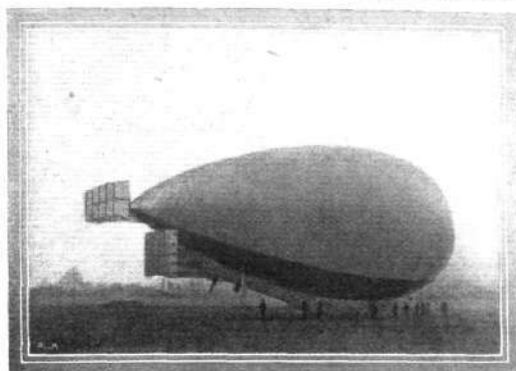


AIRSHIP NEWS.



THE FORLANINI DIRIGIBLE.—In the above photograph is depicted a new Italian airship, the "Leonardo da Vinci," to the performances of which we recently referred, and which, it will be noticed, has many unusual features. The airship was designed by Sig. Forlanini, who some time ago conducted a lot of research work with hydroplanes.

New British Army Dirigible.

The new dirigible which is being constructed at the balloon factory at Farnborough is expected to be ready by the end of February. The envelope, which is being made of goldbeater's skin, will be of 72,000 cu. ft. capacity. It will be of the usual fish shape, and stability will be maintained by a system of fins. The 80-100-h.p. Green motor will drive a pair of propellers, the blades of which can be adjusted to vary the pitch.

Panhard Engine for British Dirigible.

On the 13th inst. the second Panhard engine built for the *Morning Post* dirigible underwent its ten hours' test with complete success, running from eight o'clock in the morning to six o'clock in the evening without a hitch. The engine has four cylinders, 180 mm. bore by 200 mm. stroke. The test requires a constant power to 110-h.p. at 1,000 revs., and at the end of the trial 128-h.p. was reached. The engine ran without missing fire from start to finish, and the system of cooling was by means of the radiator and fan prepared for the balloon without the aid of any auxiliary agent.

Echo of the "Republique" Disaster.

It is stated by the Paris *Temps* that of the £12,200 raised by public subscription after the "Republique" disaster, £1,600 will be invested for the widows of the two non-commissioned officers who were killed, while the remainder will be spent on one large dirigible, and also perhaps on a second airship and several aeroplanes. This has been rendered possible by the patriotic offers of some airship and aeroplane constructors.

£10 Airship Excursions.

The Parseval Airship Company, which has been formed at Munich, are arranging to commence a series of airship excursions on May 1st. The voyage, for which the fare will be £10, will last for about three hours, and it is estimated that a distance of 150 kiloms. will be covered in that time. The balloon which is being built for the service will be of 6,500 cu. m. capacity, and be fitted with motors of 200-h.p.



CORRESPONDENCE.

. The name and address of the writer (not necessarily for publication) MUST in all cases accompany letters intended for insertion, or containing queries.

Correspondents asking questions relating to articles which they have read in **FLIGHT**, would much facilitate our work of reference by kindly indicating the volume and page in their letters.

NOTE.—Owing to the great mass of valuable and interesting correspondence which we receive, immediate publication is impossible, but each letter will appear practically in sequence and at the earliest possible moment.

PAPER-BACKED SILK. Letter 281.

[302] We have been using and supplying for some time past a specially-prepared paper for model aeroplanes. It is strong and tough, and less than half the price of the fabrics usually used. It is made in two sizes, 20 by 30 and 22½ by 35½. We shall be pleased to give any information respecting same.
Coldharbour Lane, Camberwell. L. MALIN AND SON.

AREA AND WEIGHT.

[303] With regard to Mr. Kenelm Edgcombe's letter, may I ask, does he not consider the ratio of plane area to weight lifted important to aviators?

It would seem from his view that the area does not matter much, but I would ask, would a raft be any use in attempting to break Atlantic records? It is surely the cross section that is important. The less area per horse-power, the more efficient is the camber.
Piccadilly. D. L. THORNTON.

PROPELLERS.

[304] The letter of Mr. Challenger is interesting, as throwing some light on what I think may be a source of loss of power in aeroplanes. When I first saw these machines at Juvisy, and again at Brooklands, I was struck by the small area of the screws, and I naturally concluded that these sizes had been arrived at by experi-

ment. If one stands near a train rushing through a station, one feels a draught of air in the direction the train is running, but at Brooklands, when Paulhan was flying low, the draught of air was in the contrary direction; this was very distinct, though the aeroplane was several yards away. This back draught can only have been from the slip of the screw. I have never been close to a Wright machine when it was flying, but I should imagine that, as it has two propellers, the back draught would be very much less. If reports are true, the engine power of Paulhan's machine is double that of the Wrights; I therefore conclude that there is in the former aeroplane a great loss of power, and I think it is attributable to the small area of the screws.
Farnham.

JOHN HENRY KNIGHT.

[The above letter again draws attention to the fundamental principle underlying the action of propellers, which is that the thrust of the propeller is solely and totally derived from setting in motion a column of air. Air is a fluid and consequently can only afford an abutment by virtue of its inertia to acceleration. Air in motion represents energy, and since that energy has been imparted by the propeller at the expense of the engine, the slip represents lost power. Some loss is essential, because without slip there would be no thrust; it remains for the engineer to determine the conditions of maximum efficiency. The thrust of the propeller is proportional to the cross-sectional area of the slip stream and to the square of its velocity. It would seem desirable, therefore, to reduce the velocity as much as possible by increasing the diameter of the propeller or by increasing the number of propellers. Other considerations have to be taken into account, however, such as the resistance encountered by the propeller-blades in their own passage through the air, and as these different aspects of the case are of a conflicting nature, it is a matter requiring some skill to produce the propeller that is most efficient for the work it has to do.]

We would refer our readers to the several special articles on propellers that have appeared in **FLIGHT**; each contains at least one point of real importance to the subject.—ED.]