BULLETINS

OF THE

Aerial Experiment Association

Bulletin No. XXVI Issued MONDAY, JAN. 4, 1909

MR. McCURDY'S COPY.

BEINN BHREAGH, NEAR BADDECK, NOVA SCOTIA

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Bulletins of the Aerial Experiment Association.

BULLETIN NO. XXVI ISSUED MONDAY JAN. 4, 1909.

Beinn Bhreagh, Near Baddeck, Nova Scotia.

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EDITORIAL NOTES AND COMMENTS.

Langley Medal and Tablet.

December 26, 1908:- I have just returned to Beinn Bhreagh after a visit to Washington, D.C., and Hammondsport, N.Y. I left Beinn Bhreagh December 11, and returned December 25 intime for Christmas dinner.

On December 15, I attended a meeting of the Regents of the Smithsonian Institution in Washington.

Secretary Walcott read a letter he had received from me which reads as follows:-

> Beinn Bhreagh Dec. 5, 1908:- The Wright Brothers are being deservedly honored in Europe. Cannot America do anything for them? Why should not the Smithsonian Institution give a Langley Medal to encourage Aviation?
> (Signed) Alexander Graham Bell.

Secretary Walcott seconded the suggestion which met with the unanimous approval of the Board of Regents, and Senator Cullom moved the following resolution which was adopted:-

> "RESOLVED:- That the Board of Regents of the Smithsonian Institution establish a medal to be known as the Langley Medal, to be awarded for specially meritorious investigations in connection with the Science of Aerodromics and its application to Aviation".

Senator Cabot Lodge then moved the following resolution which was adopted:-

> "RESOLVED:- That the Secretary of the Smithsonian Institution be requested to report to the Board of Regents as soon as practicable upon the erection in the Institution Building of a Tablet to the memory of Secretary Langley, setting forth his services in connection with the subject of Aerial Navigation". A.G.B.

AERO CLUB MEDAL.

December 26, 1908:- On December 16, I visited President Roosevelt at the White House as a member of the Committee on Medals of the Aero Club of America. The delegation was a large one under the leadership of the Hon. Mr. Parsons, a member of the House of Representatives.

The delegation explained to the President that the Aero Club of America proposed to give a medal to the Wright Brothers at a banquet to be held in New York as soon as the Wright Brothers return from Europe. The object of the conference was to invite President Roosevelt to attend the banquet and present the medal.

President Roosevelt made an eloquent address in response to the invitation of the Committee showing thorough appreciation of the great work accomplished by the Wright Brothers, and his desire, as head of the Nation, to bestow the medal upon them. He regretted, however, that it would be impossible for him to attend a banquet in New York and proposed an alternative plan.

He suggested that the medal should be given in the White House and he placed the Blue Room of the White House at the disposal of the Committee to accommodate a meeting of persons interested in Aerial Locomotion.

The invitation of the President has been accepted by the Aero Club but the date has not yet been fixed. A.G.B.

PATENT MATTERS.

December 26, 1908:- On Dec. 16, Mr. Cameron of the firm of Mauro, Cameron, Lewis & Massie, spent the evening with me at my house in Washington and we went over very carefully the specification he has prepared for a patent upon the Hammondsport work. We found that the difficulty regarding the use of the word aeroplane as applied to a concave-convex surface could be very easily gotten over by omitting the word aeroplane wherever it occurs and substituting "supporting surface".

I suggested to Mr. Cameron that a broad claim might be added covering a unique feature of the truss employed in the Hammondsport machines. The vertical compression members (of fish-shaped cross section) have considereble extension in the fore and aft direction, but are very thin in the lateral direction in order to reduce head resistance and weight as much as possible. In order to prevent lateral deflection they are supported by tension members in the form of tie wires.

Mr. Baldwin thinks that this is a unique feature in trusses, and I agree with him in believing that it will become a necessary feature in aerodrome trussing. In bridge trusses and in fact in trusses of all sorts not intended for aerial work compression members, thin in their lateral cross section strengthened by tension members in the form of tie wires, do not seem to possess much advantage and the plan seems universally to have been adopted of strengthening the

compression members by making them thick enough to resist deflecting strains. In aerodrome ~~tmmssing~~, on the other hand, compression members thick in lateral cross section, are undesirable because such thickening adds weight and increases head resistance. The plan adopted in the Hammondsport machines gives the necessary strength to resist deflection without material increase of weight or head resistance. For this reason such a construction will appear as an element in all the flying machines of the future, and if a claim for this element is sustained by the Patent Office it would render our patent of great value.

I have therefore suggested the insertion of a claim somewhat as follows:-

> In a flying machine, a truss containing compression members supported against lateral deflection by tension members in the form of tie wires, or
>
> The combination of a compression member withatension member to resiut deflection.

The suggested claim may not, perhaps, be in proper form but Mr. Cameron now has the idea and approves of it and will put it in proper shape for submission to the Patent Office. A.G.B.

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VISIT TO HAMMONDSPORT.

December 28, 1908:- I spent Sunday and Monday (Dec. 20 & 21) at Hammondsport, N.Y., and examined with interest our Drome No. 4, McCurdy's Silver-Dart, and our Drome No.3, Curtiss' June Bug, placed upon floats and renamed the Loon.

On Sunday, Dec. 20, three gentlemen from a distance appeared in Hammondsport to witness any experiments that might be made for my benefit. These were Mr. Means of Boston, the Editor of the Aeronautical Annual; Mr. H.L. Jones, Editor of Aeronautics; and Mr. Kimball, the Secretary of the Aeronautical Society of New York.

Drome No. 4, McCurdy's Silver-Dart, is certainly a beautiful machine entitled to the highest commendation. The new engine looks most efficient. We went out to the race track on Sunday afternoon to try the Silver-Dart although there was rather more wind than was desirable and the weather was very cold. The tent in which the machine had been housed had been taken down and a wooden building, almost completed, had been substituted. This had been done on account of the high winds that had prevailed which threatened to wreck the tent and incidentally, the machine. The wisdom of the wooden building was made manifest by occasional gusts of wind striking the tent cloth that covered the open side of the unfinished building with such force as to show that there would have been great danger of injury to the machine in an unprotected tent.

While these squalls lasted it was impossible, of course, to take the machine out into the open. We utilized

our time by testing the engine and propeller. The engine seemed to work perfectly and the impression left upon the mind was that Curtiss and McCurdy had now at their command abundant power for every purpose, but subsequent experiments seem to indicate that this may not be so.

About sundown on Sunday, Dec. 20, the wind died down sufficiently to enable experiments to be made. There was still, however, a breeze of I should think about 6 miles an hour blowing down the valley towards Lake Keuka. On account of the limited space available for manoeuvres in the valley higher up than the race track, it was not considered advisable to attempt flying the machine against the wind in that direction. The attempt was therefore made to go with the wind down the valley towards Lake Keuka. The engine and propeller seemed to work well and the machine made a fine run on the ground, but when McCurdy elevated the front control the machine only rose sufficiently to clear the raised side of the track and immediately came down in the field beyond running some distance over the snow before the engine was stopped.

Three attempts were made with similar results and further experiments had to be postponed to another day.

Poor Douglas McCurdy was much mortified at the behavior of his aerodrome in the presence of distinguished visitors, especially so because the machine, a few days before had flown beautifully a distance of about a mile. On that occasion, however, the wind had been blowing up the valley from the Lake. The machine was well supported when flying

against the wind, but came down when he made a turn and attempted to go back to his starting point with the wind.

I think the result indicates that the velocity attained is not sufficiently great for the support of so heavy a machine, so that if its velocity, relatively to the air, is reduced by 5 or 6 miles by a wind blowing in the direction of the machine's motion, it is not supported in the air; whereas if the relative velocity is increased by 5 or 6 miles by a wind blowing against the machine it flies well.

What is needed, I think, is plenty of superfluous power to make up for changing air conditions, and this means greater power in the engine, or less weight in the machine. It is somewhat noteworthy that the continuous process of evolution at Hammondsport has resulted in greater and greater flying weight in the machines until, in the Silver-Dart, as at present equipped, we have little, if any, superfluous power, so that a slight wind blowing with the machine robs it of support.

Curtiss and McCurdy thought that greater propelling power would be obtained with a new propeller they had on hand. This was installed on the Silver-Dart on Monday, Dec. 21, but weather conditions, prevented any trial of the machine on that day before I left, and I have not heard of greater success having been attained since. In my opinion the trouble lies in the engine and not the machine. The engine is too heavy for that machine. I am also inclined to think that the center of gravity is too far forward for safety in the event of the loss of headway. The machine itself is beautifully

constructed and I have no doubt that with a lighter engine or a considerable increase in propelling power, and with the center of gravity placed somewhat further back the Silver-Dart will prove to be the finest flying machine ever constructed.

I was much interested in seeing the Loon although no opportunity presented itself for a trial during my stay in Hammondsport.

I was somewhat surprised that the Loon, in former experiments, failed to rise from the water without hydro-surfaces for it seems to have made a speed of about 23 miles an hour. After seeing the floats, however, I can well understand the failure to rise, for they are triangular in cross section and placed flat side down. Imagine a boat with a flat deck placed upside down in the water so that instead of resting upon its keel it floats deck side down. I can well imagine that under such circumstances the suction of the water, when the machine is going 20 miles an hour or more, would be sufficiently great to prevent rising into the air.

The hydro-surfaces now fitted below the catamaran structure appear enormous as compared to those used in Baldwin's experiments here. They are beautifully made, of wood, and present the curved surface that has proved so successful here. The submerged surfaces, however, judging from our experiments here are much too large, presenting probably more than ten times the surface used by Baldwin. I have not yet heard what results have been obtained with them in Hammondsport. A.G.B.

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IMPORTANT CONFERENCE AT HAMMONDSPORT.

December 29, 1908:- On Sunday evening (Dec. 20) the following persons were assembled in my room at the Hammondsport Hotel:- Messrs. Curtiss, McCurdy, Means, Jones, Kimball and myself. Of course we talked of flying machines, dirigible balloons, aerodromes, aeroplanes etc. etc.

One subject on which we all seemed to agree was that the terminology of Aeronautics required revision, and especially that the word aeroplane, as the name of a machine which had no plane surfaces in it, was inappropriate and incorrect. Discussion developed the point that there was much less objection to the word aerodrome that I had supposed and Mr. Jones suggested the adoption of the term as a designation for heavier-than-air machines generally, including the so-called aeroplanes, helicopters and ornithopters.

It is probable that this little conference at Hammondsport may lead to important results. Mr. Jones proposed that if we could all agree upon a suitable terminology he would adopt it in his journal "Aeronautics", and Mr. Means gave the impression that he too might adopt it in further issues of the Aeronautical Annual.

I expressed the opinion that Langley, the introducer of the word "aerodrome" limited the term to the class of flying machines now commonly spoken of as aeroplanes; and expressed a doubt as to whether the etymology of the word would render it applicable to helicopters and ornithopters. We tried to find a dictionary in Hammondsport that should

define its meaning but the word was not contained in any dictionary accessible to us. I asked Mr. Jones to hunt the word up in the Standard Dictionary and let me know how it was defined as I had the impression that the dictionary limited the term to machines supported by gliding flight.

I had always had the idea that the word "aerodrome" had been coined by Langley by compounding together two Greek words aero (air) and dromos ("a course, race, running; flight; a fleeing; escape)". The word "dromos" being derived from "dramein" the infinitive of a verb meaning "to run","to move quickly"; it is obvious that the root meaning of "aerodrome" is "air runner".

I find, upon examination, that I was mistaken in supposing that the word "aerodrome" originated with Langley. The Smithsonian correspondence has revealed the fact that Prof. Langley corresponded with Prof. B.L. Gildersleeve, the distinguished Professor of Greek at Johns Hopkins University concerning a suitable name for his machine.

In a letter to Prof. Langley, dated, Oct. 30, 1890, Prof. Gildersleeve says:-

> "The word you want is made to your hand in aerodrome (aero-dromos)"air runner". ***No one will have anything to say against a Greek word that is found in the Lexicon".

Again under date, November 4, 1890, Prof. Gildersleeve says:-

> "To my mind "___-drome" connotes swiftness, as the "dromedary", is the "swift camel". The main thing is to get a word of fairly classic formation, fairly suggestive (not exhaustive) of the thing, and wholly easy of pronunciation. Modern Scientific nomenclature is based on definition.

Hence the awkwardness to begin with, and the inadequacy to end with.

It thus appears that the word "aerodrome" was suggested by Prof. Gildersleeve and adopted by Prof. Langley. It is not a new word artificially compounded from "aero" and "dromos", but is an old word in actual use by the Greeks and to be found in every Lexicon. Everyone, therefore can get the proper definition for himself by consulting a Greek Dictionary. I have just examined a Greek Lexicon and find the following two words bearing upon the subject:-

Aerodromeo, "to traverse air".
Aerodromos, "traversingair".

These are the meanings of the words as used by the Greeks; and I have therefore written to Mr. Jones that there appears to me to be no impropriety in extending our meaning of "aerodrome" to cover all flying machines of the heavier-than-air type as he suggested or even to include dirigible balloons. In fact the word "aerodromics" might, consistently with its Greek meaning replace the word, "aeronautics" itself, so as to cover the whole field; and such a word would be more appropriate than aeronautics, for balloons and flying machines are not analogous in any respect to ships and they all "traverse the air". A.G.B.

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December 31, 1908:- Baldwin's new hydrodrome was launched to-day. Mrs. Baldwin stretched out her arm in dramatic fashion over the bow of the boat as the men were about to put it into the water and exclaimed, "I name thee the Query". The name will be painted on the bow and the stern will bear an interrogation mark (?). Not attempt was made to try the "Query", and we were satisfied with launching her as the final act of the Laboratory for the year 1908. (for photographs of this boat see Bulletins XXII p. 31, XXIV p. 47 and a photograph in this Bulletin). A.G.B.

LETTERS FROM MEMBERS.

Curtiss to Bell.

To A.G. Bell,
Washington, D.C.

Hammondsport, N.Y., Dec. 16, 1908:- Your message was not received last night in time to get the patent papers away. We are sending them this morning, they should reach you tomorrow morning.

May we expect you here within the next few days? If not, shall we see you in New York on your way back? We hope you will find it possible to come here. I think we can make experiments with both machines while you are here. The "Silver-Dart" will be ready again to-day with its new 8 1/2 foot pitch propeller.

The experiments have shown that there is as much slip with an 8 foot propeller as with a 6, notwithstanding the double area covered by the blades. Although we have much more propeller push we do not seem to have the necessary speed and have, therefore, increased the pitch of the propeller. Full description and photographs of trials to date have been sent for the Bulletin.

We are fitting hydroplanes on the pontoons so as to give this another trial when we are through with the "Dart". The weather here is very good, and I hope you will find it possible to come up. The train, you know, leaves at 7.03 P.M. and we can meet you at Elmira.

(Signed) G.H. Curtiss.

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McCurdy to Mrs. Bell.

To Mrs. A.G. Bell,
Baddeck, N.S.

Hammondsport, N.Y., Dec. 17, 1908:- ***This morning as we have already telegraphed you (and received your very nice reply) we had a try out, with a new propeller of much greater pitch, giving even at reduced revolutions (668 per minute) a greater pitch speed than we had before. The first flight was great. The balance is so good, and the controls all work so well that it is a pleasure to sit in the machine every minute of the time you are flying. She leaves the ground after traveling 150 feet exactly at the moment you want it to. She seems so light and buoyant. I did so wish that you and Mr. Bell could have been here. She flew down across the old potato patch and then I shut her off because we wanted to look things over before trying a longer flight. Everything was O.K., so we ran her back under her own power and started again this time with the intention of making a turn. I bungled it however, and just as the turn was completed the starboard wing touched the ground and the machine spun round and broke the wheels. The brakes, however, are things that can be repaired in an hour, and so in the afternoon all the substitute wheels and sheets were prepared and to-morrow morning we will try again. I think we will be more successful. It is snowing hard at present; there is about two inches of snow. I don't think however, that this will effect our starting.

(Signed) J.A.D. McCurdy.

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Curtiss to Mrs. Bell.

To Mrs. A.G. Bell,
Baddeck, N.S.

Hammondsport, N.Y., Dec. 17, 1908:- ***The two flights John made were very good indeed. The first landing was voluntary on account of a new fence which we did not want to bring the machine back over. In the second trial John attempted too short a turn and was forced to land, striking one of the wings and breaking the wheels.

A great deal of time has slipped by with seemingly not much accomplished of late. I must say, however, that nothing has interfered with the work of the Association. The entire shop has been at its disposal, and everything else has been put aside when necessary to get work out for the flying machines.

(Signed) G.H. Curtiss.

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McCurdy to Mrs. Bell.

To Mrs. A.G. Bell,
Baddeck, N.S.

Hammondsport, N.Y., Dec. 19, 1908:- The wind blew so hard yesterday that the machine was threatened, and in fact the tent was torn from the ridge pole right down to the side in several places. It is getting so late in the season now that the weather cannot be relied on, and to eliminate all chance of losing the machine, as far as wind and snow are concerned, we have decided to put up a shed right by the tent in which to house the machine. Mr. Harry Champlin has very kindly consented to allow us to do this. The work is busily going ahead at the present. Even if we do not fly any more this year the shed will always come in as useful and even in the Spring and Summer will be much better than a tent.

Just received a note from Mr. James Means, in which he wished to know if he and his friend Prof. Laurence Rotch could come to Hammondsport and see the experiments. I have wired him to come by all means, and it will be especially nice for him to come now as Mr. Bell will be here.

(Signed) J.A.D. McCurdy.

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Curtiss to Mrs. Bell.

To Mrs. A.G. Bell,
Baddeck, N.S.

Hammondsport, N.Y., Dec. 22, 1908:- *** Mr. Bell left yesterday after a day's stay. We had a most profitable and interesting time. Mr. Means, Editor of the Aeronautical Annual, Mr. Jones, Editor of Aeronautics and Mr. Kimball of helicopter fame, were her. We did not get off very good flights. I will write a little later about that, we may do something yet to-day.

To-morrow we shall start crating the "Silver-Dart" for shipment to Baddeck. The engine will follow as soon as the "Loon" with its hydroplanes are tried and some shop tests made which, however, will not take long. I am sorry we could not have finished up and gone back with Mr. Bell. We should have likedvery much to have been with you during the holidays. Wishing you a merry Christmas, I am

(Signed) G.H. Curtiss.

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BRAKE TESTS: By F.W. Baldwin.

Realising that we were not getting uniform results from the engine used on the Dhonnas Boag, we decided to put a brake on it to get some indication of the power which was being developed under the ordinary conditions we were dealing with. The bore of the Curtiss No. 2 is 3 1/4 in., stroke 3 1/2. Judging from the capacity of this engine, and applying emperical formulae ordinarily used in Marine engines, this engine should develop about 12 H.P. at 1200 revolutions per minute. While the engine may develop more power at higher speed we rarely get more than 1200 rpm in the course of ordinary experiments so that we thought it might be advisable to get some idea of the power ordinarily at our command.

Explanation.

B.H.P. = ft. lbs. per minute divided by 33000 = rpm x P x circumference divided by 33000 = rpm x P divided by 1000 when circumference equal 33 ft. and P equal the pull of the Spring Balance + or - the weight of the Brake Arm. Brake Arm equal 5 1/4 ft.

A Brake was made with above length of arm an attached to the spoked fly-wheel already fitted to the engine.

On Thursday, December 24 we attempted to get some readings but found the spoked fly-wheel not suitable for the purpose beirg by no means an accurate circle. The scale fluctuated so greatly that very little reliance can be placed on the following figures.

In the table:- R is the number of rotations in 10 seconds, P is the pull on the Spring Balance minus or plus

the weight of the arm. Rpm equals revolutions per minute, and H.P. is Horse Power.

10 secs.

R	P	RPM	HP
300	4	1800	7.20
280	5	1680	8.40
200	6	1200	7.20

N.B. Load could not be accurately adjusted. Engine speed variable.

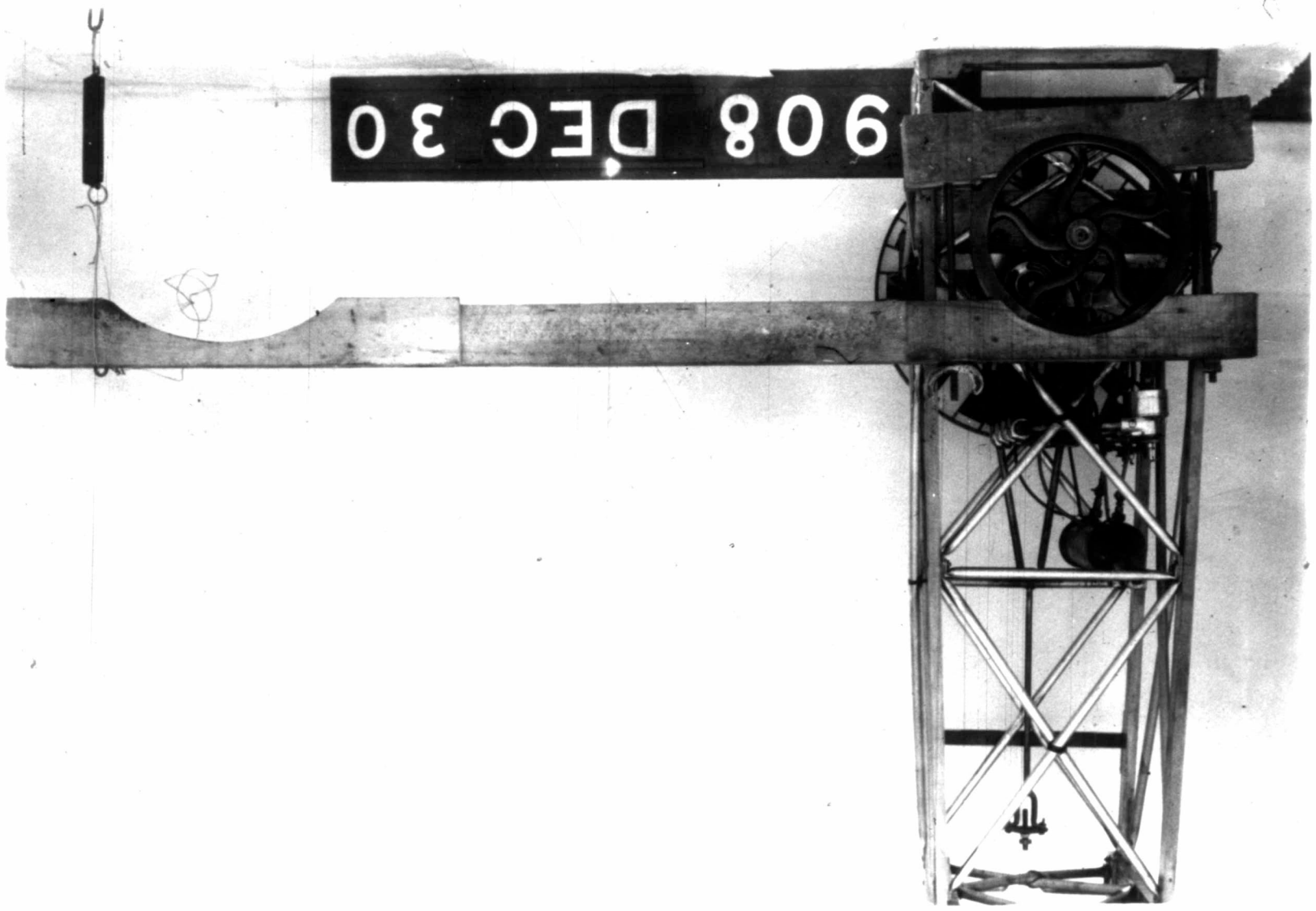
As these readings could not be relied upon we put on another fly-wheel, 14 in. in diameter, which belonged to a small steam engine. This was bolted on to a flange at the other end of the crank shaft giving the engine two fly-wheels.

The results with this arrangement were very much more reliable and I think give a true indication of the power developed. It is only fair to say that the engine was not properly tuned up during any of these tests although all the cylinders were firing when the readings were taken.

10 secs.	R	P	RPM	HP
	210	5.5	1260	6.7
Monday Dec. 28	165	8.0	980	7.84
	200	6.0	1200	7.2

N.B. During these tests the engine was hard to start and would not take an advanced spark.

On Tuesday, December 29 we replaced the non-vibrating by a vibrating coil. Found the engine started more easily and got the following results.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10 secs.

R	P	RPM	HP.
180	10	1080	10.80
155	11	930	10.23
100	12	600	7.20
180	8.5	1080	9.18
210	7.0	1260	8.82

Although engine was only run for perhaps a minute at a time and given three to five minutes rest between readin s the H.P. fell off ver rapidly. We tried engine unloaded and only got 1440 Rpm,so concluded that although mixture seemed all right,engine was working so badly that further brake tests would be useless. F.W.B.

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Telegram.

Bell to Curtiss.

Baddeck, N.S. Dec. 31, 1908:- Baldwin's new hydrodrome launched to-day, and named the "Query". Happy New Year to all. Want you here.

(Signed) Graham Bell.

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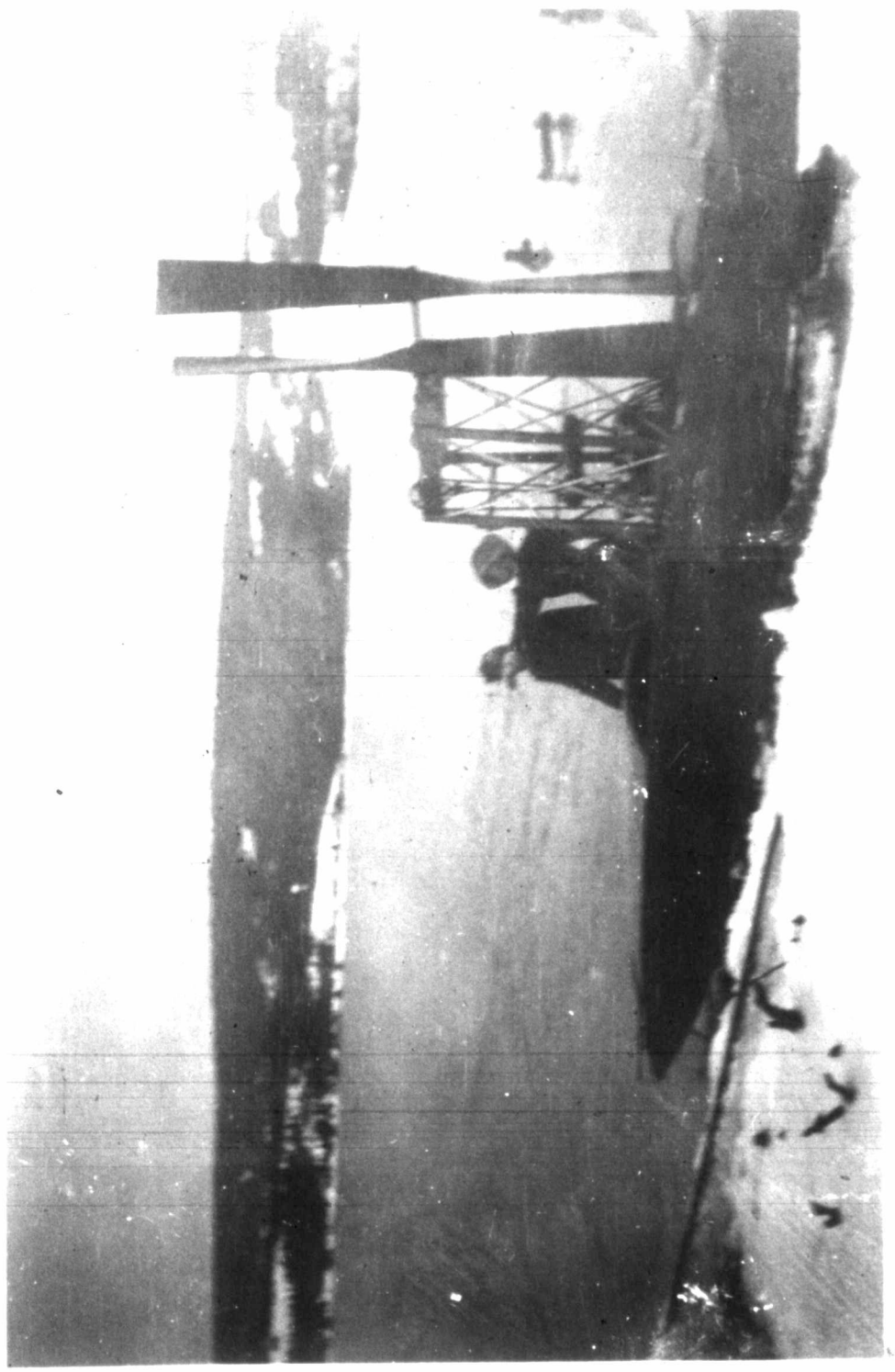

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Gen. Allen to Bell.

To A.G. Bell,
Washington, D.C.

War Department, Washington, D.C., Dec. 17, 1908:- A telegram has just been received at this office from Mr. J.A.D. McCurdy, Secretary of the Aerial Experiment Association, informing us of two successful flights of the "Silver-Dart" to-day, one of them extending one mile and three-quarters.

Permit me to extend congratulations on this important achievement, and I regret that, due to pressure of public business just at present, it is not possible to have an officer of the Signal Corps present during these tests.

(Signed) James Allen

Brigadier General,
Chief Signal Officer of the Army.

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Morrell to Bell.

To A.G. Bell,
Washington, D.C.

Aero Club of America, New York, Dece. 23, 1908:- The Committee on Medals, Aero Club of America, extends to you its appreciation and thanks for the courtesies extended by you to Mr. D.J. McComb of the Committee while in Washington, a few days ago. The Aero Club of America believes Congress should by appropriate resolutions extend the thanks of the Nation to Wilbur and to Orville Wright and also present them with gold medals. Congress did this for Cyrus Field, and the Wrights have contributed as much to the progress of civilization as did Mr. Field, great as was his services.

At the reception and presentation in the East Room of the White House by the President the Aero Club would like to have represented the Army and the Navy. It would like to have the diplomatic corps present etc. etc.

I have laid the matter of Congress giving the thanks of the Nation and striking gold medals to the Wrights before Congressman Parsons, who is now in this city. There has hardly been time for a reply. The Aero Club is particularly desirous of securing the attendance at this banquet of Secretary of War, Luke E. Wright, and I understood from Mr. McComb that the Secretary would, probably, attend. The Secretary has, however, declined our invitation to attend and speak. I do not think his refusal is final. I think an invitation coming from you with your high standing in the Club and in Science would have great influence with him. Will

you not oblige the Club and try to get him. Please accept thanks in advance.

The date of the banquet and also the date of the Reception and presentation subject to the approval of the President is now being arranged for, Mr. Chas. R. Flint has cabled Wilbur Wright to be present and the Club is now in correspondence with Orville Wright at Dayton, Ohio.

We invite you to help us in the above matters, except as to the date with the Wrights. The Committee on Medals, of which you are a member, has accepted the artistic design of the sculptor Victor D. Brenner, a famous sculptor. The whole costs of the matter will be about two thousand dollars. Undoubtedly no other such artistic and costly medals will ever be given them with the exception of these of the United States, perhaps, if we can have our way with the United States.

Please excuse this long letter.

(Signed) De Witt C. Morrell
Chairman Committee on Medals,
Aero Club of America,
15 William St. N.Y.

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Bulletin No.XXVI

Means to Bell.

To A.G. Bell,
Baddeck, N.S.

196 Beacon St. Boston, Mass. Dec. 25, 1908:- I want to thank you most heartily for all the kindness and hospitality shown to me at Hammondsport.

I also wish to express once more my admiration for the work which your Association has done and is doing.

I believe that you will get a splendid development out of the "Silver-Dart" when you get her on the ice at Nova Scotia. Ice is perfection for getting a start, no jars, no shocks.

The "Loon" is a great machine as she is now rigged with her floats and her hydro-curves. I am looking forward to the time when she first flies from the water. That will be an epoch-making day!

I wish you all kinds of success with the tetrahedral flier, Drome No.5, I think you call it. I shall watch the newspapers eagerly. I have now in the Patent Office eight applications for patents on flying machine accessories. Most of my claims have already been allowed. As soon as my patents are issued I shall take the liberty of sending copies to you.

Please give my regards to Mr. Curtiss and Mr. McCurdy if they are with you and please give them my thanks for the kindness they have shown to me.

Wishing you a very happy new year, I am

(Signed) James Means.

A No.XXVI

Bell to Claudy.

To C.H. Claudy,
523-10th St., N.W.,
Washington, D.C.

Baddeck, N.S., Dec. 31, 1908:- I have been travelling for some time past and have just returned here. This accounts for my delay in replying to your notes of December 5 and Dec. 17 which have just been brought to my attention.

I am glad to know that you have made the set of enlargements from your fine negatives of the Wright machine and of course I shall be glad to pay the expense you have incurred in the matter if you will kindly send me the bill.

My idea has been that the Aerial Experiment Association should lend its services to the preservation of photographic records of the historical flights of Orville Wright at Fort Meyer. I have therefore arranged with a number of persons who have taken good pictures of these flights to have enlargements made for the Aerial Experiment Association and at the expense of the Association. It is then my intention to present the whole collection to the National Musuem in the name of the Association so that it shall get the credit of the gift.

I should be much obliged if you could place your collection, for the present, in the custody of my son-in-law, Mr. David Fairchild, as I do not expect to be in Washington for some time to come.

The Smithsonian Institution has just established a medal to be called "The Langley Medal" and the first recipient

will be the Wright Brothers. The date of presentation has not yet been settled but it is my idea that that will be the proper time for the Aerial Experiment Association to present the various collections of photographs to the Smithsonian Institution for preservation in the National Museum. That would also be the proper time for an exhibition of the photographs at one of my Wednesday Evening Receptions or at a special meeting for the purpose.

President Roosevelt is to present to the Wright Brothers, at the White House, the medal of the Aero Club of America and it is probable that the Smithsonian Medal may be given at about the same time, date not yet fixed. It would be very proper, therefore, at that time to have a special meeting at which you could show the photographs you have made and give some explanation of them.

I am very much obliged to you for so kindly remembering my wish in the matter.

(Signed) Alexander Graham Bell.

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THE OUTLOOK ON AVIATION: By Asst. Editor.

Everybody's Magazine for January contains an article by Maximillian Foster on heavier-than-air machines. This article is of interest to us in that the auther has used the word "aerodrome" in speaking of the machine. The word "flyer" is also used. Although it can brag of no Greek or Roman ancestors it is a good self made American word.

Aeronautics for December.

The issue contains an article by our Secretary, McCurdy entitled "Aerodrome No.4 and the Aerial Experiment Association". There is also a short article on the "Trial of the Loon Hydroplane".

The opening remarks of Major Squier in his speech to the American Society of Mechanical Engineers appears in Aeronautics for December.

Foreign News for the Month. Belgium:- The ornithopter of Count de La Hault is reported to have risen from the ground. This machine is driven by a 100 H.P. engine.

The triple surface aerodrome of Baron de Caters has covered a distance of 800 meters. The motor used is a Vivinus of 57 H.P. turning up 1250 rpm.

France:- Wright is still instructing Count de Lambert in the art of flying.

Bleriot is at last building a double-surface aerodrome. Although he believes in a single surface for speed, he prefers the other for stability. The new machine is to have 60 sq. m of surface and 8 sq. m in tip controls, these controls

being placed at the rear of the surfaces.

Santos Dumont is reported to have made several short flights on November 17 with his single surface aerodrome.

On November 16 the Antoinette IV single surface aerodrome made good flights of 600 and 700 meters.

On November 16 Farman made a flight of 5 kioms. Farman has added another surface to his machine making it a triple surface aerodrome.

On November 21, Pelterie won the third A.C.F. 200 meter prise by flying 316 m at Buc with his single surface aerodrome R.R.P. 2, his against a measured wind of 21.6 kiloms an hour, with perfect stability.

At The Camp of Satory, under the supervision of engineers and artillery, a military triple surface aerodrome is being constructed of silk. There is a triple surface stabilising cell in front and rear. The machine is driven by one propeller placed in front of the aviator.

In the latter part of November Pischoff-Koechlin made six short flights of 300 and 500 meters in his single surface aerodrome. It has 23 sq. m surface, weighs 345 kilos with aviator, 17 H.P. Dutcil motor.

Delagrange will soon try four different types of machines one of the Wrights and a triple surface aerodrome.

The Goupy triple surface aerodrome has made a number of flights at Issy. After 8 flights of 200 and 300 meters in making a turn the motor slowed down, the machine tipping and injuring the right wing.

Germany:- A Wright aerodrome is being built near Berlin by Mr. Mechner.

L'Aerophile for December.

Delagrange at Savigny:- On November 29, in the presence of a crowd of more than 2000 persons, Leon Delagrange with his single surface aerodrome made several flights of about a quarter of an hour at a height of from 10 to 12 meters.

The Lejeune Aerodrome:- M. Lejeune is having built by M. de Pischof, a double surface aerodrome of bamboo framework with two controls, one in front and one in the rear. A 12 H.P. motor drives two propellers by chains.

Italy and French Aviation:- Lieutenant Calderara, of the Italian Marines, who for some time has been interested in the subject of aerodromics has just been entrusted officially by his Government to participate in aerial experiments and to make them on his own account.

Aerodrome R.E.P. 2 bis:- This single surface aerodrome which gained the third prize of 200 meters at Buc approaches nearer the natural form of a bird than any aerodrome yet flown., its greatest spread of surface being from fore to aft.

Foreign Aerodromes.

Spanish in Belgium :- The "Bruxelles Aviators", a new Belgium Society is going to put in the field a type of aerodrome with 7 m 50 of surface supplied with an 18 H.P. motor, driving a single propeller. The machine is mounted on wheels which it will cast off when it takes the air.

Henry Farman in his triple surface Aerodrome:- The rain having ceased Henry Farman on the 24th of November commenced the

trials of his machine which has been transformed into a triple surface aerodrome. In the morning several remarkable flights were made. The velocity of the wind varied from 6 to 14 meters per second. In this gusty wind the celebrated aviator made some very startling manoevers. Sudden squalls of wind would raise the machine 15 or 20 meters and when the squalls has passed the machine would swoop down only to rise again as suddenly as it had fallen. Sometimes, during a squall the machine would stand perfectly still in a horizontal position.

On the 26th of November, at about four o'clock in the afternoon a circular flight of about 9 kilometers in 7 minutes was made.

On the 28th of November Henry Farman made some unique experiments. He took off the third surface of the machine thus making it a double surface aerodrome and he also reduced the area of the under surface to only 7 meters while the left the upper surface at 12 meters. The supporting surface was thus reduced to 40 sq. m. The total surface of the machine being thus reduced Farman estimated that by reducing the reciprocating parts the machine would be still capable of breaking its former records.

Now, however, Farman has definitely transformed his machine into a triple surface aerodrome.

Note:- In L'Aerophile for December 15th appears a total list of prizes given by the Aero Club of France.

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Items from the Newspapers.

The Auto Club of America has made an agreement with the Aeronautical Society. The agreement secures the use of Morris Park for the members of the land Club who wish to experiment with impliments of flying.

On Dec. 16 Wright shot up at a severe angle from the foot of the mono-rail to a height of 240 feet, and then dropping 50 feet cut off his engine and glided to the earth.

On Dec. 18 while tyring for the Michelin Cup, Wilbur Wright remained in the air one hour fifty-three minutes and fifty one seconds. The distance officially measured was sixty-one and one half miles. The Michelin Cup is to be awarded to the aviator who makes the longest flight before Dec. 31. Wright also rose to a height of 360 feet winning the Sarthe Aero Club prize for height on the same day.

On New Years Day Bleriot, Farman, Delagrange, and Wright will receive the red ribbon of the Legion of Honor.

John D. Hall is the inventor of a machine which is said to combine the Aerodrome and Helicopter.

Toy dirigibles and aerodromes were on sale for Christmas in Germany, and seem to have sold well.

The following remarks are quoted from a speech of President Bishop of the Aero Club:- "The apathy of the American people in the science of Aviation is deplorable. In France there are prizes to be gained amounting to as much as $50,000.00; here there is practically nothing tangible to incite genius in this line****.

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Mr. Lahm, father of Lieut. Lahm in speaking of his flight with Wright said:- "I feel that now the experimental stage of flying has been passed and we have arrived at the time of practical demonstration and the phase of commercial interest".

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