

BULLETINS

OF THE

Aerial Experiment Association

Bulletin No. XV Issued MONDAY, OCT. 19, 1908

MR. McCURDY'S COPY.

BEINN BHREAGH, NEAR BADDECK, NOVA SCOTIA

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Bulletins of the Aerial Experiment Association

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BULLETIN NO. XV ISSUED MONDAY OCTOBER 19, 1908

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Beinn Bhreagh, Near Baddeck, Nova Scotia.

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ADDRESS OF THE CHAIRMAN AT THE WASHINGTON MEETING,
SEPTEMBER 26, 1908.

(Revised from the stenographers notes).

The special object of this meeting is to consider the future of the Association as affected by the death of Lieut. Selfridge, and to give Mr. Edward A. Selfridge an idea of what interest his son had in the Association.

There may be property rights involved, and Mr. E. A. Selfridge as the legal representative of the heirs of Lieut. Selfridge should be fully informed upon the matter. It is true that at present we can attach no pecuniary importance to our work, but who can speak for the future? It may be possible that some day or other our work may be found to be of value after all, in which case the heirs of Lieut. Selfridge will be entitled to his share of the proceeds.

There may be nothing in it, and I cannot say that I am particularly optimistic in the matter. At the same time there may be "millions in it" as the younger members hope. At the present moment we haven't anything, and until a search has been made we do not even know that we have any inventions that we may justly claim to be our own. A great deal of work has been done in relation to flying machines, and there are many patents to be examined before we can be certain that we have done anything entitled to the protection of a patent; and of course the pecuniary value of our work will depend upon the patentable inventions produced.

While it is not a good plan to be too optimistic, optimism is surely preferable to pessimism. It can do no harm, and it may ultimately prove to be a wise course, to proceed in this matter, as though we were sure of all the financial returns we could desire.

It therefore seems to me proper upon this occasion to give Mr. E. A. Selfridge some account of the past history of the Association, and what the rights of his son are in the matter. It is more especially necessary to do this, because, by our original article of organization, the Association comes to an end on the 30th day of September, 1904, that is in a few days, unless other plans are unanimously approved by the members.

Now the death of Lieut. Selfridge renders it impossible to obtain unanimous action on the part of all the interests involved, without the aid of Mr. E. A. Selfridge, as the representative of the interests of our deceased member.

It seems therefore wise that we should take advantage of the presence of Mr. Selfridge in Washington to have a special meeting of the Association to consult with him, and obtain his vote in place of that of his son, Thomas E. Selfridge, on matters requiring unanimous approval by all the interests concerned.

Now in regard to the origin of the Association. You know that as the results of my experiments with large tetrahedral structures, I was very anxious to carry on the work to the point of trying the experiment of propelling one of these structures by its own motive power to carry a man, and make

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an aerodrome of it, and when I came to look over the matter I found I did not have sufficient knowledge to risk sending a man up, as I was not sure of the engineering points involved. So I associated with myself two engineers, Mr. McCurdy and Mr. Baldwin, so that I might have the advantage of their technical knowledge of engineering. Then when we came together we still found that we did not have among the whole of us the knowledge necessary to make an aerodrome. We did not have an expert knowledge of motors, and so I sought the assistance of Mr. Curtiss, probably the greatest motor expert in the country.

Sometime before this a young man called upon me in Washington, an officer of the U S Army, who turned out to be Lieut. Thomas E. Selfridge. He showed a great deal of interest in the whole subject of aerial locomotion, and expressed a desire to witness our experiments with tetrahedral structures in Nova Scotia. I found that he had devoted a great deal of attention to the subject of Aeronautics, and in fact had made a special study of Aviation, and what was being done in relation to heavier-than-air machines in all parts of the world with the idea that sometime or other the U S Government would require flying machines in the army and that, when that time came, the services of the officer who had made an expert study of the subject would be in demand, and he would be sure of promotion into a field of usefulness where he could be of great benefit to his country. I was very much pleased with the patriotic spirit of Lieut. Selfridge, and at his suggestion I wrote a note to the President of the United States, backing up his

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application to be detailed to Nova Scotia. His application was favorably considered, and he was detailed by the War Department to observe my experiments in the interests of the U S Army. Lieut. Selfridge repaired to Baddeck. Mrs. Bell and I gave him a cordial welcome to Bellefleur, and he became our guest there. Thus it happened that last year (1907) I had succeeded in gathering together a remarkable group of young men, all interested in Aviation, and all experts in various lines: Mr. Baldwin, Mr. McCurdy, Mr. Curtiss and Lieut. Selfridge. The first three acting as my assistants and the fourth as expert observer for the U S Army. They were all my guests in my own home. Residing together under one roof we became quite intimate. We breathed an atmosphere of aviation from morning till night, and almost from night to morning. Each felt the stimulus of discussion with the others, and each developed ideas of his own upon the subject of Aviation, which were discussed by all. I may say for myself that this Association with talented young men proved to be one of the happiest periods of my life. Both Mrs. Bell and I became much attached to them all. Indeed we came to look upon them as members of our family rather than as strangers gathered together from the four quarters of the world. Mrs. Bell especially was very much struck by the possibilities involved in the association of an elderly man like myself with young men of brilliant ability and experts. Why, said she, should we separate, could some plan not be devised for making our association with one another permanent. Her idea was that in the distant future after I should

have passed away that my influence might remain with these young men and that I should bequeath to them the work in which I was so much interested. So she suggested that instead of these young men remaining as my assistants merely, we should come together in an association on equal terms that would develop their individualities.

Of course it was necessary to supply some means by which experiments could be carried on upon the association basis, and Mrs. Bell suggested a plan that would afford the necessary financial support.

Nearly all the property possessed by Mrs. Bell came from me, but she took great pleasure in pointing out the fact that she had a piece of property with which I was in no way concerned. This was a lot of land in Washington, D.C., which had been given to her by her father many years ago. It was not of much value at the time of the gift, as it was outside of the City and simply an empty house lot in the suburb. The growth of Washington has since brought buildings all about it. It has gradually increased in value and is now one of the few remaining unoccupied corner lots. It has never brought her in any income and has only been a source of expense on account of taxes. Were she to give it away to the proposed Association, she said, it would not deprive her of any income, and the sale of it might provide funds to start the Association on a career of usefulness. She would be proud, she said, to give something of her very own for this purpose.

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This was the origin of the Aerial Experiment Association. We could not live upon an empty lot of land and it is difficult at a moments notice to find a suitable purchaser for property of this kind. So Mrs. Bell decided that instead of giving the land she should donate to the Association its estimated value and hold the land in her own name until it could be suitably disposed of.

A long time ago the land was estimated to be worth about \$20,000.00, but since then it has increased in value, and is now worth much more, perhaps even twice as much.

We could not estimate what our annual expenses would be and I was unwilling that Mrs. Bell should be called upon to supply more funds than would be absolutely necessary for our experiments, and so it was finally arranged that Mrs. Bell should supply funds to the Association as needed to a limit of \$20,000.00, her total contribution not to exceed this amount. We thought, however, that this would be sufficient to support the Association for at least one year.

The Association was organized in Halifax, Nova Scotia, on the 1st of October, 1907, to last for one year only unless other arrangements were unanimously agreed upon by the members before the expiration of that term. Thus the Association will expire by time limitation on the 30th of Sept. 1908, only four days from to-day, unless we can have the assistance of Mr. E.A. Selfridge as the representative of the late Thomas E. Selfridge to continue it for another period of time. Our estimate of expenses has turned out to be remarkably correct, and by the 30th of Sept. we shall probably have consumed

the whole of the appropriation provided for.

I am now authorized by Mrs. Bell to state that if the members desire to continue the Association for another six months she will be glad to provide the funds so long as she is not called upon for a larger sum than \$10,000.00 making her total appropriation for the benefit of the Association not to exceed \$30,000.00 in all.

Now there is one peculiar feature about this Association that I think is worthy of notice. None of us have been swayed from pecuniary motives. Our object, as expressed in the words of Lieut. Selfridge, and incorporated into our agreement of organization was simply "to get into the air", and Mrs. Bell has donated the funds for the support of the Association not from any expectation of return, but simply from affection for us all and from interest in our work.

When we first came together as an Association, we recognized the possibility that joint-inventions might be produced which might have pecuniary value; and we agreed that before dividing the proceeds, if any, equally among the members, as provided for in our article of agreement, that we should remember Mrs. Bell's financial contributions and present to her a 1% interest for every one thousand dollars she should contribute for the support of the Association. This means that if we ever receive anything for all our work we will first present to Mrs. Bell as a recognition of her services 1% of the proceeds for every thousand dollars she has contributed and divide the remainder equally among ourselves.

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Of course if we don't receive anything we will have nothing to distribute, and we will be finally in the position in which we were originally and in which we stand to-day.

For the information of Mr. Selfridge, I may say, that if we ever do get anything the heirs of the late Thomas E. Selfridge will be entitled to $1/5$ of the proceeds remaining, after handing over to Mrs. Bell the percentage agreed upon. If we dissolve on the 30th of Sept. we would have first to assign about 20% of our prospective interest to Mrs. Bell on the assumption that she has contributed \$20,000.00, which I think is about the sum, and this would leave 80% to be distributed equally among the original members, and $1/5$ of this or 16% would belong to the heirs of Thomas E. Selfridge.

Should we continue the Association for another six months as proposed, more money would be required, and this would reduce the percentage to be divided among the members, so that the proportion to go to the heirs of Thomas Selfridge would be reduced to less than 16%.

It is obvious, therefore, that it would not be proper for us to continue the Association beyond its allotted time without the full consent and approval of Mr. Edward A. Selfridge as the representative of the interest of the late Thomas E. Selfridge. This is why I have thought it important to invite him here to-day to confer with us upon the future of the Association as affected by the death of Lieut. Selfridge.

When the Association was first organized it came into existence primarily to help me with my tetrahedral structures, and then to work conjointly at each others ideas so that each

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man should have an opportunity to show what there was in him, and have aerodromes built by joint efforts upon plans approved individually by each of us in turn.

Beginning in Oct. 1907, the Association worked at my tetrahedral structures until the middle of December, 1907, when the kite "Cygnets" was completed in which Lieut. Selfridge made an ascent. The kite flew very steadily in the air at an elevation of about 168 ft. and came down so slowly and gently that Lieut. Selfridge whose view of the water was cut off by the silk surfaces below him, was quite unaware that the kite was coming down until he reached the water. Not being prepared for the descent he failed to release the towing line so that the kite was wrecked by being dragged full speed through the water by the steamer Blue Hill. It is needless to say to this audience that this accident did not in any way reflect upon the flying qualities of the kite. Its behavior in the air was eminently satisfactory, and it was not designed to stand the strain of being pulled through the water.

Shortly after the death of Lieut. Selfridge a statement appeared in a Boston newspaper, purporting to emanate from a cousin of Lieut. Selfridge to the effect that his fall in the Wright Brothers machine was not the first disaster of the kind that had happened to him. The impression left by the article was that the tetrahedral kite "Cygnets" had made a sudden dive similar to the dive of Orville Wright's machine and that Lieut. Selfridge's life had only been saved by the fact that he fell upon water instead of on land. This, however, is a mistake made by one who had not witnessed the flight.

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He had no "fall", he simply came down gradually. The descent was so gentle that he knew nothing of the descent until he reached the water. The subsequent destruction of the "Cygnets" was not by any means due to anything that happened in the air, but was purely due to the structure being towed at full speed through rough water; of course, not being designed for that, the structure broke in pieces.

The destruction of the "Cygnets" in December, 1907, interrupted the experiments with tetrahedral structures for, of course, it takes a long time to put together the materials for such a machine. It became necessary, therefore, to postpone further work at Beinn Bhreagh until the opening of navigation in the Spring of 1908. It was therefore decided that while materials for a new tetrahedral structure were being made at Beinn Bhreagh the Association should make its headquarters at Hammondsport, New York, for the winter, and that the younger members of the Association should there have the opportunity of carrying out their own ideas individually in turn assisted by me, and by the other members until the time should come to return to Beinn Bhreagh and resume the tetrahedral experiments.

As Lieut. Selfridge had risked his life in my machine I felt that he had earned the right to be the first to have experiments made upon his own plans, and so it was decided that the Association should give its aid to him.

The plan inaugurated by him at Hammondsport was to repeat the experiments of others. To start out by constructing a gliding machine and gain practice in gliding without a motor as a preparation for dynamic flight with an engine and propellers

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as had been done by all, or nearly all of the successful aviators of the world. While experience was to be gained in gliding flight the members of the Association were to study the successful motor-driven machines that had been produced elsewhere including what little was known or surmised of the machine of the Wright Brothers, who were then working in secret and allowed very little information to leak out.

In a word the policy suggested by Lieut. Selfridge was to walk in the footsteps of those who had gone before and then advance beyond.

In pursuance of this policy gliding machines were made at Hammondsport, and all the members with the exception of myself made many experiments at gliding flight.

Then the Association advanced to the power-driven stage, and constructed an aerodrome upon plans approved by Lieut. Selfridge. As my tetrahedral structures had only reached the man-carrying kite stage and had not been fitted with a motor and propeller, this aerodrome became our No. 1, known as "Selfridge's Red Wing".

Mr. Selfridge:- I did not know that Tom took credit for that altogether, but thought that those other men were associated with him.

Dr. Bell:- He did not. There was joint work upon the machine, all the members present in Hammondsport being associated with him, but the plans of the "Red Wing" were to be approved by him and the machine was to bear his name. As a matter of fact our chief engineer, Mr. Baldwin, had more to do with it in the matter of details than Lieut. Selfridge, but

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everything done was approved by him.

Selfridge's "Red Wing" made a successful flight of three hundred and nineteen feet over the ice on Lake Keuka, near Hammondsport, New York, on March 12, 1908, in the presence of many witnesses. This experiment was somewhat remarkable as being the first successful public flight of a flying-machine in America, the earlier flights of the Wright Brothers at Dayton, Ohio, having been made in secret. The machine had been provided with sledge runners, and glided over the ice for about one hundred to one hundred and fifty feet before it rose into the air. It then flew very steadily at a general elevation of from ten to twenty feet above the surface of the ice carrying Mr. F. W. Baldwin as aviator.

Aerodrome No. 1, "Selfridge's Red Wing" came to an untimely end on March 17, 1908, by an accident which completely demolished the machine, although fortunately the aviator and the engine escaped uninjured.

The Association then immediately began the construction of aerodrome No. 2, Baldwin's "White Wing", upon plans approved by Mr. Baldwin. After several successful flights this machine also came to grief, and the Association then proceeded to construct aerodrome No. 3, Curtiss' "June Bug", in accordance with plans approved by Mr. Curtiss.

Mr. Selfridge:- Mr. Curtiss did not ascend successfully with the "June Bug" did he?

Dr. Bell:-Oh! yes, and he probably had a good deal more to do personally with the "June Bug" than perhaps Lieut.

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Selfridge had with the details of his own machine, the "Red Wing". In all cases, however, there was discussion over details by the members and conjoint action.

Mr. Selfridge:- You told me that he wished me to understand that these young men that were associated with him were acting conjointly with him, and that he could not say that anything was his own.

Dr. Bell:- The idea of the Association was conjoint action. I was in Washington a great portion of the time and only spent a short period in Hammondsport, so that the assistance which I was able to render was chiefly through correspondence. The other members of the Association resided in Hammondsport under the same roof and were in constant communication with one another, and all took part in the development of all the machines through discussion and suggestions. As a matter of fact it is probable that the chief part of the designing of all these aerodromes was done by the chief engineer Mr. Baldwin, although I believe that Mr. Curtiss had a great deal to do with the special features of the "June Bug", if, indeed they were not exclusively of his own design. In all cases the plans were put into execution by Mr. Curtiss, who acted officially as "Director of Experiments".

Aerodrome No. 3, Curtiss' "June Bug" turned out to be a very successful machine, and numerous flights have been made with it, and it is still in existence available for further experiments. All the members with the exception of myself have tried it, and on the 4th of July 1908, Mr. Curtiss, in the

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"June Bug" flew in public under the official observation of a committee of the Aero Club of America, a distance of one kilometer measured in a straight line, thus winning the Scientific American Trophy for heavier-than-air flying-machines. As a matter of fact he went much further than one kilometer exceeding, if I remember rightly, a mile.

When we left Beinn Bhreagh in December, 1907, it was not expected that we would be able to build at Harmsendaport more than one, or at most two aerodromes; for we intended to return to Nova Scotia in the Spring as soon as navigation opened and continue our interrupted experiments with tetrahedral structures over open water.

It so happened, however, that Mrs. Bell had become seriously ill in Washington and when the usual time arrived for going to Beinn Bhreagh Mrs. Bell was in no condition to be removed and I, of course, could not proceed without her. It seemed therefore advisable for the other members of the Association to pursue still further the line of investigation with which they had started at Harmsendaport, while I remained in Washington giving such assistance to them as I could by correspondence. I was also able to make a short visit to Harmsendaport when the June Bug was ready for trial.

On the 4th of July, when Curtiss won the Scientific American Trophy, I was traveling with Mrs. Bell by easy stages to Beinn Bhreagh and had reached Prince Edward Island, when the news reached me by telegraph that we had won the Trophy.

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It had been the intention of the Association to adjourn to Beinn Bhreagh immediately after the 4th of July, but when I came to consider the fact that it would take a long time to assemble the materials for the proposed tetrahedral aerodrome and that the Hammondsport experiments had attracted the attention of the world, it seemed to be a pity to stop the Hammondsport line of investigation until the tetrahedral structures at Beinn Bhreagh were ready to be flown. It also occurred to me that all the younger members of the Association, with the exception of Mr. McCurdy had had aerodromes constructed upon plans approved by them, and that if Mr. McCurdy desired in his machine, to adopt the Hammondsport type, it might be well to give him the opportunity of having his aerodrome built at Hammondsport while we were getting ready for experiments at Beinn Bhreagh.

The Hammondsport experiments had been broken by the destruction of the "Red Wing", and some time had necessarily to elapse before they could be resumed with the "White Wing". The same thing happened upon the destruction of the "White Wing". A long delay elapsed before the "June Bug" was ready for trial. After winning the Scientific American Trophy, it seemed wise to construct another aerodrome upon the same general plan without waiting for the destruction of the "June Bug". By having two aerodromes at our disposal the experiments of the Association would not be interrupted should one be destroyed.

I therefore suggested that if Mr. McCurdy desired to pursue the Hammondsport line of investigation, it would be well

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to divide the Association, and carry on work at Hammondsport and Deann Shrough simultaneously, Messrs. Curtiss and Gelfridge to remain in Hammondsport with Mr. McCurdy so as to give him their assistance in constructing his aerodrome, and Mr. Baldwin to proceed to Deann Shrough to give me his assistance with my tetrahedral structures. The two sections of the Association to be kept in touch with one another by the issuance of weekly Bulletins by the Chairman. This plan was adopted and the first Bulletin was issued July 15, 1906.

Lieut. Gelfridge, however, did not remain very long at Hammondsport as he was ordered to Washington by the War Department. He was transferred to the Signal Corps of the Army and, on account of his expert knowledge of aviation he was made a member of the Aeronautical board of the Army. Thus one member of the Association became scattered. Gelfridge was in Washington attending to his military duties; Curtiss and McCurdy were in Hammondsport engaged in the construction of McCurdy's aerodrome, and Baldwin and I were at Deann Shrough working upon tetrahedral structures. But though scattered we were kept in touch with one another through the Bulletins of the A.S.A. and were able to exchange ideas and carry on cooperative work even better than before. Before July 15, 1906, our most important discussions were by word of mouth and left no record behind. Since the establishment of the Bulletins communications between the scattered members have appeared in written form, so that the records of our work, although very imperfect, are more complete than before.

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Our aëroplane No. 4, McCurdy's "Silver-Dart" is now completed and ready for trial.

Mr. McCurdy:- It is all finished except the motor.

Dr. Bell:- After Mr. McCurdy has had sufficient time to test out this machine, Mr. Curtiss and Mr. McCurdy will proceed to Nova Scotia where all the surviving members will come together at Beinn Bhreagh to assist me with my tetrahedral structures.

At Beinn Bhreagh we have two new aëroplanes employing tetrahedral structures in process of construction. The first which is expected to be our aëroplane No. 5 is of pure tetrahedral construction, in which oblique surfaces alone are employed. It is practically the "Cygnet" over again with improvements and the latest form of motor developed by Mr. Curtiss will be used in the attempt to propel it through the air. The great advantage of the pure tetrahedral form of construction in large machines employing multitudes of small winged cells is the automatic stability displayed by such structures. The chief disadvantage is the poor lifting power of oblique surfaces when compared with the lifting power of the same surfaces horizontally arranged. From which it results that a structure intended to support a man and an engine in the air must be made of very large size in order to afford sufficient supporting surface. The large size of such a structure and the great head resistance offered by the multitude of cells composing it render it exceedingly problematical whether the motors at our disposal will be able to drive it at a supporting velocity. The only way, however, to solve the problem is to make the experiment and this

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we shall do in our aerodrome No. 5.

I have long been anxious to try as an aerodrome another form of tetrahedral structure employing both oblique and horizontal surfaces.

Mr. Selfridge:- That suggested itself to you as the results of the first experiment?

Dr. Bell:- Yes, to remedy the deficient lifting power.

The kites that have been constructed upon this plan, known as Oionos Kites, have exhibited great lifting power, but they have not the stability in the air possessed by kites of pure tetrahedral construction. I did not wish therefore, to try an aerodrome upon this plan until the experiments with aerodromes of pure tetrahedral construction had been completed. A structure of this kind will form the basis for our aerodrome No. 6 and it is proposed that instead of flying the structure as a kite, its body shall be in the form of a boat with outriggers so that it can float upon the water and rise from the water after the manner of a water bird. This aerodrome has been placed especially in the hands of Mr. Baldwin for development. He proposes to place hydroplanes under the boat-body to assist it in rising, and he is now engaged in experiments with the boat-part of the structure. He has produced a very promising boat which makes 15 miles an hour when driven by an aerial propeller operated by a 15-20 horse power engine without any hydroplanes or aeroplane to assist it. This boat is known as the Dhenas Boag.

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The aerodrome of which such a boat will form the body, will start from the water; and if it develops speed enough under its own motive power to rise from the water into the air, it will become a true flying-machine, and need not rise to any great elevation above the water. This seems to be the safest way of getting into the air. Although the structure will not possess the automatic stability of the pure tetrahedral construction, it will be no more unstable than the Harmandspert aerodromes, or the machines used by the Wright Brothers, and the foreign experimenters. As it is expected to fly at an elevation of only a few feet above the surface of the water, the danger in case of accident would not be great, for it would drop into the water instead of on land.

I would not hesitate to make a flight myself in such a machine, whereas I would hesitate to try one of the Harmandspert aerodromes. I leave such exploits to the younger members of the Association. They like the risk, I do not. With young men an element of danger adds zest to enjoyment. Older men prefer to eliminate the dangerous features altogether. Should our aerodrome No. 6 succeed in rising from the water under its own motive power it will undoubtedly become an epoch making machine.

This is the limit of our plans for the present, but we have not yet been able to advance them much beyond the theoretical stage. On account of Mrs. Bell's illness the season was far advanced before we could commence work upon our tetrah-

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edral aerodromes at Beinn Bhreagh, and for this reason the structures will not be in condition to be tried before the day arrives for the Association to come to an end unless some unanimous action can be taken to continue it for another period of time.

A meeting had been called for the 30th of September the last day of grace, when it was expected that all the members would be present at Beinn Bhreagh, but alas, we now know that we can never all meet again. The accident to Orville Wright's machine has deprived us of our fellow member Lieut. Selfridge, and we cannot even reach a unanimous decision without the assistance of Mr. E.A. Selfridge, the legal representative of his heirs.

(The Association then proceeded to business. The resolutions that were passed at the meeting appeared in Bulletin XIII, pp 5-7. The stenographers notes enable us to preserve some of the subsequent proceedings).

Dr. Bell:- Have you brought a copy of the original agreement of organisation from Hammondport, Mr. Curtiss?

Mr. Curtiss:- Yes sir, and it is here.

(Dr. Bell then read the agreement of organisation signed in Halifax, N.S., Sept. 30, 1907, a copy of which may be found in Bulletin X pages 22-25).

Dr. Bell:- For Mr. Selfridge's information I will say that we have been carrying on our experiments purely in the interests of aviation without any pecuniary motives whatever.

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Mr. Selfridge:- Eliminating the commercial aspect?

Dr. Bell:- Eliminating the commercial aspect.

Mrs. Bell also has supplied us with about \$20,000.00 to support our experiments, without any conditions looking to return or gain. We all of us believed, however, that in carrying on experiments of this sort, we would be liable to come upon new ideas, and we decided that should we produce any investigations of a patentable nature it would be a matter of wisdom to have them patented. The difficulty was to know how to do it. Mrs. Bell's financial contributions could not be used for the purpose, having been specifically given to cover experimental work alone. We cannot expend her money upon patents, or in litigation, but only to cover the actual cost of our experiments.

I held the ground that patents belonged to the commercial stage of an invention not the experimental; and should be paid for by a company or by individuals interested in commercial developments, not by one like Mrs. Bell who cared nothing for such matters, and was only interested in promoting the experimental work of the Association.

I recognised however, that patentable inventions made by the Association could hardly be transferred or sold to a Company unless already patented; and so I have personally assumed the expense of applying for patents on the Harmondspert work with the expectation of being re-compensated for my expenditures by any company that might take up the Harmondspert

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aerodromes in a commercial way.

Mr. Selfridge:- Then you have already applied for patents?

Dr. Bell:- No, not yet. I have ordered a preliminary examination of patent records to be made in our interest, and a specification to be prepared should it turn out to be the case, that our inventions are not already covered by existing patents. So many people have been working at flying-machines, that it will be very difficult to steer clear of existing patents and get a patent of any value to represent our work.

Mr. Selfridge:- You may be trespassing on some other persons property.

Dr. Bell:- Exactly. We do not know what other people have done, and I am unwilling to apply for a patent until I have some assurance from my solicitors that we really have something that we can rightfully claim as our own.

An examination is now being made to see whether we have got anything to patent. If we have, then a patent will be applied for. Then as a patent may have commercial value we should appoint a Trustee to hold these patents and dispose of them to the best interests of the Association. This trustee would distribute the proceeds if any in accordance with our agreement of organization, and of resolutions of the Association. Of course it may be possible that we are making a mountain out of a mole-hill, but I cannot forget the early days of the telephone when business people said there was nothing in it. There may be nothing in this, but we are not going to take any chances.

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about it. We will proceed as though it were the most valuable thing in the world and make due preparations.

Mr. Selfridge: Do I understand that Mrs. Bell's wishes made her contribution of \$20,000.00 for the benefit of science, but that out of anything realized from the sales Mrs. Bell is to receive 20%.

Dr. Bell:- That was the action of the Association not of herself.

Mr. Selfridge:- Of course Mrs. Bell is entitled to it absolutely, and it is nothing more than an acknowledgment of her good will in recognizing the Association by contributing toward it.

Dr. Bell:- Yes sir.

Mr. Selfridge:- But Mrs. Bell did not expect any remuneration in return.

Dr. Bell:- No. She said she had a piece of property that she never gained anything from that she would sell to provide funds for the Association. She had no thought of remuneration but gave her contributions as a pure gift to the Association; it was "throwing her bread upon the waters" as it were in the interest of the cause.

In our original article of agreement which is before me here we have this clause:-

"This agreement can only be modified by unanimous vote of the undersigned".

Lieut. Selfridge was one of the signers so that strictly and literally we cannot continue our Association be-

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yond the 30th of September or make any change whatever in our agreement without the consent of Lieut. Selfridge. The death of Lieut. Selfridge has tied our hands in this matter and the special object of this meeting is to get over this difficulty so that we shall be able to continue the Association for another period of time, say six months, and be free to do something.

Our plan of procedure, I think, should be to recognize Mr. E.A. Selfridge as the legal representative of his son and permit him to cast the vote for Lieut. Selfridge. That is the main business we have to do to-day.

I have received a letter from Mrs. Bell in which she speaks of Tom. It is really quite a touching letter and I will read an extract from it, which will give Mr. Selfridge an idea of how she felt towards his son.

(Dr. Bell then read an extract from this letter which is given in Bulletin XIII pp.27-28. "On the death of Selfridge by Mrs. Bell").

Mr. Selfridge:- Beautiful, beautiful expression.

Dr. Bell:- I think it is a beautiful letter, and I will ask our new Secretary, Mr. McCurdy to make a copy of this extract and send it to Mrs. Selfridge. It shows the spirit of Mrs. Bell in the whole matter and her attitude towards the members of the Association, and her desire that the Association shall continue its organization just as it is without change.

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(The various resolutions given in Bulletin XIII, pp. 5-7 were then adopted and it was suggested that it might be well to add a proviso, that the Association could be continued beyond the 31st of March 1909, by unanimous consent. It was decided, however, that formal action on this point was not necessary.)

Mr. Selfridge:- All it requires is unanimous consent to continue it from period to period as you think proper. It is, simply a repetition of your original motion or article, is it not? That nothing must be done except by unanimous consent.

Dr. Bell:- No, not "Nothing" but only certain points. While a majority vote would be sufficient upon most matters, the fundamental agreement was not to be modified excepting by unanimous consent.

(Mr. Selfridge suggested a resolution to the effect that Mrs. Bell should be given a 1 per cent interest for every thousand dollars contributed over the amount she had already given, but this was considered to be unnecessary in view of the past action of the Association, providing for this interest without any specification of limit. Mrs. Bell had herself limited her contributions to \$20,000.00. Now she extends the limit to \$30,000.00. That is all and no action by the Association was considered necessary).

Dr. Bell:- I would like to bring to your attention the question of the appointment of a Trustee for the Association

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I have employed Messrs. Moore, Cameron, Lewis and Massie to make an examination of patents to see whether we have anything that we can patent. I am advancing the costs personally from my own pocket and not from the funds of the Association. If we find that we have anything that is patentable we will have that patent taken out, and the expenses will be charged, not to the Association, but to any Company, or commercial organization that will take up the patent. As we have Mr. Selfridge with us to-day it would be advisable for us to appoint a Trustee for the Association to whom patents might be assigned and who would hold the patents in his own name as Trustee until they could be transferred to a commercial organization. The question of the appointment of a Trustee is now in order.

Mr. Curtiss:- I move that Mr. Bell be made the Trustee.

Dr. Bell:- No, I am not a business man. Perhaps, however, you refer to Mr. Charles J. Bell, President of the American Security and Trust Company. He would be an admirable man for the purpose. I had the opportunity of talking with him the other day, and I asked him what his attitude would be in the case we requested him to act as Trustee.

He said he would be glad to act as Trustee if desired, but that he could not undertake to organize a Company or to put our inventions into commercial use. All he could agree to do would be to hold the property as Trustee for the Association, and see that it was disposed of in accordance with the

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agreement of organization and resolutions of the Association. Since then, in talking over the matter with Mr. Cameron, he suggested the idea that it might be a good plan to make a Trust Company Trustee rather than an individual. For the individual may die whereas the Trust Company will not. He suggested the American Security and Trust Company rather than Mr. Charles J. Bell, its President, individually.

We should remember, however, that in this whole matter we are simply making a provision for the future taking advantage of the presence of Mr. Selfridge to secure unanimous action, and that at the present time we have nothing to place in the hands of a Trustee. We could not possibly go through the formality of asking a Trust Company to accept nothing in trust, whereas, we can make an arrangement with an individual like Mr. Charles J. Bell to become Trustee for us, when we have something to give him.

Mr. Curtis:-I know of no better plan than to secure Mr. Charles J. Bell to act as Trustee if we can.

Dr. Bell: I think it would be a good plan to appoint him as Trustee. He could transfer the trust to his Trust Co. if we get anything of value, if desired by the Association. That could be done without any difficulty.

Mr. McCurdy:- Could it be assigned to the Trust Co. They to act through him?

Dr. Bell:- Yes, but the time has not yet come when we could go to the Trust Company for we do not yet possess anything

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tangible of value to be placed in their hands.

Mr. Baldwin:- Shall we take up the matter of the appointment of a Trustee? It is true that we have not anything to hand him, but Mr. Selfridge is here, and it is evidently a matter that requires his consent.

Dr. Bell:- It is well to provide for it.

Mr. Selfridge:- Of course any action of that kind would receive my endorsement whether I was present or not. Why not allow that power to rest with the Chairman in the event that necessity exists to appoint a Trustee to handle the resources for the benefit of the Association. Why not leave it to the presiding officer, Dr. Alexander Graham Bell, to appoint a Trustee.

(Dr. Bell stated, that it was an important matter and that he could not undertake to appoint a Trustee without the formal consent of Mr. Selfridge, and of the surviving members of the Association. Mr. Charles J. Bell was then by resolution appointed Trustee of the Aerial Experiment Association, (see Bulletin XIV, p.7)

Dr. Bell:- Is there anything else that requires unanimous action? Matters that can be settled by a majority vote can be handled at other meetings of the Association, but anything requiring unanimous action had better be brought up now, for Mr. Selfridge resides in California, and we do not know when it may be convenient for us all to come together again.

(Nothing further requiring unanimous action was brought up at the meeting).

Dr. Bell:- There is another matter I would like to bring up although it does not require any formal action at all. The Association will last for at least six months longer and we should be very glad if Mr. Selfridge would allow us to have possession, during that time, of the books, pamphlets and other material relating to aerial locomotion that Lieut. Selfridge had in his possession.

Mr. Selfridge:-I do not see why you should not have them.

Dr. Bell:-Our new Secretary, Mr. McCurdy could perhaps go with you to the rooms of Lieut. Selfridge and get anything that is of value to the Association.

Mr. Selfridge:-He could make a list of them and give me a receipt.

Dr. Bell:- Some of these things, probably belong to the Association. Mr. McCurdy would be able to tell whether, for example, the aeronautical magazines he received as our Secretary were subscribed for by the Association, or by Lieut. Selfridge personally.

There is one other thing Mr. Selfridge which occurs to me just now. Lieut. Selfridge wrote for the use of the Association a very remarkable paper on the Progress of Aviation.

Mr. McCurdy:-Could I propose that we might ask Mr. Chanute to look it over?

(Mr. E. A. Selfridge gave his consent to the publication by the Association of an article written by Lieut. Thomas E. Selfridge entitled "A Brief Sketch of the Progress

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of Aviation^o which formed the subject of our Bulletin No. II, provided that it could be looked over by an expert to see that the statements contained in it were correct. He would not like his son's name to be appended to a paper that contained erroneous statements. He could not judge of the matter himself, but would trust the judgment of an expert like Mr. Chanute. Mr. Chanute offered to revise the paper as to data and references, but not as to the sense of the article).

Dr. Bell:-There is one other matter Mr. Selfridge. I am anxious that Mr. Chanute should have the opportunity of looking over the Bulletins of the Association. There are only seven copies and we have not any here. Lieut. Selfridge's copy, however, is at his rooms. If it would be convenient for you to lend these Bulletins to Mr. Chanute he could return them to you.

(A resolution was then proposed by Mr. Curtiss, seconded by Mr. Baldwin that the official headquarters of the Association be moved to Nova Scotia on the first of October, 1908. The resolution was adopted and the meeting then adjourned.)

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