FLIGHT

First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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EDITORIAL COMMENT.

The Mansion House Meeting.

Those who attended the Mansion House meeting organised by the Aerial Defence Committee of the Navy League on Monday, May 5th, had an excellent opportunity of bringing away with them a variety of tritely-expressed principles that are well worth while bearing in mind.

"The chief object of this meeting is to strengthen the Government," said the Lord Mayor in his opening address, and that in itself is an attitude of mind worthy to be made the keynote of the National Aeronautical Defence Association, which it was in part the object of the meeting to inaugurate.

No Government cares to go very far ahead of public opinion, nor, for that matter, to lag very far behind the lead of the people, but aeronautics has developed so quickly that the Government of this country has seen fit to suppose that much of the recent outcry has been of the "scareship" order. A meeting such as that held at the Mansion House was just of the kind required to give the proper note of serious import to the whole movement. The *Daily Mail* has suggested that more people might have been interested to hear what experts in aeronautical matters might have to say on the subject. That may or may not be so, but we venture to think that the real object of the meeting in question was somewhat removed from that underlying the regular meetings organised by existing aeronautical bodies.

It is not a matter of great consequence if eminent men like Admiral Sir Edward Seymour, Admiral Sir John Hopkins, His Grace the Duke of Argyll, Lord Kinnaird, Sir Edward Beauchamp, and other distinguished speakers admit their comparative ignorance of the technique of the subject. On the contrary, we believe it lends weight to their attitude, for those who addressed the audience at the Mansion House on Monday are not in the habit of saying things they do not mean, and least would they have spoken at the Mansion House meeting to such resolutions as were then passed had they not been in every way sincere on the broad issues.

One of the things that the meeting very properly avoided was any discussion of the relative merits in types of aircraft. It was convened so that the citizens of London might have an opportunity of publicly voicing their desire to have England supreme in the air irrespective of the cost. It was an opportunity for them to say that they recognise the broad significance of the phenomenally rapid progress achieved in aeronautics, and are willing to bear the cost of England playing her proper part as a great power.

There were those among the speakers who frankly admitted that they wished flying machines had never come to pass, but in the same breath they acknowledged themselves at one with a broad-minded and progressive age by adding that, since they had come, England must lead in the science of building and the art of using them.

Sir Edward Seymour, who proposed the first resolution, to the effect that Great Britain should forthwith take the necessary steps to achieve complete security against attack in the air, admitted that this was not purely a naval question, but rather a national question with which he was dealing, yet, as he said, it is proper for a naval officer to bring it forward, seeing how much the security of Great Britain is bound up with the sea.

"Because we are an island, aviation is more important to us than to Continental nations," said Sir Edward, and while opinions might differ as to the magnitude of the tasks that could be performed by aircraft, the fact remains that aeroplanes and airships could visit this country from abroad, and for that reason alone "we ought to be as prepared as possible to resist them."

Sir John Hopkins, who seconded the first resolution, expressed himself as being cordially in agreement with Sir Edward Seymour, and gave it as his opinion that we

had neglected that preparation too long. The Duke of Argyll made a good point when he remarked that the interests of the City of London are mainly of a business character, and that businesses formed very good targets for aircraft. Lord Kinnaird said that he had expected previous speakers to dwell more particularly on the naval aspects of the situation, and, therefore, wished for his part to urge the continued recognition of the importance of aeronautics in the Army. It was the Duke of Argyll and Lord Kinnaird who proposed and seconded the second resolution urging that Great Britain should have an ample margin of air supremacy as against the next strongest naval power.

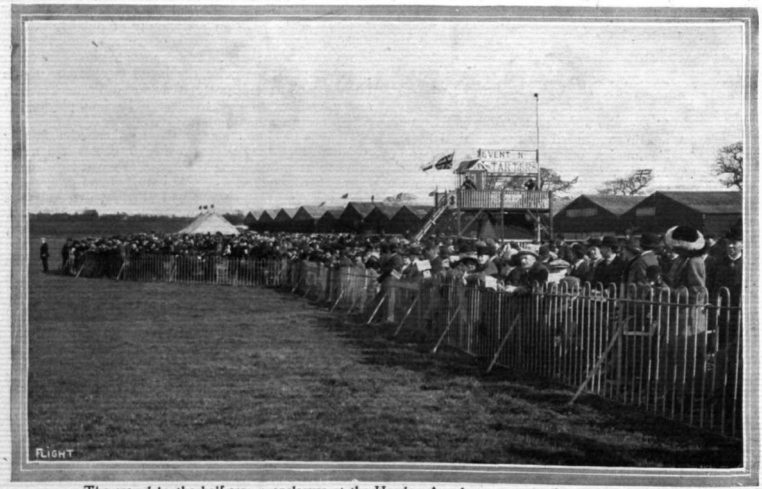
The third resolution, to the effect that copies of the preceding resolutions should be forwarded to the Government, with an assurance that any steps taken by the Government in the directions indicated would receive the warm approval of the citizens, was proposed by Sir Edward Beauchamp, Chairman of Lloyd's. Like the Lord Mayor, Sir Edward Beauchamp emphasised the fact that the purpose of the meeting was to strengthen the hands of the Government by forming public opinion in favour of adequate aerial armament. He referred to the accusation of "scaremongery" that had occasionally been levelled against the enthusiasm of those in the van of this work, and remarked "Scares and panics arise when the people are unprepared for the dangers from which they come." Sir Edward Beauchamp's resolution was seconded by the Lord Mayor of Belfast, Mr. R. J. McMordie.

Having thus dealt with the primary object for which the meeting was convened, there remained a fourth resolution for the purpose of creating machinery for the continuation of the propaganda. Public meetings in general are far too apt to represent spontaneous explosions of enthusiasm aimed in no particular direction and originating no line for future progress. Considerable credit in the matter of the Mansion House meeting is, therefore, due to the Navy League for the thoughtful way in which the resolutions were planned.

By the fourth resolution, which was proposed by Mr. Stanley Machin and seconded by Captain Acton Blake, the seed of a new organisation was sown, and if the National Aeronautical Defence Association fulfils the objects of those who have their hearts in its formation, it should accomplish much for the good of aeronautics in this country. There can be no doubt whatever that there is room for an energetic association for the purpose of forming public opinion and enlisting public sympathy with the science and art of flight. An organisation having these broad objects in view sets out on a difficult task, and is unlikely to progress far along the road without very strong support in the first instance.

The great stumbling-block is the question of finance, and in this matter there is, in our opinion, one thing absolutely essential to the success of any such enterprise. This is, that money collected by the Association shall not be spent on pet schemes spontaneously originated round the Committee table. Organisations (like the Royal Aero Club and the Aeronautical Society) already exist that cover a great deal of the ground on which money might usefully be spent in the interests of this country, and those who subscribe to the National Aeronautical Defence Association ought to be given every assurance that its funds will be held in proper trust and spent without prejudice.

The Navy League itself has set an excellent example in this matter by its mode of conduct in respect to its Aerial Defence Committee, and we sincerely hope that Mr. P. J. Hannon, the most energetic Secretary of the Navy League, will be able to find the time to look after the interests of the new Society.



The crowd in the half-crown enclosure at the Hendon Aerodrome, as seen from the aerodrome.

MEN OF MOMENT IN THE WORLD OF FLIGHT.

Pilot-Constructor.

MR. W. H. EWEN—"The Flying Scot"—who took his *brevet* (No. 63) in February, 1911, the third time he was on the Blériot; established his School at the Lanark Aerodrome in May, 1911, and at Hendon in December, 1911. He introduced the Caudron commercially into England in April, 1912. He holds high rank amongst pilot-aviators, and in 1911 flew from Portobello to Fife and back, and from Lanark to Edinburgh across the Pentland Hills on a 28-h.p. Dep. monoplane.

THE DEP. HYDRO-MONOPLANE.

AT the time of the last Aero Show at Olympia we gave a short description of the hydro-monoplane exhibited by the British Deperdussin Aeroplane Co., Ltd. Since then this machine has been put through an extended series of trials over the Blackwater, near Osea Island and has, we understand, proved very successful.

One of the most interesting features of this machine is the immensely strong wing-bracing, effected by an understructure of steel tubing. It will be remembered that the Etrich monoplane, flown by Lieut. Bier in the Circuit of Britain, had a somewhat similar system of bracing, but the girder of the Etrich machine only partly supplanted the ordinary triangulation bracing, whereas in the "Seagull," as this latest Dep. hydro-monoplane has been named, this structure has been made of sufficient depth to do away with all overhead bracing.

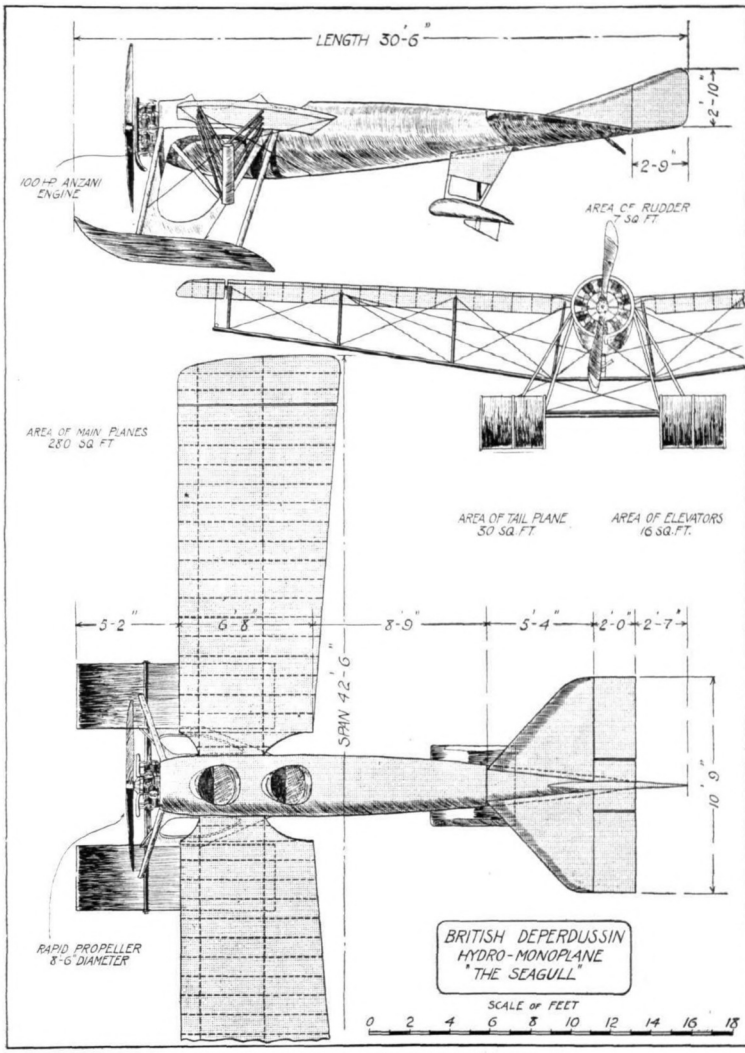
"Flight" Copyright.

View of the front floats and mounting of the "Seagull."

One objection which might be urged against this system of construction is that it would appear to offer head resistance, but the designers claim that it offers no more head resistance than the usual wire bracing, which, as is well known, vibrates considerably, when the machine is flying, and the fact that this machine flies at about 65 miles per hour would seem to indicate that their claim is justified. This method of wing bracing certainly has several advantages, for it gives a structure of almost equal strength to that obtained in biplanes, and greatly minimises the compression in the spars.

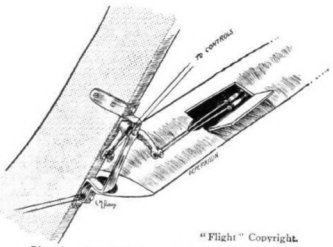
In Deperdussin box (aircraft ground)

The naval Deperdussin waterplane, the "Seagull," as seen on the water from behind.



THE "SEAGULL."—Plan, side and front elevation to scale.

It will be easily understood, that with this method of wing construction there are several difficulties which militate against the use of the warping system of control, and these have been overcome by fitting *ailerons* similar to those employed on some of the earlier Blériot monoplanes, and later on the Goupy biplanes, to the wing tips. They have been found to work quite well, and this method does away with the weakening of the wing through constant deformation.



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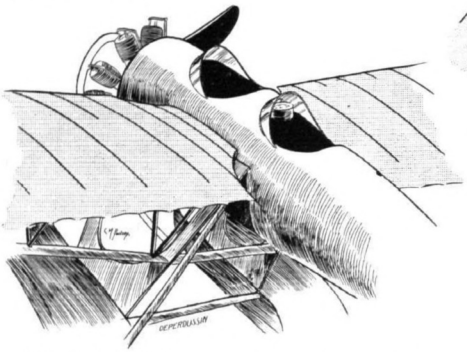
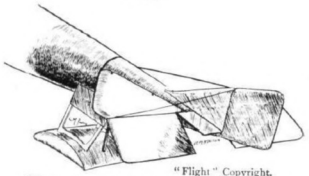
Sketch showing how the movement of the wing-tips is geared up by means of a bell-crank, and the inspection door in the streamline casing.





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Three-quarter back view of the *Empennage*.

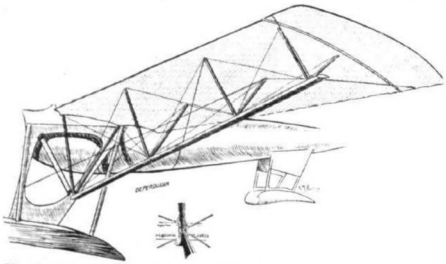
The *fuselage* is of the *monocoque* type and is very interesting, for it is constructed of wood veneer without any *longerons*, struts and cross-members or diagonal wiring of any kind. It is built in two halves, each half being built on formers, from narrow strips of tulip wood. Three layers of this wood are used, the strips of the two first layers running at right angles to each other. The different layers are glued together and the whole covered with two layers of strong fabric.

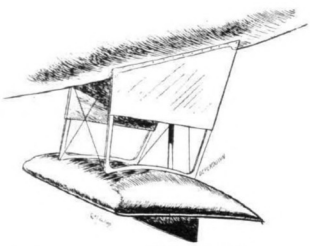
At the rear of the *fuselage* is carried the *empennage*, of very neat design. The tail plane—cambered top and bottom, and set at a positive angle of incidence—is secured to the *fuselage* by steel bands passing underneath the body.

The elevators are pivoted around a steel tube running along the trailing edge of the tail plane, and the levers operating them are accommodated inside the body and the tail fin respectively. The control wires to the rudder are enclosed in a similar way, so that in no instance are the control wires exposed to the effect of the air or sea water.

When at rest the tail is supported by a float situated some six feet in front of the rudder post. This float is built of 3-ply wood, covered with fabric, and painted with boat varnish, and is of such a section that it will support its own weight in flight.

Two main floats support the machine on the water, but a similar machine, which is now going through the works, will be equipped with one large central float, as the designers contend that a single float has several advantages, especially in a rough sea, and they have fitted this machine with two floats for experimental purposes only. Three-ply wood is the material used in the construction of the floats, which are connected to the body by two





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Sketch of the wing bracing on the "Seagull." Inset is shown the method of attaching bracing wires. On the right is the tail float.

"Flight" Copyright.

The "Seagull" just about to rise from the water.

U-shaped frames of multi-ply wood. The floats are flat-bottomed, that is to say they have no step, the designers maintaining that the wings of a hydro-aeroplane should perform the functions of steps in raising the machine when sufficient speed is acquired. Inside the body, very comfortable accommodation is provided for the pilot and observer, the latter occupying the front seat. From here he has an excellent view of the sea beneath, as he is situated well forward in the body, and the wings have been cut away near the body from the leading edge to the front spar. In front of him is a starting handle, by means of which he can start the engine without leaving his seat.

Just behind the engine-plate and inside the body is a service tank, divided longitudinally by a partition, the two compartments containing oil and petrol respectively. A small pump, driven by a miniature propeller situated outside the body, and working in the slip-stream of the propeller, feeds petrol to the service tank from a main tank inside the body under the pilot's cockpit. By means of gauges on the Elliott instrument-board, the observer is always able to ascertain if petrol is being pumped up regularly. Should one of these gauges become broken, they can be instantly put out of action, so as to avoid an escape of petrol. Filling up the main tank is done from the outside through a filler in the side of the *fuselage*, so that there is no possible danger of spilling any petrol inside the body, where it might be accidentally ignited.

Underneath the mica wind-screen in front of the pilot, and almost level with his eyes, is a compass, made by Kelvin and James White, Ltd. The pilot does not watch the compass card itself, but its reflection in a glass prism, which shows an enlarged view of a small part of the card.

Control of the machine is effected in the usual Dep. fashion by means of a hand wheel mounted on an inverted ⊔ shaped frame. From a drum on the hand wheel cables run to one arm of the bell-cranks situated on the chassis members. From the other arm of the bell-cranks cables pass through the streamline casing on the boom of the wing structure, around pulleys on the outer end of the boom and to the trailing edge of the *aileron*. Another cable, running from the leading edge of an *aileron* around pulleys on the boom and across to the other wing, interconnects the two *ailerons* so that when the angle of incidence is increased on one, it is correspondingly decreased on the other. The *ailerons* are pivoted around a steel tube which is secured inside the wings, roughly half-way between the two main spars.

A 100-h.p. 10-cyl. Anzani engine is bolted on to a steel capping plate on the nose of the machine. It drives directly a Rapid propeller of 8 ft. 6 ins. diameter.

ROYAL FLYING CORPS (MILITARY WING).

WAR OFFICE Summary of work for week ending May 2nd :—

No. 1 (Airship) Squadron. Farnborough.—The "Beta" was out daily throughout the week making short training flights and several long reconnaissances. "Delta" was out on the 30th and 2nd, testing alterations to the rigging.

No. 2 Squadron. Montrose.—On the 24th, 28th and 29th a considerable amount of flying took place on B.E.'s and M. Farmans. Various long reconnaissances were made over the surrounding country, the total mileage during the week amounting to 900 miles.

No. 3 Squadron. Larkhill.—On the 29th, 30th, 1st and 2nd all the pilots, officers and non-commissioned officers were flying on B.Es. and M. and H. Farmans. During the week some useful experiments of various kinds were carried out.

No. 4 Squadron. Farnborough.—On the 25th, 26th, 28th, 29th, 30th, and 1st, all the machines were up, and numerous long reconnaissances were made. Several new officers joined the Squadron from the Central Flying School.

Flying Depôt. Farnborough.—During the week the Flying Depôt carried out tests with various experiments they have in hand. The workshops are very busy.

TO THE SUNNY SOUTH.

THE RAINEY SUNSHINE.

"I WANT you to go to Eastbourne to-morrow, and report on the Eastbourne Aviation Company's flying ground. I believe there is quite a lot going on there." Thus the chief to me.

It was raining in London when I set off the next morning, but in journalism when you are told to go, you go.

I went down in a carriage designated "1st compo." I can quite believe it. Half way down the sun came out, and I began to feel better. The first thing I noticed was that the taxis down there charge one shilling a mile, but the driver was very polite, and it was worth it. I found out afterwards that the aerodrome people are good friends to them. As illustration: One of the pupils had the misfortune to cut his hand rather badly on the broken window of a taxi in which he was riding at night, and it was necessary to find a doctor. Most people would have claimed damages, but they don't do that at Eastbourne—oh no! Whilst the hand was being dressed, the taxi stood outside and ticked up sixteen shillings, which was paid. Taxi drivers like the aerodrome people. So would you.

On arriving, I found quite a little colony fitted up in every way that is nice. Since pupils were first started about July of last year, some fourteen or sixteen have taken their *brevets*, whilst there are at the present time six or eight learning, and a more jolly set of fellows I have never met. I don't know if it is the air down there, but it seems impossible not to be full of good spirits.

But the "sun" at Eastbourne round which all the other planets revolve is, without a doubt, Rainey. If anybody could be in the company of Mr. Rainey for ten minutes without feeling it is good to be alive, he must be in a bad way. He is a sailor, and his initials are T. A., and when you add the R. for the surname you have T.A.R., which he is, every inch of him—just the sort of "tar" that would fight a ship through anything at any odds, and laugh in the face of the gale.

AFTER WORK REST A WHILE.—On the right Mr. Fowler; left Mr. Rainey.

He has only been at Eastbourne a few weeks, and, to use his own expression, he has had "a"—well a real good time. When I tell you that on his second day he made two flights in the Bristol quite alone, you will know him better. He's just the sort of "sport" that would tumble in "any old how" and do something really wonderful for a beginner, tumbling out smiling as ever, and saying "There you are, Sonny, that's the way to make the old 'bus stand still while you have a look round; gee, that WAS all right." He is absolutely irrepressible. The history of his first flights I got from Mr. Fowler, chief instructor, they are worth recording.

"The first evening I took him up for two flights behind me, and he seemed to take to it like a duck to water. Next day I took him up again for a couple of flights, and explained the controls to him. On the same afternoon I gave him five or six flights in the pilot's seat, he having the control of the machine, with, of course, myself ready to take it if necessary. He made perfect landings each time, and I could see he was all right, so I let him take the machine up by himself.

"He flew a couple of circuits, and prepared to land, but suddenly found he was too high, so he did a tremendous *vol plané* (not so bad for a one-day pupil), and landed all right, but I thought he would run into the fence through overshooting the mark. He stopped, by a bit of luck, just a few feet short. I told him to leave *vol planés* alone for a bit, and not try too much, and explained to him that he must keep lower when about to land, and come down gently, and sent him up again to do it that way.

"My last words to him when getting off were to keep lower, but he came back even higher than before. Suddenly it appeared to dawn on him that he was again too high, and acting on my instructions not to *vol plané*, he didn't know quite what to do, so he shut off while he thought it over. My heart stood still for a moment; but he switched on again, and went full-speed

A good motto for an aviation school.

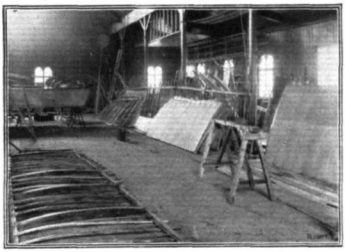
Two of the sheds, showing the method of opening by pulleys.

Covering the planes.

straight for the public-house! I thought, 'My word, here's a nice smash!' But evidently he did not require any refreshment, for he did a tremendous right-hand turn, banking over to about forty-five degrees, missing the inn apparently by inches, and flew straight at the gasworks. Another tremendous right-hand turn (I found afterwards, from a man at the gasworks, that he missed the gas-holder by about two feet), and he still lived!

"Yet another right-hand turn, and he was back over the aerodrome, but through not landing squarely broke a skid and carried away a couple of skid-struts—but still smiling. 'How's that?' was his comment. 'Thought I was going to break up their old gasworks.'"

Mr. Fowler does not believe in continual rolling tactics for pupils, though he does not, of course, put all pupils through at this speed (Mr. Rainey being, so to



Wing making.

speak, an unknown quantity), but no time is wasted when making them efficient.

A run to the station in his car, with all the aerodrome turning out to see me off and wanting to lend a hand to tuck me in—all helping to push the car along till the speed got too much for them. The last I saw of "Sunshine Rainey" was as one of a group in the middle of the road waving caps. And so back to dear old smoky London. It was still raining when I got out at Victoria, and no doubt Rainey was still smiling.

* * * *

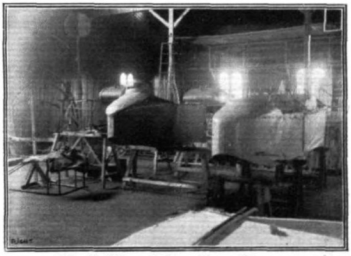
It has just occurred to me that the business side of my visit, which was to tell something about the aerodrome and its work, has been somewhat eclipsed by Rainey. So now to fill up this blank.

The main building, now a workshop, was once a church, and the late vestry is turned into offices and retiring rooms. There is Mr. Fowler's office; a pupils' dressing-room fitted with cupboards with lock and key, one for each pupil; and a general sitting-room with lots of easy-chairs that ARE easy, writing materials and all "home comforts." The mechanics are not forgotten; they having a nice mess-room all to themselves, in which the things that count have not been overlooked.

Some half-dozen hangars, with two more building on the beach for the coming water-planes, form the housing accommodation for the machines, of which at the moment they have five in use: a Bristol biplane, three Blériots and a new proprietary monoplane, just finished. Three Henry Farman waterplanes are in course of construction, ready for the coming season, on the beach, and should prove a big attraction, besides having a beneficial influence on the profits of this enterprising company. The

The joiner's shop.

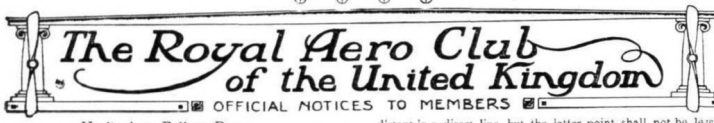
aerodrome itself is of immense size, covering some hundreds of acres. Unfortunately it is so placed that it is not very suitable for a "gate" flying ground, as it can be seen from all round. This does not matter much, however, as the idea of the company is not so much one of public flying as the turning out of good pilots and, more than all, the building of machines, for which they are so admirably equipped. It is surprising, when one buys a church, what a lot of material there is that can be made use of, and they know how to do it at Eastbourne. Enough piping was found to enable them to fit the place throughout with acetylene lighting, though they are just about to instal the electric light with their



The building of three Henry Farmans.

own generating plant. Naturally, in a church there were also plenty of seats, which come in very handy placed out in the grounds for visitors. Even a flight of stairs is being made use of to form an easy way down to the sheds from the road. Inside the building I noticed, still painted up in large letters partly covered by a huge rack of propellers, this motto or text: "Come, learn!"—which struck me as being a most appropriate motto for an aviation school. The way the doors of the hangars are opened is quite the best that I have seen. Each is hinged at the top, and a rope goes to a beam, part of a superstructure in front, and so to a post at each end. Two men, pulling simultaneously, can open the whole row of doors with the greatest ease, although there is no counterbalance. There is no patent in this device, and those building hangars might do worse than give it a trial.

By way of summary: A splendid aerodrome, plenty of machines, a first-class instructor whose heart is in his work, every convenience, and jolly companions is my verdict. I think learning to fly is indeed a pleasure at Eastbourne. H. E. S.



Hurlingham Balloon Races.

THE Balloon Committee met on Tuesday, May 6th, 1913. Present: Mr. C. F. Pollock (in the Chair), Mr. Griffith Brewer, Mr. A. Mortimer Singer, Mr. R. W. Wallace, K.C., and the Secretary.

The following Balloon Races were fixed to take place at the Hurlingham Club, Fulham, S.W.:—

Saturday, May 31st	Hare and Hounds Race for cup presented by Mr. John D. Dunville.
Saturday, June 28th	Long-Distance Race for cup presented by Mr. A. Mortimer Singer.
Saturday, July 12th	Challenge Cup presented by Mr. F. Hedges Butler.

The Committee passed a unanimous vote of thanks to Mr. John D. Dunville and Mr. A. Mortimer Singer for kindly presenting Cups for the Balloon Races.

Members wishing to compete in these races are requested to notify the Secretary.

Members are reminded that on the above dates they will be admitted free to the Hurlingham Club on presentation of their Royal Aero Club Membership Cards.

Public Safety and Accidents Investigation Committee.

A meeting of the Public Safety and Accidents Investigation Committee was held on Monday, the 5th inst., at 8.30 p.m., at the Royal Automobile Club, Pall Mall, S.W. (by kind permission), when there were present:—Col. H. C. L. Holden, C.B., F.R.S., in the Chair, Mr. A. E. Berriman, Eng.-Lieut. E. F. Briggs, R.N., Mr. G. B. Cockburn, Major J. D. B. Fulton, R.F.A., Mr. J. H. Ledeboer, Mr. F. K. McClean, Mr. Alec Ogilvie, Mr. Mervyn O'Gorman, Major-Gen. R. M. Ruck, C.B., R.E., Com. C. R. Samson, R.N., and the Secretary.

On the motion of Major-General Ruck, seconded by Mr. M. O'Gorman, **Col. H. C. L. Holden** was unanimously elected **Chairman** of the Committee for the year.

Fatal Accident to Lieut. L. C. Rogers Harrison at Farnborough.—Mr. S. F. Cody attended at the invitation of the Committee, and gave evidence on various points. The Committee proceeded to draft its report, which will be finally considered on May 19th, 1913.

Mortimer Singer £500 Prize.

Intending competitors are reminded that this competition is now open and will close on October 31st, 1913.

An entry has been made by the Sopwith Aviation Company.

The following are the rules:—

THE MORTIMER SINGER £500 PRIZE.

(*Under the Competition Rules of the Royal Aero Club.*)

Mr. A. Mortimer Singer has presented to the Royal Aero Club a sum of £500 for an aviation competition on British machines flown by British subjects.

The following are the rules governing the competition:—

1. Both the entrant and pilot must be British subjects.

2. The complete machine, and all its parts, must have been entirely constructed within the British Empire, but this provision shall not be held to apply to raw material.

3. The prize shall go to the entrant.

4. The competition shall be in the first instance open from May 1st until October 31st, 1913, both dates inclusive.

5. The winner shall be the entrant of the aeroplane which shall first accomplish the following series of flights, on a course from a point on the land to a point out at sea not less than five miles distant in a direct line, but the latter point shall not be less than one mile from any shore.

The competitor shall make six out and home flights between the two points, alighting on arrival at each point, coming to rest and remaining until the observer gives the signal to re-ascend.

6. An altitude of at least 750 ft. must be attained on each journey from point to point, and on one occasion during the test an altitude of 1,500 ft. must be reached.

7. A passenger must be carried throughout the flights, and the combined weight of competitor and passenger must be not less than 264 lbs., any deficiency in weight being made up by means of ballast. Pilots or (and) passengers may be changed during the test.

8. Any landing contrivance may be used, but it must form part of the design of the aeroplane and not be merely a temporary or makeshift addition.

9. All oil, fuel and spare parts required must have been carried on the aeroplane from the start of the test.

10. The pilot and passenger will not be permitted to avail themselves of any other person's assistance either for starting, repairs, or other purpose throughout the test.

11. The total duration of the series of flights shall not exceed five hours; and shall take place between sunrise and sunset.

12. Competitors may select their own course, which must be approved by the Royal Aero Club before any flights are made, in this competition.

13. The flights must be observed at each point by the officials appointed by the Royal Aero Club.

14. Entries must be made in writing to the Royal Aero Club seven days prior to any attempt being made, and must be accompanied by a fee of £10, half of which will be refunded to the competitor should the Royal Aero Club decide that a genuine attempt has been made. A competitor must further deposit a sum of £10 on account of expenses which may be incurred by the Club. Any balance not so expended will be refunded.

The entrant must provide suitable accommodation for the observer, and if necessary a mark at the sea point.

15. Should any questions arise at any time after the date of entry, as to whether a competitor has properly fulfilled the above conditions, or should any other question arise in relation to them, the decision of the Royal Aero Club shall be final and without appeal.

16. A competitor by entering, waives any right of action against the Royal Aero Club or Mr. A. Mortimer Singer for any damages sustained by him in consequence of any act or omission on the part of the officials of the Royal Aero Club or Mr. A. Mortimer Singer, or their representatives or servants, or any fellow competitor.

17. The aeroplane shall at all times be at the risk in all respects of the competitor, who shall be deemed by entry to agree to waive all claim for injury either to himself or his aeroplane, or his employees or workmen, and to assume all liability for damage to third parties or their property, and to indemnify the Royal Aero Club and Mr. A. Mortimer Singer in respect thereof.

18. The Royal Aero Club reserves to itself the right to add, to amend, or to omit any of these rules should it think fit.

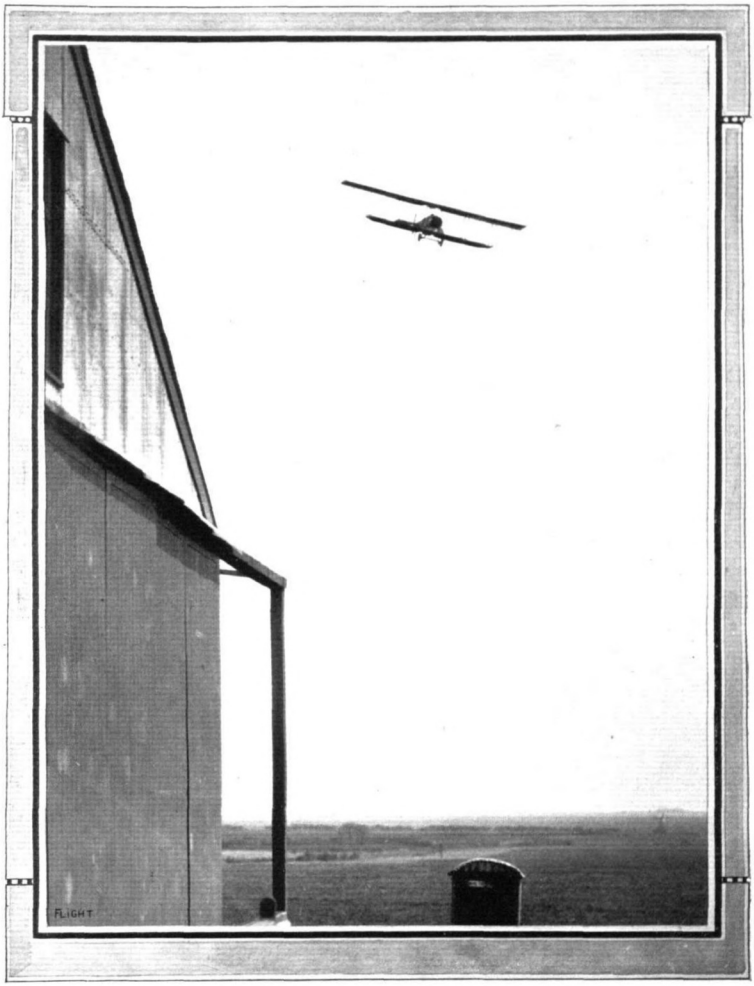
Model Section, Aero Exhibition.

The Model Aero Motors sent in for competition under Section 5, have been tested, but as none fulfilled the conditions, no award will be made.

Closing of Club Rooms and Offices.

Members are informed that the Club Rooms and Offices will be closed to-day, Saturday, and Monday next for spring cleaning.

166, Piccadilly. HAROLD E. PERRIN, Secretary.



Commander Samson flying a Short biplane at Eastchurch.

THE MANSION HOUSE MEETING.

GREAT success attended the meeting held, without regard to party, on Monday afternoon in the Egyptian Hall of the Mansion House, to form, at the suggestion of the Aerial Defence Committee of the Navy League, a new organisation, to be known as the "National Aeronautical Defence Association." The Lord Mayor presided, and was attended by the Sheriffs. Among those present in the large gathering, which was remarkable for the influential character of its platform, were the Duke of Argyll, Lord Blyth, Lord Barrymore, Lord Bessborough, Lord Kinnaird, the Earl of Kinnoull, the Earl of Leicester, Lord Lamington, Lord Montagu of Beaulieu, Viscount Midleton, Lord St. Audries, Lord Willoughby de Broke, Admiral of the Fleet Sir Edward Seymour, O.M., General Arbuthnot, Admiral Adair, Sir G. Armstrong, Mr. W. W. Ashley, M.P., Major B. Baden-Powell, Mr. C. A. M. Barlow, M.P., the Lord Mayor of Belast (Mr. R. J. McMordie, M.P.), Sir Edward Beauchamp, M.P. (Chairman of Lloyd's), Mr Reginald Blair, M.P., Captain Acton Blake (Deputy Master of Trinity House), Mr. H. F. Barrie, M.P., Mr. A. C. Beck, M.P., Mr. Alan H. Burgoyne, M.P., Sir Henry Cunningham, Colonel Clifford, Sir Algernon Firth (President of Associated Chambers of Commerce), Captain W. V. Faber, M.P., Admiral the Hon. Sir E. F. Fremantle, Mr. G. Glazebrook, M.P., Colonel Gretton, M.P., Admiral Sir John Hopkins, Major J. A. Hope, M.P., Colonel H. C. L. Holden, Professor A. K. Huntington, Vice-Admiral S. A. Johnston, Mr. Joynson Hicks, M.P., Sir Henry Kimber, M.P., Mr. J. F. Mason, M.P., Colonel H. S. Massy, Mr. Stanley Machin (Vice-President London Chamber of Commerce), Mr. W. A. Orde Powlett, M.P., Mr. Almeric Paget, M.P., Mr. H. Pike-Pease, M.P., Mr. E. G. Pretyman, M.P., Lieut.-General Sir R. Pole-Carew, M.P., Mr. Lionel de Rothschild, M.P., Sir J. D. Rees, M.P., Mr. George Roffey (Chairman of the Corn Exchange), Mr. G. Stewart, M.P., Mr. V. B. Tritton, Colonel Templer, Mr. Roger Wallace, K.C., Major Dalrymple White, M.P., Mr. Arnold White, Lieut.-Colonel Welby, Captain Windham, Colonel C. E. Yate, M.P., and the Mayors of St. Pancras, Westminster, Kensington, Poplar, Lewisham, Finsbury, Lambeth, Stepney, and Camberwell. And the Dowager Lady O'Hagan and Mrs. Watt Smyth, representing the Women's Aerial League.

The Lord Mayor said that meeting was one of the most important gatherings that had ever been held in the Mansion House, and would have been ten times as large if space had permitted. While it was impossible to gauge the potentialities of the new science of aviation, sufficient was known to demonstrate that it was destined to play an important part in the defence of the country as an accessory and adjunct to the sea and land forces. It was impossible to decide on the form of aircraft best suited to the needs of the country until after exhaustive experiments, such as those now being conducted by the Royal Flying Corps. The Prime Minister said in the House of Commons on April 24th: "The whole matter is receiving the most careful attention by a committee of the best experts in the country." They gladly welcomed that statement, and they recognised that in these matters, as in trade and commerce, we should let our opponents know as little as possible as to what we were doing. One object of that meeting was to strengthen the hands of the Government by letting it be known that the citizens of London desired that we should take and maintain the lead in aviation, so that the blessings of peace might be maintained, and that in the attainment of that object in view they were willing to make the necessary pecuniary sacrifices. The other object of the meeting was to educate public opinion by promoting practical demonstrations of aviation and by other means. He was confident that the result of the meeting would be of far-reaching importance by reason of the distinguished speakers who would move and support the resolutions, and certainly not less by the fact that the meeting was held at the Mansion House, the most cherished and justly deserved tradition of which was that party politics, sectarianism, and questions of race had never found a place there.

The letters of apology, the Lord Mayor stated, numbered 3,700, and he did not propose, therefore, to read them. All were heartily in sympathy with the movement.

Admiral E. Seymour proposed that:—

"In the opinion of this non-political and non-party meeting of the citizens of London, aerial supremacy has now become so important a factor in warfare as to render it absolutely necessary that Great Britain should forthwith take the necessary steps to achieve complete security against attack in the air."

He said it appeared to him that that question, as the Lord Mayor had said, only required to be stated for the public to see its importance. It was not a naval subject, but a national one. Naval officers had done their best to bring it forward, and when they suggested an aerial fleet, it meant that they did not think the Navy was all-sufficient. It was an unhappy historical fact that this country did not often prepare for war until war had broken out. He believed that in the future the war would be sudden and short. In the first place, the means of communication had so much improved, in the second place the expense was enormous, and in the third place the machinery for the destruction of life was much greater than ever before. Aerostation was still in its infancy. He had been about seven years ago one of a small committee which offered a prize for a flight of 100 yards. It was not yet six years since the first mile was flown. Now the art was progressing by leaps and bounds, and though he thought they were still far from the day when 100,000 men with guns, horses, and stores could be brought across the Channel in the air, still, much could be done in dropping explosives on ships, dockyards, magazines, and in the towns. Other nations were spending more than we were, and we ought to provide fully for the Navy and the Army "the third arm," as it had well been called.

Admiral Sir John Hopkins seconded. He wished Britannia to have command of the air as well as the sea. We had neglected this matter and let other nations steal a march on us. Our friends across the water had got ahead of us, and would try to keep there. There was nothing to prevent us from beating them, however, for we had the science, the engineering skill, and the workman—if they were encouraged. There must be no question of money; they were promised £500,000, and should have double.

The resolution was carried unanimously.

The Duke of Argyll moved that:—

"In view of the rapid development of aircraft for defence, and the large sums provided by foreign Governments for the construction of airships, aeroplanes, and auxiliary equipment, the time has come when this country must undertake such measures of preparation as will tend at the earliest possible moment to give Great Britain an ample margin of air supremacy in airships and aeroplanes as against the next strongest naval power."

He said he took it that the promoters of that meeting were men of business instincts. Speaking to business men, he thought the first thing to be noted was that money was needed for certain special objects in regard to aviation. After the experience of the Aero Club, which was started eight or nine years ago, they were tolerably certain that before long there would be a considerable number of aeroplanes in the country. The progress with regard to aeroplanes had not been unsatisfactory, but with regard to airships or dirigibles they must, he was sorry to say, admit the exact contrary, and they must make a demand on the public to put their shoulders to the wheel to make provision for dirigibles, in which we were most lacking. That was, of course, a much more expensive matter. Dirigibles were far more costly than aeroplanes, though in respect of loss of life they were far less expensive. He did not believe the loss of life in pursuit of the science of aviation in Germany and France had been anything like that which we had suffered, and must suffer, from the prosecution of aeroplane flights. Therefore, when they asked their countrymen to build dirigibles, and above all sheds for the harbourage of dirigibles, they were making an expensive money demand. We must have aeroplanes in as large numbers as dirigibles; but we wished to call attention to the absolute necessity for going on with dirigibles, and especially with harbourage for dirigibles. There were two or three of these stations near London, but let them contrast that with what was being done abroad. They heard, for instance, that Leipsic had subscribed £10,000 for a shed to harbour dirigibles. That was a great example which our citizens might take heed of and follow, in view of the time when the contest for the supremacy of the air was—the battle for which must come—arrived. He was sure that all would like to know that whenever that battle did come we should have as good a chance in the blue air overhead as we had in the defence of our shores.

Lord Kinnaird, in seconding the motion, said that former speakers had dealt with the more purely naval aspects of the subject—that was to say, the strategical and tactical reasons for our possessing air supremacy as against any nation we might be at war with. The necessity for air supremacy was just as great from a military point of view as from a naval, whereas for scouting purposes it was clearly all important. This was the view taken by General Sir John French, General Smith-Dorrien and General Sir James Grierson, who had spoken in public during the last year to that effect, and called attention to the necessity of making a step forward in aviation. They had seen the figures giving comparisons between the number of airships and aeroplanes which had been provided by foreign governments and our own. It was abundantly clear that we were in a position of marked inferiority as compared with the strongest of our neighbours. The resolution which he was seconding asserted that we should have a margin of superiority as against the next strongest naval Power, and the reason for that was plain. We were

essentially a predominating naval Power, and any new factor tending to reduce our comparative naval strength as against the next strongest naval Power touched us very closely. Thus, it was obvious that if we were to retain our existing naval predominance, and if air supremacy was so important from a fighting point of view, we must also possess a certain margin of superiority in the air. It was for the authorities and the experts to say what amount of margin would meet the case, but it was evident that a great effort must be made in order to obtain any superiority at all within a reasonable period, more especially when we know that our neighbours would do all they could to frustrate our endeavours to make up for lost time. That meeting was entirely non-political, and their desire was to support the Government in their endeavours. Judging by the aerial expenditure of foreign Powers we must be prepared for a much heavier expenditure on our own side than appeared to be contemplated at present—such an expenditure, in fact, as any responsible Government would hesitate to incur unless they were assured that the general public were behind them. Hence the great importance of the movement they were now initiating. Government expenditure alone would not effect their object. It must be supplemented by public effort and public enthusiasm. It was not the first time, by any means, that this country had had a bad start, but had recovered its lost ground after it had found out the error of its ways. They must organise and all pull together. Fortunately we had in our Royal Flying Corps the nucleus of a splendid aerial force, but it must be very largely increased. We now possessed in this country much expert knowledge, plenty of inventive faculty, and not a few good builders and designers, not to mention many brave and skilful civilian pilots. The deficiencies were want of experience in building the largest types of airships and engines for our aircraft generally. It was almost impossible to conceive that English engineers, if they received proper encouragement, would not remedy the latter defect very rapidly. As regarded large airships, although we must have them, it was possible that they were not the last word in aerial attack, and they must hope that by judicious encouragement our designers and inventors would retrieve the position. But there was no time to be lost—the nation must start at once as further delay might invite attack.

Sir Edward Beauchamp, M.P., (chairman of Lloyd's), proposed:

"That copies of the foregoing resolutions be forwarded to His Majesty's Government with the request that these may receive their favourable consideration, and with the assurance that any steps they may take in the direction indicated will receive the warm approval of the citizens."

He said the meeting had not been called in hostility to the Government. It was intended to form the basis of a movement to stimulate public attention in order to strengthen the hands of the Government in dealing with this new situation, which seemed to be fraught with so much danger to the country. Apart altogether from their usefulness as scouts, it was admitted on all hands that these aircraft were a dangerous means of offence, which might constitute a grave menace to our battleships and dockyards, and to our defenceless magazines. The military position of our country had been altered to our disadvantage. He did not altogether blame the Government; all Governments had a tendency not to travel too far ahead of public opinion. He thought the Government would act more swiftly and determinedly if they had an impetus pushing them from behind. It would probably be said in some quarters that they were scaremongers. He respectfully submitted that scares and panics arose when people were not prepared for the dangers which caused them. They desired to remove all fear of panics or scares by preparing to meet our foes either on land, or on the sea, or in the air. This country had shown itself determined at any sacrifice or any cost to ensure its supremacy on the sea, and if it were necessary in order to maintain that supremacy that we should have these aircraft, then he felt certain that the meeting would send a message to the Government assuring them that the people of the country, led by the citizens of London, would support them in any effort they might make to deal with the new situation.

Mr. R. J. McMordie, M.P. (Lord Mayor of Belfast), seconded the motion, saying he thought the vast majority of the nation would be perfectly unanimous and enthusiastic in support of the views which had been expressed. They wanted to aim at a condition of things in which from the white cliffs of Dover to the granite coast of Aberdeen, and round even to the bleak basalt of County Antrim, we were absolutely safe. He believed the heart of the country was sound, and that the nation would be prepared to provide the money.

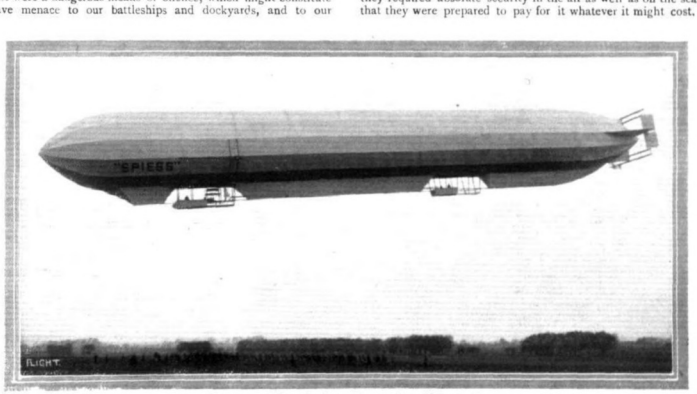
Lord Desborough, in supporting the resolution, said this movement opened out a great vista. Germany had subscribed voluntarily £360,000 for equipping an air fleet. Could not Great Britain do the same? If the thing was to be done, personally he thought it should be done on a large scale. They were convinced that they could raise an enormous sum, it might be for aeroplanes, dirigibles, or stations around the coast, and to encourage schools of flying. He thought it ought to be done in the way of assistance to the Government, acting in conjunction with the military and naval advisers of the Crown.

The resolution was carried.

Mr. Stanley Machin (Vice-President of the London Chamber of Commerce) moved:

"That in the opinion of this meeting the formation of a National Aeronautical Defence Association to arouse and educate public opinion on the questions affecting the aerial defence of the country should be inaugurated, and that this committee should be entirely non-party in character; and that the Lord Mayor, for the time being, be invited to preside over this committee and appoint trustees who will administer such funds as are raised, with the co-operation of approved organisations for its economical and proper expenditure."

He said they were present as a large body of commercial men, representing the greatest commercial city in the world, to say that they required absolute security in the air as well as on the sea, and that they were prepared to pay for it whatever it might cost. He



The new French dirigible airship, "Spiess."

questioned whether the battle for the supremacy of the air would ever come, but if they were not prepared to meet an enemy it was certain to come. The only security they had for peace was to be prepared for war. When Germany could set aside £7,000,000 for this work, France £1,500,000, and Russia £1,000,000—while we were only advocating a sum of £500,000—he thought it was right that the citizens should call attention to what was a great national danger. One of the great duties of that Association would be to see that questions of national defence were removed from the arena of party politics, and he was pleased to see that Lord Curzon had raised a powerful voice in the same direction.

Capt. Acton Blake (Deputy Master of Trinity House) seconded the motion, which was agreed to.

Draft Constitution.

The Aerial Defence Committee of the Navy League has proposed a draft constitution indicating the object and functions of the "National Aeronautical Defence Association." It provides that a society shall be formed on the broadest national basis, having for its main object the development of aircraft for the purposes of defence. The head office of the Association will be in London, and the Lord Mayor of London for the time being will be chairman of the organisation.

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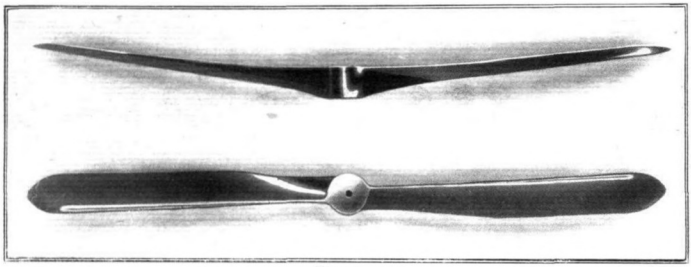
THE "GARUDA" PROPELLER.

AN interesting feature of last year's aviation events on the European continent, which has not—in my opinion—received due attention, has been the striking success of a novel type of propeller, the "Garuda," an invention of a young continental engineer. Not only have a number of big competitions been won by machines equipped with the new propeller, but the same holds good for a considerable proportion of the world records established recently. Reports of speed contests made last autumn show that a machine equipped with a 95-h.p. motor with "Garuda" propeller easily outdistanced a similar machine with a 125-h.p. motor and the ordinary type propeller. I believe these results justify a few remarks on the construction of this new invention.

The main feature consists in the extreme narrowness of the razor-shaped blades. This permits the use of a comparatively high pitch nearly cylindrical, the tips of the blades giving the air a deflection towards the centre of the current. One of the deficiencies of the ordinary propeller consists in the fact that the air current widens conically, thereby weakening the effect. The cross-sections of the "Garuda" propeller are of streamline form, blunt at the front edge, very sharp at the rear edge, in conformity with the new investigations of the Göttingen, Boston and Paris aerodynamic laboratories. It is well established to day that a correct streamline form causes the air to cling to the blade without breaking away and forming eddies, which in turn give rise to vibrations. Also, it is claimed that the extreme elasticity of the blades helps them to adjust themselves to all changes of wind velocity, squalls, backfires in the motor, &c., without causing a considerable change in thrust and speed of revolution. This has been confirmed by a large number of



Figs. 1 and 2.

without overworking the motor at the start, and while getting up speed. Thus the range of maximum efficiency is wider than with a broader blade, and the maximum speed higher. Also the ratio of effect to air resistance is more favourable in a narrow plane. The proportion is essentially the same as in birds' wings, where the highest efficiency is likewise attained by species with very narrow and long wings, *e.g.*, the albatross. A detailed study of these facts is found in Lanchester's "Aerodynamics" and numerous other publications. However, there is a limit to the pressure that can be exerted on the air by a plane or propeller blade without deformation, and this limit—with a proper margin of safety—is already reached in the ordinary broad propeller type. Here the inventor of the "Garuda" propeller has come forth with an ingenious solution. He sets the blades at a slight dihedral angle by bending the entire propeller into V-shape, the concave side being directed towards the front of the aeroplane (*see* Fig. 1). The centrifugal force, which at above a thousand revolutions reaches perfectly amazing magnitudes, tends to flatten out this angle to 180 degrees, thus causing a backward component of force to antagonize the forward component of the air pressure on the blades. The result is that practically the entire air pressure is taken off the material of the blade, which has to stand nothing but the centrifugal pull. Now it is well known that wood has a resistance to forces pulling in the direction of the fibre to equal that of high-grade steel, while it is comparatively weak as regards pressure, especially at an angle to the fibres. The "Garuda" propeller evidently utilises the material in a far more scientific way than previous types.

At high revolutions, the longitudinal section of a "Garuda" propeller, strong near the boss, and tapering, as it does, towards the tips, must present approximately the profile of a bird's wings, the blades forming a gentle curve, open towards the rear of the aeroplane. The current of air thrust backwards must thus be very pilots, who use the propeller. It was also strikingly illustrated during the tests for the Kaiser's Motor Competition, where most of the firms, including the winning Benz, used these propellers to run on their motors, as they were observed to cause the least strain to bearings and running parts.

Let me add a few words on the process of manufacture, as observed during a visit to the factory last fall. The wooden planks are glued together fan-shape, as usual, and then fastened down on a curved bed with numerous clamps to produce the V-shape. The wood fibres thus run right through from the boss to the tips without a break, in spite of the angular shape of the propeller. After drying several days, they are cut out on a sawing machine and worked out in the ordinary way by hand. They are finally polished a dark mahogany colour.

It is not astonishing, after the rapid conquest of the market by this new invention, that it was quickly taken up by the armies of Europe. The German army uses them by preference, as anyone could observe during the competitions last year. The Russian, Roumanian, Bulgarian and Turkish armies are using them. Lately they have also been adopted by the Zeppelin and Schütte-Lanz airships. The Parseval airships are also now to be equipped with these propellers, and the dirigible shortly to be delivered to the British Government will have them fitted. I quote these facts as an instance of how a thorough scientific study of aerodynamics must needs lead to quicker success—commercial and otherwise—than just going on copying the accepted thing. I have not been able to find out the exact factor of efficiency of the "Garuda" propeller, but I have gathered that the Aerodynamic Laboratory at Lindenberg, after exhaustive tests, has found them considerably superior to any other make tested, as could have been expected from the results in competitions. The "Garuda" propeller will shortly be manufactured in Great Britain.

W. F. E., New York.

QUESTIONS IN PARLIAMENT.

IN the House of Commons on the 30th ult., Mr. Burgoyne asked the Secretary for War what steps were being taken in regard to the offer of Messrs. Cain, of Liverpool, of two fully-equipped aeroplanes; whether he was prepared to countenance the formation of a volunteer flying corps; and if he would consider the possibility of asking the donors above mentioned to apply the gift to the furtherance of aviation in some other direction in the event of the present offer being unacceptable.

Col. Seely: This matter is now under consideration, and a reply will be sent in a few days, a copy of which I will send to the hon. gentleman. The reply to the last part of the question is in the affirmative.

Mr. King asked the Secretary for War if he would state the names of the members of the Parliamentary Aerial Defence Committee who induced the War Office to purchase for £18,000, part of which sum was contributed by wealthy patriotic persons, the Clement-Bayard airship which had lately been dismantled; whether, when the Clement-Bayard airship was dismantled, any of the parts were sold; if so, what sum was realised; and, if not, what value had been obtained for an airship which in 1910 was considered cheap at £18,000; whether the Secretary for War was aware that the Clement-Bayard airship purchased in October, 1910, was stated by its owner to have cost over £30,000 originally, but was soon after sold by him for £18,000; that this airship was declared by the Parliamentary Aerial Defence Committee to have proved her worth for military operations, but had proved of no military value whatsoever; and whether he would now publish all the correspondence about this airship which passed prior, and subsequent, to the purchase.

Col. Seely: There is no official record of the names of the Committee mentioned, of which the hon. and gallant member for Fareham Division was chairman. No parts of the airship have yet been sold. The engines are still available and were sent to the aircraft factory. Col. Seely added that no definite statement could be traced of the Parliamentary Aerial Defence Committee, and he could not publish the correspondence asked for.

Mr. Pike Pease: May I ask whether the right hon. gentleman considered the action of the War Office in regard to this airship was justified, and if the airship was fit for service why was it not used, and if it was not fit for service why was it purchased?

Col. Seely: The last part of the question is answered by some of the replies which I have just given. Of course, it is a fact that the envelope of this balloon leaked so badly that it would have been very costly to keep it inflated. No doubt mistakes were made, but we have not made half so many mistakes in this matter as our neighbours have made.

Mr. Pike Pease: May I ask whether the leakage was known to the War Office before the airship was purchased?

Col. Seely: It was before my time. There was a strong committee of this House engaged in this transaction, and I understand they thought the airship was serviceable. I suppose we thought it was when it was purchased. Mistakes must be made in a new matter of this kind. We have not made many large mistakes, and in the matter of airships we have been singularly successful.

Mr. King asked the Secretary for War whether he was aware that, of the 16 "Zeppelin" airships that had been built in Germany, only 6 remained, the rest having already proved obsolete, useless, or disastrous, and whether he would continue to resist the appeal made to him to build or buy airships similar to those which in other countries had been found far from satisfactory.

Mr. Churchill, who replied, said: The statement that, of 16 "Zeppelin" airships built in Germany only 6 remain, is correct. There is no intention of building or buying airships of types that have proved unsatisfactory in other countries.

Mr. King also asked the Secretary for War whether he was aware that a German airship was recently driven out of its course and forced to alight on a French champ de Mars, and that before this airship was released drawings, photographs, and descriptions were taken of five special inventions hitherto held to be the exclusive property of the German Government, and of which specifications were treated as military secrets, and whether he could state that due care would be taken to prevent British aircraft from alighting on foreign drill grounds, and being thus exposed to the scrutiny of foreign military authorities.

Col. Seely: The replies to the first and third parts of the question are in the affirmative. As regards the second part of the question I have no information to give.

Mr. Burgoyne asked the First Lord of the Admiralty how many airships are under construction or have been ordered for the British Navy; what are their types; and do they belong to the rigid, semi-rigid, or non-rigid category.

Mr. Churchill: Two non-rigid airships have been ordered, and are almost completed, and one has carried out successful preliminary flights. A joint naval and military airship is also under construction.

Mr. Burgoyne: Can the right hon. gentleman say how many aeroplanes and hydro-aeroplanes, respectively, are complete, building, or on order for the British Navy?

Mr. Churchill: I do not wish to add anything at present to the statement that I made in presenting the Navy Estimates.

On the 1st inst. Col. Seely informed Mr. Morrell that in the Military Wing of the Royal Flying Corps and at the Central Flying School, there are at present 83 officers and 692 of other ranks engaged in aviation, including five naval and marine officers and 23 naval ratings employed at the School. All this *personnel* is to some extent employed on the repair but not in the construction of machines. There are also 24 officers in the Reserve. Six officers and one non-commissioned officer have been killed whilst flying, and two officers and one man have been injured, but have recovered. There have been in addition a few minor accidents in connection with motor-driving and in the workshops.

On Tuesday, Mr. Churchill in reply to a question said that 62 officers and 275 men of the Navy are now employed in work connected with the naval air service. Two officers and one man had lost their lives and one officer had been injured.

On Tuesday, Mr. Hunt asked the First Lord of the Admiralty whether he would state the size of the two non-rigid airships on order for the Navy; when the contractors were bound to deliver them; whether they were being built in this country, and what was their estimated speed.

Mr. Macnamara (Secretary to the Admiralty), who replied, said: The capacities of these airships are 229,450 and 300,050 cubic feet. Their estimated speed is over 40 miles an hour. One is in this country, and will shortly undergo trials. The other is on its way here after having carried out satisfactory preliminary flight trials.

Mr. Hunt: Were they built in this country?

Mr. Macnamara: No, neither of them.

Mr. Amery: What arrangements are being made for the creation of adequate airship and waterplane bases at Gibraltar, Malta, Cyprus, Alexandria, Aden, Singapore, Hong Kong, Wei-hai-Wei, Simonstown, Jamaica, and Bermuda?

Mr. Macnamara: This question will be considered in due course.

Mr. Hunt asked the First Lord of the Admiralty whether one or more of our newest ships of the "Dreadnought" type had had, or were about to have, protection of any sort provided for them against high explosives discharged from airships.

Mr. Macnamara, who replied, said: I am advised that this matter should not be made more public than is absolutely necessary.

Mr. Hunt: Does the right hon. gentleman decline to tell us whether any provision has been made to guard against bombardment from the air?

Mr. Macnamara: I am always anxious to give the House every item of information I can, subject to the public interests.

Mr. Fell asked the Secretary for War if he would state how his department ascertained that the Clement-Bayard airship was slow in speed and on control compared with the War Office standards, seeing that the airship was never navigated by the Department, and by comparison with what airships belonging to the Department was the standard of speed and control fixed.

Col. Seely: The airship was inspected by War Department officials in Paris, and one officer came over in her from Paris. The ballooning experts of that time were doubtless well aware of the standard which should have been obtained in these respects from such an airship, and what was being done abroad.

Mr. Fell: Was the War Office ignorant of the fact before the Clement-Bayard airship was purchased that it had been previously used at the French manœuvres?

Col. Seely: The answer is in the negative.

Mr. Fell: Was any garage or shed at Aldershot capable of containing the Clement-Bayard airship at the time of its purchase by the War Office?

Col. Seely: The reply to this question is also in the negative.

Col. Burn asked the Secretary for War how much the Government gave for the Clement-Bayard airship; and did their technical advisers report favourably upon it.

Col. Seely: The War Office paid £12,500 for the airship. The Parliamentary Aerial Defence Committee urged the advisability of purchasing the airship, but there is no record of the advice tendered to the Army Council by any technical experts in the Government Service.

Mr. Amery asked the Secretary for War what provision there was for officers of His Majesty's Forces stationed in Ireland who might wish to learn to fly.

Col. Seely: No difference has hitherto been made between officers stationed in various parts of the Kingdom who desire to join the Royal Flying Corps. If it is found that there are special difficulties in the case of any command the matter shall be rectified.

Col. Seely added that the question of establishing a station for a unit of the Flying Corps in Ireland was now under consideration.

Mr. Amery also asked the Secretary for War, in view of the exceptional opportunities for flying afforded by India and South Africa, if he would state what provision was being made for the training in airmanship of His Majesty's Forces in those countries; whether in view of the importance of securing rapid transmission of information to Government headquarters in case of native risings, he would state what provision was being made for the supply of aeroplanes and for securing facilities for training in airmanship for his Majesty's Forces stationed in British East Africa, Nigeria, and other Crown Colonies; and whether he would state how many aeroplanes in the possession of the Imperial military authorities there were at present in India, South Africa, East Africa, West Africa, Egypt, the Sudan, Gibraltar, Malta, Cyprus, Aden, and the West Indies respectively; how many garages; and what staff for construction or repairs.

Col. Seely: The Royal Flying Corps has been in existence for only one year, and it has not been found possible, even supposing it to be desirable, to extend it to the places named in these questions.

ARMCHAIR REFLECTIONS.

By THE DREAMER.

Appreciation.

DURING the short time I have been writing these reflections, it has been my honour and pleasure to receive several letters of appreciation of what I have written. To be able to bring pleasure to others is, perhaps, one of the greatest gifts one can have in this world. If I have been able in my humble way to give pleasure to my readers, that pleasure has been returned with interest by each and every letter I have received.

There is one thing, however, that I never forget, which I want my readers also to try not to forget, and which I want to assure the friends and relatives of those that are gone is not forgotten, and that is that these notes could not be written at all were it not for those, past and present, who have made aviation what it is to-day.

The moon is not luminous in itself, but reflects only the light of the sun, and so any credit that is apparently due to myself, is but the reflection of a greater light from those who, sinking the individual, risk everything they hold dear, including life itself, for the betterment of a great science. Not a single one of the many valuable lives that have been sacrificed has been lost or wasted. Not lost—because their names are inscribed on a roll of honour that will live for ever. Not wasted—because not a pilot has gone from us but who has left behind a lesson fully appreciated and taken heed of by his brother aviators, and one more hitherto unknown element of danger has been removed.

So, phœnix-like, we rise from the ashes of the past, that glorious though solemn past, by which, and by which only, has it been possible to learn the lesson. To those that are gone, all honour. To those still with us, all honour. To those that have given of their best, and mourn a dear son, all honour. "Lives there a man with soul so dead." To anyone possessed of that almost undefinable something, called a soul, even of sorts, it is almost impossible to believe that any one could possibly watch flying without becoming filled with the glorious magnificence of it. It is this glorious magnificence, this all-absorbing poetic sense of power, this ability to, at will, remove oneself entirely outside this world, to be able to pass for the time being to a seeming other existence, to live here, and yet not be here, but able to, as it were, look on oneself and existence, and life and world from a distance, as a separate and exalted being—this, I say, is the glorious and exquisite magnificence of flying.

I am afraid there are those who visit our aerodromes to watch the flying to whom it is a wonderful thing to see a man take up a machine and fly in the air. If he should also be able to do a certain amount of "circus" work, they are still more pleased, and return home with the determination to come again and be amused. They have been entertained and will come again, but they have no more imagination than a frog, and when they have been a few times they will get sick of it and go to a cricket or football match instead, it is all one to them, so that they are amused.

I would ask people if I could to try and see this wonderful thing with other eyes. To try and see something below the surface. If, as we are told, there is poetry in motion, what poetry must there be in motion when that motion is the passage through the air of a man-built machine, carrying its human freight, obedient to every wish and whim of its master.

Is it possible that any one having seen a flight at sunset, has not felt some wonderful influence at work for the betterment of our natures, some new and wonderful influence that has the power to lift us up out of ourselves. Picture a late evening in the summertime. It has been a hot day, and we have gone through our various duties to the best of our ability, but it has been a trying day, and we are tired, and inclined to be quarrelsome. We have been hot and uncomfortable, and we have wished we were somewhere else, but we are chained to our life, and on this one spot of the world only. The sun is setting in the west, sending out lovely shafts of golden light through the breaks in the banked up, heavy, black clouds, promising a storm for which we should be only too grateful to cool our parched earth. It is almost dark, yet the breeze which we had hoped for has not arrived, and we are sweltering in the aftermath of a sultry day.

Suddenly in the distance is heard the familiar whirr of a Gnome engine, and passing under the clouds, the shafts of gold glinting on its white wings as it passes through them, comes a monoplane. Here is some one who is not of us. Reader, I ask you, could you look on this and see only a man flying? Does not the glorious poetry of the incident seize you in entrancing joy? Are you so *blasé* that even this, surely the most lovely picture ever conceived by artist, does not appeal to something in your nature, something, perhaps, that, unknown to you, has been slumbering, and is now awakened, and, being awakened, has caused you to see the world with new eyes; can you, I say, see all this, and yet see only an ordinary man flying an everyday machine and nothing more? Then, reader, I am sorry for you—you have no soul, and all our brave pilots that are gone have, so far as you are concerned, died in vain, but, thank Heaven, you are but as a grain of sand on the shore, and although you will never understand, there are those of us that do, and we also know, understand, and honour the feelings of those left to mourn, yet not to regret.

FROM THE BRITISH FLYING GROUNDS.

Brooklands Aerodrome.

ALL the schools are now going strong and the Vickers Company have taken two more sheds to house their new machines.

On Tuesday morning last week, Mr. Barnwell, Manager of the Vickers School, had rather a narrow escape over the Weybridge golf course whilst testing a new two-seater monoplane, the machine being caught by a sudden gust of wind and dashed to the ground ere the pilot could recover control. It was only his skilful manœuvring, coupled with the strength of the chassis, a great feature of the Vickers machines, and the body, which considerably minimised the force of the impact, that prevented a worse accident. As it was, Mr. Barnwell escaped with a good shaking and a few cuts.

On Wednesday, Capt. Davis with a mechanic flew over from Farnborough on a 70-h.p. Maurice Farman biplane (No. 223) and returned after tea. On Thursday, Mr. Sopwith's new hydro-aeroplane (100-h.p. Green) arrived, and is now awaiting a favourable moment to undergo its tests.

On Friday, Capt. Dawes and Capt. Beatty came from Farnborough on the 70-h.p. Maurice Farman biplane, returning after a short stay. It should be noted that no charge for landing is made at Brooklands, where a cordial welcome at all times awaits aviators who visit there.

On Saturday, it was too windy for much school work, but in the afternoon Mr. Hamel arrived from Windsor with Miss Trehawke Davies in the two-seater Blériot monoplane, and proceeded to Hendon after doing a few spirals.

On Sunday, the weather conditions were by no means ideal, but notwithstanding this a large number of spectators put in an appearance. Mr. Hamel flew from Hendon on his single-seater machine in 13 mins., and gave several of his wonderful exhibition flights. Mr. Merriam was also flying solo and with pupils. Mr. Knight took out several pupils and also made some solo flights. Several hundreds participated in the ballot for the free flight, the numbers of which were kindly drawn by Miss Stoop, of Byfleet, the winner being Mr. L. C. Thompson, of 42, Chiswell Street, London, E.C., who had an enjoyable trip with Mr. Merriam on the Bristol biplane. The winner of the first ballot on the previous Sunday (when it was too rough for the flight to take place) was, appropriately enough, a local man—Mr. W. J. Burke, of 11, Holstein Avenue, Weybridge—who had a nice trip with Mr. Knight on the Vickers-Farman biplane on which Mr. Knight came in second in the cross-country race on Easter Monday.

An excellent entry (including several new machines) has been received for the Whitsun Aeroplane Handicap, and a close and exciting race is anticipated.

Bristol School.—5 a.m. on Monday, last week, Merriam and Bendall out for test flights, but too bumpy for school work, so all hands busy on the machines in the hangars.

Merriam up for a high flight test at 5.45 a.m. on Tuesday with Lieut. Cogan as passenger, afterwards this pupil alone doing figures of eight and practising landings for his ticket. Bendall up for several straights behind Major Merrick. Merriam behind Mr. Grey and Lieut. Broder on several straights, the latter pupil afterwards alone for first time making two good straights. Lieuts. Hosking, Ed. MacClellan and Cogan, and Mr. Strain figures of eight, after all pupils having two turns each. Merriam finished the morning's work by taking Major Merrick for a high flight with a spiral descent, engine cut off.

After breakfast, Merriam tried conditions and found favourable. Then sent Lieut. Ed. MacClellan for his *brevet*, who, after doing four figures of eight, came down saying it was too bumby. Merriam then tested, and found not too bad, so Lieut. Cogan tried for his certificate, passing half in fine style. Then Lieut. Ed. MacClellan went again, passing half of his test, but complained when landing that conditions were very bad. Merriam tested and found it was so, which put an end to the work. No flying for the rest of the day owing to wind and rain.

On Wednesday, at 5 a.m., Merriam for test taking Major Merrick as passenger, and found very bumpy. Bendall after tried, but still very bad indeed. 11 a.m., wind dropped a little. Bendall then went for a solo, but decided no good for school work. Later in the afternoon rain stopped, and Merriam up for a test flight. Afterwards Lieut. Hosking practising landings for his ticket, and doing figures of eight in good style. This pupil then passed tests for *brevet* nicely with excellent landings close to observers. Lieut. Cogan followed, and passed the other half of his test equally as well. Mr. Strain doing figures of eight and practising landings. This pupil can take his ticket quite easily whenever he wishes. Lieut. Broder doing good straights.

Very early Bendall was out for a test on Thursday, then behind Major Merrick, Mr. Grey, and Lieut. Duncan on several straights. Afterwards, Mr. Strain figures of eight at a good height, having three flights. Bendall giving more tuition behind Major Merrick, Lieut. Duncan, and Mr. Grey. The wind ceased a little about 6 p.m., and Merriam made a test with Major Merrick as passenger, but it was too bad for school work.

On Friday, fairly early, fog ceased, and Merriam made a test, then as passenger with Lieut. Duncan, Major Merrick and Mr. Grey on several straights. Lieut. Ed. MacClellan and Mr. Strain flew several solos excellently, with good *vol plané* landings. Merriam up again with Major Merrick (who is improving splendidly and will soon go alone), Lieut. Duncan and Mr. Grey. After breakfast Merriam made a test and found not too bad for Lieut. Ed. MacClellan to take the other half of his ticket, but after he made a circuit it became suddenly bumpy, which put an end to further flying. Busy afterwards in sheds, erecting machines, &c.

About 5 p.m. Merriam for solo followed by Bendall. Then Mr. Strain passed his certificate tests in good style except that he misjudged his landing and had to do five more figures of eight. Afterwards Bendall behind Major Merrick and Lieut. Duncan on straights, Merriam giving Major Merrick quite a lot of instruction from behind. Mr. Harris (a prospective pupil) was taken for a trial trip by Merriam to finish the morning's work

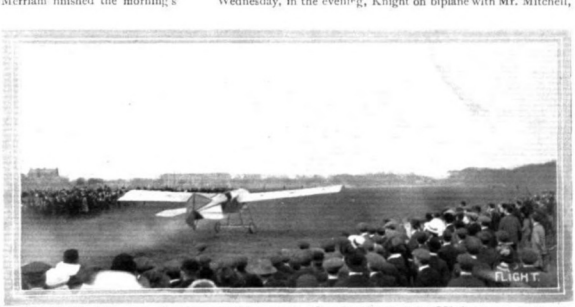
Bendall for test on Saturday behind Lieut. Duncan, Major Merrick and Mr. Grey on straights, giving them two turns each. After breakfast too windy for further flying. No flying for the rest of the day owing to the strong winds.

Howard-Flanders School.—From 6.30 to 8 a.m., Tuesday, last week, Layzelt Apps rolling and Dukinfield Jones straights. Back cylinder sheared four holding-down bolts, so brought machine in for repairs.

Vickers School.—Monday, last week, Knight making test flight on biplane before breakfast, then with Mr. Waterfall and Mr. Wight alternately in passenger's seat. Too windy for pupils solo.

Early Tuesday morning, Knight test flight on biplane, then Mr. Audreae figures of eight and landing practice. Then Mr. Orr Paterson in front seat with Knight behind for straights. Capt. Wood then doing circuits on biplane. Knight then took Mr. Mitchell, a new pupil, for circuits. Barnwell meanwhile doing circuits on No. 5 mono., afterwards handing over to Mr. Wight and then Mr. Waterfall, who both did some very good straights. In the forenoon, Barnwell out testing No. 8 mono. with passenger, making several good flights. After slight alteration to tail, Barnwell solo on No. 8, ending in smash described elsewhere.

Wednesday, in the evening, Knight on biplane with Mr. Mitchell,



Mr. Harold Blackburn on the Stray, at Harrogate, after his flight from Yorkshire Aerodrome. Starting on the return journey.

then circuits on No. 5 mono. This machine was then handed over to Mr. Waterfall, who did some very good straights. Knight on biplane, with Mr. Orr Paterson in pilot's seat, doing circuits. Mr. Andreae solo on biplane, doing figures of eight and landing practice. Then Knight on biplane, with Mr. Mitchell in passenger's seat, this pupil having his hand on lever for first time. Knight then sat behind Mr. Orr Paterson for circuits on biplane. Mr. Waterfall doing more straights on No. 5 mono.

Knight testing biplane early Thursday morning with Mr. Mitchell as passenger. Then testing No. 5, afterwards handing over to Mr. Waterfall, who went for circuits for the first time, and did very well. Mr. Andreae eights and landing practice on biplane, then Knight with Mr. Mitchell, promoted to front seat, straights. Knight then made several more flights on biplane with Messrs. Orr, Paterson and Mitchell alternately in pilot's seat. Meanwhile Mr. Wight having a good hour's practice on No. 3 mono., doing very good straights at about 60 ft.

Early Friday morning Knight on biplane with Mr. Mitchell—first behind, then in pilot's seat. Knight, and then Mr. Waterfall, circuits on No. 5 mono. Mr. Andreae circuits solo on biplane. Messrs. Orr Paterson and Mitchell alternately in front seat of biplane with Knight doing straights. Mr. Orr Paterson then took over the biplane, doing some very good straights solo, this being his first time alone. Meanwhile Mr. Waterfall solo circuits on No. 5 mono., and Mr. Wight very good straights on No. 3. In the afternoon Knight testing biplane, then testing propeller on No. 5 mono. Knight then took passenger in biplane. After test by Knight, Mr. Waterfall circuits on No. 5 mono., Mr. Wight doing straights on No. 3.

Saturday morning, Knight on biplane with Mr. Mitchell in front seat, straights and circuits. Knight, and afterwards Mr. Waterfall, circuits on No. 5, the latter getting on very well. Major Cameron circuits on biplane, then handing machine over to Mr. Orr Paterson for straights. Mr. Wight on No. 5 mono. for first time, doing excellent straights. Major Cameron more circuits on biplane. Knight then took Mr. Mitchell for straights and circuits, the latter in pilot's seat. Mr. Waterfall more circuits on No. 5 mono.

Sunday. In the afternoon, Knight on biplane solo, then with Mr. Mitchell in front seat, circuits.

Eastbourne Aerodrome.

Tuesday, last week, a somewhat puffy wind prevailed in the afternoon and prevented any school work. Fowler made several test flights but did not take any passengers.

No flying Wednesday owing to rain. Lieut. Parker, R.F.S., visited the aerodrome in the afternoon and inspected the waterplane sheds.

Mr. H. Stewart, who last week passed his *brevet* tests at the W. H. Ewen School, Hendon, on the 35-h.p. Caudron, reaching an altitude of 600 ft. During the whole time of his tests it was raining very heavily, but this did not hinder him from doing some excellent flying.

Fowler was out Thursday, testing, shortly after 4.45 a.m. Messrs. Rainey and Roberts were both doing solos in good style. Later on Rainey and Roberts were out together, the latter being in the pilot's seat.

Friday, Fowler made an early test. Messrs. Rainey and Roberts were also doing figure eights. In the afternoon, Fowler made a test flight about 5.30, and, finding conditions favourable, sent up Mr. Rainey for the first half of his *brevet* test, which he successfully completed. Mr. Fill joined the school, and was given some instruction in the Gnome engine.

Saturday, Mr. Rainey started for his second half shortly after 5.30 a.m., and put up a record for the aerodrome, by doing the five eights in just under 9 mins. His landing was also good, the machine pulling up within 6 yards of the mark.

After Mr. Rainey had finished Mr. Roberts went up for his first halt, but, unfortunately, when he had done three eights, the carburettor froze up and brought him down. He made an excellent landing, but was prevented from having another try by the wind. Fowler gave Mr. Fill two flights, and initiated him into the Bristol control. Hucks was also out doing straights.

Sunday afternoon gave every promise of being fine, and the machines were brought out about 4 o'clock. Fowler made a test flight, but had hardly been up 5 mins. when the wind freshened considerably and put an end to any further practice.

London Aerodrome, Collindale Avenue, Hendon.

Grahame-White School.—Mr. W. Birchenough out at 5.20 a.m. Monday, last week, doing circuits on No. 7, with Instructor Manton, followed by Mr. R. H. Carr on the same machine, both pupils getting good practice till 7 o'clock, when Sir Bryan Leighton took over the machine and did straight flights, accompanied by Instructor Cheesman. Mr. T. Bayetto practising straights at 10.20 on No. 2 B.

Mr. Major out at 4.10 a.m. Wednesday doing straights. Sir Bryan Leighton also out for practice. Mr. R. H. Carr out under Instructor Noel at 5 a.m., doing straight flights. T. Bayetto doing circuits at 7 o'clock in the evening, the weather being good, and preparing for *brevet* tests. Mr. Major and Mr. H. Birchenough also out, practising till dusk.

Thursday, Sir Bryan Leighton out at 5.20, doing straight flights with Instructor Manton in passenger seat. Mr. Major and Mr. R. H. Carr also out doing circuits. Mr. Bayetto practising circuits on No. 2 B. The weather being good all pupils had an opportunity of getting good practice.

Mr. Bayetto out doing circuits at 6 p.m. Friday till dusk, the wind having been too high for early morning work. Next day Mr. Bayetto doing circuits at 7.12 a.m. Mr. Manton testing machine for *brevet* in the rising wind.

Bl6riot School.—Monday last week was wet and windy, and no outside work was able to be done, but on the following day Messrs. Reilly, Desoutter and Clappen were all out flying well. On Thursday the staff was busy overhauling the engine of No. 4, which was not pulling well; after being put together again, the machine was taken out and tried by Mr. Slack, and found to be in very good order.

Mr. Desoutter was flying very nicely on No. 3 on Friday, at about 150 ft., indulging in right-hand turns and figure eights, and doing very well indeed. The following morning he was out again on No. 4 for the first time, and in quite a big wind, at about 200 ft.

In the afternoon Mr. Hamel and Miss Trehawke Davies were out on the 70-h.p. machine, and made a flight to Windsor and back at a high altitude.

Mr. Slack took out No. 5, fitted with 50-h.p. Gnome, and did some quite nice flying round the aerodrome.

British Deperdussin School.—Fog early Tuesday last week, school commenced 6 a.m., Mr. Spratt testing No. 3 (repaired engine), then Lieut. Bourke, straights 8 mins., followed by Mr. Barron same time, doing straights showing marked improvement; then Mr. Bauman 6 mins., Mr. Hudson 5 mins., the latter a little shaky. After breakfast the same four pupils put in four good straights apiece; Mr. Phelps also attended and got in four straights, before the wind got up and stopped work. At 11.30 a.m. Mr. Spratt took up No. 5 for a test doing several good wide circuits in bumpy wind.

Wednesday afternoon Lieut. Bourke had two turns of 10 mins. and 7 mins., straights and half-left turns, improving greatly. Mr. Bauman 10 mins. and 8 mins. straights; his landings are rather shaky, but he is improving. Mr. Barron 10 mins. and 7 mins., straights; switchbacked somewhat, but finished well. Mr. Hudson 10 mins. and 7 mins. at straights; not quite got "feel" of machine yet, but improving.

Lieut. Bourke 30 mins. straights and half-turns on No. 3, Thursday, getting on well. Mr. Bauman 30 mins. straights, doing quite good work. Mr. Barron and Mr. Hudson also had 30 mins. each, doing very well, a good morning's work. At 12.30 p.m.,

during lull in wind, Mr. Barron and Lieut. Bourke got in four more straights apiece.

Wind too strong Friday morning for school work. In evening, Lieut. Bourke got in half an hour's work at straights and right and left turns, and then went for his first circuit at dusk; a good performance. Lieut. Bourke has come on rapidly lately, and is flying well, his landings much improved. Mr. Hudson 30 mins. straights, right and left turns, getting on very well, ready for circuit next lesson. Mr. Bauman 25 mins. straights, left and right turns, makes excellent landings now. Mr. Barron flew his first circuit in good style after half-hour at straights and turns. All pupils improved immensely the last few days. A very good evening's work.

Saturday. 7 a.m. school started. Mr. Barron and Mr. Hudson each had 10 mins. at straights and turns, finishing with one good circuit apiece. Lieut. Bourke 10 mins. straights and turns, then a circuit in very good style, landing well. Mr. Bauman 15 mins. straights and turns, he was going for circuit but engine started missing. Lieut. Porte tested 100-h.p. machine recently fitted with new wings and latest Dep. chassis. He was up for 10 mins. making fine landing.

W. H. Ewen School.—There has not been much improvement in the weather during last week, but in spite of this a good week's work has been put in. Monday was too windy for school work, but on Tuesday the pupils were out at 6.15 a.m., under the instruction of Mr. L. W. F. Turner, who got in an excellent morning's work on the 35-h.p. Caudrons Nos. 1 and 2. Lieut. G. Adams, Mr. Pendlebury and Mr. Prosser were rolling and doing short straight flights, while Lieut. U. C. Hicks was rolling on same machine. Mr. H. Stewart was out doing circuits and figures of eight on No. 1 machine, while Mr. Zubiaga was doing half-circuits.

On Wednesday the pupils were out at 3.40 p.m., when Mr. L. W. F. Turner put up a good exhibition flight on the 60-h.p. Caudron. After testing the 35-h.p. Caudron he handed the machine over to Lieut. G. Adams, who made several excellent straight flights in good style. The event of the day, however, was the gaining of another Caudron *brevet* by Mr. H. Stewart, who passed all his tests splendidly on the 35-h.p. Caudron No. 1, flying at an average altitude of 600 ft., and on both occasions landing close on the mark. M. Baumann also put up a good flight on the 35-h.p. Caudron No. 2.

The pupils were out at 4.40 a.m. on Thursday, under the instruction of Mr. L. W. F. Turner and M. Baumann. Mr. Turner, after a test flight on the 35-h.p. Caudron No. 1, handed the machine over to Lieut. G. Adams and Messrs. Zubiaga and Warren, who were all making good progress in straight flights and half circuits. M. Baumann, after testing the 35-h.p. Caudron No. 2, handed the machine over to Messrs. Prosser, Goodden and Pendlebury, who were all doing good work in straight flights, while Lieut. U. C. Hicks was also making good progress on the same machine. Mr. Chataway made a straight flight on the 35-h.p. Caudron No. 1, but on returning to the starting point misjudged his distance, and then dived the machine very suddenly. It was fortunate, in a way, that the Blériot of the Grahame-White School was standing on the ground, for the left wing of this machine considerably broke his fall. Mr. Turner was out later on the 60-h.p. Caudron, doing a number of solo and passenger-carrying flights.

On Friday the pupils were out at 10.35 a.m., when Mr. L. W. F. Turner, after a test flight on the 35-h.p. Caudron, handed the machine over to Lieut. G. Adams and Lieut. U. C. Hicks, who were doing good straight flights; Mr. Zubiaga putting in some good circuits on the 35-h.p. Caudron No. 2. During the evening all the pupils were again out, Lieut. G. Adams doing half-circuits, Mr. Zubiaga circuits and Lieut. U. C. Hicks straights. Later Mr. Turner was out doing solo and passenger carrying.

On Saturday the pupils out at 6.30 a.m. Mr. L. W. F. Turner, after test flight on 35-h.p. Caudron, handed machine over to Mr. Zubiaga, who started off flying well, but unfortunately had to make a forced but good landing in a field near the aerodrome. Later, Mr. Turner flew the machine back to the aerodrome.

On Sunday pupils out at 10.30 a.m. After test flight by Mr. L. W. F. Turner on 35-h.p. Caudron No. 1, he handed the machine over to Lieut. G. Adams, who was doing half circuits in good style. Later, Mr. Turner was also up on the same machine.

Temple School.—On Thursday, last week, under the supervision of Mr. George L. Temple, A. Vaile, D. Ritchie, and M. Lance each had 10 mins. on monoplane No. 2, all making good progress. Later, Mr. G. L. Temple brought out the 45-h.p. monoplane, and flew it in fine style, his landings being particularly good. On Friday, under Mr. Temple, R. Penny was out on mono. No. 2, with tail well up, also D. Ritchie and Lieut. Maurice Ambler each had 10 mins. on mono. No. 2. G. L. Temple was on the 45-h.p. Blériot doing banked turns, and flying excellently. On Monday, George L. Temple brought the 35-h.p. Caudron out and flew several circuits in his usual good style.

Salisbury Plain.

Bristol School.—Rain and wind all day on Monday, last week, prevented flying.

On Tuesday fog was very thick first thing, rising wind cleared mist but prevented pupils' solos. Pixton was busily occupied giving biplane tuition to Lieuts. Brodribb (twice), Chidson and Newton (prospective pupil), and solos to Messrs. Gipps, Marshall and Delaplane.

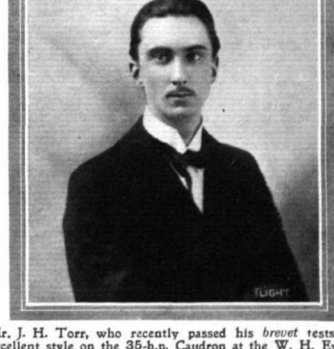
In the afternoon Pixton started off by taking Lieut. Burns, prospective pupil, for a long flight. Busteed off alone on another biplane to pick up Lieut. Brodribb, who had been observed by Pixton walking over the Plain from one of the camps, and took him for a long trip with plenty of landing practice. Lieuts. Chidson and Marshall each made an excellent solo, whilst Lieut. Brodribb ascended after four weeks' absence, and put up a good show. Busteed, with a pupil as passenger, was out on the new Bristol tractor biplane for a couple of circuits, a heavy thunderstorm driving them down. After the weather cleared, Lieut. Marshall carried out a good solo, being up for 10 mins. and flying at 300 ft. Busteed took Lieut. Vernon for instruction, but heavy rain drove them down and stopped further work.

After breakfast, Wednesday, Pixton was out for a trial, taking Mr. Gipps as passenger, and later Busteed out with same, but conditions found to be not fit for further work. After lunch Pixton tested the air and Lieut. Chidson made a good solo on a biplane. Lieuts. Marshall and Chidson then successfully accomplished the necessary tests for their certificates, both pupils flying well at 300 f., and landing perfectly. Lieut. Brodribb made a good solo, and Busteed took the Bristol tractor biplane for the Admiralty up three times. Pixton was out giving tuition to Mr. Delaplane after which this pupil made his first ascent, reaching 300 ft., and flying quite well. Busteed with a mechanic was out in one of the Bristol sociable monoplanes, Mr. Delaplane meanwhile taking Pixton as passenger and later Busteed, this pupil making excellent progress.

Conditions very favourable first thing on Thursday, and Lieut. Brodribb out for 10 mins., followed by Mr. Delaplane, both pupils flying well at quite 300 ft. Pixton made a solo on the new Bristol tractor biplane, taking Mr. Garnett (a new pupil) as passenger, and then gave trips to Fargo and back in the Bristol sociable mono. to Messrs. Garnett and Adams (a new pupil).

Pixton was up for a trial in the afternoon, and then took Lieut. Burns and Messrs. Garnett and Adams for a long flight each. Lieuts. Priestly and Vernon for circuits, and later Mr. Garnett for a short trip, Pixton meanwhile making a solo on the new Bristol tractor. Busteed made a test of two Bristol side-by-side monos. for Roumania, taking a mechanic as passenger.

On Friday, mist first thing, cleared later, and Mr. Gipps made his maiden solo, flying quite well at 150 ft. for 10 mins. Other solos were made by Lieut. Brodribb and Mr. Delaplane, both



Mr. J. H. Torr, who recently passed his *brevet* tests in excellent style on the 35-h.p. Caudron at the W. H. Ewen School, Hendon.

Another group of Bristol pupils and pilots at the Lark Hill, Salisbury Plain, School. From left to right: Lt. R. Burns (Australian pupil), Mr. Busteed (instructor and tester), Mr. W. H. S. Garnett (pupil), Mr. Pixton (school manager), Lt. Vernon, R.N., Lt. Priestly, R.N., Mr. Gipps, Mr. Delaplane (pupils). Seated in pilot's seat, Lt. Brodribb, R.N.; and, in the passenger's seat, Mr. Adams (pupil).

carried out in good style. Pixton took Mr. Adams for two instructional trips, Busteed taking Lieut. Burns twice and Mr. Garnett. Busteed later made a test of another Bristol tractor, Pixton taking Lieut. Brodribb in a Bristol side-by-side monoplane.

In the evening Pixton gave tuition to Messrs. Adams and Garnett twice, and Lieut. Burns twice. Busteed meanwhile putting two Bristol side-by-side monos. through their tests, taking Lieut. Brodribb as passenger in each case. The machines were then accepted by H.H. Prince Cantacuzene on behalf of the Roumanian Government. Pixton gave a tuition flight to Mr. Delaplane, and made a solo on the new Bristol tractor.

Rather misty all the morning on Saturday. However Pixton was out giving tuition to Lieut. Burns and Messrs. Adams, Garnett, Gipps and Delaplane.

Royal Flying Corps. No. 3 Squadron.—The fine weather of the first days of last week was taken full advantage of, and in three days over 60 flights were made.

Major Brooke Popham was out on Tuesday on BE 205, getting to a height of 2,500 ft., while Major Higgins, D.S.O., on H. Farman 275, went to a similar altitude. Lieut. Carmichael was afterwards out on this machine, and Lieut. Cholmondeley, on M. Farman 216, Lieuts. Chrystie and Wadham were out on BE 272. In the evening, Lieut. Carmichael was up on H. Farman 275.

Sergt. Ridd, on Wednesday, made four fine flights on M. Farman 270, taking up as passengers Capt. Jackson, Capt. Cassin, and Sergt. Jones. Sergt. Bruce then made two good flights on the machine, and Lieut. Ashton also piloted it twice. Capt. Allen on a BE biplane, Lieuts. Allen and Cholmondeley on H. Farman 277, and Lieut. Carmichael made three fine flights on H. Farman 275. Lieuts. Anderson, Porter, and Mr. Conran were flying the BE 272.

Thursday was also a busy day, Lieut. Cholmondeley starting the work on an H. Farman, Lieut. Wadham on BE 205, Lieut. Cholmondeley on M. Farman 270, Capt. Allen and Lieuts. Anderson and Porter on BE 272. Also Lieut. Chrystie on a biplane, Lieuts. Allen and Roupell on H. Farman 277. Lieut. Ashton was on M. Farmans 269 and 270, and Lieut. Small was also out on M. Farman 270, and Lieut. Glindell then took over biplane. A great many of these officers carried passengers during the various flights.

Friday saw the same officers and sergeants out again, and a similar amount of air work was carried through, but on Saturday there was no flying owing to the unsettled weather.

Monday, Lieut. Roupell out several times on H. Farman 277. Lieut. Cholmondeley made 6 flights, without getting out of his machine, taking up various air-mechanics. Lieut. Anderson, on BE 272, made 3 flights with passengers, and Capt. Allen made 4 flights on BE 272 and on BE 205. Lieuts. Wadham and Chrystie also piloted these machines, and Lieut. Carmichael was on H. Farman 275, Capt. Connor on M. Farman 270. Sergt. Ridd made three flights on an M. Farman. Lieut. Ashton took Air-Mechanic Bobby over to Tidworth on M. Farman 269, and Sergt. Bruce was out on M. Farman 216. Others flying were Lieuts. Holt, Allen, and Small on M. Farmans, and Lieut. Burrows on an H. Farman. At one time there were seven machines in the air simultaneously. Several machines, including BEs, Henry Farmans, and Maurice Farmans, are to be flown over to Aldershot for the King's review on Friday.

Sussex County Aero Club (Shoreham).

Raynham has taken charge of Avro pupils. Capts. Schultz and Robshoven doing circuits. A slipway for waterplanes has been laid down to river close to No. 1 hangar. The Radley-England waterplane has been taxi-ing both between bridges and on the lower reach of the river, but owing to various minor troubles has not yet attempted to rise from water. Hewlett and Blondeau have just delivered an aeroplane to the order of Messrs. Pashley Bros., who expect to be ready for passengers by Whitsun.

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More Admiralty Machines.

FROM Messrs. Delacombe and Marechal, of 166, Piccadilly, we learn that last week they received a contract from the Admiralty for six more "Borel" hydro-monoplanes (80-h.p. Gnome) similar to the two they have already supplied to the Royal Flying Corps at Grain Island.

"The first of these machines is to be delivered within three weeks, the remaining five at intervals of a few days subsequently."

"It is very gratifying to note that if the Navy order any further 'Borel' machines they will be built in England, (Messrs. Delacombe and Marechal having obtained the exclusive rights of building under licence on this side) and the construction will be carried out by a large and well-known firm whose name at present remains undisclosed."

FLYING AT HENDON.

A PUFFY south-westerly wind, assisted by a temporary absence of pilots and machines, prevented any racing from taking place at Hendon last Saturday, which was to be regretted considering the large number of visitors present, many of whom came in cars. However, some exhibition and passenger flights were put up by those pilots available. One of the visitors present was Lord Northbourne, who is taking quite a keen interest in aviation, his first connection with which was when Jules Nardini, on the occasion of his "banishment" from France, landed in his Lordship's grounds near, we believe, Deal. Pierre Verrier was the first up, ascending on the 75-h.p. Renault-Maurice Farman biplane at 3.15 p.m., and remaining aloft for about ten minutes, during which time he made some splendid swoops and banked turns. His latest trick is to fly across the ground, and then turn very sharply with startling suddenness and follow his track back again. At about 3.30 Gustav Hamel, accompanied by Miss Trehawke Davies, ascended on the latter's 70-h.p. Gnome-Blériot monoplane, and, after circling the aerodrome several times, rising in the meantime, flew off in the direction of Harrow. After this Verrier put up a succession of passenger-carrying performances. Each flight lasted about 5 mins., and the intervals on the ground between the trips were of about the same duration. Altogether, over a dozen flights were made, and it was nearly 6 o'clock when Verrier and his Ariel taxi retired. A very fine 15-min. flight was made by Lieut. L'Estrange Malone, R.N., on the Admiralty 80-h.p. Gnome-Caudron biplane. This was only the second time that Lieut. Malone had been out on this machine, which, by-the-way, climbs very quickly, and he handled her exceptionally well. He made two other flights later on, with passengers, and it was during one of these flights—with Capt. Tyrer—that an unpleasant gust of wind showed that he had the machine well under control. Robert Slack nearly met with an accident when starting a flight on his 50-h.p. Blériot, being blown over on to the right wing tip by a sudden gust, but he managed to right the machine before any damage could be done. He was off again immediately after, however, and gave an exhibition flight lasting about 10 mins. Whilst Slack was making his flight, Hamel and Miss Davies were seen returning at a height of about 5,000 ft. When over the aerodrome, Hamel commenced his favourite game of hide-and-seek with the clouds, rising still higher to about 7,000 ft. the meanwhile. For fully 10 mins. he soared above the aerodrome, finally descending with several right and left-hand spirals. After they had landed, we ascertained that they had been to Windsor, and after circling the Castle returned to Hendon *via* Brooklands. They did not, however, land at the latter place, but flew straight home, taking 13 mins. for this part of the journey—pretty smart travelling. The whole trip, covering a distance of about 56 miles, took about 52 mins., and except for passing through a rain storm, was without incident. The only other flight made during the afternoon was one by an old Hendon favourite, J. L. Hall, who flew his 50-h.p. Blériot monoplane.

Quite a number of exhibition flights were made on Sunday, the honours of the afternoon going to Verrier, who made over 20 passenger flights on the Maurice Farman biplane; nearly all these passengers were ladies, showing that the fair sex are not "backward in coming forward," as far as the new science is concerned. Collardeau was out on the 110-h.p. Canton-Unné-Breguet biplane, performing some startling evolutions. Hamel, as usual, went off on his Blériot monoplane to Brooklands, and J. L. Hall was again out, also on a Blériot. The graceful Handley Page monoplane made a reappearance after a long rest, and behaved splendidly in the hands of E. Whitehouse, formerly pilot of the Deperdussin monoplane. Some four passengers were taken up in this machine. Lewis Turner was also out on this Sunday, flying both the 35-h.p. and the 60-h.p. Caudron biplanes.

HENDON NOTES.

A GOOD programme has been arranged for the fifth London meeting at Hendon, which opens to-day (Saturday), at 3 p.m., with an altitude contest, the winner of which will receive a trophy presented by the well-known jockey, Mr. Danny Maher. Other events will consist of a speed handicap and a cross-country handicap. To-morrow, Sunday, there will be exhibition and passenger flights—the latter item being very popular and much in demand just now. Whit-Monday's events start with a bomb-dropping competition, which should prove to be very interesting. A cross-country handicap and a speed handicap (trophy presented by Mr. Horace Goldin the illusionist), with the addition of some exhibition and passenger flights, form the other events for that day.

One of the competitors in the above races will be W. H. Ewen, who will fly the handy little Caudron biplane. It is some time since this pilot has been seen flying at the Hendon meetings. A very interesting article on W. H. Ewen, as well as an illustrated description of the Caudron biplane, will be found in the official programme of the above meeting. By-the-way, the Grahame-White Aviation Co. are certainly to be congratulated on these programmes, and their "new policy," which consists in publishing every week interesting articles dealing with the various types of aeroplanes and their pilots to be seen at Hendon. These articles are written in a style that enables the uninitiated readily to understand the subject dealt with, yet being at the same time equally interesting to those already "in the know." These programmes form souvenirs well worth keeping; in fact, I was told the other morning that every day brings numerous applications to the Grahame-White Co. for these programmes from all parts of the country, which only shows the interest in aviation they are causing.

Good progress is being made with the permanent cafés and tea rooms which are being erected in the various enclosures of the aerodrome. These are raised some distance from the ground so that one will be able to partake of refreshments, either in the open or under cover, and at the same time observe all that is going on in the way of flying. Several other improvements have been and are being introduced, notably the grand stands in the 1*s.* and 6*d.* enclosures, whilst a considerable amount of extra ground has been added to the aerodrome. A club is also in process of formation, about which I will have something further to say on another occasion.

Quite a lot of good work has been done during last week by the 50-h.p. Handley Page monoplane, under the pilotage of E. Whitehouse. Except for the fact that *ailerons* have been fitted, this

The hill beyond the railway has more uses than to merely form a picturesque background for the Hendon aerodrome. Above, on the left, people are seen using it as an excellent—and incidentally cheap—natural grand stand. On the right some economically-minded members of the public are seen watching Mr. Hamel's high flights from the gate on the footpath to Hendon village.

machine is exactly the same as when described in FLIGHT some time back. The reason for fitting *ailerons* is, I understand, that owing to the very deep cross section of the wings, the warping of the latter tended to overstrain the fabric, hence a new system is being tried. Whitehouse, who has been flying the 35-h.p. "Dep.," soon mastered the H.P. 'bus, for he took it out for the first time on Tuesday morning of last week, and after making one straight flight, he flew six circuits of the aerodrome right away at a height of about 500 ft. He made several other flights during the day, and during the rest of the week he took numerous passengers, including Baumann of the Ewen School, and one passenger of 13 stone was taken for a cross-country flight to Elstree and back. Mr. Fletcher, a pupil, also had some practice and made some short flights.

Aeroplanes are not going to have it all their own way up at Hendon, for I understand that the Willows Aircraft Co. are arranging to have one of their small dirigibles housed at the aerodrome, an item which should prove an extra attraction. Perhaps some exciting speed handicaps might be arranged? Anyway there should be quite a lot of good work done in the passenger-carrying way, as some may consider a dirigible safer to go up in than an aeroplane.

VEEJAY.

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MILITARY AVIATION IN INDIA.

IN the House of Commons on the 30th ult., Sir J. D. Rees asked the Under Secretary of State for India whether the provision of £15,500 and £4,100 for forming a school of aeronautics and for aviation buildings, respectively, represented all that was to be done in India in 1913-14 in respect of military aviation; whether officers of native regiments when on leave in England would be under some official disability, which prevented them from being appointed to the Royal Flying Corps; whether officers of British regiments serving in India could only join such corps on less favourable pecuniary terms than their brother officers serving in regiments at home; whether an officer who was attached for a short period to the late air battalion had been appointed adviser on aviation to the Indian General Staff; why officers serving in India, which offered superior physical conditions for airship and aeroplane practice to those obtaining in these islands, were not encouraged to perfect themselves in the art of aviation by being allowed to join the Royal Flying Corps on favourable terms; and whether the Secretary of State in Council would advise the Governor-General in Council that the provisions made in the Budget and the conditions under which officers serving in India could learn the art of aviation, were wholly inadequate to the importance this branch of warfare had attained.

Mr. Montagu: The Government of India intend to have their own school of military aviation, and have provided the sums mentioned by the hon. member to meet preliminary charges in the present year. The scheme will be under an officer trained in the home air battalion here, and the future staff of instructors will be similarly trained at the cost of Indian revenues. In view of the facilities which will shortly exist in India, it is not considered necessary to assist from Indian revenues officers of the Indian Army to learn flying in this country, or to accept charges on account of the training here of officers of British regiments stationed in India. The Secretary of State has no reason to suppose that these arrangements will prove inadequate.

The Indian Army Flying School.

FROM India it is announced that Capt. Massy of the 29th Punjabis has been selected as the commandant of the flying school which is to be organised in India, while the instructors will be Capt. Hoare of the 39th Central India Horse, Lieut. Newall of the 2nd Gurkhas and Lieut. Reilly of the 82nd Punjabis. These officers are certificated pilots, but they are coming to England in order to undergo a long period of training at the Central Flying School before taking up their new duties.

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COL. SEELY ON AVIATION AND ART.

IN the course of his speech in replying for the Army to the toast of His Majesty's Forces at the annual banquet of the Royal Academy on Saturday, Col. Seely said that besides the horse, foot, and artillery of ancient day, there was yet another Service—the Air Service. On behalf of the Royal Flying Corps might he return to the President of the Royal Academy their grateful thanks for the signal honour paid to that branch by the invitation of two officers, one from the Army and one from the Navy of His Majesty's forces—a signal honour which they would agree was thoroughly deserved. As he looked round those walls he saw the picture of the battleship, he saw the picture of the gallant charger, he saw the picture of the defence of a fortress in days gone by—but he did not see the representation of one single aeroplane. He did not know why that was. Was it because they had not enough models for their artists? Or was it because they were afraid he might take it away to count it as one more—to add to what some thought was a rather exiguous total? Or was it—and he believed that was the true reason—that, all unconsciously, they possibly were pursuing art and beauty so that the new engine was inimical of art? For if that went on there could be no doubt that we should again revert to the practice of our ancestors who dwelt in caves. It was quite true that the modern battleship was not as beautiful as the old "Victory." It was quite true that the modern aeroplane, and still more, or still less, the modern dirigible was not a thing of beauty to represent upon a canvas. But art came in the recognition of the fact that the aspirations of the men who fulfilled the duty of airmen were beautiful, and it was peculiarly fitting that two junior but distinguished officers who represented that new arm should have been invited to attend that banquet.

There might be nothing very beautiful in the aeroplane or in the costume of the man who climbed into it, and invaded the air, but no knight in armour of olden days, no soldier of our glorious past, no man who had led a great charge of victory had a more beautiful soul to paint than the men who dared the most dangerous thing in the world—the glories of the air.

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Daily Mail Round Britain Flight.

SOME preliminary details are issued by the Royal Aero Club in connection with the 72 hours' prize flight of the *Daily Mail* round Britain over the sea. The itinerary is changed so far as the north of Scotland is concerned, the competitors following the Caledonian Canal from the Moray Firth to Fort William. The start will be from Southampton towards the end of August or beginning of September, so that full advantage may be taken of moonlight nights. Fixed controls for competitors to report themselves will be established, but stoppages *en route* may be made. The complete waterplane and all its parts, including the motor, must have been entirely constructed within the confines of the British Empire, but this provision will not be held to apply to raw material.

All inquiries respecting this competition and the *Daily Mail* £10,000 Cross-Atlantic Flight are to be made to Mr. Harold E. Perrin, Secretary, Royal Aero Club, 166, Piccadilly, London, W.

Engineering Draughtsmen.

WE are frequently requested by firms of standing to find for them draughtsmen having experience in aeroplane design.

There is a vacancy of this character at the present moment, and we invite private communications from those who have adequate qualifications.

Mr. Temple at Manchester.

DURING next week Mr. G. Lee Temple will be away from Hendon as he has an engagement to fly at Trafford Park, Manchester, on Wednesday and the remaining days of the week.

Verrier Makes a Good Trip to Farnborough.

ANOTHER new Maurice Farman machine was delivered to the Royal Flying Corps, on Tuesday, by Verrier, who flew the machine over from Hendon to Farnborough, through a very heavy rain, in forty minutes. The machine carried a passenger.

A Change of Name.

THE Brighton-Shoreham Aero Club has now changed its title, and for the future will be known as the Sussex Aero Club. The Mayor of Hove has been requested to hold a public meeting at an early date to form a County Association to co-operate with the National Aeronautical Defence Association.

To Fly From Bremen to London.

WE learn that arrangements have been made for Brindejonc des Moulinais to fly at the end of this week from Bremen, Germany, to the London Aerodrome, Hendon, in order to compete in the Whitsuntide events, and also to attack the world's height record, with a passenger, on a 2-seater Morane-Saulnier monoplane.

FOREIGN AVIATION NEWS.

The Pommery Cup.

ALTHOUGH Guillaux's magnificent flight from Biarritz to Kollum was not beaten before the closing of the competition for the Pommery Cup, several of his rivals put up very sporting performances on the closing day, the 30th ult., details of which were not to hand in time for inclusion in our last issue. We have already given particulars of Vedrines' and Gilbert's attempts, but three other pilots who started were Grazzioli on a monoplane designed by himself. Schemmel on a Schemmel-Ruchonnet monoplane, and Marty on a Caudron biplane fitted with an Anzani engine of 100-h.p. Schemmel started from the Vidamee aerodrome and intended to fly into Russia. He, however, had to make an enforced landing at Retsdorf, near Cologne, and was detained there so long while enquiries were being made by the authorities that it would have been useless for him to attempt to go on. His record was, therefore, only 400 kiloms. Marty started from Le Crotoy and made a splendid journey to Germany, but in the neighbourhood of Dusseldorf found the gale too strong, and was forced to descend after covering 375 kiloms. Grazzioli, on starting from Issy, chose a northerly course, and made good progress until nearing the Belgian frontier, when the wind became troublesome. The pilot decided to come down and made a good landing at Neuville-Coppegueule. After only a few minutes' rest he tried to go on, but as the machine was rising it was caught in a *remous*, and dashed against a tree. Although not seriously hurt, the pilot had to be taken to the hospital. The distance flown from Issy was 125 kiloms. Vedrines, in his flight from Lyon to Rouen, and Gilbert, in going from Amberieu to Doullens, both covered about 525 kiloms. Brindejonc des Moulinais, who on the previous day had started from Villacoublay, landed at Quakenbruck, in Hanover, after covering about 900 kiloms.

Giant Hydro-Aeroplane Tested.

THE great hydro-aeroplane built by Maurice Jeannson, in collaboration with Colliex, was tested at Triel on the Seine on the 29th ult. and made one or two short flights on subsequent days, Colliex being the pilot. The machine is said to have attained a speed of 62 miles an hour when carrying three passengers and during one test it carried a useful load of 1,600 lbs.

Tests with New Farman Biplane.

IN the presence of Henry Farman and three French officers, Chevillard carried out some trials on the 30th ult., with a new H. Farman biplane specially designed for use as an aid to artillery. The machine was dismantled and put into a case for transport in 12 mins. 45 secs., and re-erected in 20 mins. 34 secs. It was immediately flown for 5 mins. at a height of 300 metres, and then again taken down and returned to its case in 11 min. 45 secs. On again being taken out it was re-erected in 17 mins. 21 secs., and then made three climbing tests, in the first one going up 500 metres in 5 mins., and in the others rising 600 metres in 5 mins. Subsequently with a full load it made a flight of an hour's duration.

St. Cyr to Mailly on M. Farmans.

LAST Saturday an escadrille of M. Farman biplanes, piloted by Capts. Eteve, Farges, Lieuts. Drouot and Noe, each accompanied by a mechanic, went from St. Cyr to Mailly Camp, all making the journey in fine style.

From Verdun to Sissonne in Company.

SIX aeroplanes, piloted by Capt. Rolland, Lieuts. Bretey and Nicaud, Adjudants Drenet and Pareni, and Sergt. de Seyssel, respectively, journeyed in company from Verdun to Sissonne Camp on Saturday last, the trip taking an hour and a half.

New Blériot Superior Pilots.

FROM Buc on Monday naval Lieut. Laborde completed the tests for a superior *brevet* by flying on his Blériot to Pont Levoy and back. On the 2nd inst. Bourdon, a National Committee pupil at the Blériot school at Buc, made a triangular test of 150 kiloms. over the Buc, Chartres, Orleans course.

Long Flights on Dep.-Anzani Monoplanes.

AT Juvisy, on Monday, Lemoine was flying on his Deperdussin monoplane, which is fitted with a 40-h.p. Anzani engine, for two hours; while Cartaui, a pupil at the Dep. school at Etampes, on a 35-h.p. Anzani-Deperdussin, made a flight of 1 hr. 20 mins. duration.

Two More Farman Superior Pilots.

JUST as it was getting dark on Monday evening at Etampes, two H. Farman biplanes were seen arriving, and, on landing, they were found to be piloted by the non-commissioned officers Marc and Corbeil, who had come from Avor Camp by way of making one of their 150 kilom. qualifying flights for superior *brevets*.

Fine Cross-Country Work on M. Farmans.

CAPT. BORDAGE on his M. Farman, accompanied by a mechanic, flew from Mailly Camp to Buc on Monday, while Lemaitre, a pupil at the Farman school at Etampes, paid a visit to his native town, Tours, the speed of the M. Farman working out at 100 k.p.h.

Nieuports to Build Astras.

FINDING themselves so busy with dirigible work, the Astra Company have now made arrangements by which the construction of the Astra biplanes will be continued by the Nieuport firm.

Guillaux just getting away on his military all-metal Clement-Bayard monoplane in his successful try for the Coupe Pommery, when he covered approximately 1,400 kiloms. by flying from Biarritz to Kollum in the day.

Promising Nieuport Pupils.

AT the Nieuport school at Villacoublay on Saturday, Capt. Guillabert, made a flight of an hour at a height of 300 metres and the Siamese Lieut. Nai Thip made a similar flight, while two National Committee pupils, Lartigue and Roume each made one hour trip by way of completing their period of training.

Four Caudrons Fly in Company.

ON the 30th ult., four Caudron biplanes, two being of the hydro. type, flew from Crotoy to Berck and back, carrying a quartette of important passengers, including Deputy Ternois, Under Prefect Borromee, General Councillor Gosselin, and M. Vasseur, Mayor of Crotoy.

At the Blériot School at Pau.

ON the 30th ult., Sapper Thorel, flying on his Blériot monoplane, through wind and rain, went from Pau to Biarritz in an hour and a-half. Lieut. Brule was making experiments in bomb-dropping at the Blériot aerodrome at Pau.

Long Trip on a Nieuport.

ACCOMPANIED by Capt. Becquet, Sergeant Hurtard, on a Nieuport monoplane, with 100-h.p. Gnome motor, started from Rheims at 5 a.m. on the 1st inst., and after passing Meziéres landed at Verdun at 6.15. Continuing their journey they arrived at Epinal at 9.15, and were at Vesoul at 11.55.

A Good Week's Work.

BY way of completing a good week's work on his Caudron biplane, having made a lengthy round trip each day, Sapper Poulet, on the 2nd inst., went from Beauvais to Le Crotoy, Wimereux, and Boulogne, and later in the day returned to Beauvais.

A Borel Superior Pilot.

LIEUT. DE LA MORLAIS, on a Borel monoplane, on the 2nd inst., made one flight to qualify for a superior *brevet*, over the Buc, Chartres, Orleans course.

Duval Still Training for Michelin Cup.

BY way of keeping in training, in view of another attempt for the International Michelin Cup, Duval made a flight of over an hour's duration on his Clerget-Deperdussin monoplane over the neighbourhood of Etampes on the 2nd inst.

Buc to Auxerre on a Farman.

ON a Gnome-Farman military biplane, Sergt. Carus left Buc at 5.30 a.m. on the morning of the 2nd inst., and a couple of hours later made a fine landing at Auxerre.

A Dep. Escadrille in Flight.

AN escadrille of Deperdussin two-seaters, piloted by Lieuts. Rochette, Lalanne, Radisson and Sergeant Didier, each accompanied by a passenger flew from Sissonne to Maubeuge a distance of 95 kilom. in 40 mins. on the 29th ult.

PRINCE HENRY FLYING CONTEST.—Map of the courses defined for the flying contest to be held this month, starting from Wiesbaden and finishing at Carlsruhe, followed by a two days' reconnoitring contest to Strasburg and beyond.

Flying over Horse Race.

ACCOMPANIED by a lady friend, Vidart on his Morane monoplane flew over from Amberieu to the Lyon racecourse on the 29th ult., arriving just as the Grand Prix was being run. Following the race to the post, Vidart turned above the winner while his fair passenger threw out a bouquet which fell at the feet of the winning jockey.

R.E.P. Again President of Chambre Syndicale.

AT the annual meeting of the Chambre Syndicale des Industries Aeronautique on the 25th ult., M. R. Esnault Pelteria was re-elected President, with MM. Armand Deperdussin, H. Kapferer and Alfred Leblanc, Vice-Presidents, A. Goupy, Treasurer, and Andre Granet, Secretary.

Fast Trip by Capt. Aubry.

CONTINUING his work on the Deperdussin-Clerget monoplane, Capt. Aubry on the 29th ult. went from Rheims to Amiens in 1 hr. 10 mins.

Fatal Accidents.

THREE more German officers lost their lives last week. In one accident, which occurred at Darmstadt, both the pilot of the machine, Lieut. von Mirbach, who was the pilot who landed in France some time ago, and his passenger, Lieut. von Brunn, received fatal injuries; while in the other, which happened at Munich, Lieut. Germersheim was killed. On Saturday, St. Cyr was the scene of a fatal mishap, Sergt. Battini, who has been practising for a military *brevet* for a week or so, was flying at a height of about 20 metres when his machine was caught in a *remous* and capsized, and the unfortunate pilot was crushed by the motor falling upon him. On Saturday evening at Zurich, the Swiss aviator, Rech, had a fall while flying at a height of 100 metres, and died late in the evening from his injuries. There was a fatal accident on Sunday in Japan, the pilot, Takeishi, being killed while giving an exhibition flight at Osaka. On Monday, a fatality occurred at Akron, Ohio, the machine of Charles Carlson falling from 150 ft., and the pilot being killed.

High Flying in Spain.

BY flying from Seville to Madrid on Saturday last, Tixier put up the best performance yet made in Spain. During the trip of 250 kilom., *via* Cordova and Toledo, which included the crossing of the Sierra Morena, he had several exciting moments; in fact, largely on account of the dangers the pilot decided not to attempt the return journey by air. Once between Cordova and Ciudad Real he was caught in a bad *remous* when at a height of 2,000 metres, and he had to land in a narrow pass at Almodovar del Campo, which stands 1,000 metres high. He was using a Blériot monoplane with Gnome motor.

Flying Over the Panama Canal.

ON April 28th, the American pilot, Fowler, was flying above the Isthmus of Panama for 55 mins., and secured some fine photographs of the canal works.

Models

Edited by V. E. JOHNSON, M.A.

The Recent Discussion on Hydro-Aeroplanes.

(*Continued from p. 498.*)

MR. G. P. BRAGG-SMITH (continuing the discussion) said: I agree pretty much with what Mr. Johnson has said, but I do not agree with him in connection with his remarks about the necessary tendency to dive on alighting, provided one have the front float set well forward so as to have a tendency to throw the front of the machine up and allow it to alight on its main rear float. Again, it is desirable to have the front float set well forward for other reasons, viz., to counteract the tendency of the rear floats to plunge in preference to having too great an angle on the front of the rear floats, it being undesirable to have an inverted camber on the top of the float owing to its depressing effect whilst in actual flight. This tendency to dive is, of course, owing to the high propeller thrust, and the further out your front float the greater the leverage to overcome it. The setting of this float at a somewhat high angle of incidence also assists you, but may cause a lifting effect tending to upset the machine; for this reason I should suggest a cigar-shaped front float. With regard to dimensional relations, I strongly advocate a long float having an aspect ratio of even 12 or 15, which offers less resistance both in the water and in the air, and which also attains its flying speed quicker, due consideration being given to the simultaneous lifting action of the wings, the ease with which such a float can be driven through the water allowing such action to come into play and more than compensate for the hydroplaning effect of a float with a lower aspect ratio, such a system doing away with a large distribution of lateral resistance, which is always bad. I also advocate a step which should be situated under the centre of gravity, and a sweep down or dip at the rear end of the float, which I have found from actual experiment greatly assists the final leaving of the water, and the avoidance of any suction or drag effect. With respect to what I consider to be the most efficient type, it is one with a long central float, in which neither pilot, passenger, nor engine should be placed, owing to the lesser moment of inertia attained by such a system, it being of the greatest

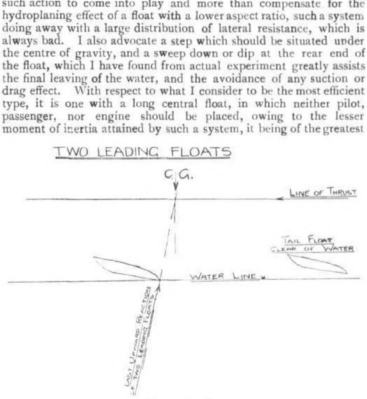


Diagram A.

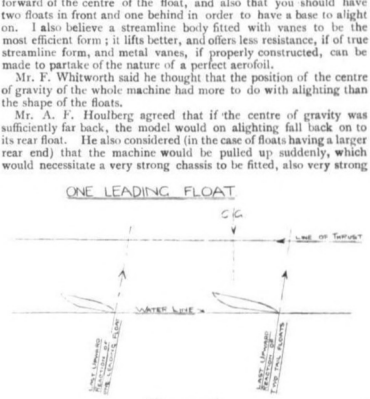


Diagram B.

importance, so far as stability is concerned, that the centres of gravity, of pressure, and of head resistance should be coincident, and the propulsive action of the propellers pass through the same point. There is also the question of the controls to be considered, to take, for instance, the Ridley and other machines, in which they are situated in the floats; in the case of damage to the floats these might be straightaway put out of action. In the case of full-sized machines, all floats should be turtle backed so as not to ship any water.

MR. F. MAYER criticised the last speaker's views with respect to very long floats, and pointed to the failure of early experimenters to quit the water with such. Possibly, if provided with a fin at the rear, which could be operated by the pilot, such could be jerked off the surface of the water—the great trouble being the travel of the centre of water-pressure, as more and more of the float came out of the water. MR. MAYER also asked if anyone had tried the effect of using a small marine propeller (in addition to the aerial one) for launching purposes, in order to overcome the high centre of thrust, and, also, if anyone experimenting with power-driven plants had tried the effect of using the exhaust steam or gases on the underneath side of the float with a view to reducing the friction from water to air-air or rather to gas-gas.

MR. L. H. SLATTER, speaking on the subject of flotational stability, said: From the commencement of my experiments on hydro-aeroplanes I have endeavoured to obtain flotational stability by having a fairly large float track without introducing additional balancers under the plane tips. Then, owing to the fact that my front floats—two in number—are the last to quit the water, *i.e.*, my back one being totally out, the result is that when the machine is struck by a side gust, instead of being blown over, the model is slewed round so as to face the wind and rises; of course the very large base—19 ins. on a span of 3 ft. 3 ins.—prevents the model blowing over in a case like this. I also suggest as a remedy for being blown over when stationary on the water, the fitting of thin aluminium keels. This would also prevent damaging the floats in case of alighting on rough or stony ground. Further to obtain flotational stability, the machine should be low built, and that is one reason why I prefer a monoplane.

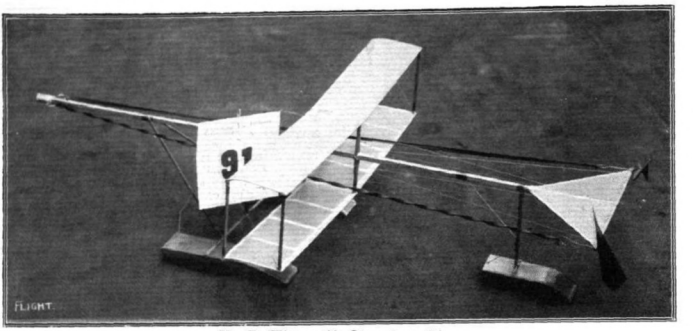
MR. A. F. HOULBERG took exception to a remark of the writer with regard to the larger end of the float being towards the rear, and said: I am of the opinion that the greatest buoyancy should be forward of the centre of the float, and also that you should have two floats in front and one behind in order to have a base to alight on. I also believe a streamline body fitted with vanes to be the most efficient form; it lifts better, and offers less resistance, if of true streamline form, and metal vanes, if properly constructed, can be made to partake of the nature of a perfect aerofoil.

MR. F. WHITWORTH said he thought that the position of the centre of gravity of the whole machine had more to do with alighting than the shape of the floats.

MR. A. F. HOULBERG agreed that if the centre of gravity was sufficiently far back, the model would on alighting fall back on to its rear float. He also considered (in the case of floats having a larger rear end) that the machine would be pulled up suddenly, which would necessitate a very strong chassis to be fitted, also very strong floats. Again, with this type, in the case of a steep nose dive the reaction of floats with the greatest centre of buoyancy at the rear would tend to increase the dive instead of damping it.

MR. F. WHITWORTH has since the discussion sent us the following communication, which we insert herewith, together with diagrams A and B:—

"There is one point about hydro-aeroplanes which strikes me, and that is, that the last part of the float to leave the water must be in front of the centre of gravity, or else the model must be supported on three floats as per diagrams. I think that this also works out in practice. In models with two leading floats, the tail float usually rises first, and the machine's run is made on the two front ones; in the other type, with one float in front and two behind, I think that the model's final run is on all three floats. My idea is that the last reaction is at the *c.g.* of the model. On one of mine (the only one which I measured in this way) the model had two leading floats, and I found that with the best disposition of



Mr. F. Whitworth's Olympia model.

the floats for rising, that the final reaction of the front floats was 1½ ins. in front of the c.g., it seems to me reasonable to suppose that the high centre of propeller thrust was the cause of this."

Some further references were made to the fact that perfect flotational stability could not be obtained by the use of three floats, and that no reference had been made to the relative values of monoplane and biplane.

Mr. V. E. Johnson, in replying to the remarks of the above, said: With reference to Mr. Bragg-Smith's remarks, I agree with him practically in all points save one, and that is the question of the use of very long floats, in which the length is from twelve to fifteen times the breadth. I have carried out some experiments with a float which had a breadth of 3½ ins., a depth of ⅞ in., and a length of 28 ins. The results were very poor indeed. It is true the float had no step. Another float had a length of 32 ins., a depth of 2½ ins., and a breadth of 3½ ins.; this float has one step ¼ in. in depth, 13½ ins. from the leading edge. Considerable force is required to drive this float through the water even when but half immersed. Presuming the float set at a fine angle of incidence, it is very necessary to arrange matters so that the air lift on the wings causes the float to also leave the water at a fine angle of incidence, or else the float will dig its rear edge into the water in such a manner as to cause an excessive stern wave, and retard the machine in such a manner as to absolutely prevent the model quitting the water.

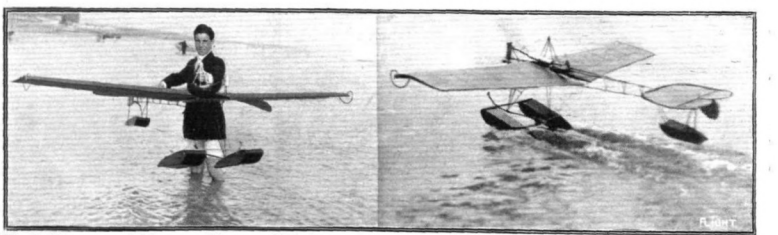
A carefully-conducted series of experiments would be of the greatest value. I am quite sure there is a certain aspect ratio which should not be exceeded. It is true that a float with a high length to breadth ratio cuts through the waves easier, but there is also the back-breaking effect of the waves on the float to be considered, supposing the prow and stern to be simultaneously on the crest of two following waves.

A very long float also makes a very poor hydroplane, and has practically to be lifted out of the water solely by the air lift of the wings, and although it does offer less resistance when travelling through the air, this, it appears to me, is more than compensated for by its poor lifting effect. I should put the maximum length to breadth ratio as not more than nine to one, very possibly less; this, of course, supposes the float to be provided with steps.

Replying to Mr. Mayer's queries, the use of a subsidiary marine propeller has several times been proposed to me, but the experiment, so far as I know, has not actually been tried. Referring to the use of the exhaust gases as a friction reducer if the plant were a steam one, the idea is evidently not feasible owing to the immediate condensation of the steam which would take place. So far as I know, the experiment has not yet been tried, although more than one has proposed it in connection with full-sized work.

Referring to Mr. Slatter's remarks, the great drawback to a wide lateral flotational base is the bad effect any such wide distribution of the weight must have on the stability of the machine whilst in actual flight, it being a cardinal principal in aeronautical design that the moments of inertia about the three principal axes of the machine should be kept as small as possible. In this respect the A frame model is inferior to the one with the one central motor rod, and any rubber-driven machine with its long *fuselage* and corresponding skeins of rubber is distinctly inferior to one fitted with a power plant, especially if the latter be of the petrol motor type. I quite agree with Mr. Slatter as to the slewing round of the machine into the wind instead of upsetting, provided both the front floats are on the water and experiencing approximately the same water resistance, but should this not be the case, then it appears this would not happen, unless the resistance offered by the rear of the machine were sufficient to counteract this tendency. This, I can understand, might very well be the case.

Referring to Mr. Houlberg's remarks, I am glad to see he agrees with me with respect to the streamline body and hydro-vane suggestions. With regard to the larger end of the float being towards the rear, I was considering the problem chiefly from the launching side; moreover, if the reader refers to the section given in last week's issue he will see that the difference is not so large as



Mr. C. Desoutter and his power-driven model hydro-aeroplane, and on the right the model rising from the sea at Bexhill.

Mr. Houlberg's remarks might lead one to expect. A float of such a section will rise without any difficulty if almost totally immersed, provided that the model be of the Canard type and the front float (same section) be well forward. In the case of a float in which the larger portion is in front, the rear of the float has a tendency to sink somewhat deeply into the water, unless the angle of incidence be very fine, and there is always a considerable portion of the front part of the float sticking up out of the water, offering resistance without producing any useful effect. With such a float on a power-driven model, I have had a sheet or spume of water shot up into the air over a foot in height—falling in the nature of a heavy shower on the lower plane (the machine was a biplane); such a float will not cut through the waves and it overrides them very badly. In the case of diving—at any angle—the larger rear end type of float does undoubtedly act to some extent as a brake—but I quite fail to see why, as Mr. Houlberg says—in the case of a steep nose dive the dive should be actually increased. A few actual experiments even in nothing larger than a bath will, I think, convince him of the contrary.

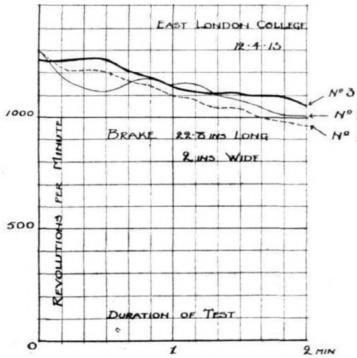
Mr. Whitworth's remarks raise a very interesting question, viz., the actual manner in which different types of machines leave the water. It is an extremely difficult thing to judge by the eye alone in many cases. In the main, I am inclined to agree with him, but in his remarks *re* propeller thrust and float reaction he appears to me to have quite ignored the all-important influence of the air lift on the wings. The impracticability of obtaining perfect flotational stability by the means of three floats was referred to and illustrated quite recently in FLIGHT. With reference to the comparative value of the monoplane and biplane, I have here two models which were built for this very purpose, and I find the advantage lies with the monoplane, owing mainly to lessened resistance and slightly more efficiency; the monoplane flies equally well, or, to be exact, somewhat better than the biplane with two strands less rubber.

Mr. T. W. K. Clarke's Generous Offer to Model Clubs.

We have received the following very interesting details from the firm of Messrs. T. W. K. Clarke and Co. with respect to a full-sized monoplane and glider which Mr. T. W. K. Clarke proposes should be presented to any *bona fide* model aero club that cares to make application. Applicants must clearly understand that application from irresponsible persons will not be considered, as the idea in offering these machines is that they may be made use of in such a manner as to do something towards advancing the art of aviation. The following are the details:—

I. Clarke monoplane, Canard type (minus engine and running wheels, otherwise complete). Length, 20 ft.; span, 30 ft.; chord, 6 ft.; made for a 30-h.p. engine; 7 ft. 6 ins. diameter propeller.

II. Monoplane glider, 40 ft. span, complete, with acetylene-welded steel framing, ash struts and skids, and starting derrick, and 100 ft. of starting rail, as used on original Wright glider.



Stanger petrol motor, 4-cyl. V type.

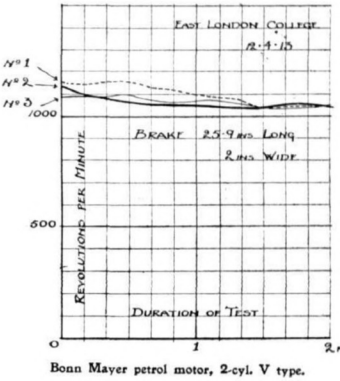
KITE AND MODEL AEROPLANE ASSOCIATION.

Official Notices.

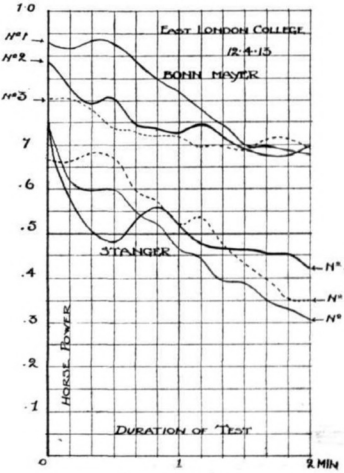
British Model Records.

Hand-launched	Distance	...	A. E. Woollard	... 477 yards.
	Duration	...	A. F. Houlberg	... 83 secs.
Off ground ...	Distance	...	G. Rowlands...	... 230 yards.
	Duration	...	A. F. Houlberg	... 51 secs.
Hydro. off water ...	Duration	...	F. Whitworth	... 37 secs.
Single-tractor screw, hand-launched	Distance	...	F. G. Hindsley	... 173 yards.
	Duration	...	J. E. Louch ...	... 44 secs.
Do., off ground ...	Duration	...	J. E. Louch ...	... 40 secs.

Officially Observed Flights.—On Saturday, May 3rd, the official observers attended Wimbledon Common for the purpose of observing flights of hydro-aeroplanes from the Rushmere Pond, for registration and establishing records.



Bonn Mayer petrol motor, 2-cyl. V type.



Horse-power curve.

The observers were V. E. Johnson, M.A., and W. H. Akehurst, hon. sec. The results were as follows: F. Whitworth, 37 secs.; L. Slatter, 33 secs.; F. Jannaway, 25 secs.: J. E. Louch, 20 secs. Messrs. Dollittle, Houlberg, Rowlands, Weston and Williams also flew, but were unfortunate as they had some fine machines.

Sweepstake.—An open sweepstake competition will be held on Wimbledon Common, on Whit Monday, on the Plain, Wimbledon side of the Windmill, at 2.30 p.m. The competition will be for r.o.g. duration machines and the stakes will be divided up into 1st, 2nd and 3rd prizes. Entrance, 1*s.*, payable on the ground. Members of any club will be welcomed, this being a sporting event arranged by special request of the members.

International Aero Exhibition.—The bench tests of the model aero motors exhibited at the recent International Aero Exhibition, took place on Saturday, April 12th, at the East London College, Mile End Road, and Professor J. T. Morris has now been able to give the results of the two motors, which were the only ones out of six entries who competed. The judges are unable to award the prizes as neither fulfilled the conditions laid down, which were: Model aero motor (excluding rubber and spring motors), prize, £5. The model will be judged on a weight per horse-power basis, the ratio not to exceed 8 lbs. per horse-power. The weight is to include all accessories, with fuel, for a minimum run of 2 mins., to be taken on a bench test, and the total weight is not to exceed 16 lbs.

Official Results of **Brake Tests**, made by Professor J. T. Morris, Electrical Engineering Department, East London College (University of London):—

Motor.	Trial.	Average horse-power over 2 min. Trial.	Weight, horse-power.
Bonn Mayer	1	0·81	11·6
	2	0·74	12·9
	3	0·725	13·2
Stanger	1	0·48	16·0
	2	0·49	15·6
	3	0·545	14·1

Weights.

	Bonn Mayer. lbs. ozs.	Stanger. lbs. ozs.
Weight of engine and carburettor... ...	6 0	5 6½
Accumulator	2 13½	1 4
Coil wiring and fuel	0 11½	1 0½
	9 8½	7 10½

The Bonn Mayer plant could have been run with a smaller accumulator.

The annexed charts will prove very interesting, being the first (we think) yet published or made of model aero motors. Model engine makers will be pleased to hear that as a result of these tests, an article, with charts and tables, will shortly be issued by Professor J. T. Morris, on "The Relation between and the Length of the Simple Fan Brake and the Horse-power which it absorbs at various speeds." These official tests have been carried out by this Association on behalf of the Royal Aero Club, which body will, it is hoped, give the prize for another competition for engines.

27, Victory Road, Wimbledon, S.W. W. H. AKEHURST, Hon. Sec.

AFFILIATED MODEL CLUB.

Paddington and Districts (77, SWINDERBY ROAD, WEMBLEY).

SATURDAY, May 10th, competition for r.o.g. models. Whit Monday, club gives a model flying display at fête, held in grounds of Swiss Cottage, Watford. A club hand-launched competition will be held, also one for novices resident in Watford. Prize for best duration, 5*s.*; entrance, 3*d.*

UNAFFILIATED MODEL CLUB DIARY AND REPORTS.

CLUB reports of chief work done will be published monthly for the future. Secretaries' reports, to be included, must reach the Editor on the last Monday in each month.

Sheffield Model Aero Club (35, PENRHYN ROAD, SHEFFIELD).

WHIT MONDAY (weather permitting) the President's Challenge Cup for hydro-aeroplanes (members only). A hand-launched contest for longest duration (novices only) will be held. Attempts for records can be made by giving one hour's notice to the secretary or assistant secretary. Meet at Clubroom, 32, Carver Street, 9 a.m. Flying at 10 o'clock prompt.

S. Eastern Model Ae.C. (1, RAILWAY APPROACH, BROCKLEY).

DURING the Whitsun holidays flying will take place at Woolwich Common, Blackheath, Mitcham, and Brockley at the usual times. On Tuesday, Thursday, and Friday evenings next week flying at Brockley until dusk.

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Hamel at the Scala.

VERY realistic is the film seen at the Scala Theatre, of Mr. Hamel and his recent flight from Dover to Cologne. One can almost hear the hum of the engine as he rises from the Dover Aerodrome. Not the least interesting is the series of pictures shown preliminary to the flights of those who organised the demonstration, for the purpose of drawing attention to the need of a great imperial air fleet, sitting in committee, the arrival of the Blériot monoplane at Dover, &c.

Incidentally, the visit to this charming cinema house gave us the opportunity of seeing, in addition to the delightful coloured moving pictures, which form the major part of the programme, the new sensation "Kinoplastikon." Truly it is a sensation, in which apparently real figures enter from the wings of the stage, sing, dance and act in the normal way, for all the world as if they were real flesh and blood. Yet *no screen is used.* The figures are "materialised" in the air itself. To elaborate, by further description, the effect produced is useless. Nothing but seeing can really convince in this case. Therefore do we counsel our readers to pay the Scala Theatre a visit, and come away, like ourselves full of wonder.

LEGAL INTELLIGENCE.

The St. Martin's Publishing Co., Ltd., *v.* Mann and Grimmer.

THIS was an action brought originally by the St. Martin's Publishing Co., Ltd. (the proprietors of FLIGHT) against Messrs. Mann and Grimmer, who are manufacturers of model aeroplanes, for sums due by the latter in respect of advertisements inserted in FLIGHT. Messrs. Mann and Grimmer counterclaimed for damages for alleged libel in the Journal. The matter came before Mr. Justice Horridge, on the 6th inst., when Mr. M. N. Ducquer (instructed by Messrs. Hicks, Arnold and Mozley) appeared for the St. Martin's Publishing Co., Ltd., and Mr. A. S. Poyser (instructed by Messrs. Torr and Co.) for Messrs. Mann and Grimmer.

Mr. Poyser stated that the matter had been arranged between the parties upon terms which included the payment out to the St. Martin's Publishing Co. of the sum claimed by them for advertisements, which had been paid into Court, and Messrs. Mann and Grimmer withdrew the allegations of any kind which had been made by them against the St. Martin's Publishing Co.

Counsel added that he considered that the St. Martin's Co. had met the defendants in a very generous and honourable spirit.

Mr. Ducquer confirmed what had been stated by Mr. Poyser, and added that his clients quite admitted that the model aeroplanes made by the defendants were capable of flying, and had, in fact, no intention of wishing to damage the defendants' reputation, and did not intend any of the articles to refer in any way to them.

The Judge thereupon ordered the record to be withdrawn upon the terms agreed between the parties, which include the payment of all costs by Messrs. Mann and Grimmer to the St. Martin's Publishing Co., Ltd.

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A Blériot at the Canaries.

THE inhabitants of the Canary Islands had their first sight of an aeroplane on the 2nd inst., when Leonce Garnier, who has a flying school at Vittoria, in Spain, paid a visit to Las Palmas and made several exhibition flights on his Blériot monoplane.

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NEW COMPANY REGISTERED.

Aerial and General Construction Co., Ltd., 16, Wigmore Street, W.—Capital £1,050, in 1,000 preference shares of £1 and 1,000 ordinary shares of 1*s.*

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PUBLICATION RECEIVED.

Aeroplanes in Gusts. Soaring Flight and the Stability of Aeroplanes. By S. J. Walkden. London: E. and F. N. Spon, Ltd., 57, Haymarket. Price 7*s.* 6*d.* net, post free 7*s.* 10*d.*

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Aeronautical Patents Published.

Applied for in 1912.

Published May 8th, 1913.

11,894. T. E. W. T. HENDERSON. Seats.
15,533. M. CHRISTITCH. Combination aeroplane and dirigible.
16,890. E. RUMPLER LUFTFAHRZEUGBAU GES. Aeroplane steering.
24,227. C. B. WESTERMAN. Aeroplane.
25,877. L. BLÉRIOT. Aerial machines.
26,589. E. S. DRAKE. Parachute attachment for aeroplanes.

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