

# The Mastery of the Air

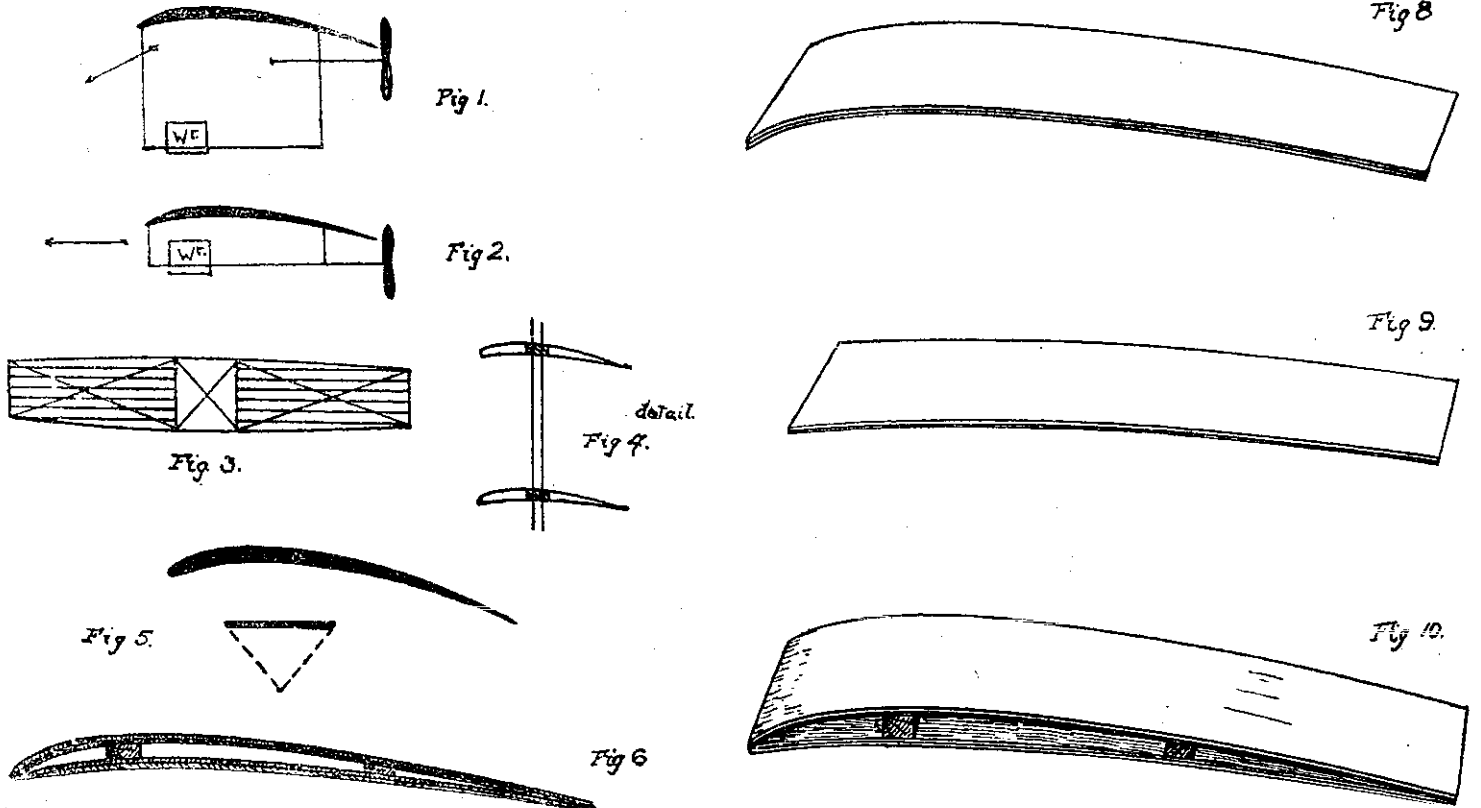
A Record of the Achievements of Science in the Realm of Aerial Navigation

## Dr. Graham Bell and Mr. Baldwin in Auckland.

According to promise, we publish to-day the lectures Dr. Graham Bell and Mr. Baldwin gave at the New Zealand Aero Club's meeting in Auckland on the 10th of last month. The term "lecture" somewhat startled these gentlemen when our representative referred to the episode, and

"The flying of the future," continued the doctor, "will invariably be at a great height, there being several good reasons for this. The density of the air being less, and the thrust of your engine the same, the obvious result is the propeller drives along with greater force, the mass it moved while on the earth, consequently when a good altitude is reached the engine may be throttled down or some compensating device be introduced to lessen

try," went on the doctor, "it would be an excellent thing for your club to consider well the facts of starting your aeroplane from the water. Your machine, if built upon a hydroplane, which, as speed is developed, would lift itself out of the water, instead of as in the ordinary way leaving the land. The possibility of starting off the water is indeed a most important item in aviation, and it is my opinion that the next move will be a big development in



they protested good humouredly. For their sakes let us call their lectures talks.

Dr. Graham-Bell said:—

"Gentlemen, it gives me great pleasure to stand before this assembly, right in the far end of the world, and to talk to men who are devoting their time to the most interesting science, 'Aviation.' In looking about me I cannot fail to see the difference in the colour of your heads, your hair not yet turning white, in comparison to my own. (The speaker possesses long white hair.)

"I really don't know what to say to you in regard to aviation, but will strongly recommend you to ask Mr. Baldwin to speak to you, he being a practical flying man, as well as Vice-president of the Canadian Aero Club. However, if there is any question I can answer for you I will be only too glad to do so."

At this stage several questions were asked in regard to flying at a great altitude.

your power. It certainly takes a big power to get your aerodrome to a great height, but less power to drive when the height is reached.

"The absence of air gusts and currents is also a distinct advantage, as these gusts present difficulties to aviators in the piloting of their machines.

"The rarity of the air is nothing to be afraid of, as the aviator is rushing through space at a great velocity, and would not suffer any inconvenience, which might occasion if he were stationary. By means of a funnel-shaped body with mouth towards the front machine, the rare air could be concentrated around the aviator and his engine.

"Extreme cold is another drawback to high flights, but this is simply solved by the introduction of a spiral of pipes carrying the warm water from the engine to the radiator, circulating around and in front of the aviator.

"Judging by your surrounding coun-

this direction, it being more convenient and much safer (especially for beginners)."

Dr. Bell also referred to a weak body, such as a strut losing much power by vibration, and the necessity for proper staying and guys.

Mr. Baldwin, on rising to speak, referred to the experiments made at Dr. Bell's home at Baddeck in Nova Scotia. He was very pleased to see the interest taken in aviation in this part of the world, and if he could be of any service to the club he would only be too happy to impart to others the benefit of his experiments.

The method of construction and radiation, together with the drive and position of your engine, are very important features in aerial construction. He strongly advised having the engine low down, concentrating the strain on the main parts of the machine. By means of a blackboard, the speaker showed the thrust strain on a machine (Fig. 1).