BULLETINS

OF THE

Aerial Experiment Association

Bulletin No. XVIII Issued MONDAY, NOV. 9, 1908

MR. Mc CURDY'S COPY.

BEINN BHREAGH, NEAR BADDECK, NOVA SCOTIA

BULLETIN STAFF.

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Bulletins of the Aerial Experiment Association.

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BULLETIN NO.XVIII ISSUED MONDAY NOV. 9, 1908.

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Beinn Bhreagh, Near Baddeck, Nova Scotia.

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ILLUSTRATIONS.

(Illustrations continued)

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SWINGING SEAT.

Beinn Bhreach, Oct. 26, 1908:- The object of the double support for a swinging seat (Bulletin XIV p. 14; Bulletin XVI p. 49) was to secure the point that the seat should remain horizontal however it might be moved by the aviator. As soon as a model was constructed it became obvious that in its automatic action the seat would not remain horizontal. For example:- Should the machine make a dive, though the seat would swing forwards it would be tilted down in front thus tending to eject the man. This action has been remedied by adopting a single support (see photograph in this Bulletin).

It would be very desirable to secure some automatic action over the controls and this certainly can be accomplished by utilizing the weight of the operator upon a moveable seat without interfering with voluntary control by the aviator himself. In the plan contemplated the main work of longitudinal control would be accomplished automatically by the operator's weight leaving the finer adjustments to be done voluntarily.

There is one grave disadvantage, however, touching the very principle of a swinging seat. It is obviously impracticable to have the axis of the swing at the center of gravity of the machine. The motion of the swing therefore will occasion a displacement of the center of gravity and unfortunately in the wrong direction for safety. If the machine tips down the seat swings forward, thus displacing the center of gravity forwards instead of backwards so that

the displacement tends to help the dive and make it steeper. It is only through its automatic control over the vertical steering surfaces that the swinging seat has its advantage.

I am inclined to think that it would be better to hold fast to the important principle embodied in the Hammondsport machines and substitute the instinctive motions of the aviator for automatic action by gravity.

If the machine should make a dive natural instinct tends to make a man lean back. This displaces the center of gravity in the right direction and in the Hammondsport machines the man naturally leans back in operating his front control to correct the dive. In correcting the climbing tendency the man leans forward. In correcting a tip downwards to the left the man leans to the right, or high side; and vice versa where the tip is on the other side.

The co-operation of instinctive movements with the operation of the various controls seems to me too important a point to be lightly given up. There is far less liability to move the wrong lever as is sometimes done even by the Wright Brothers themselves. I am therefore looking with less favor upon automatic action through a swinging seat and with more favor upon instinctive movements combined with the operation of the steering devices. A.G.B.

DROME NO. 4.

Beinn Bhreagh, Oct. 31, 1908:- Drome No. 4, McCurdy's "Silver-Dart", is now completed and the new engine installed. The machine has been taken to the tent at the Race Track and a telegram is expected every moment announcing its first flight. Photographs of the Silver-Dart appear in this Bulletin. A.G.B.

DROME NO. 5.

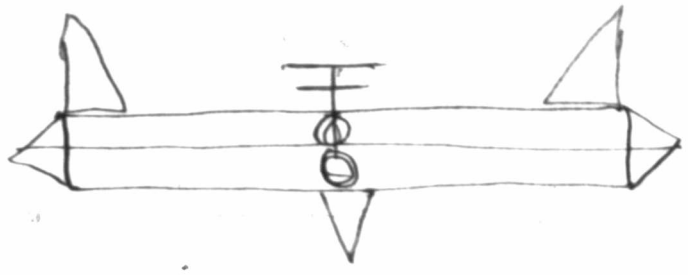
Beinn Bhreagh, November 4, 1908:- Drome No. 5 is now completed with the exception of the body section and the steering appendages. Photographs in this Bulletin show its present condition.

The body section is now being started and will be substantially similar to the center part of the Cygnet with a manhole of the same shape and size, but made in a different manner which will be described in a subsequent Bulletin.

I have now decided that a front control will not be used upon Drome No. 5 because it is to be started as a kite and the presence of a front control would be likely to produce dangerous oscillations in the structure while flying as a kite. If we had only to deal with the wind of advance the front control would, of course, be as advantageous as in the case of our other aerodromes. If we don't have a horizontal rudder in front we have to consider placing it in the rear behind the propellers. It is extremely doubtful how far it is advisable to place any rudders in the draft of the propeller and a difficulty presents itself in sustaining the rudder by supports so far removed from the propeller blades as to obviate all chances of a Wright disaster.

This leads me to consider the advisability of using two horizontal rudders behind the main structure, one at either side of the wing piece arranged normally with their

surfaces parallel to the line of advance.



In our Hammondsport aerodromes we have three different kinds of steering to perform at the same time.

(1) Vertical steering up or down.

(2) Horizontl steering right or left.

(3) Balancing steering by our wing tips to remedy tipping action.

Now the thought occurs will not these two horizontal rudders alone serve all the purposes of the three kinds of steering, required and with only two levers to operate them one for each rudder.

(1) For vertical steering both rudders could be moved simultaneously up or down.

(2) For horizontal steering, one rudder alone moved, or both in different degrees so that the introduced resistance to advance shall be different at the two sides of the structure.

(3) Balancing steering, the two rudders moved equally in opposite directions so that the righting action will be produced while the introduced resistances to advance would be the same at either side so that no t rning movement around a vertical axis would be caused.

My mind is gradually inclining to the idea of two horizontal rudders at the rear to take the place of all the different methods of control employed on the Hammondsport machines. The great objection being that they would be out of sight of the aviator.

Of course we could consider placing them in front of the structure at either side thus placing them within sight of the aviator with the advantage of operating in fresh air undisturbed by the presence of winged cells in front of them. In this arrangement they would constitute, in effect, two front controls instead of one. I am a little doubtful, however, of the practicability of this arrangement in a structure intended to be flown as a kite but will give it further consideration. A.G.B.

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DROME NO. 6.

Beinn Bhreagh, Nov. 5, 1908:- Mr. Baldwin has made another step in advance towards the realization of aerodrome No. 6.

On Oct. 29 the Dhonnas Beag carrying Mr. Baldwin and the Curtiss No. 2 engine rose completely out of the water on her hydroplanes when propelled by her own power instead of being towed by the "Skidoo".

Thus his primary object has been realized but he has been unable as yet to test the speed that the machine will attain under the new conditions, for the following reasons:-

(1) When the boat rises, the rudder being lifted out of water, no longer serves to steer the boat and power has to be shut off to prevent running the bank of the harbor. This defect has been remedied by the construction of an aerial rudder superposed upon the water rudder and working on the same axis.

On Nov.3 an attempt was made to speed up on the hydroplanes. The rudders worked perfectly and there was no difficulty in steering the boat, both in and out of the water.

When the boat rises the outrigger floats are lifted completely out of water and the whole arrangement, though supported upon its hydroplanes is in a state of unstable equilibrium. The center of gravity being considerably above the base of support, the machine tips over to one side or the other and is only prevented from turning completely over by the buoyancy of the outrigger floats.

This difficulty also presented itself during the previous towing experiments and was partially met by the

employment of flexible hydroplanes of the hayrake pattern placed close to the outrigger floats so that when the floats were lifted out of water a portion of the flexible hydroplanes remained immersed. The result, however, was not entirely satisfactory probably because the flexible rods were not stiff enough for the purpose but in the towing experiments, by leaning over to the high side the balance could be restored.

The weight of the engine combined with the man, produces too great an upsetting tendency to be remedied by leaning ov r to the high side. Mr. Baldwin proposes to try flexible rods again (they have not so far been used with the engine and propeller on board) but they will have to be made much stiffer than formerly to resist the ~~scheme~~

He also proposes when he comes to build a new structure to place the man and engine inside the boat instead of above it, but this cannot be done with the present arrangement.

A new arrangement of hydro-surfaces (hydro-curves, not hydroplanes) is now being made, and we think that the stability of the boat, when out of water, will be so much improved that it may be possible to test the acquired speed. Description of these hydro-surfaces will be given in another Bulletin.

A model has been made of the tetrahedral structure of Oiones form which is to constitute the aerial part of drome No. 6 which is now ready to be tested as a kite. This will be described in a subsequent Bulletin. A.G.B.

TELEGRAMS AND LETTERS FROM MEMBERS.

Bell to McCurdy.

To J.A.D. McCurdy,
Hammondsport, N.Y.

Baddeck, N.S., Oct. 24, 1908:-I am sending you paper on the causes of the accident to Orville Wright's machine. Want you to read it before trying Silver-Dart.

(Signed) Graham Bell.

McCurdy to Bell.

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

Hammondsport, N.Y., Oct. 28, 1908:-Engine installed in Silver-Dart. Will balance her up to-morrow and hold trial Friday or Saturday weather permitting. Will notify Secretary of War.

(Signed) J.A.D. McCurdy.

Bell to Curtiss.

To G.H. Curtiss,
Hammondsport, N.Y.

Baddeck, N.S., Oct. 30, 1908:- Hydroplane boat lifted out of water yesterday by her own power carrying Baldwin.

(Signed) Graham Bell.

Curtiss to Bell.

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

Hammondsport, N.Y., Oct. 31, 1908:- Have wired Aeronautical Society as follows:- "Morris Park impossible. No flights here yet. Very sorry indeed.

(Signed) G.H. Curtiss

Curtiss to Bell.

Hammondsport, N.Y., Oct. 31, 1908:- Silver-Dart engine installed ready to fly. Pull 300 lbs. Congratulations, good work with hydroplanes.

(Signed) G.H. Curtiss.

Curtiss to Bell.

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

Hammondsport, N.Y., Oct. 22, 1908:- We have your letter and in response have mailed seven each of several of the recent pictures taken here, gotten up as best we could, for the Bulletin. We have mailed prints of these before but had left it to you as Editor to select what you wanted.

John has sent the "Silver-Dart" drawings to New York for reproduction in Bulletin size, and promises copy in time to print with them.

We also have your message in reference to the second trial for the Cup. We have wired Mr. Manley that we would not enter until we had made try-outs here. We assume that if we can fly the 25 kilometers here the first of the week that we could also do it in New York a week from Tuesday, November 3, and that if we were reasonably sure of winning the second "leg" of this three-legged a fair and if, as they promised, they pay for the expense of bringing the achine there to make the trials, that you would not object to its being done.

I am going to New York to-night to see Manley, look over Morris Park and the course so as to be sure of our ground there.

The new motor will be run under its own power for the first time this afternoon and thoroughly tested out to-morrow. This will give us Saturday to get it installed in the "Silver-Dart", by which time I will have returned from

New York and make our first trial not later than Monday, weather permitting. We will wire you to this effect as soon as we are sure of everything on the motor.

(Signed) G.H. Curtiss.

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McCurdy to Bell.

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

Harmondsport, N.Y., Oct. 24, 1908:- I am enclosing for you a copy of the paper Mr. Chanute was kind enough to send me. I had made two copies, one for our records which I will keep in a portfolio, and the one I am sending you for your information and perhaps for incorporation into one Bulletin if you see fit. It is very interesting especially as it shows us how Mr. Chanute computed head resistance in his multiple winged glider.

I have employed this method and carefully measured all the struts, wires, tubing and bamboo used for structural purposes on the Silver-Dart and computed the head resistance. I will make a full report of this in the article I am trying to write on the differences between the Silver-Dart and June Bug.

The water-cooled motor has been assembled and was run under its own power yesterday morning (Friday Oct. 23). It was only run for about three minutes and then immediately taken down for inspection and adjustment of its parts. This is the usual custom. We hope to have it complete down at the shed to-morrow (Sunday) afternoon when we will try out our different propellers to ascertain the various pulls.

We have designed a propeller somewhat along the lines adopted by the Wright Brothers, copying in general lines that Albatross' wing represented in the Aeronautical Annual to which I referred in my last note to you. It is 8 ft in

diameter, 17° pitch at the tip and has its maximum width of blade one third of the distance from the tip to the axis.

It was finished to-day and will be tried out to-morrow. Somehow it looks good to me and we can compare its pull with another propeller of the same general dimension but lacking the wedge shaped cutting edge, it does seem as although the cutting edge ought to be designed so as to shed the air meeting it rather than have to push this mass of air right along before it.

We are getting so impatient to try out the Silver-Dart. Thursday afternoon while we were up at the tent, Mr. H. Champlin came along with his big dog weighing about 40 lbs. and while we stood round the machine talking the dog for some reason or other jumped on to the lower right wing and of course went plump through making an awful hole. Ingraham and I however repaired it to-day so it is as good as new.

Just received your telegram about papers you are sending concerning causes of accident to Wright aeroplane. We expect if all goes well to have the first preliminary trials on Monday. I do so wish that you and Mrs. Bell could be here

Mr. Curtiss went to New York yesterday to attend the Vanderbilt race, but will be home Sunday morning. By the way did you receive a package of photographs I sent you by express about a month ago. It was a complete set of mounted prints representing our work here up to the end of experiments with the June Bug.

Could you also please tell me if that formula for computing the lift of an aeroplane (flat surface) is

$$P' \frac{\text{Sin x Cos x}}{\text{1 plus or minus Sin}^2 x}$$

I don't remember and can't find it in any of the reference books I have here. Casey may know.

Maj. Squier will write his part of Tom's biography, and will have officer here for trials.

(Signed) J.A.D. McCurdy.

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Curtiss to Bell.

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

Hammondsport, N.Y., Oct. 26, 1908:- I enclose a couple of clippings. The one referring to the Wright's control is quite significant:-

> "Messrs. Wilbur and Orville Wright discourage us - what chance have we to fly in their aeroplane if they, its designers, aeronauts of years standing, pull the wrong lever so often".

I have just returned from New York. The Aero Society's grounds are all that could be expected or desired as to size. There are a number of fences, however, which would be objectionable in case of forced landing, and if we should go there I believe we should insist that they be removed. It seems doubtful if we can get ready in time. To-day is Monday and we still have the engine in the shops. It has been tested, however, and exceeded our expectations. This afternoon we will try the different propellers.

Under separate cover I am sending seven pictures for the Bulletin, together with descriptive copy; also another little "anecdote" on flight over water.

John and I just had a fierce argument over the propellers used by the Wrights. You remember the sketch I sent after first seeing the machine. Later they changed to straight propellers, which John saw; therefore he insisted that they used straight propellers, while I saw them fly with the curved ones. Before coming to blows we decided that they had used both.

(Signed) G. H. Curtiss.

AQUATIC FLIGHT: By G.H. Curtiss.

A flying machine to start and light on the water is needed as much as one for use on land. Experiments along this line, therefore, are in order and present greater possibilities in pioneering than land flights with which so much has already been accomplished. The experiments at Beinn Bhreagh demonstrate the possibilities of starting with a hydroplane.

The question arises if the hydroplane is necessary. Why not lift out of the water by the use of the aeroplanes? With a push of 250 pounds a speed of 10 miles an hour should easily be attained without any lift from the planes. At this speed, however, considerable lift would surely be acquired, which would decrease the resistance in the water and increase the speed so that with the speed increased and the resistance decreased the lift of the planes should soon equal the weight of the machine, and aerial flight begin.

The boats to support the aerodrome on the water could be built with flat bottoms at a proper shape to present the minimum resistance both in the water and in the air. The whole outfit would not be heavier than the running gear for land, and could be built strong enough to withstand the shock of landing.

Following up this idea, which was suggested by Mr. McCurdy, we have utilized the short time we have been obliged to wait for the new motor in rigging up two light boats and placing them under the old June Bug, so that when the opportunity arises we can see if our theory is correct.

The new water-cooled engine for the Silver-Dart can be used and the experiment made with a very small expenditure of time or money. Complete photographic records of the structure are being made. G.H.C.

RE PROPELLERS:
By G.H. Curtiss.

The four large propellers shown in the illustration are for the Silver-Dart. 1,4 and 5 are very similar, while No.3 is the new design by Mr. McCurdy. Propeller NO. 2 shows the comparative size of that used on the June Bug and the ones for the "Dart".

In the first trials these propellers will be geared 15 to 11, that is, 15 revolutions of the engine to 11 of the propeller.

No. 1--8 feet diameter, 16° at the tip; greatest width 9"; weight with clamps 8 1/4 lbs.

No.2--June Bug propeller with which last flights were made.

No.3--8 feet diameter, 18° at the tip; greatest width 9 1/4"; width at tip 6"; weight 8 1/4 lbs.

No.4--Same as No. 1 except 1/2 lbs heavier.

No.5--Duplicate of No.1.

G.H.C.

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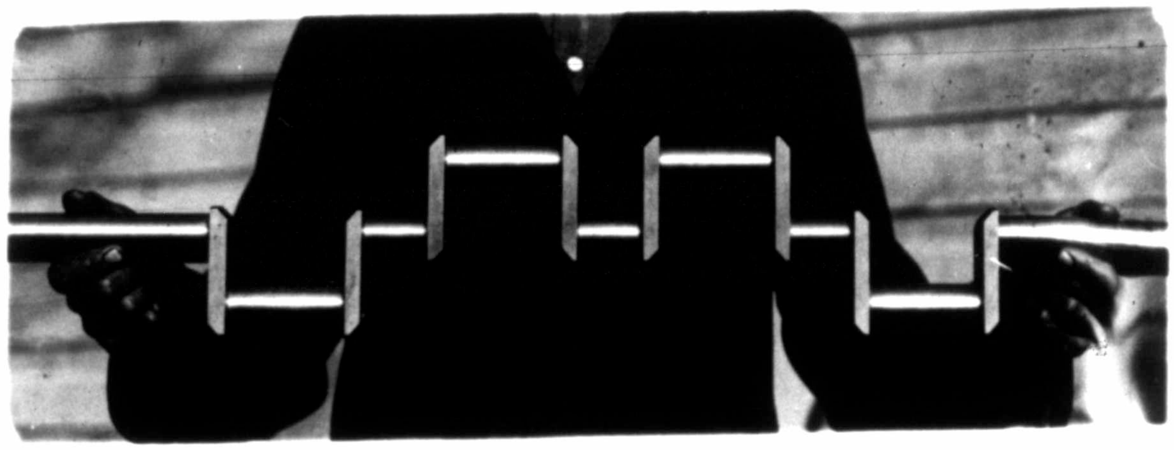

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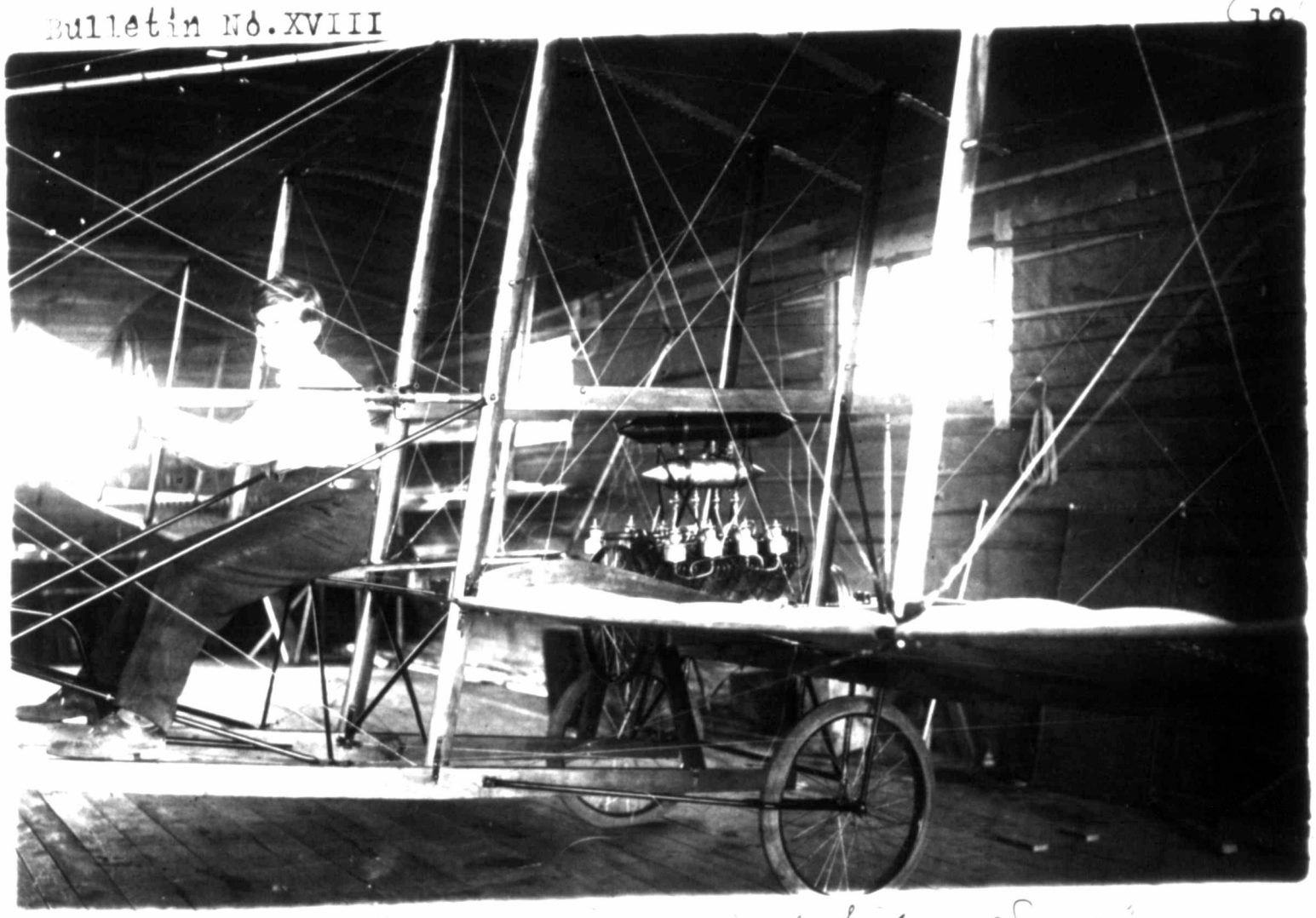
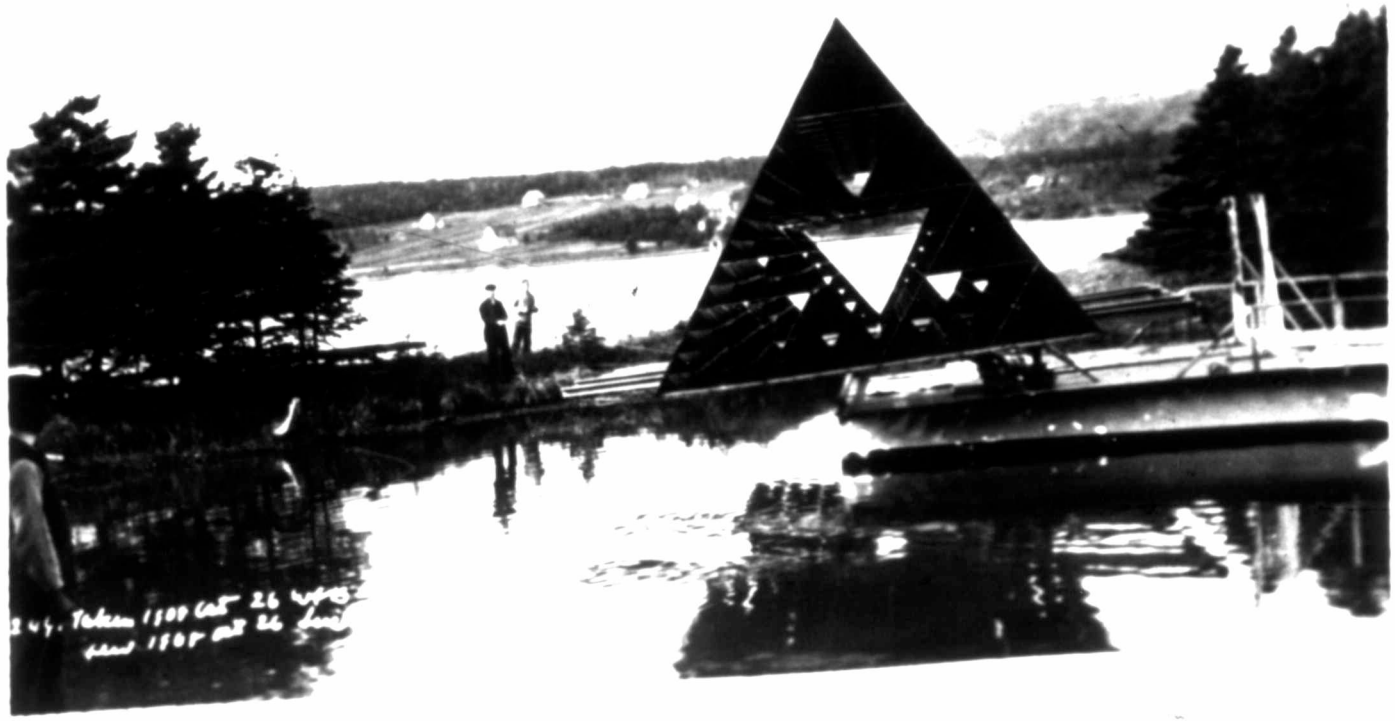
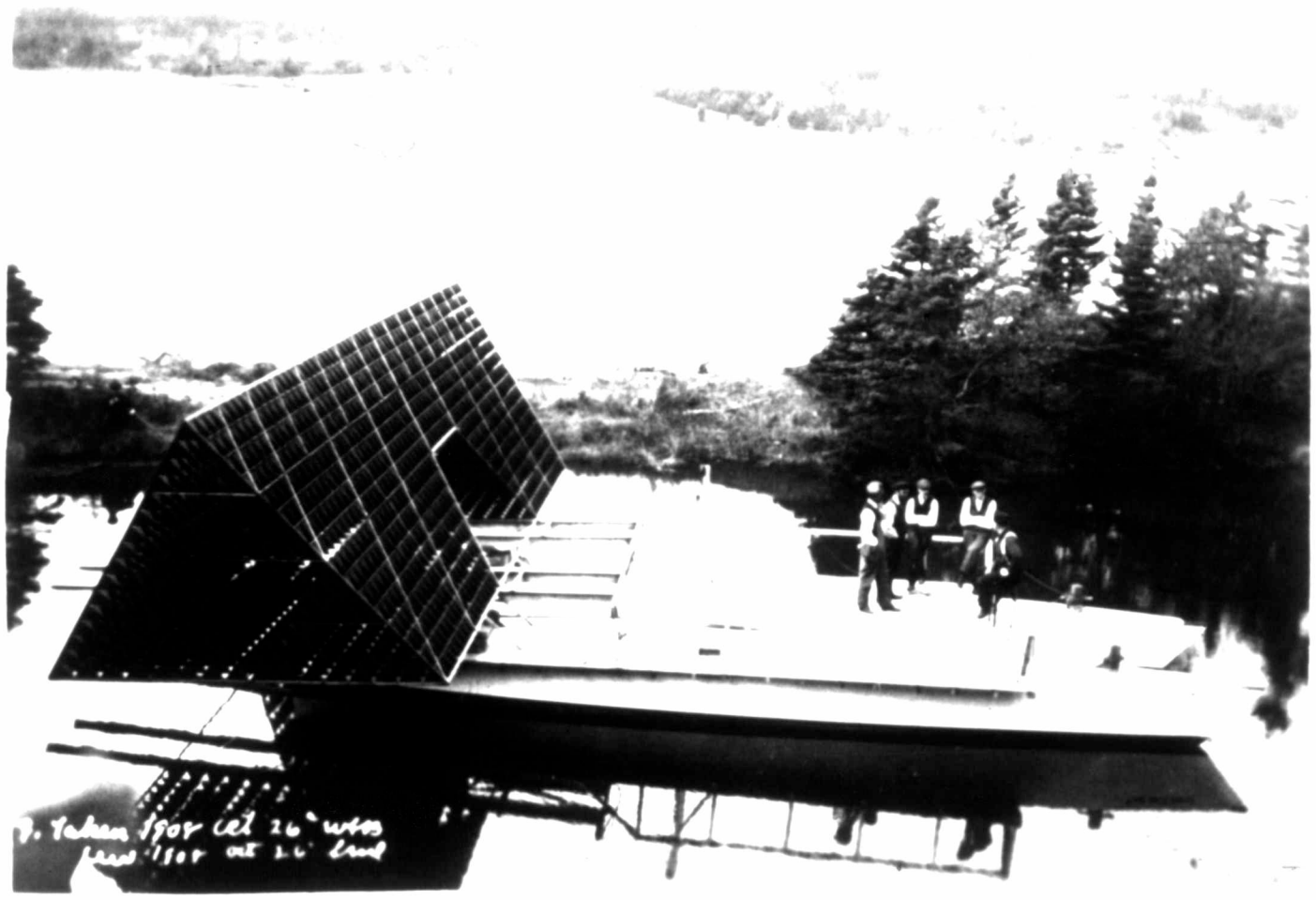


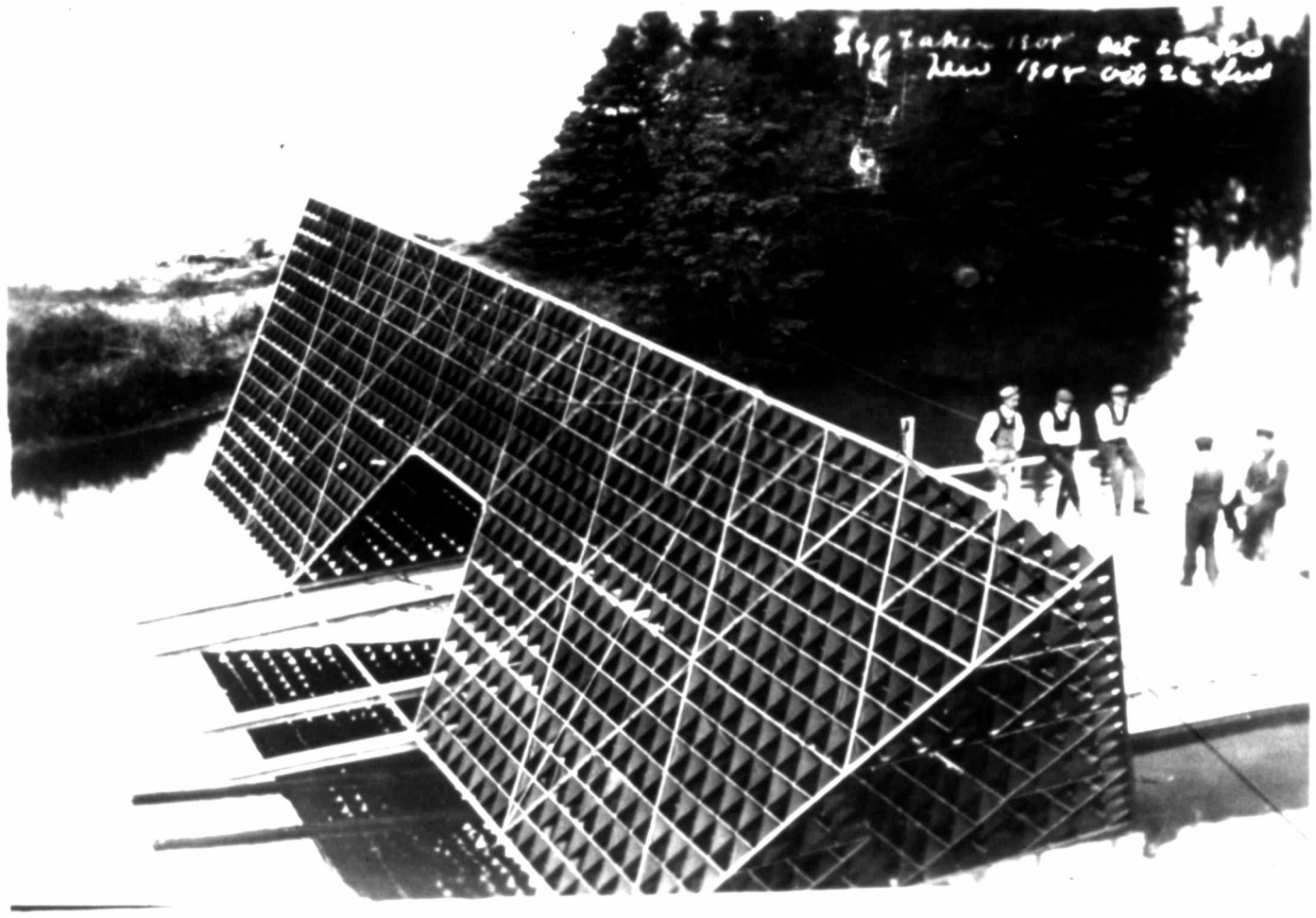
Sept. 12. "June Bug" engine in "Silver Dart"

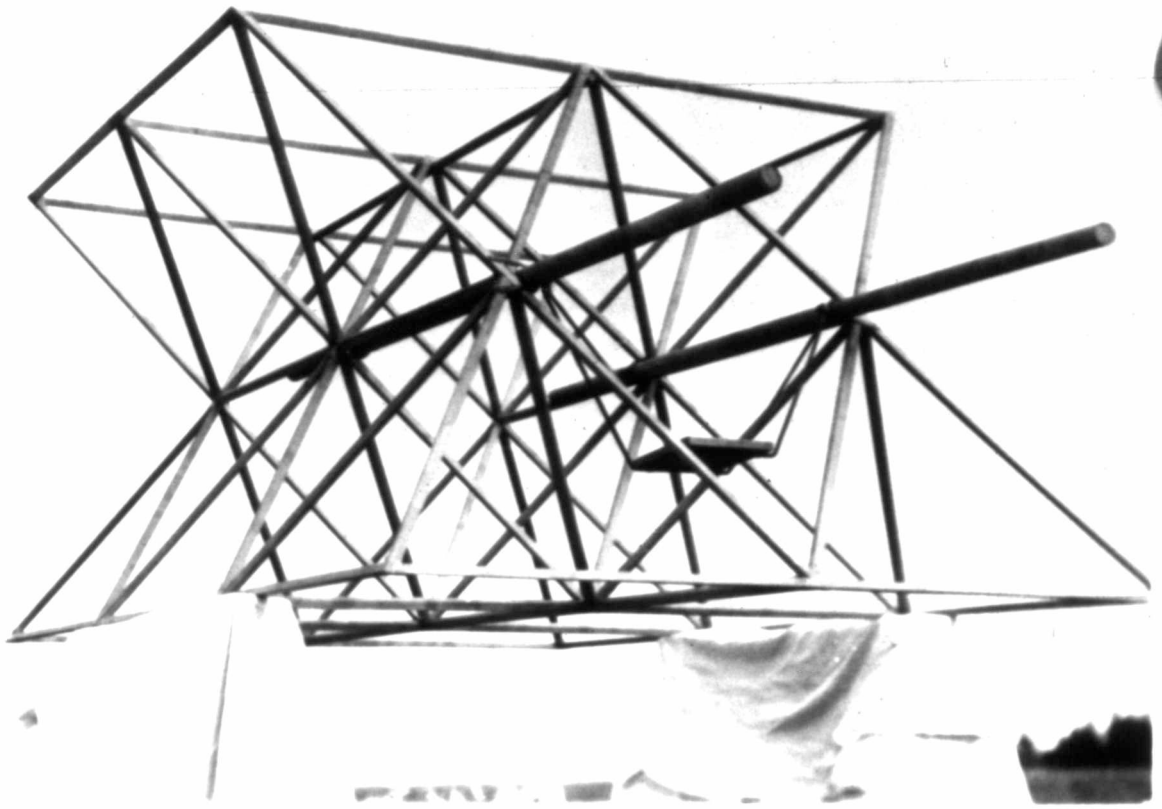
Sept. 6 "Silver Dart" completed ready for new engine

Oct 12- "June Bug" and "Silver Dart", first flights of more than one mile in a straight line taken in America









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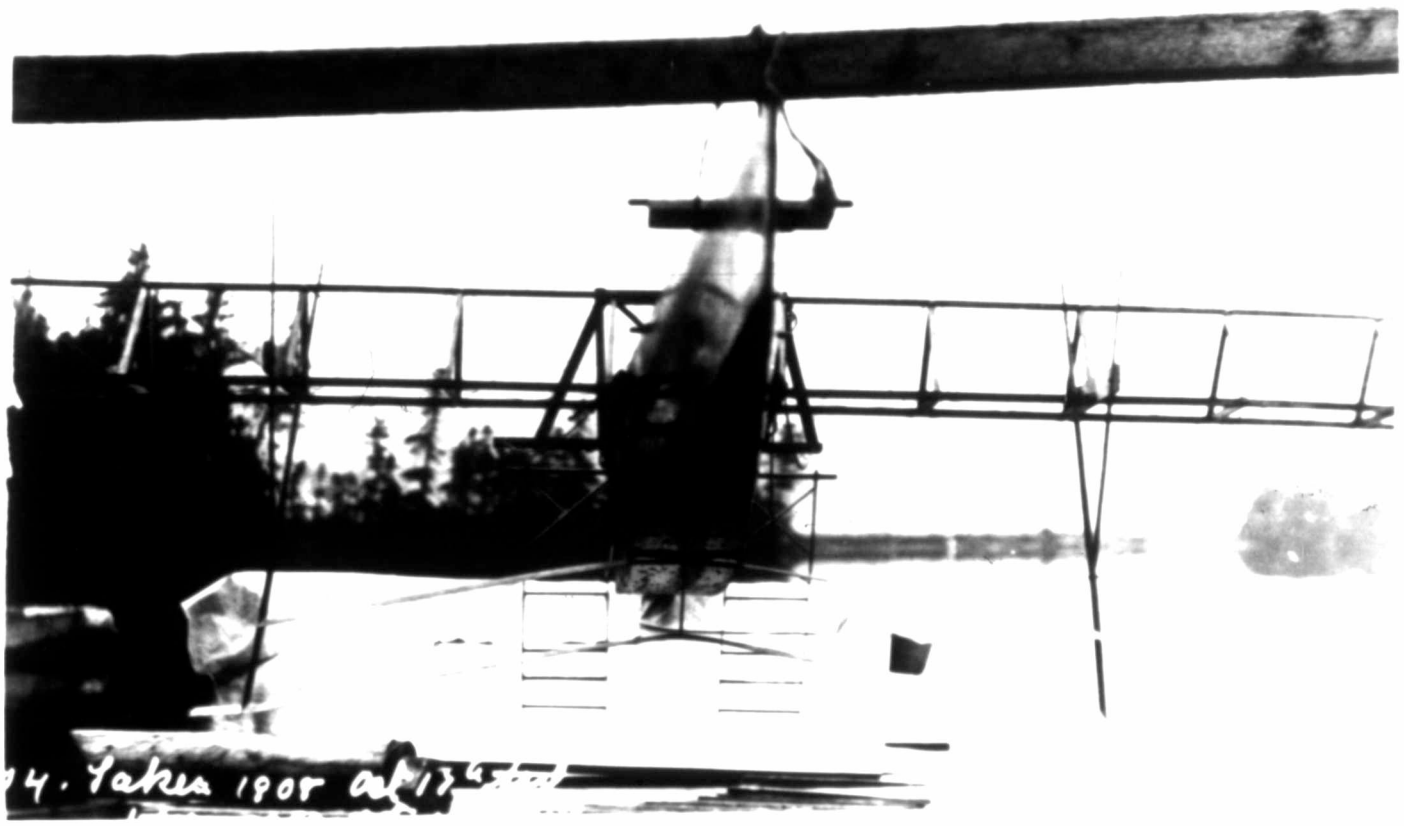


BALDWIN'S EXPERIMENTS WITH HYDROPLANES

OCT. 23, 1908.

Beinn Bhreagh, Oct. 23, 1908:- Throughout the following experiments the same outfit as shown in Bulletin XVI p.33 was used with the addition of a set of angular hydroplanes amidship shown in photograph in this Bulletin. In those experiments the Thomas Boat was towed by the "Ekidoo".

Exp. 1.	Load.	
Efficiency 8.02	Bedwin	135
Pull 40 lbs.	Baldwin	165
100 m in 29 sec.	Boat	135
	Total	435

Remarks:- Boat would hardly clear herself.

Exp. 2.	Load	
Efficiency 6.25	Bedwin	135
Pull 60 lbs.	Boat	115
100 m in 30 sec.	Boat	135
	Total	385

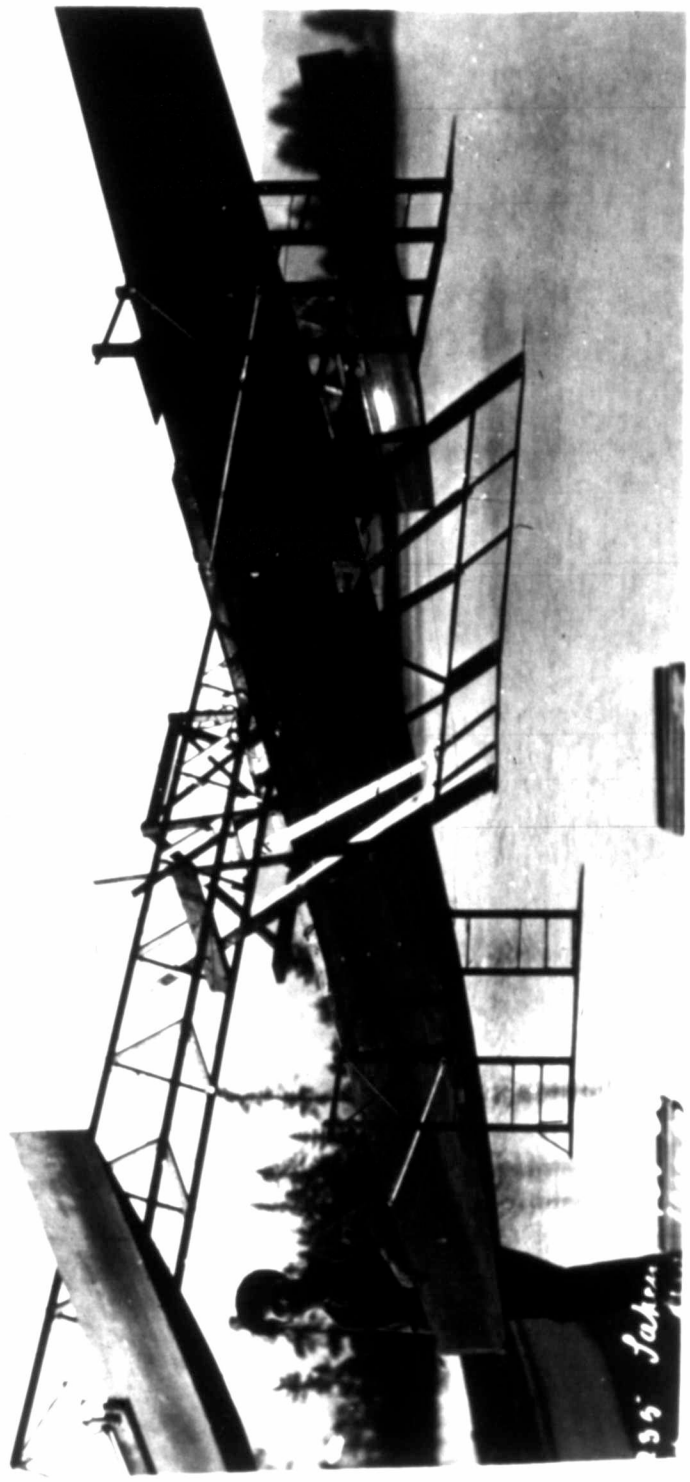
Remarks: Boat came clear out of water this time.

Exp. 3.	Load	
Efficiency 6.21	Bedwin	135
Pull 70 lbs.	Baldwin	165
100 m in 30 sec.	Boat	135
	total	435

Remarks:- Boat lifted out of water.

Exp. 4.	Load.	
Efficiency 6.75	MacDonald	170
Pull 65 lbs.	McKillop	135
100 m in 29 sec.	Boat	135
	total	440

Remarks:- Boat lifted out of water



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Exp. 2. Load.

	Bedwin	135
Efficiency 6.86	Baldwin	165
Pull 115 lbs.	McKillop	135
100 m in 36 sec.	Boat	135
	Total	570

Remarks:- Boat did not stay out of water long enough to ascertain pull at the time. G.H.B.

(approved by F.W.B.).

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Boiam Bhreagh Oct. 27, 1908:- Six experiments were tried to-day with the Dhonnas Boag but the results under the same conditions varied so greatly that it is to be believed that something must be wrong with the spring balance. In the last experiment the pull varied from 30 lbs going down the course to 60 lbs coming back. As near as can be judged the conditions in both cases were just the same. The conclusion is that the spring balance is wrong. Hence these experiments are not noted. G.H.B.

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BALDWIN'S EXPERIMENTS WITH HYDROPLANES
OCT. 28, 1908.

Baddeck Bhranch, Oct. 28, 1908:-Throughout these experiments a new spring balance was tried out. Two new sets of iron hydroplanes were used (see illustration in this Bulletin).

Exp. 1.	Load.	
Efficiency 10.96	Baldwin	194
Pull 25 lbs.	Boat	140
100 m in 35 sec.	Total	294 lbs.

Remarks:- Boat came clear of water.

(Afternoon)

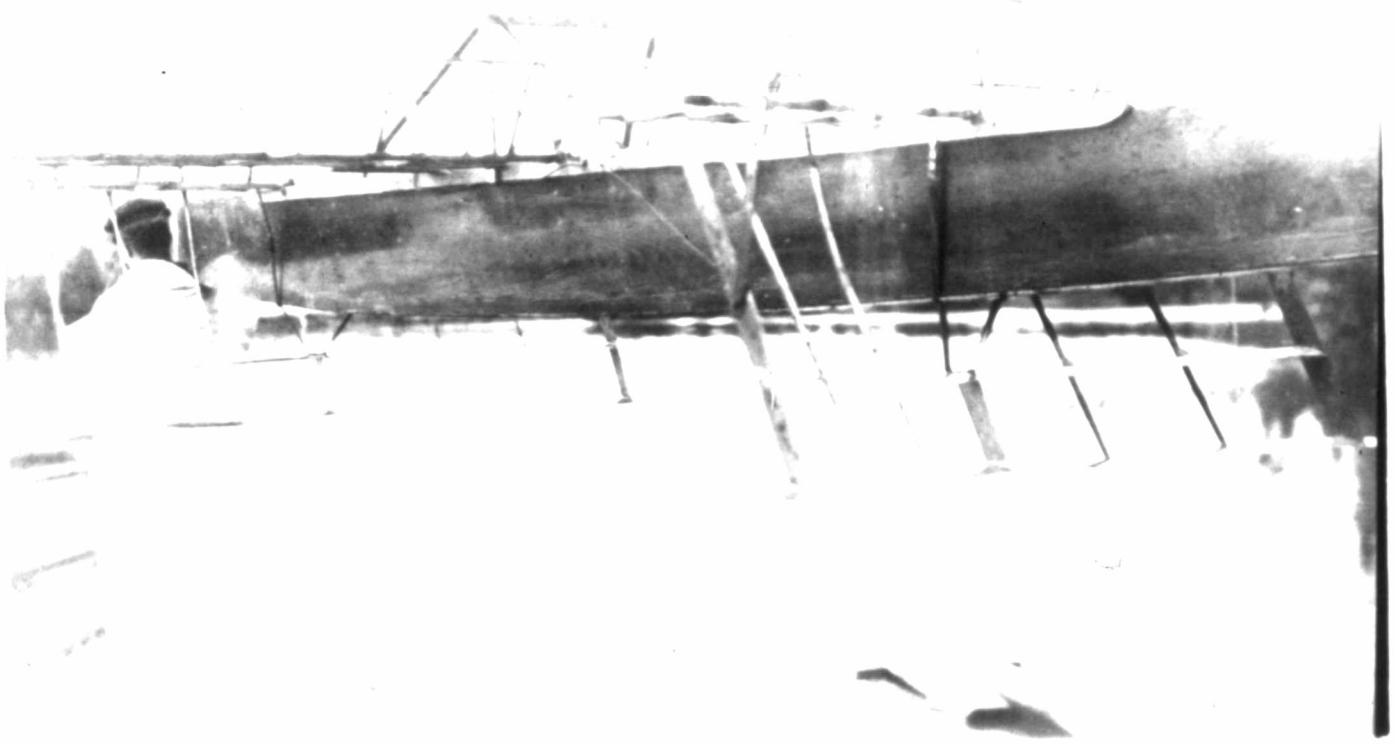
Exp. 2.	Load.	
Efficiency 12.9	Dr. Bell	226
Pull 30 lbs	Boat	161
	Total	387 lbs

Remarks:- Boat came clear of water.

Exp. 3.	Load.	
Efficiency 12.16	Mrs. Baldwin	143
Pull 25 lbs.	Boat	161
	Total	304 lbs

Remarks:- Boat came clear of water.

The afternoon experiments were marked by the carrying of two distinguished passengers. In experiment 2 Dr. Bell, and in experiment 3 Mrs. Baldwin. A morris chair was constructed on Thomas Beag to ensure comfort for the passengers. So far as we know Mrs. Baldwin has the honor of being the first woman to be carried out of the water on hydroplanes.



Mr. Baldwin is inclined to be encouraged with the results of the above experiments. He believes that it will be possible to get the Dhonnas Beag clear of the water under her own engine power, and for this end his energies will be spent during the next few days. G.H.B.

Beinn Bhreagh, Oct. 29, 1908:- To-day the Dhonnas Beag, with Mr. Baldwin on board, rose entirely out of the water, supported upon her hydroplanes and propelled by her own motive power instead of being towed.

The following note gives an account of the experiments in the words of Mr. Baldwin:-

Beinn Bhreagh, Oct. 29, 1908:- We tried the Dhonnas Beag with her own motor power and the new hydroplanes. The thrust of the propellers was 95 lbs and the angle of incidence of the planes was 5°. The boat weighed 154 lbs, power plant 210 lbs and man 170 lbs; total 534.

The first arrangement of hydroplanes was not successful. The high line of thrust requiring the after plane to be moved to a position just about under the center of gravity while the forward plane had to be moved to within two feet of the bow. With this the machine trimmed well and both bow and stern lifted clear of the water. The after hydroplane, however, gave way under the strain and was very badly buckled, partly due to a guy wire around her nose cutting through a copper sheeting andsinking about an inch into the wood. The after set of planes was so badly twisted that while it was being repaired we decided to try one of the old sets with a wooden plane below. As the surface was smaller we put it a little farther aft but again found the boat to lift by the stern leaving the bow in the water so shifted the after plane ahead again to a point about a foot behind the center of gravity, and on trial the boat came clear of the water but once more smashed the after hydroplane. In each case the attempts to get some idea of speed was spoiled by the breakdown before the boat had acquired her true speed. F.W.B.

In the above note Mr. Baldwin says little about the point that impressed the onlookers most, namely that the Thomas Scag for the first time in her history lifted herself clear of the water with man and engine on board and propelled entirely by an aerial propeller under her own motiv power.

To-day's experiments therefore form the culminating point of a series of experiments which have largely been discouraging. After weeks of endeavor without success to have the Thomas Scag do what she did to-day Mr. Baldwin reduced the weight of the boat by depriving her of the engine and man, and towing her by the motor boat "Skidoo". In this way he obtained his first success and by changes in the form and arrangement of the hydroplanes he was at last able to lift two men with the boat clear of the water by at least a foot. When loaded with three men bringing the total weight lifted up to 570 lbs (see experiments Oct. 23) the boat also lifted clear of the water but by a very little distance. The demonstration however, seemed to be clear that the lifting power was sufficient at a speed of between 7 and 8 miles an hour to lift the engine and man so that the time had come for again trying the Thomas Scag under her own motive power. The experiment was made to-day with success.

This marks a decided and vigorous step forward. Mr. Baldwin's success is indeed a matter for warmest congratulations laying as it undoubtedly must, the foundation for radical change and wonderful advance in things nautical as well as aeronautical.

Baldwin's persistent efforts will culminate in giving to the world an invention of supreme value through endeavors as earnest in the future as they have been in the past. G.M.B.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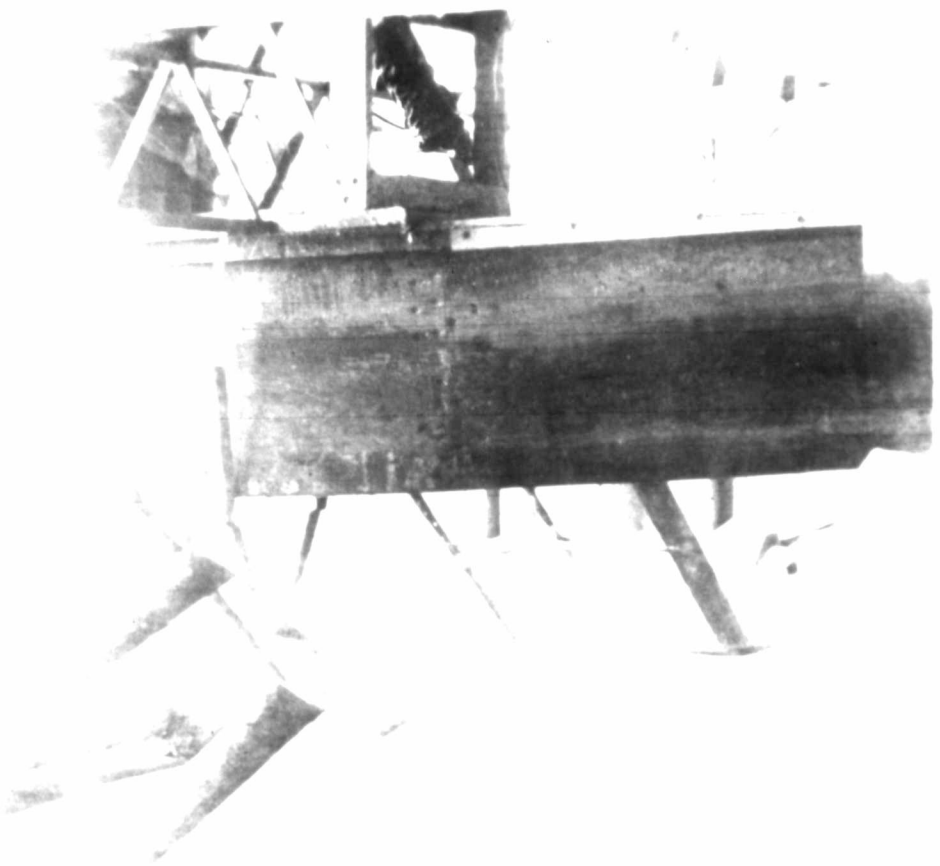
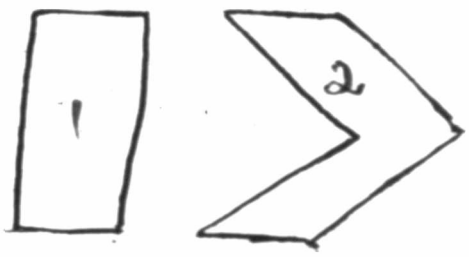


CUTTING EDGES: By Gardiner H. Bell.

Each and every part of an aerodrome has its own peculiar function. The wires and struts hold the construction rigid, the sustaining surfaces sustain.

The vital importance of minimising head resistance is well known. Speed is essential. Lightness is essential. Since speed and lightness are both essential, the construction must necessarily be bulky, for in order to give light material strength it must have bulk. It therefore is of great necessity so to shape each part that it may be made to offer least resistance. Take two objects of the same thickness and area,



and let their shapes be represented as above. Drive each of them edgewise through the air parallel to the line of advance so that they have no tendency to lift or depress. The resistance of No. 1 will be greater than that of No.2. Now in the first case when forms 1 and 2 are being driven through the air parallel to the line of advance they may be considered simply as parts of the construction which are to be gotten through the air with as little resistance as possible. Hence No.2 has the best shape because it offers the least resistance But take the second case and consider objects 1 and 2 as sustaining surfaces. Now incline them at a slight angle to the line of advance. The increase of lift of No. 1 over the lift of No. 2 will be great.

No. 1 has greater lifting power. Is not the theory of cutti g edges as applied to the sustaining surfaces wrong, for the whole function of the sustaining surfaces is to sustain? Resistance in connection with any other part of the machine is to be avoided for as resistance it only retards the speed of the machine. But resistance in connection with sustaining surfaces means lift. Head resistance can easily be turned into lift by constructing a proper curve in the sustaining surfaces and offer it at a proper angle to the line of advance. Slope back your cutting edges of your sustaining surfaces and you reduce resistance. Display it perpendicular to the line of advance and your resistance is at its maximum hence your lift. O.H.B.

(From Hammondsport Herald, Oct. 28, 1908).

SILVER-DART FINISHED.

To Go in the Air this week - Many Aeronautical men expected.

The fourth flying machine of the Aerial Experiment Association is finished and in the tent on Stony Brook farm. The engine is also completed and is being thoroughly tested at the shops. It is expected that a flight will be made to-day or to-morrow. The Association is receiving messages from all parts of the country for the date of the try-out, as a large number of aeronautical men will witness it.

A DOG TRIES THE SILVER-DART.

(The following is from the Hammondsport Herald, Oct. 28, 1908):-

H.M. Champlin's pointer tried out the flying machine, Silver-Dart, the other night in the tent on Stony Brook farm. It failed to support him, even on the ground. He did not confine himself to the aviator's seat, but climbed out on the wings, the silken surfaces of which were not sufficiently strong at one point to support his weight. He fell through and abandoned further experiments. The damage was soon repaired.

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THE OUTLOOK ON AVIATION: By Gardiner H. Bell.

It is interesting to note that Columbia University has organized a class in Aviation. At present there is but one student, but it is believed that others will soon take up the subject.

Charles J. Glidden seems to be the leading spirit of an airship line whose headquarters is to be in Boston. If reports are true Capt. Baldwin has received the contract for building the Company's machines.

A.V. Wilson a resident of the State of Maine has an aeroplane which is built to sustain itself in the air without the use of a motor.

Gen. Allen is very anxious that Congress should appropriate $1,000,000.00 to be used in carrying on experiments in the Army.

The motor which Mr. Herring uses on his aerodrome is no less wonderful than the rest of his machine. It has five cylinders, weighs 19 lbs., and develops 25 horse-power. The cylinders are arranged about a central shaft having a bore of about three inches. If these figures are correct it is the lightest engine for its horse-power in the world.

Count Zeppelin's dirigible has been re-constructed and is again flying in Germany. Not long after the accident to his dirigible in August a sum of $750,000.00 was raised by the people of Germany to help Zeppelin to continue his work. This gives us some idea of the attitude Germany has taken towards navigation of the air.

In a trial a few days ago the English aerodrome met with an accident. It is believed that the machine succeeded in rising from the ground, but no flight of consequence was made.

It may be interesting to note a communication from Paris, which appeared in the New York Tribune, October 23, 1908.

> Paris, Oct.22:- The Aero Club of France has decided to organize a big aeroplane meeting in the autumn of 1909, when the Grand Prix d'Aviation will be competed for. The value of this prize is $2000.00 and there will be other awards. The course will be laid out over the flat country in the Champagne or Beauce region. The flights will be judged for both speed and duration."

The month of November brings forth a new aeronautical Magazine "Fly", edited by Alfred W. Lawson. C.H.B.

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One of the most important flights in the history of aerial navigation was made by Henri Farman in France on October 30, 1908. Faramn covered a distance of 20 miles in as many minutes. It is the first cross country flight on record, being made from Mourmelon to Rheims a distance of 20 miles.

M. Bleriot narrowly escaped a bad smash in endeavoring to climb for the French Altitude prize. The wires leading to the control had been crossed by mistake so that any manipulation on the operators part reversed the desired effect.

The interest of Germany seems to be centered chiefly in dirigible balloons at the present time. Prince Henry of Prussia amd the Emperor himself are largely the cause of this interest, although Germany has always been inclined towards the lighter-than-air machines.

The Germans seem very anxious that Wright should make the talked of flight across the English Channel now that Farman has made the first cross country trip on record. But even from an unprejudiced point of view one cannot help feeling that to make such a trip would be a definite feat in the progress on aerial navigation.

France is in possession of a new dirigible balloon owned by Mr. Clement of the French Clement-Bayard firm. The dirgible made its maiden voyage on October 30 carrying seven passengers. Throughout the trial the dirgible answered its helm perfectly. It is built after the model of the "Ville de Paris". Driven by a 120 H.P. bayard motor, its five meter wooden propeller makes about 350 revolutions per minute.

HOME NOTES.

There seems to be a good deal of vigor in the aeronautical world in Texas. Dr. J.F. Fielding, a Texas man, who won the first prize in the Chicago Balloon races, is the leading spirit. He is anxious to promote the use of dirigibles and balloons in Texas as he believes that the Texas gas contains peculiar qualitites which could have advantage over that used elsewhere.

At Morris Park the monoplane of C.W. Williams seems to have created some interest which may be worthy of notice. The following is quoted from the Post Dispatch, St. Louis, Mo. Oct. 21, 1908:-

> "While the spread of the planes in the Williams machine is 30 feet, the framework on which the canvas is stretched is constructed to fold back on itself when the machine is not in use, making the monoplane much less cumbersome than one fixed with planes and more easily handled on the ground.
>
> The whole sustaining surface of the four planes is about 600 square feet and the weight of the machine, making the sustaining proportion about one pound to the square foot. This is considerably lower than any other aeroplanes in practical use".

It is reported that Frank J. Heinfelt of Dayton, Ohio, made a successful flight of 1500 feet with a monoplane o

Oct. 27, 1908. O.H.B.

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