame or car to sway back and forward was taken care of by a series of cables which prevented such movements.

The tensile strength of the balloon fabric was determined to be 90 pounds per running inch. This produced a supporting strength of about 250,000 pounds.

A total of ~~6~~ 76,000 cubic feet of hydrogen is contained in the balloon, and figuring the buoyancy or lift to be 65 pounds per 1,000 cu. ft. we had a gross lift of 5,000 pounds.



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