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DESIGN FOR THE AIR

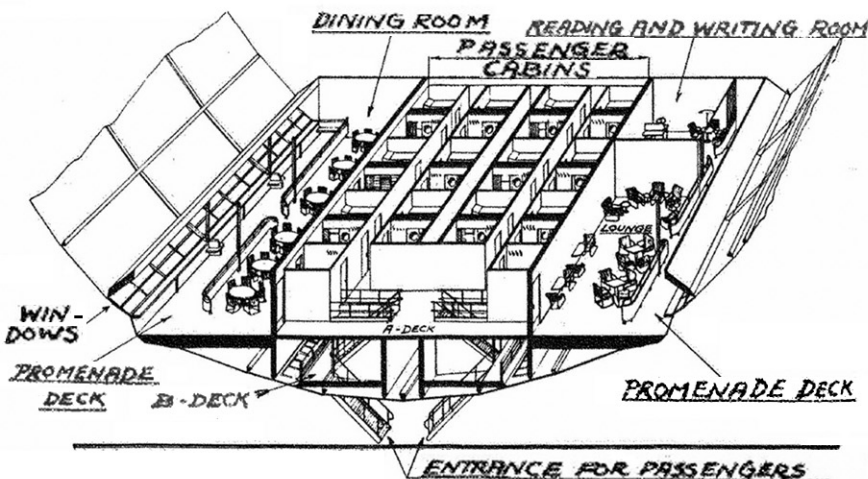
BY BLANCHE NAYLOR



THE ILL-FATED GERMAN ZEPPELIN HINDENBURG, ONCE QUEEN OF THE AIR
BUT DEMOLISHED MAY 6

Miss Naylor's article on the design of the great Zeppelin "Hindenburg" was prepared for publication some weeks before the catastrophe of May 6. It is published, not to prolong any morbid interest in the disaster but because the next Zeppelin, now being built, is in many ways similar to the lost airship. We should like to take this opportunity to express admiration for the continued, unflinching devotion to progress in the air which the German people show in the face of a great loss.—EDITOR'S NOTE.

THE IMPRESSIVE and inspiring sight of the great silver ships of the air sailing with smooth majesty over our cities and countryside has not ceased to thrill the observer, although the appearance of Germany's great Zeppelin "Hindenburg" over the Eastern seaboard has been a familiar sight during the past season. To all those who have actually seen the "Hindenburg" in flight and those who have seen the newsreel photographs, it is a matter of interest to conjecture what the interior of the great grey envelope is like. How is it designed, and what sort of comforts are offered to the passengers?





Smithsonian's National Postal Museum

Above: THE ZEPPELIN HINDENBURG'S DINING SALON MADE UP FOR THE CAPTAIN'S DINNER. **Below:** THE DINING ROOM AS IT ORDINARILY WAS. NOTE THE LONG WINDOWS PLACED AT AN ANGLE THROUGH WHICH PASSENGERS WERE ABLE TO SEE "OUT, UP, AND DOWN"



A trip of thorough inspection yields the following details. The hull is a streamlined body with a length six times its maximum diameter. It incorporates the typical Zeppelin construction of braced main rings, with auxiliary rings between. The metal used in the framework is an extremely light, strong aluminum alloy which had already been well tested in the "Graf Zeppelin." The main frames are of a flat wire-braced type using strong steel wires for bracing, and the outer cover which is stretched taut about the metallic hull is a strong cotton fabric made weatherproof by chemical treatment. In those particular places where unusual strength is needed linen cloth is used. The inside of the upper portion of the cover is colored red against the effect of ultra-violet rays.

There are two main corridors which run throughout the ship, one along the very bottom which serves as the main unit and accommodates along its length the fuel and water tanks, storerooms, freight compartments, crews' quarters, and other service details. The other corridor goes through the actual center of the ship fore and aft, and serves to tie the bow and stern together. The lower aisle is used for the main traffic lane, while the upper gives access to the gas cells for the frequent and careful inspections.

Above the control car which contains the machinery for manipulating the huge ship, there is a radio room containing

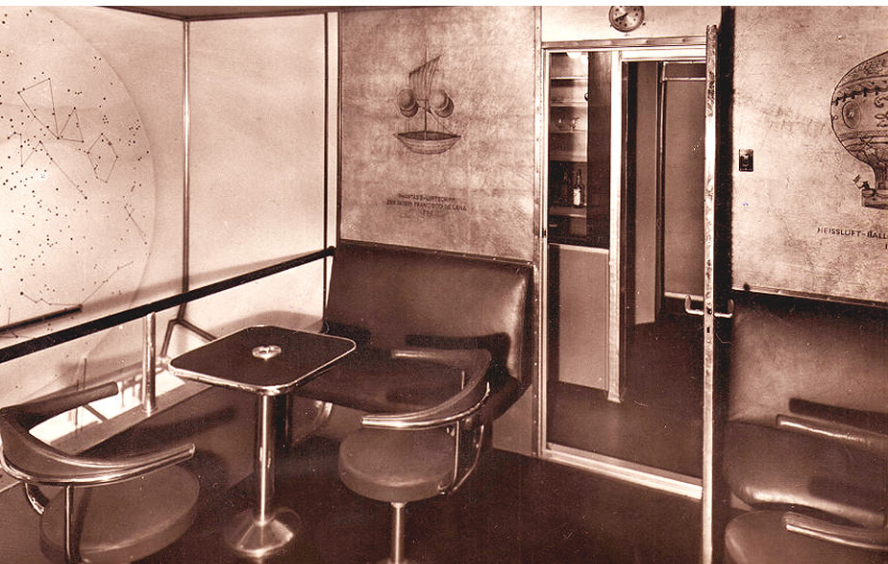
Hindenburg

equipment for wireless and long and short wave radio communication. Direction finding equipment is also placed here. An automatic telephone system with twenty-four stations at vital parts of the ship give perfect inter-communication through a common switchboard. The staterooms for captain and officers and the mail room are placed above the control car for accessibility.

The amazing and startling thing about the entire interior of the "Hindenburg" to the lay visitor is the unsuspectedly capacious and comfortable space assigned to passengers. The accommodations for the fortunate travelers in this great ship of the air are much more impressive than those aboard any other aircraft. Going aboard one enters the ship by means of two hinged gangways which lower from the regular passenger lounges, a bit aft of the control car. There are two decks, A and B. The lower section contains the smoking room which is one of the "Hindenburg's" greatest innovations, since in commercial airships smoking has heretofore been forbidden.

This room has been very cleverly designed. To arrive at the smoking room one must pass through the small bar and enter by means of a door which opens only from the inside. No one is allowed to leave until it is certain that cigarettes, pipes, and cigars have been extinguished, and a steward is placed on door duty to make certain that no such catastrophic happening can occur, since the highly inflammable gas with which the "Hindenburg" is filled must be constantly remembered. The door is electrically controlled and can be opened only by this steward after he has made certain that those leaving are not endangering the ship. Special ash receivers are also distributed throughout the room, which automatically shut completely airtight to smother any glowing stubs of tobacco. The walls are decorated with a long panorama of travel, emphasizing the development of aircraft through the years. These decorations are done in small mural effects upon a background of washable leather. In the sequence in which the events actually occurred they illustrate the historical attempt of Francesco Lamas, Jesuit Father, who in 1670 tried to travel by a lighter-than-air ship; the first balloon ascent of the Montgolfier brothers; and several sketches of modern air travel.

From the moment of going aboard the great flexibility of



CORNER OF SMOKING ROOM ABOARD THE HINDENBURG



SECTION OF THE LIVING SALON SHOWING COMPREHENSIVE MAPS USED AS MURAL DECORATIONS

the ship's construction impresses one. The odd sensation of being suspended in air and walking a wide tightrope is felt even when the ship is firmly anchored to the ground. A seemingly spongy resilience has been achieved in the flooring due to the fact that the passageways along which one walks (in fact the whole inside of the ship) are stretched firmly but springily along the frame. Light composition rubber flooring is topped with a narrow, light-weight carpet.

Of course the great problem in designing the interior and its furnishings was to achieve comfort and durability without weight, since every ounce counts in handling the ship, keeping her on her course, and making her steady in bad weather. As a consequence the subservience to functional requirements which has led to many developments in other fields of design was an absolute essential in creating the furniture for the "Hindenburg." Heavy articles of any sort are automatically barred; the metals and textiles are always of the lightest weight. The furniture, for example, is made of duralumin; still more weight was saved by punching out all metal not needed for structural strength. This one requirement alone has brought to the furniture's design balance and a definite simplicity of line. A kindred efficiency has brought purposefulness even to the style of the table ware. But sufficient weight was saved in the furniture to make it possible to use good porcelain instead of composition substitutes.

At the entrance of the dining salon is a decorative panel of Hebe with her cornucopia. Inside are small murals recording vivid impressions of an aerial trip from Germany to Brazil, as can be seen from the accompanying photographs. There are two views of the dining salon, one as arranged for the captain's dinner, the other as ordinarily arranged with tables for two and four. In the reproductions may be seen, also, the

There are twenty-five cabins of adequate size for the passengers' sleeping quarters. Each room has two berths, an upper and a lower. Every upper is designed to be raised into a niche in the wall, thus converting the lower into a sofa-lounge. The resulting air of spaciousness is further carried out by the surrounding promenade some fifty feet long. Here again are installed slanting windows which look down upon the surprisingly flat world beneath. The cabins are on A deck connected with the living and sleeping quarters on B deck by the short stairway which gives the visitor the distinct sensa-



THE READING AND WRITING ROOM ON THE ZEPPELIN HINDENBURG



tion of walking on eggs because of its great resilience.

The color scheme of A deck is one of warm monotonous. Walls are done in subtle grey tones. White dot-patterns on grey linen increase the daylight in the corridors. Black rails for the stair cases are of composition resembling our formica. These are also used on the collapsible, retractable gangplank.

The upholstery in the living salon is also of one shade—a warm brown which contrasts well with the bright metal alloy of the frames. In the spacious dining room the leather chair coverings are bright red. The galley, which serves efficiently almost a hundred people, is appropriately finished in enamel and metal. The rugs used in the long passageways are of green and grey plaid.

The whole decorative scheme of the "Hindenburg" was executed under the direction of Professor Fritz August Breuhaus of Berlin. The paintings are the work of Hans Arpke. Selection of men of their ability for the task is characteristic of the finished design of the two great Zeppelins. Everything possible has been done for the comfort of the passengers. Perhaps the future may see great fleets of lighter-than-air craft vying with one another, as do ocean liners, not only in speed, but in comfort and brilliance of décor. But whatever the future may hold it is certain that the "Hindenburg" and the "Graf Zeppelin" can be said to have blazed the air trails in these respects.