

AIRCRAFT

Vol. 2, No. 9

NOVEMBER, 1911

15 Cents a Copy

OCT 25 1911



LIEUT. SCOTT ADJUSTING HIS BOMB DROPPING DEVICE BEFORE STARTING ON A TEST FLIGHT IN AN ARMY BIPLANE, WITH LIEUT. MILLING AS PILOT

AIRCRAFT

Vol. 2. No. 9

NEW YORK, NOVEMBER, 1911

15 CENTS A COPY
\$1.50 A YEAR

The Value of the Aeroplane and the Hydro-aeroplane to the Navy and the Policy of the Navy in Their Development

By Hon. George Von L. Meyer, Secretary of the U. S. Navy

THE only use of the aeroplane seriously contemplated, as yet, by the Navy is as an aid in scouting, in reconnaissance and in communicating between ships, or between ships and a co-operating force on shore.

The French fleet on its way to Egypt, seriously encumbered by the army that was transported, could not have escaped the watchful Nelson, as it did, had he been supplied with efficient aeroplanes and trained airmen. By the use of aeroplanes, Cervera's presence at Santiago could have been discovered in time to have materially simplified our operations and communication between Shafter and Sampson would have been greatly facilitated. The Japanese base at the Elliott Islands would have been discovered and constantly watched if the Russians had been provided with aeroplanes and if the Japanese had been provided with them, communication between Japan and their advanced base would have been greatly facilitated.

It is also probable that many of the blockade mines planted by both Russians and Japanese off Port Arthur could have been located by aeroplanes in time to have saved some of the ships that were destroyed by these mines. In the Pacific, last year, a Curtiss Aviator readily located one of our submerged submarines and the French have recently had a similar experience. If bomb dropping from an aeroplane is ever practiced by the Navy it will probably be done to locate or destroy an enemy's submarine mines or his submarines.

The average aeroplane of to-day, however, is more suitable for army uses than for naval purposes and the great number of aviators that have been sacrificed in the pioneer work, so far,

bears grim testimony to the fact that there is need for conservatism in the development of aircraft for naval work, as the Navy can ill afford to lose its trained personnel in this way.

Large money prizes to cover risks are not available to naval airmen, but this fact will not deter them from risking their lives in anything that gives fair promise for improvement in our weapons. We are therefore constrained to "make haste slowly" in adapting this new and popular science to our uses.

The aeroplane that we want is one that can be conveniently stowed on board ship and quickly assembled for use. It should be capable of being sent in flight from the deck of a ship without requiring the use of any clumsy devices that would hamper the use of the guns or that would require being thrown overboard when the ship is cleared for action. Above all it should be reliable. Until a satisfactory device for automatic control is developed and probably even after that it should be capable of carrying an additional operator or observer and in any case it should be provided with a wireless telegraph outfit for communicating with the ships of the fleet while at an altitude of 3,000 feet or more and while out of sight at a distance of 30 miles or more. It should

also be provided with means for the safety of its crew when obliged to alight on the water and it should be capable of being hoisted on board like a ship's boat.

Although it was demonstrated last year, on board the BIRMINGHAM and the PENNSYLVANIA, for the purpose of encouraging the art, that under certain circumstances an aeroplane could be made to leave a ship and return to it in flight, it has been our chief aim, so far, to develop a machine that will be as

NAVY DEPARTMENT,
WASHINGTON.

October 2, 1911.

Dear Sir:-

In reply to your letter of September 27, 1911, I enclose an article which expresses the value of the aeroplane and the hydro-aeroplane to the naval service and outlines the character of the machines that we desire to develop.

I wish to encourage the efforts of American manufacturers, but I am quite sure that the machines of the present day, although adapted to exhibition purposes and certain classes of contest, do not fully represent the best products of which our scientific engineers and architects are capable.

Very respectfully,

George Von L. Meyer
Secretary of the Navy.

Mr. Henry Woodhouse,
Editor of "Aircraft,"
#37-39 East 28th Street,
New York, N.Y.

nearly independent of a ship's deck and of the land as possible, particularly on rising into the air, not only for possible service in war but for the more frequent demands of training at all times, for of course its development must be accompanied by the training of the personnel to its use, care and repair.

The hydro-aeroplane, or "Triad," developed at San Diego, Cal., and at Hammondsport, N. Y., by Mr. Glen Curtiss, while in cordial co-operation with the Navy, meets this demand fairly well, but is regarded as capable of further improvement in respect to the practicability of using it in the comparatively rough water of a harbor. Its principal uses for the present will be confined to training and experimental purposes, it being confidently expected that this training will eventually proceed as a regular routine from the ship as a base.

One of our latest requirements for this machine is a self-starting attachment that will enable it to be started, without difficulty, in deep water and the combination of an electric self-starter with the power plant of a wireless telegraph equipment gives fair promise of success.

A recent experiment, at Hammondsport, N. Y., has demonstrated the practicability of sending this machine in flight from a ship over a single wire cable stretched from either the bow or the stern to the superstructure of a battleship. The wire cable can be rigged and unrigged for this purpose in a very short time. But it is anticipated that further experiments, which are contemplated, will demonstrate the practicability of a plan which will be even more convenient than this.

The use of the hydroplane attachment is not always necessary and it is undesirable under certain circumstances because

it adds considerable weight and resistance, thereby cutting down the speed. When these machines are actually used in service work at sea, they will probably be equipped with light pontoons only, these being already supplied with the one now owned by the Navy.

The chief aim of the experiments in contemplation is not to obtain a high speed at the expense of safety and reliability, but to proceed along conservative lines towards obtaining the greatest factor of safety and efficiency in architecture combined with the most reliable and efficient propelling power. It is desired to test and compare different makes of motors and propellers not only on the block at the Engineering Experiment station, at Annapolis, but in the aeroplanes themselves at the aerodrome already established.

It is not intended to make any large purchases of aeroplanes for the Navy until we are fully satisfied that they will fulfill the exceptional conditions required by their use from shipboard, but it is confidently expected that within the next year their development will have reached such a stage as to justify the purchase of a number sufficient to enter largely into the training of the Navy personnel to their use.

Among the important subjects under consideration, and not minor in any respect, is the adaptation and installation in our aeroplanes of the most efficient and convenient instruments required in air navigation. In this respect satisfactory progress has been made. Something more serious than exhibition flights is contemplated by the Navy, although the educational value of the flights that have been made for exhibition purposes is regarded as incalculable.

FIRE RISK IN THE AIR

By Henry A. Wise Wood



GASOLINE fire high in the air aboard a rushing thing of wood and canvas is not beyond the normal possibilities of present day flight." When the writer, in the January, 1911, issue of "Aircraft," called attention thus to the need of protecting the airman from fire there had been a few suggestive accidents, but no fatalities. A pilot, driving a biplane at Hamburg, had effected a safe landing after his engine, aft, had taken fire; while Bleriot had had a narrow escape in his E. N. V.-engined No. XII, which caught fire and was completely consumed after a mishap in which it had capsized. It will also be recalled that twice previously Bleriot was burned by ignited gasoline, and that he had not wholly recovered from these accidents when he crossed the English Channel. In the Spring of this year, however, fatalities due to fire began to occur: In May, Bournique and Dupuis, aboard a 100 horse-power Déperdussin, were overturned by a gust and burned to death on the ground by their own gasoline. During May and June three other men met a similar fate while pinned beneath fallen machines—Cerri and Prince-teau in Bleriot, and Landron in a De Pischof. And de Grailly, on September 2nd, fell with an R. E. P. and lost his life when his machine took fire upon striking the ground. The foregoing deaths occurred in fires which resulted, doubtless, from collapsing power-plants. Of an entirely different order, however, were the fires aloft which during September cost the lives of four men. On the 4th a Bleriot, driven by Leforrestier, caught fire aloft and fell to the ground in flames; on the 7th Newmann and Leconte lost their lives in an Aviatik which had taken fire in the air; while on the 27th Miller was killed in an American biplane which took fire while in flight.

Here we have two classes of accident that must now be added to the other risks of the air with which flyers, and conscientious builders, should immediately concern themselves. Aviation has reached a point where it is no longer

enough that a machine be produced which can fly; it must fly both well and safely. Daily the responsibility of the builder grows: he no longer need only send a man into the air to discharge his part of the bargain; he must protect him there as well. If to insure the safety of the man who is up there be anything left undone that is within the knowledge, skill, or reach of the constructor, the latter can not escape condemnation on the ground that a flyer takes all the risk. Therefore, in many kinds of accident the builder must expect to be thought an accessory before the fact. This doctrine should rigorously be applied where fires occur in flight, and only in somewhat less degree where they occur upon the collapse of a power-plant following a fall. While it is extremely difficult to diagnose flying accidents, it would seem that those which have to do with fire, either before or after impact, lend themselves to simple explanation. There are but two sources aboard an aeroplane from which fire may arise—the electrical system, or the ignited charge of gas. Those who have had to do with power-boats are familiar with the combination of poorly insulated or connected ignition wires and leaking gasoline vapor, which so often results in disaster; while every frequenter of the flying field has seen after dark the flaming exhausts of the still mufflerless aeroplane motor. Broadly speaking, both are sources of danger against which the flyer must be safeguarded; but each type of motor or aeroplane calls for an individual solution of the problems presented. For instance, in a monoplane fitted with Gnome motor danger may arise from the absence of proper metallic sheathing over so much of the body and wing as have to take the blast of the exhaust-ports; or from the ignition of leaking gasoline below or within the fuselage by the flaming discharge which sweeps by it. In either case the remedy is a properly sheathed and sealed fuselage, sound and durable gasoline connections (under no circumstances should these be of rubber) and proper drainage of such gasoline as may happen to collect. A more

troublesome problem is presented when it is sought to guard against the possibility of internal combustion. As the cylinders of the Gnome are fed from its crank case through self-opening valves in its piston heads, a broken or stuck-open intake poppet will permit the explosion of the mixture in the crank case, and its backfire through the gasoline-and-air intake into the body of the machine. Here the ejected gasoline, even if the fuselage be clean, may set a disastrous fire. Safety, therefore, requires that the present practice of housing the inspirator of the Gnome engine within the body of an aeroplane be abandoned, and the safer one be adopted of connecting it with the open air by means of a metallic conduit, which has no opening into the fuselage. As the intake of a Gnome frequently spews on starting, this precaution will serve to keep the machine free of accumulated gasoline. And whatever be the type of motor used, safeguards similar to those described should be provided.

A biplane, however, by reason of its open construction, should be less subject to fire aloft. Nevertheless, the close proximity of exhaust-ports and gasoline-tank, or rubber lead, which is characteristic of some American machines is

justly open to criticism, and should be condemned. And a more generous use than is customary of metal sheathing should be made at all points subject to gasoline wetting. Where a Gnome, or similar motor, is employed the inspirator should be housed in a conduit whose open end is below the lower plane and is well surrounded by sheathing, or some other equally effective precaution should be taken to guard against the dangers of backfire.

Generally speaking, with respect to all types of aeroplane, stored gasoline should be so completely isolated from all sources of ignition—by bulkheads, partitions, or distance—that even in the event of a collapsing machine it shall not be spilled upon the engine, or a magneto, which may be making a last turn, or within reach of an intake which may be afire. There is little doubt that once the matter is given general attention many effective ways of wholly ridding the airman of risk from fire will promptly be devised, and it is for the purpose of arousing the interest of those who are competent to undertake the work that the writer has opened the subject.

THE NASSAU BOULEVARD MEET

By Henry Woodhouse



HAT makes the Nassau Boulevard Meet an epoch marking event is not that the flying at the meet was unusually spectacular nor that the attendance was phenomenal or that the enterprise was a financial success. As a matter of fact these three elements of success were lacking. While the general programme, as originally planned,

who planned and managed the meet, succeeded in interesting Postmaster General Hitchcock in the matter and he authorized the establishment of a Post Office station on the aerodrome—"Aerial Station No. 1." A score of letter boxes were placed at different points on and near the stands to receive the mail and were labelled "Aerial U. S. Mail." From these boxes the mail went to the Post Office tent on the field where the matter was assorted and stamped. Then it was put in bags and these were carried from the field to Mineola by aeroplane. At Mineola the aviators dropped the bag in a field where the postmaster was waiting for it, who finally transferred it to a railway post office car.

The "Aero Post" was popular from the very beginning. Thousands of cards, letters, photos and programmes were sent daily. On Sunday, Sept. 24th, there were sent from



Postmaster-General Frank H. Hitchcock just about to start with Capt. Paul Beck with a bag of mail from Nassau Boulevard to Mineola. The trip was made on September 20th and the machine used a Curtiss.

included many original features, as carried out, it had little of special value. The realization of the plans was made impossible by different factors, especially the weather. That explains also why the attendance was small and the financial results unsatisfactory.

What gives the meet a claim for a prominent place in the history of American aviation is that here were made the first experiments at carrying mail by aeroplane ever made in America. This was really the main feature of the meet and was such a splendid demonstration of the actual value of the aeroplane for practical purposes that it is not too much to say that in itself it was worth more to the movement than an exceptionally big meet would have been.

And the experiment was a thorough success. Mr. Timothy L. Woodruff, the president of the Aero Club of New York,



Scene in front of the hangars at the Nassau Boulevard meet. The machine in the foreground is George W. Dyott's 50 H. P. 2-seater Deperdussin monoplane which was seen in flight in this country for the first time at this meet.

the field by aerial mail 6,165 post cards, 881 letters and 55 other pieces of mail. Each piece of mail was cancelled with a round stamp bearing the inscription: "Aeroplane Station No. 1, Garden City Estates, N. Y.," and a long stamp reading: "Aerial Special Despatch."

Earle L. Ovington was the principal mail carrier. Starting on September 23d, the first day of the meet he made deliveries of mail at Mineola regularly twice per day, in his Blériot machine for nine days. Captain Paul W. Beck, of the U. S. Army, also carried the mail bags on a number of instances. On Sept. 27th, the fourth day of the

A Popular Explanation of the Motives of the Gyroscope and Its Application in Aviation

By Emil Büergin

The number of applications of the gyroscope in mechanics has grown enormously during late years, while the comprehension of its real motive of action has not kept step in proportion. The cause of this condition is the lack of literature concerning the theory of the gyroscope and the fact that the few books pertaining to this subject display such a collection of higher mathematical formulas that even technically educated men are not prone to tackle them. The consequence is a great waste of time and money in its misapplications. There is, however, a possibility to explain in a more comprehensive way the peculiar action of the gyroscope. By applying only the fundamental laws of dynamics, omitting mathematical formulae it is still sufficient to judge the effect of the gyroscope in any case in which it is applied.

In fig. 1 A B C D shall represent the ring of a gyroscope revolving around a spindle Z. X and Y are two axes perpendicular to each and lying in the plane of the ring. If we turn the revolving gyroscope slowly but steadily around the axis y, each of the particles of the ring will receive an additional velocity, but vertical to the plane. Near A and C it will be the greatest and zero in B and D. Representing these velocities by arrows, the connecting line of their points will be an ellipse

of the rim of the wheel. Further the moment of torsion acts perpendicularly to the direction in which the gyroscope receives its inclination and therefore it cannot oppose this motion.

Now those having experienced with gyroscopes will find this latter result entirely contrary to their observations. They shall, however, not be reproached for this, for even in scientific literature one can read about the stable axis of the gyroscope which resists to every change of direction. All applications, however, that were based on this assumption proved to be a failure.

Let us see how the gyroscope will act according to these stated facts: The inclination around the axis Y creates a moment of torsion around the axis x, which makes the gyroscope turn around axis x within the same angle as the original movement around Y. This second motion creates, however, again a perpendicular moment which has Y as axis, and this one opposes the original motion.

If we hold a revolving gyroscope in our hands and want to turn it we have indeed the impression that the axis is stable. It is because we do not realize the small perpendicular moment to which we yield and which induces the reaction in the first direction. If, however, we fasten the gyroscope in an apparatus which prevents any moving of the gyroscope sideways, the turning in the first

1. Entirely stable.
2. Entirely free, and
3. Half free

1. The entirely stable suspension has been tried the most. While this method proves very successful with torpedoes, it cannot be applied to aeroplanes. There it would have the same effect as the gyroscopic forces of the propeller and the rotary motor, twisting the aeroplane and producing great strain in the framework.

2. The entirely free suspension. This method is applied in the Whitehead torpedo. The gyroscope is supported by two rings which can swing in directions perpendicular to each other by this permitting the gyroscope to swing in any direction.

If the torpedo, installed in this way makes a turn, the gyroscope will keep its original direction A lever hinged to one of the two rings will act on the valve motion of a pneumatic servo motor which changes the position of the rudder. But even this small resistance changes gradually the original direction of the gyroscope, and therefore also influences the torpedo in its course.

3. The half free suspension. The gyroscope is built in such a manner into the framework that it is obliged to follow the motion it is to correct but can swing in a direction vertical to it. It

Fig. 1.

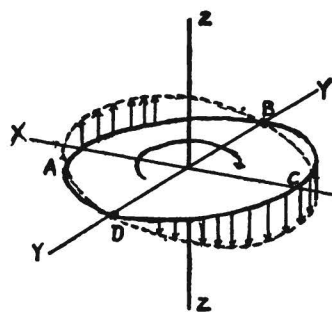


Fig. 2.

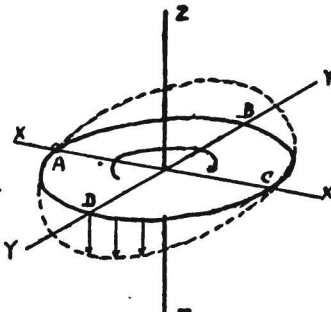


Fig. 3.

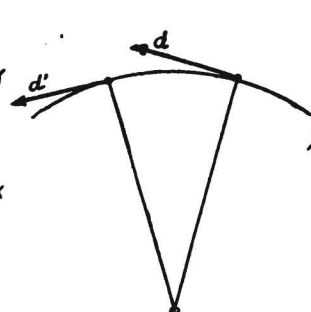
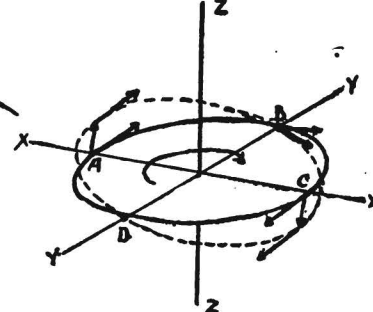


Fig. 4.



lying in a plane through the axis Y. Hence a revolving particle of the ring will endure on its way from A to B a reduction of its speed produced by turning the z round the axis y. It will be zero in B and reversed in C, then diminishing and changing its direction in D to have again the original velocity in A. To do this the particles have to receive accelerations downwards on the way from A to C and upwards from C to A, which necessarily produces a reaction in the opposite direction, that is from A to C upwards and from C to A downwards. It is the strongest in the points B and D. Representing each element of reaction by an arrow in proportion to its force and of the same direction we again receive an ellipse by connecting their terminals which is however, turned at 90 degrees to the former one and goes through the axis x (fig. 2).

But we find that according to the laws of dynamics there is still another power acting on the gyroscope. If a particle of mass moving in a certain direction shall change this direction even within a small angle, this has to be originated by a force acting vertically to the former. We observe that daily. An element of a fly wheel may have at a certain moment a velocity in direction D (fig. 3). The next moment it has the direction A. The tendency of this element to keep its initial direction we call centrifugal force. Its reaction is the force that changes this direction, and is equal to the strain on the different parts of the rim of the wheel. If the wheel bursts this reaction ceases. As nothing is preventing the detached pieces from following the course they have at that moment, they fly away tangentially, but not radially as it appears. It is similar with the gyroscope where the centrifugal forces compensate each other within the fly wheel itself. But if the gyroscope is making said revolutions around axis Y, all elements of the wheel perform this same angular rotation around axis Y. By this an element parting from point B intending to follow the circular course will suffer a change of direction. It is brought downward by a force vertical to it, which produces a reaction upwards but of the same magnitude. There is a similar one in point D in opposite directions. On both sides of B and D the forces decrease and are zero in A and C. These vectors of velocity being only removed parallel. The total reaction produces again a moment of torsion around axis x and is of the same direction and proportion as the one that resulted in the beginning.

These reflections show that the resistance of a gyroscope to any change of the direction of its axis depends only on the weight and the velocity

direction will be just as easy as if the gyroscope were not running. These results also show that the gyroscope does not ignore gravity. A gyroscope in horizontal position, the axis of which is only supported on one end will not drop, but it will begin to rotate slowly around its point of support. In induced forces and the slower therefore the gyroscope can rotate around its support in order to counteract the influence of gravity. This horizontal motion of the gyroscope around its support is called precessional. If we increase it the gyroscope will rise, and if we prevent it the gyroscope will drop, as if the fly wheel were not revolving. These are the laws the gyroscope is subjected to, and their comprehension enables us to consider where and how gyroscopical forces are acting.

The wheels of a fast speeding train act like gyroscopes. In a curve the wheels are turned around a vertical axis. This produces a moment of torsion around a horizontal axis lying in the plane of the wheel. It tends to lift the car on one side. More dangerous is the elevation of outside rail in a curve. This is equal to a turn of the wheel around a horizontal axis through its plane, producing a moment around the vertical axis. If the elevation of the outside rail begins before the curve this tries to place the axle of the car in an oblique direction to the rail. Hereby the wheels will have the tendency to leave the track towards the side of the lower rail. This tendency makes itself noticeable with the high speed electric railroad cars where the motor is placed directly on the axle of the wheels, thus producing great kinetic energy due to rotation.

The interest in the qualities of the gyroscope has become more general since the development of the flying machine. It is hoped that this apparatus, resisting practically to every turning motion, might give the flying aviator a point of support in order to keep his machine in a voluntary direction as a compensation for the one he cannot have from the earth. Until at present, however, we are glad to succeed in eliminating or counterbalancing the existing gyroscopic influences on an aeroplane. The gyroscopical forces of a rotary motor especially are extremely great. When an aeroplane describes a horizontal curve these forces tend to direct it upward or downward. It has been tried to eliminate this influence by the installation of two motors revolving in opposite direction. But should one propeller suddenly cease to work the aeroplane would receive an eccentric driving action, which would make it turn horizontally. Then the gyroscopic influence of the other still revolving motor comes to its full and often fatal effects.

To steady an aeroplane by means of a gyroscope we can consider three possible ways:

only should be powerful enough that this secondary motion can easily overcome the resistance in governing a servo motor.

With the flying machine there are three directions perpendicular to each other, in which we desire to prevent an involuntary turning. To do this we need for each direction a gyroscope for itself. It is the most important to prevent the aeroplane from descending suddenly that is from an involuntary turning around the horizontal axis through the planes which would produce sudden falls. For this purpose the gyroscope can be placed either with its rotating shaft in the direction of the The most important is the prevention of an involuntary turning around the horizontal axis through the planes which would produce sudden falls. For this purpose the gyroscope can be placed either with its rotating shaft in the direction of the course of the aeroplane, allowing it to swing horizontally, or it may be suspended vertically, allowing it to swing in a vertical plane, which is, however, perpendicular to the direction of the motion of the aeroplane.

If we wish to ascend or descend we simply change the angle of the plane in which the gyroscope can move in relation to the aeroplane. Thus the gyroscope will influence the servo motor, and by this the rudder until we have the desired direction.

Any other turning motion of the aeroplane will be of no influence on this gyroscope, the friction of the governor being sufficient to bring it also into the new position because the gyroscope is stable in the direction perpendicular to this motion, and therefore cannot produce any gyroscopical reaction. This was proved above.

A second gyroscope can be used for keeping the lateral equilibrium. This gyroscope acts similarly to the first one upon a servo motor. It has to follow the lateral swaying of the aeroplane, but can swing liberally in the longitudinal direction.

The control of the vertical rudder in the rear may be left to the aviator.

It might still be desirable to limit the speed of the aeroplane in ascending or descending. Ascending at too steep an incline, the power of the engine will not be sufficient to produce the necessary speed to support the aeroplane and it will drop backwards. Descending too rapidly, the framework cannot resist the air pressure. If, however, we connect the gyroscope which controls the rudder for steering up and down with a transverse vertical plane pivoted to a horizontal shaft the increased or decreased air pressure upon this plane will change the inclination of the gyroscope to the axis of the aeroplane, and thus influence its course.



EDITORIAL

AMERICA LEADS IN NAVAL AVIATION.

A SPECIAL article by Secretary of the Navy George Von L. Meyer, on the value of the aeroplane and the hydro-aeroplane to the Navy and the policy of the Navy in their development, appears in this month's AIRCRAFT. In connection therewith we think it well to mention that America actually leads in Naval aviation.

As matters stand, no other nation has yet introduced aviation in the Navy. France, the most advanced, has not yet an organization, nothing more, in fact, than two officers learning to fly at Pau and Etampes, and a few individual officers who are flying on their own account. None of the nations have naval aviators trained to fly hydro-aeroplanes. As a matter of fact, none of the nations have a hydro-aeroplane that has passed the initial experimental stage.

America, on the other hand, has already an organization and a number of well trained naval officers, all of whom have earned their pilot licenses in a hydro-aeroplane. We have also a hydroaeroplane that has passed the primal experimental stages.

The ultimate leadership of America now depends entirely on the aeroplane maker. Secretary Meyer practically states that the Government will acquire machines as soon as they are improved enough to afford service. This is a double incentive and the aeroplane maker surely ought to apply himself to turning out suitable machines.

THE FIZZLE OF THE "MAYFLY."

MAYFLY, (a very appropriate name), the British Admiralty's first airship, the latest and heralded as the best dirigible ever built, has gone the way of the Deutschland, the Zeppelin II and many others—that is, it met with disaster at the beginning of its career.

Unlike the others, however, which nearly all came to grief through not being manned properly, the Mayfly was wrecked on account of weak framework. As the ship was being taken out of its shed at Barrow-in-Furness, in a nine-mile breeze, it listed to leeward, then collapsed, breaking in the centre.

It is most unfortunate that this has happened for many reasons, principally that it will give an excuse to the antagonistic element of the British War Office for

opposing expenditure for military aeronautics. That element has in the last two years opposed every proposal for the establishment of a military aviation corps in the British Army. As a result, England's aeroplane forces consist of a half dozen machines, mostly old numbers; and no organization.

Incidentally, we cannot help regretting that the \$400,000 spent in the Mayfly—which may be considered as little more than an experiment—was not spent in aviation. That sum would have covered the full cost of the establishment of aviation corps in both the Army and Navy and for equipping and maintaining them for a number of years.

THE NEED OF LICENSE REVISION.

MR. A. J. PHILPOTT, of the "Boston Globe" has brought up a question as to whether the present form of granting licenses to aviators is adequate for the purpose, and suggests that two classes of licenses should be adopted.

The present license requirements are merely tests of a man's or a woman's management of an aeroplane in respect to its mechanics. They involve knowledge only of how to operate the controls to get certain results while flying, but in no manner is it necessary for the candidate to pass an examination in the scientific principles of aeronautics.

Mr. Philpott's suggestion is that closed circuit and cross-country flyers should be recognized by separate licenses, and that the competing circuit airman should be distinguished from him who has simply demonstrated his ability to take an aeroplane into the air and back again safely under favorable conditions.

We are of the opinion that a series of graded licenses should be put into force and that aviators should be granted them according to their general scientific knowledge as well as their ability to handle a machine. Such distinctions must be recognized as the aeronautical movement advances toward a practical state.

When the present "Figure Eight Tests" were inaugurated by the International Federation, the Aeronautic Press of France cried out against the great difficulties and danger of such tests, although, six months later, the French army found the F. A. I. license requirements inadequate for proving the ability of the practical military airman, and, officers are

now given service licenses only after passing a much harder test, that includes, not only the management of a machine in the air, but proof of mechanical knowledge of its construction as well as map reading, etc.

Not only do we believe that the French army requirements should be made part of the license tests in this country next year, but we believe that a pilot's license should only be granted to those who have given considerable study to meteorology. In this way the man of the air will be compelled to know something of the elements in which he travels.

No man should be permitted to start on a trip of several thousand miles duration with the official sanction of the controlling body, unless he can prove that he knows something of the topography of the country over which he intends to fly and has a considerable knowledge of the atmospheric conditions through which he must pass. It is the height of absurdity for a man to start on a three thousand mile trip, for instance, and before he has gotten ten miles away from the starting point lose his way and fly fifty to one hundred miles out of his course.

We outline, therefore, the following conditions for consideration of the committee who will have charge of revising the rules for aviator licenses as follows:

1. A DRIVER'S LICENSE, similar to the present license shall allow the holder to fly over private grounds and enter competitive meets in closed circuits.
2. AN AIRMAN'S LICENSE, shall permit the holder to take part in either closed circuits or cross-country meets with the right to carry not more than one or two passengers.
3. A PILOT'S LICENSE, shall grant all the privileges aforesaid with the extra privilege of carrying as many passengers as the pilot himself might consider safe. No pilot's license shall be granted to the man who cannot pass an examination in mechanics, topography and meteorology.

THE DEATH OF NIEUPORT.

WHILE making a landing during the military manoeuvres at Charny, France, Edouard Nieuport, the builder and designer of the Nieuport monoplane, met with an accident, which resulted in his death shortly afterwards. After having made a successful flight in unfavorable weather, the machine upset on landing and was wrecked.

It is obvious to those who have made a study of the Nieuport monoplane, that the landing chassis is its weakest feature. The addition of a double skid arrangement to the chassis of this splendid machine would probably have saved the life of this great inventor, but apparently in that particular, he sacrificed safety for speed, although an extra skid would have added but very little extra resisting surface.

THE MAN WHO TUNES THE PLANE.

THE man who tunes the plane, like the man behind the gun, is the man from whom much is expected but to whom few thanks are given.

Writers as a rule do not consider him good "copy." For he is no hero, there is nothing romantic or sensational about him; and dressed in greasy overalls and cap he does not look like a pink tea idol. The fact that he is a good fellow, can work like a slave and is in a way the Keeper of the flyer's life is not deemed of enough interest to justify publicity, and so they let him go unmentioned and confine their "write up" to the much feted and rewarded flyer. The man who tunes the plane gets no share of glory for what he contributed to make the flight a successful one.

Aside from a modest salary the man who tunes the plane gets nothing except extra work when the machine has met with grief. Then, of course, if he is faithful he'll work overtime to get it in shape. The flyer may thank him for his trouble or he may not—it often depends on how famous the flyer is. Fame has a tendency of spoiling one's sense of appreciation.

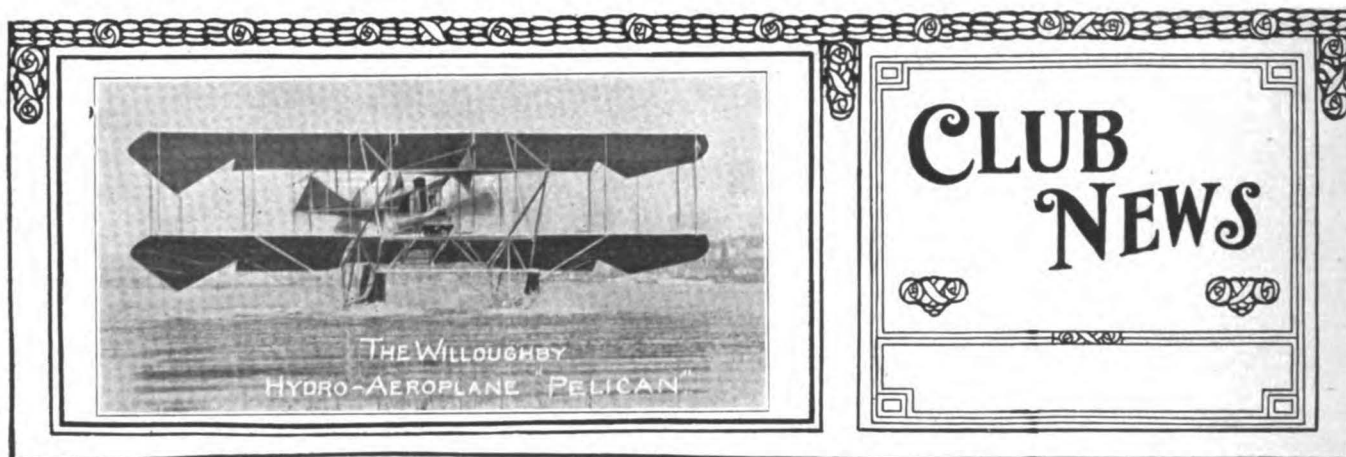
But if the man who tunes the plane is ambitious and will take advantage of opportunities, there are big rewards for him. He is the best fitted man to make a flyer; his training in the hangar gives him a practical knowledge of the aeroplane which the flyer who learns to fly at a school never acquires; and that knowledge enables him to do things which the other may not do.

What enabled Vedrine to fly successfully was in large part the knowledge he had acquired while being mechanic to Robert Loraine and Emile Aubrun; and Legagueux, who now lives like a grand seigneur, owes a large part of his success to the apprenticeship he served, first in the Antoinette factory, then under Captain Ferber. And that is true also of Paulhan, he owes much of his success to his early training as a mechanic.

The man who tunes the plane may not receive much remuneration for that kind of work, but substantial rewards are within his reach if he will only take advantage of his opportunities.

THE development of aviation has apparently been so rapid that a great many newspaper men have not yet learned to differentiate between an airship and a flying machine, many writers using the word "airship" to mean aeroplane, which is almost about as correct as if they called a two or three passenger motor boat a steamship.

In case there is a reader of "Aircraft" who is not acquainted with aeronautical terminology sufficient to know the difference, we call attention that the term "airship" is applicable only to "lighter than air" crafts, such as the Zeppelin dirigible, and all "heavier than air" craft, such as aeroplanes or helicopters, should be referred to as "flying machines."



Aero Club of America

Conditions of the race for the Coupe Internationale d'Aviation in 1912 occupied the attention of the Executive Committee of the Aero Club of America. The matter will come up for decision at the seventh statutory conference of the Federation Aeronautique Internationale in Rome next month, at which Messrs. E. W. Mix, Hart O. Berg, W. S. Hogan, Robert Graves and W. Redmond Cross will represent America.

Mr. Cortlandt F. Bishop is now vice-president of the International Federation and the American delegates will be instructed to seek his reelection.

New Licenses Issued

- 58. Harold H. Brown, Sept. 13, 1911, Nassau Boulevard, L. I., N. Y., Wright.
- 59. Capt. Chas. de F. Chandler, Sept. 20, 1911, College Park, Md., Wright.
- 60. John D. Cooper, Sept. 20, 1911, St. Louis, Mo., Curtiss type.
- 61. A. B. Lambert, Sept. 20, 1911, St. Louis, Mo., Wright.
- 62. Lieut. J. H. Towers, U. S. N., Sept. 28, 1911, Hammondsport, N. Y., Curtiss.

The Aeronautical Society

On October 12th, a very interesting meeting was held by the Aeronautical Society at their rooms on 54th street, New York. Discussions and lectures were indulged in by the members, and two aviators, Mr. James V. Martin and George W. Dyott, spoke on their experiences at the European aviation grounds. The Club rooms of the Society are being used Saturday nights by the New York Model Aero Club and the So-

ciety is considering affiliation with this club as well as with a proposed ladies' aviation club which will be launched as a separate club or as a section of the Aeronautical Society.

New York Model Aero Club

BY RALPH KAYE.

A MODEL ENDURANCE CONTEST—BEST TIME 48 4-5 Seconds.

The contest held by the New York Model Aero Club, at Van Cortlandt Park, on Saturday afternoon, September 16th, 1911, was a most interesting occurrence, and witnessed by about 200 enthusiastic spectators. There were 17 entrants.

These flights are held every Saturday afternoon, weather permitting. Each contestant is limited to three entries, each entry has three trials, not to be official unless of 20 seconds' duration. Mr. Percy W. Pierce, former champion, entered three different models. One of the models entered by Mr. Cecil Peoli, America's champion model maker, won to-day by a flight of 48 4-5 seconds, the second time was made by Percy W. Pierce in the time of 38 3-5 seconds.

The winner of this contest, if successful in the next contest, will receive a gold medal presented by Mr. W. C. Collins.

This is the first endurance contest for medals held in America. It was arranged for by Mr. Edward Durant, son of the first American aeronaut. Mr. Durant is in all probability father of the model contests in the United States.

The winner of the gold medal of these contests for this year will probably be sent to Europe next year to compete against the model clubs of the continent.

The afternoon was perfect with very light winds.

The spectators showed a very great interest, and on every side were comments on the skill and originality of the entrants.

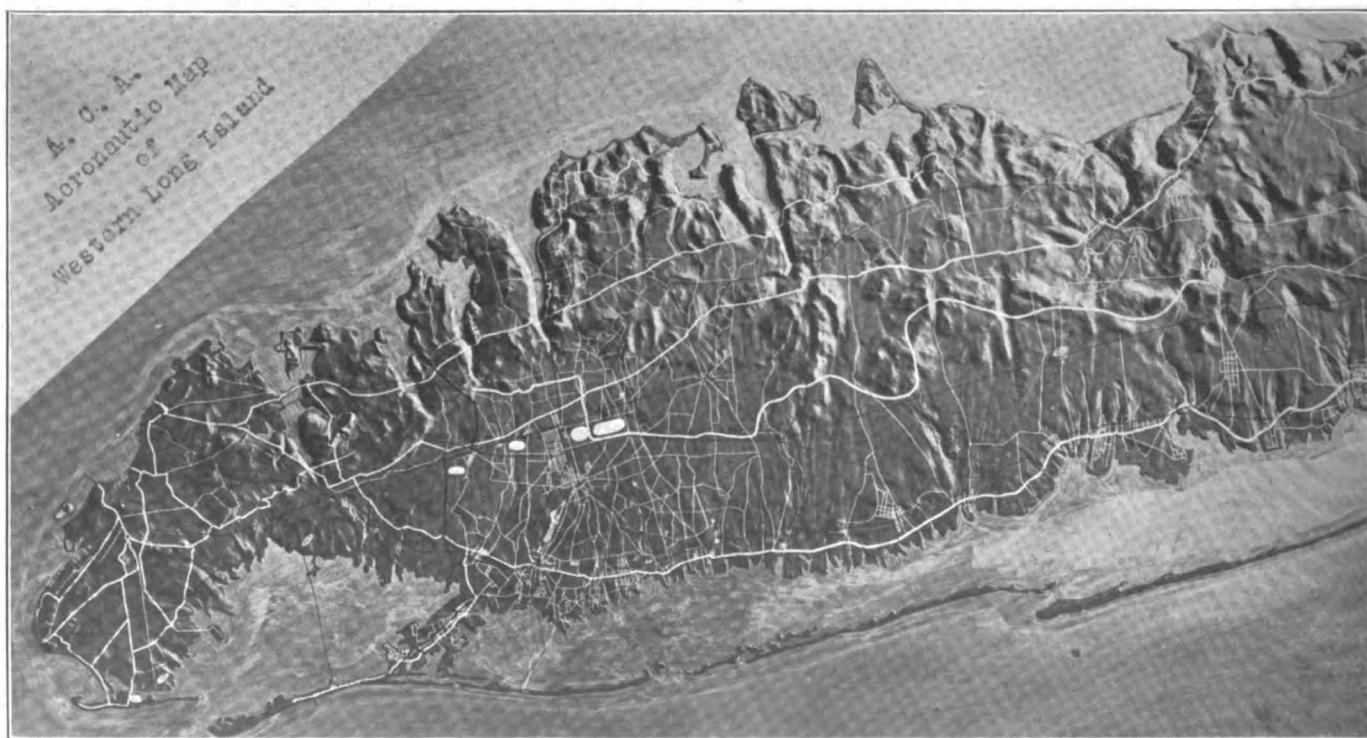
The distance record is also held by Cecil Peoli, as his model made a flight of 1,691 feet 6 inches. As this distance is measured straight of way from the point of launching to the point of landing, irrespective of curves or circles, the distance of this flight is wonderful and shows the skill and perseverance of the holder of the record. At least two more flights will be held before winter sets in, and they will be most interesting for both contestants and spectators.

Aero Club of Connecticut

The members of the Aero Club of Connecticut got into aviation actively from September 28th to October 2nd, as they secured Mr. Welsh, of the Wright Co., who took up members and their friends in a Wright machine at the Lake Aerodrome, Bridgeport, Conn. He was kept busy taking up passengers for three days. A number of women were taken up as passengers and not a single accident occurred in any of the numerous flights which Mr. Welsh made. The duration of the flights given was from 5 to 10 minutes, and the altitude 200 to 300 feet. The meet was very successful in every way.

Aero Club of New York

Despite Bishop Burgess, the Sheriff, the few peevish residents of Garden City estates and the elements, aviation is flourishing at Nassau Boulevard. The score of flyers who have been on the field ever since the aerodrome opened, are still there and fly constantly.



First American aeronautic map recently completed for the Aero Club of America by the Automobile Blue Book Publishing Co. This relief map shows clearly the location of the various aerodromes on Long Island and also the best flying courses. The second from the left white oval is the aerodrome of the Aero Club of New York at Nassau Boulevard.

NEWS IN GENERAL

California News

By Ernest Ohrt.

September 18th saw Frank Champion fly in Earle Remington's Blériot monoplane from Dominguez field (near Los Angeles) to the Sawtelle Home, a distance of twenty-three miles. As he came down in a field in front of the Sawtelle Home he was blown against the topmost branches of a eucalyptus tree and narrowly escaped a bad fall. After repairing minor injuries to the machine caused by the mishap he circled the buildings of the home several times and then flew back to his hangar at the aviation field.

Harry Edwards, a San Francisco newspaper man, had a narrow escape with his life when he fell near the Dumbarton cut-off in a Curtiss biplane owned by Fred Swanton. When he rose to a height of fifty feet the planes could not withstand the strong wind, and the biplane tipped dangerously to one side. Suddenly at the height of the tree tops he lost control and the biplane crashed headlong to the ground, wrecking the machine and slightly injuring the operator. Two weeks later Edwards got a bad ducking in the waters of the Pacific at Santa Cruz while flying about 200 yards off shore at a height of 40 feet. He was rescued by a rowboat and the machine, which landed in fifteen feet of water, was brought to shore considerably damaged.

Frank Bryant, a San Francisco aviator who is flying for Norman De Vaux, the representative for the Curtiss biplane, has been making many successful flights in a 50 h.p. Curtiss biplane. These flights have taken place at the Presidio military reservation on the Calvary flat and have all been without serious mishap. C. C. Bradley is completing his Farman type biplane upon the grounds and will soon have it ready for trials. The machine is of excellent workmanship and will be equipped with an automobile engine. Another aviator upon the field is P. L. Criblet, who has a standard Curtiss biplane with a Maximotor. Criblet and Sergeant Seely of the Signal Corps have made several flights, but Seely has had several smashups in landing.

W. C. Tunison, of San Rafael, Calif., is completing a large monoplane of his own design which he intends to try out shortly. The machine is designed to carry two persons and has a spread of 59 feet and a length of 54 feet. The engine is of 125 horsepower.

W. G. Murray and nearly 40 men are rapidly working on the huge dirigible invented by Murray and backed by several San Francisco millionaires. The dirigible is of the rigid type and has six helicopters driven by three motors each of 60 horsepower. The entire length is 140 feet and the width is 72 feet. Murray proposes it to carry 15 passengers, including a crew of five men. Aluminum is by far the most used material. The dirigible is being constructed at the Ingelside race track.

The Pacific Coast is recognized as an ideal flying ground all through the Winter Season, and professional flyers have made it a point for the past few years to flock to that section during the cold season.

A number of aviation schools have been established in and around Los Angeles, for some time past, and they are all preparing for a large enrollment of students this winter.

The Aeronautical Society of California have established their flying grounds at Dominguez Field, have a large number of hangars completed, together with their shops, training quarters, etc. This Company operates with Genuine Blériot monoplanes, and biplanes of latest types and construction. They are using Gnome motors in the larger size Blériots, and Hall-Scott equipment in the smaller type Blériot and the biplanes. E. L. Holt is operating a Hall-Scott Curtiss type, and with this outfit recently obtained his pilot's license. Just to show what speed he could get he has raced with the electric interurban cars running alongside of Dominguez Field, and won out with a good many lengths to spare.

The Jay Gage Aviation School, with a beautiful flying field within three or four miles of Los Angeles, has been kept busy all summer with half a dozen pupils. They are using a most efficient type of headless biplane of original design, equipped with Hall-Scott Type A-1, 40 H.P., power plant. They start work between six and seven o'clock in the morning, and keep the plane going all day. Just as soon as one pupil has run around the four mile course, or flown around the course, depending on the length of time he has been in the school, another pupil gets in the operator's seat and starts off. The machine requires no handling as the flexibility of the motor allows them to turn it on the ground under its own power, and the motor can be started by the pupils without the necessity of any one holding the plane.

Eaton Bros. Company also have a flying field within a few miles of Los Angeles, and are teaching their pupils the use of Curtiss Type machines equipped with Hall-Scott A-2, 60 H.P. power plants.

The Curtiss Aeroplane Co. is soon to open their Winter training school at San Diego, and already a number of students have enlisted and great things are expected of the experimental department.

New England News

By DENYS P. MYERS.

Among the New England young men who have built aircraft of their own design, either in model or full size, are: George H. Jackson, of South Boston; Royal Laurie, of Lowell, Mass.; Herman Lawchowsky, of Manchester, N. H.; Frank Warren, of Bedford; Ray Belyea, of Gardiner, Me.; Augustine Johnson, Robert Piest and William Smith, of Clinton, Mass.; Lothrop H. Wakefield, of Dedham, Mass., and Guy Fogan, of Waltham, Mass.

A biplane which was built by two young men of Quincy, Mass., Charles N. and Henry W. Kolstadt, was given a trial recently, but came to grief owing to the left wing striking a tree as it was rising.

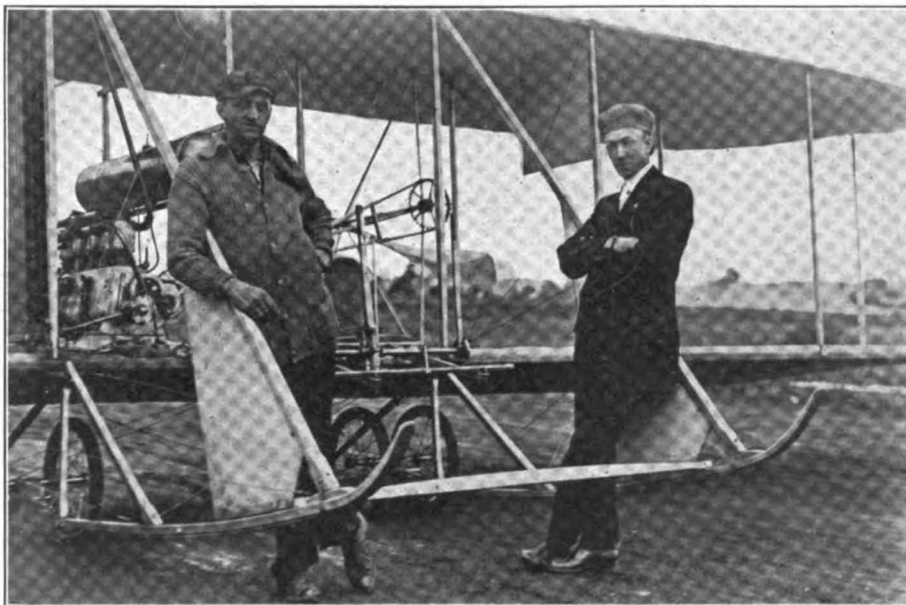
H. P. Shearman, the Williams College aeronaut, experienced a thrilling flight on his balloon trip which started from Pittsfield on September 12th and ended at Auburn, Me., 200 miles distant. Soon after ascending from Pittsfield the aeronaut noticed that the appendix of the balloon was tied, and realizing his danger, he climbed up the netting of the balloon with a knife in his mouth, which he used to cut the cord tying the appendix. The ensuing rush of gas nearly asphyxiated him and he fell unconscious into the basket, recovering only in time to be able to effect a rough landing at Auburn.

Connecticut News

By S. H. PATTERSON.

Six licenses have now been granted in Connecticut for aviators. Mr. A. Holland Forbes, president of the Aero Club of Connecticut, who was appointed chairman of the Aeronautical Commission for the State of Connecticut, is empowered to pass upon the ability of all applicants for licenses to operate either lighter or heavier than air machines in this State. Mr. Forbes is the only commissioner appointed at the present time, and is eminently qualified, through his knowledge of aeronautics and personal experience in the balloon world, to pronounce judgment on all applicants. The tests are made at Lake Aerodrome, in Bridgeport, and Charter Oak Park, in Hartford.

J. M. Murphy, of Bridgeport, Conn., has opened an aeronautical school in Milford, Conn. Mr. Murphy is the inventor of a new aeroplane which embraces several new and unique features. The machine is fitted with two independent power plants and three sets of propellers, with a propeller under the machine to assist in elevating. Lateral balance is automatically preserved by the means of a pendulum which operates the stabilizing planes. Mr. Murphy has formed a company known as the Bridgeport Aeronautical Company, and several machines are under construction and expect to be tried out before snow flies.



J. W. Beatty, right, and his mechanic, left, standing in front of the former's Wright biplane. Beatty is one of America's most successful Wright pilots, who after only three weeks' training, got his license and went to the Chicago Meet, where he captured second place for totalization of duration and broke the then existing world's record for a flight with two passengers. Mr. Beatty has now been flying for about two months and has never had an accident, which speaks well for his skill as a pilot, the reliability of the machine he flies and the care exercised by the mechanic.

Washington News

By MRS. LULU WELLS SMITH.

Sept. 30th.—The Rex Smith machine No. 3 has been finished and after a phenomenal flight at the Harrisburg (Penn.) meet, with Aviator Paul Peck, met with an accident, completely demolishing it, in a ten-minute soar over the exhibition field. In trying to make a landing, after he had circled the field a few times and cut several figure eights, and also had essayed the Dutch roll, the crowd surged in front and to avoid them he attempted to make a sudden ascent over their heads and circle the field again. He flew over the hangar, but struck a tree at the back about two feet from the top, which threw him over an eighty-foot precipice into a creek. Peck was not hurt, but the machine was badly smashed. As this was practically the maiden flight of the machine, much regret was expressed over the accident. Peck was enthusiastic over the possibilities of the new machine, being even greater than No. 2, in which he finished his engagement at the meet, flying over the city the next afternoon, circling the capitol, and on the third day going up in a rain storm rather than disappoint a crowd of twelve thousand people who remained out in the pouring rain a couple of hours hoping to witness a flight. The smashed machine was shipped back to the factory at College Park, and in about ten days was ready to be sent to Cleveland, Ohio, where Paul Peck is to start with it again on an exhibition tour.

No. 3 machine differs from No. 2 in that the curves of the planes are all the same, and there is no dihedral angle and it has a monoplane tail. Two other machines have been started in the Rex Smith factory, to be finished before the end of October. No. 2 machine has also been shipped back from the Harrisburg meet and after some adjusting of the Hall Scott motor will be ready for school work, which promises to keep up pretty steadily the rest of the flying season. Among the pupils enrolled is Stanley James, the actor, now doing stock work in Baltimore, but who intends to give up the stage to become a flyer.

The Shneider machine demonstrating the Tarbox safety device has been doing pretty steady flying through the month, with Joe Richter as aviator. It was practically the only machine in the air during the last two weeks of September, when the officer flyers were at Nassau and the Rex Smith machines at the Harrisburg meet.

Dr. Christmas completed his machine about a week ago, but in the first skim over the rough ground broke a propeller, and with this delay, together with bad weather, has not been able to fairly try out. This machine evolves some new principles, not altogether radical, and much interest has been taken in it. It is an attractive looking machine, presenting graceful lines, and if Dr. Christmas succeeds in adjusting a new propeller he expects to be flying again soon.

Form 2088

NIGHT LETTER

THE WESTERN UNION TELEGRAPH COMPANY

25,000 OFFICES IN AMERICA INCORPORATED CABLE SERVICE TO ALL THE WORLD
 ROBERT C. CLOWRY, PRESIDENT SELVIDERE BROOKS, GENERAL MANAGER

RECEIVER'S NO.	TIME FILED	CHECK
SEND the following NIGHT LETTER subject to the terms on back hereof which are hereby agreed to { New York September 14, 1911.		

William R Hearst.
 % New York American, New York

Published reports authorized by your representative several months ago stated conditions aerial coast to coast race to be begun within one year from October tenth 1910. Aviators world over generally understand it that way. Several anxious to enter under those conditions. In name of true sportsmanship will you not settle misunderstanding quickly by allowing aviators to begin before October tenth instead of ending that date. Will thank you for early reply.

Alfred W. Lawson

PRESIDENT LAWSON PUBLISHING COMPANY.

New York American

Sept. 15th, 1911

Mr. Alfred W. Lawson, Pres.,
 Lawson Publishing Co.,
 37 East 28th St. City

Dear Sir:

In acknowledging receipt of your telegram, would say that Mr. Hearst has been in Europe since May and may not return here for several weeks. I will hand your telegram to the Managing Editor.

Very truly yours,

Loorey
 Secretary to Mr. Hearst

Dear Sir:

Replying to your letter to Mr. Hearst, there should be no difference of opinion as to the terms of the offer of the prize of \$50,000 for a coast to coast flight. The original publication called for a flight to be begun and ended between the 10th of October, 1910 and the 10th of October, 1911. No other statement to the contrary was authorized. It is to be regretted that any different construction should be placed upon the offer.

There is no one in this country who is authorized to change the original offer.

Very truly yours,

C. M. Van Hamm
 Managing Editor.

The Hearst Prize Misunderstanding

GARDEN CITY ESTATES, L. I.
 Oct. 2, 1911.

Alfred W. Lawson,
 37 East 28th St., New York.
 DEAR SIR:—As there seems to be some misunderstanding as regards the Hearst \$50,000 flight, will you be kind enough to advise me your understanding of the conditions of this contest and let me have any official data and copies of the correspondence on the subject which you may have had with Mr. Hearst or his representatives.

Thanking you in advance, I remain,
 Very truly yours,
 EARLE L. OVINGTON.

During last April "AIRCRAFT" received so many inquiries in reference to the conditions of the William R. Hearst prize of \$50,000 to the first aviator who would fly across the American continent that we decided to publish them for the benefit of our readers and in order to get them, as we thought, exactly right, we wrote to Arnold Kruckman, the aeronautical editor of the New York American and the following are the printed conditions, which were sent to us and which we published word for word in the May AIRCRAFT: "The conditions of the competition for the Hearst prize are simple. The flight must be made over the breadth of the continent in any self-propelled aeroplane. The contestant may start at Boston or New York and alight either at Los Angeles or San Francisco. The route must lead via Chicago. It is optional with the competitor to start either on the Pacific or Atlantic coast. He may fly as many miles daily as he elects; he may stop as often as he pleases, wherever he pleases. There is no limit to the number of stops that may be made, nor to the time the aviator may stop in any one place. The man who flies is the sole judge. He may repair and rebuild his craft so often that he is practically flying a new machine by the time he reaches his goal.

The only condition is that he make the entire flight within thirty consecutive days—720 consecutive hours—and start on the flight within one year from October 10, 1910: Notice of intention to start must be given the Aeronautic Editor, The New York American, William and Duane streets, New York City, fourteen days prior to the start."

Along about the 14th of September James V. Martin, the aviator and inventor, called upon us and complained that there was a misunderstanding concerning the conditions of the Hearst prize, he stating that he understood the start could be made prior to October 10th, 1911, whereas the New York American claimed that it was necessary to end the race prior to October 10th, 1911. He also stated that both he and Phillip Parmelee were anxious to enter the race on condition that they could start prior to October 10th instead of finishing before that date.

On the night of the 14th, therefore, Alfred W. Lawson, President of the Lawson Publishing Company, sent the following telegram to Mr. Hearst:

NEW YORK, September 14, 1911.

"William R. Hearst,
 New York American, New York.

Published reports authorized by your representative several months ago stated conditions aerial coast to coast race to be begun within one year from October tenth, 1910. Aviators world over generally understand it that way. Several anxious to enter under those conditions. In name of true sportsmanship will you not settle misunderstanding quickly by allowing aviators to begin before October tenth instead of ending that date. Will thank you for early reply.

ALFRED W. LAWSON,
 President Lawson Publishing Company,
 and two days later he received the following letters from Mr. Hearst's secretary and the managing editor of the New York American:

NEW YORK, September 15th, 1911.

"Mr. Alfred W. Lawson, Pres.,
 Lawson Publishing Co.,
 37 East 28th St., City.

DEAR SIR:—In acknowledging receipt of your telegram, would say that Mr. Hearst has been in Europe since May and may not return here for several weeks. I will hand your telegram to the Managing Editor.

Very truly yours,
 H. O. REILLY,
 Secretary to Mr. Hearst.

"Mr. Alfred W. Lawson,
 DEAR SIR:—Replying to your letter to Mr. Hearst, there should be no difference of opinion as to the terms of the offer of the prize of \$50,000 for a coast to coast flight. The original publication called for a flight to be begun and ended between the 10th of October, 1910, and the 10th of October, 1911. No other statement to the contrary was authorized. It is to be regretted that any different construction should be placed upon the offer.

There is no one in this country who is authorized to change the original offer.

Very truly yours,
 C. M. VAN HAMM,
 Managing Editor.

There will be no winning of the Hearst \$50,000 coast to coast prize this year, that is a fore-

gone conclusion, but it is unfortunate that the whole thing should terminate in a misunderstanding.

AIRCRAFT was never very enthusiastic over this prize, not because we felt that the winner would not receive the money but because we realized that there was only about one chance in a thousand for an aviator to accomplish the task. We believe, however, that this task can be accomplished within another year and nothing would please us better than to know that Mr. Hearst made the same offer to hold good until October, 1912. In this way it would settle all question as to the sincerity of the offer in the beginning, for surely when one is sincere in offering a prize for a great feat, he is anxious to have it won and, therefore, the difference in a month or even a year should not stand between the accomplishment of such a wonderful performance as a transcontinental flight within thirty days and a prize which will make it possible.

The London Daily Mail offered \$50,000 for a flight between London and Manchester, a distance of only one hundred and seventy-two miles, and after this prize was won by Paulhan, the London Daily Mail immediately offered another prize of \$50,000 for a race around England, which was won by Beaumont (Lieut. Conneau). In both cases the prizes were offered in the hopes that they would be won and the conditions were made such that they could be won and the proof of the sportsmanlike offers of the London Daily Mail was that both prizes were won.

Progression of Transcontinental Flyers

Since the last number of "AIRCRAFT," three aviators started out in an attempt to win the Hearst Prize, all of whom failed in the undertaking.

Robert C. Fowler started the trip from San Francisco on September 11th and was unable to cross the Sierra Nevada Mountains and abandoned it a few days later, after flying less than 200 miles.

James J. Ward started from Governor's Island, N. Y., on September 13th, and after a series of mishaps, he reached Addison, N. Y., where he likewise gave up the trip.

Cal P. Rodgers started from Sheepshead Bay, N. Y., Sunday, September 17th, and at the time "AIRCRAFT" goes to press, he had covered over one-half the distance of the journey and was still flying.

The route taken by Rodgers was from New York to Chicago to Kansas City, and he was making good time through the State of Oklahoma as "AIRCRAFT" forms close.

Birdman Raids a Gambling Game

Becoming an aid in the suppression of gambling, is the latest exploit of Aviator St. Henry and the incident is destined to become history in the State of Montana, where the games of chance are considered solely as diversions.

It happened at Billings, Montana, where St. Henry, in his Curtiss biplane, was filling a date on September 23rd at the Yellowstone Valley Fair.

Owing to the poor condition of the fair grounds, he had to make his landings in a nearby field, and in each instance the big crowd would desert the attractions inside the enclosure to follow the aviator and witness his descent.

A trio of gamblers, following the fairs, sized up the situation accurately after his first flight, and set up their roulette outfit in the landing field, prepared to do a land office business when he made his second landing. To facilitate their business they chose a smooth, level spot, and soon the little ivory ball was clicking merrily and good coin of the realm was changing hands briskly.

This same level, smooth bit of greensward also caught St. Henry's eye, as he sought to come to earth in his second flight. He headed for it, volplaned neatly and easily downward, and shouted a warning to the gamblers and the gamblers around the spinning wheel. It took but one look on the part of those devotees of the muse of chance to convince themselves that a pair of fast heels and need of distance from the rapidly descending flying machine was the proper thing right then. They decamped to a man, without even picking up their money or the green cloth.

St. Henry came down at a good clip and bowled over the roulette wheel in a ten strike, scattering its wares to the four winds. A crest-fallen and disgruntled trio of gamblers surveyed the splinters, the crowd gathered in the scattered money, regardless of ownership, and for the first time in history an aviator and biplane had been a factor in the suppression of gambling.

President Taft's trip through the West was marked by a new and unique manner of greeting his arrival at a city. At Sedalia, Mo., on September 30th, where the President was a guest of the State Fair, he was met by Aviator Hug's Robinson, flying a Curtiss biplane, several miles outside of the city, who escorted the train to the fair grounds.

First Army Plane Now Junk

The first aeroplane, a Wright, bought by the U. S. Government in 1909 at a cost of \$30,000, has been condemned from active use and is to be sent to the National Museum for exhibition alongside of the first locomotive that was ever run in this country.

CORRESPONDENCE

Clarksville, Tenn., Oct. 15.
Dear Sir:—In the French aeronautical magazine, *Aerophile*, September 1, 1911, I see an article on page 409, "La Sécurité par la Vitesse." The author of that article says that the late Mr. Octave Chanute had some experiments executed with propulsion by direct reaction of explosions, jet propulsion, for aeroplanes, but that unfortunately there were only insufficient records of these experiments.

To this I would like to say that the experiments which Mr. Octave Chanute had made were ordered by Mr. Chanute on my suggestion and that I have a copy of the records of these explosion tests.

I have many other important facts, which are all unknown even to scientists, not because I want to keep them secret, but because the matter was premature and even publishers of scientific papers did not catch on to the importance of the matter and persistently refused to publish important facts, saying their columns were not available for that material. This was very much to be regretted.

By the way, I would like to call attention thereto, that the drawing No. 8 in the *Aerophile* in the above mentioned article, on page 411, showing the aviator entirely enclosed and held in place by a suitable enclosure (ceinture), that this ceinture is already shown in my American patents, Fig. 6, Patent 710,266, Sept. 30, 1902; Fig. 2, Patent 730,107, June 2, 1903.

I may add that Mr. Chanute's experiments with

explosions were made with an apparatus which was not under forward motion, the apparatus standing (essai au point fixe), and that I pointed it out to Mr. Chanute in my letters, of which I have a copy, that the experiments had to be made while the apparatus was under *swift forward* motion, which would give entirely different and still better results.

Yours truly,
(Signed) THEODORE GIBON.

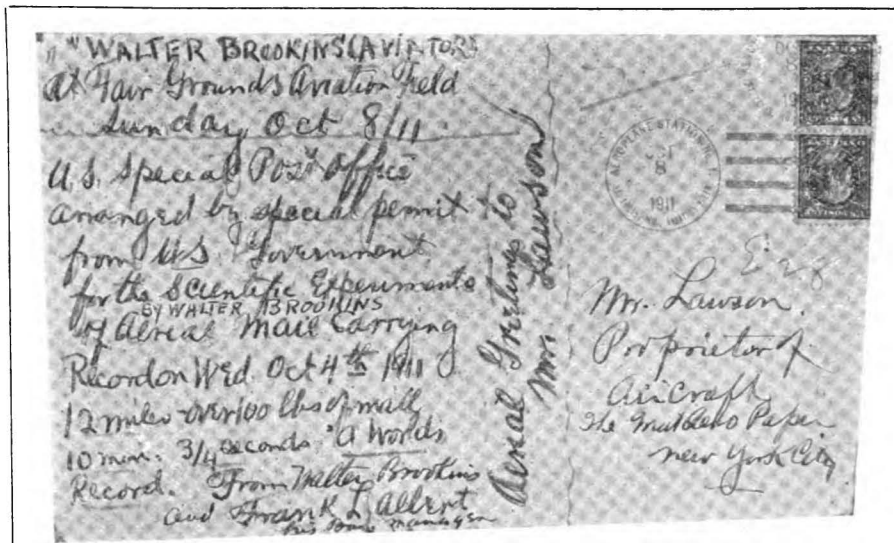
Springfield, Mass., Oct. 5, 1911.

Dear Sir:—Being interested in aeronautics, I have read with much interest the letter (in October AIRCRAFT) from W. Von Kamp. As an answer to what he says regarding safety building, I claim that I have solved that problem and have succeeded in working out the details of an absolutely NON-COLLAPSIBLE flying machine, which can be operated without any engines; that will alight at the place desired and will (or can) remain suspended in the air motionless or very nearly so, without falling down.

Now, I am anxious to meet with some people interested enough to furnish funds to build a machine after my type and I guarantee that it will be a success. Should be glad to hear from anyone who will assist me to reach those whom my invention will benefit and encourage in the efforts being made to make flying absolutely safe.

I am, dear sir,

Yours faithfully,
M. H. WRAGG.



The above is a reproduction of a post card received by "AIRCRAFT" by Aerial Mail. Apparently the card was made up from the cover of a box sent by aeroplane to an aerial station, from whence the United States Government transferred it by rail; a historical document, the value of which will increase as time and progress move along.

A Letter from Ignatz

DEAR EDITOR:

The following may be appreciated by some of your readers:

It happened at Maxim's, about 1 A. M. The party was in the best of humor and was the center of friendly smiles from the Spanish dancer down, or up, as you see fit.

All at once a commotion was noticed at the door, low and behold, "Silk Hat" Harry appeared on the scene; with drooping head he crawled up the stairs and approaching our table, whispered in a breathless tenor:

"If Wilbur Wright owes Glenn Curtiss \$5.00, who does Blériot?"

Then one by one we became a regular "Tad"? If Dr. Walden plays cards with Miss Scott does Baldwin?

If Bud Mars is young is Arnold?

If Sopwith is English is Al Welsh?

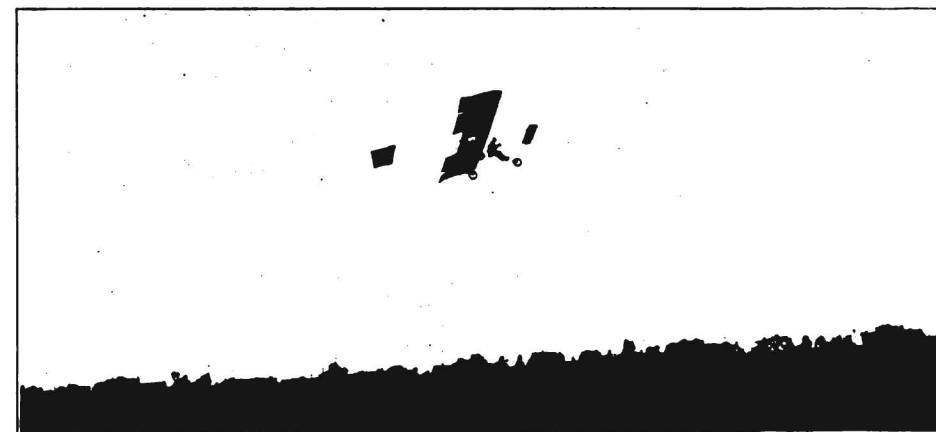
If Hammond's machine is made of steel is Atwood?

If Miss Quimby makes a good landing how does Kirtland?

If Ovington drinks coffee does Beatty?

If Capt. Beck flies to the North Pole would Ely?

"IGNATZ."



Dr. Henry W. Walden in his Hall-Scott equipped monoplane, making a flight over the house-tops in the vicinity of Coney Island, N. Y.

GORDON BENNETT BALLOON RACE

Kansas City, October 5th, 1911

BALLOON	MANNED BY	TIME OF START	LANDED AT	TIME OF LANDING	DISTANCE
Berlin II. (Germany)	Lieut. Hans Gericke, pilot S. O. Dunker, aide	Oct. 5th, 6:11 P. M.	Ladysmith, Wisc.	Oct. 6th, 6:40 A. M.	468 miles.
Buckeye (United States)	Lieut. F. P. Lahm, pilot J. H. Wade, Jr., aide	Oct. 5th, 6:01 P. M.	La Crosse, Wisc.	Oct. 6th, 2:50 A. M.	365 miles.
Berlin I. (Germany)	Lieut. Leopold Vogt, pilot Lieut. M. Schoeller, aide	Oct. 5th, 5:53 P. M.	Austin, Minn.	Oct. 6th, 10:02 A. M.	345 miles.
Million Population Club (United States)	John Berry, pilot Paul McCullough, aide	Oct. 5th, 5:56 P. M.	Mason City, Ia.	Oct. 6th, 5 P. M.	300 miles.
America II. (United States)	William F. Assman, pilot J. C. Hulbert, aide	Oct. 5th, 5:42 P. M.	Emittsburg, Ia.	Oct. 6th, 1:30 A. M.	290 miles.
Condor III. (France)	Emile Dubonnet, pilot Pierre Dupont, aide	Oct. 5th, 5:35 P. M.	Linby, Ia.	Oct. 6th, 9 P. M.	240 miles.

LAHM CUP

Kansas City II.	Capt. H. E. Honeywell, pilot John Watts, aide	Oct. 5th, 6:18 P. M.	Kennan, Wisc.	Oct. 6th 9:20 A. M.	460 miles.
Buckeye II.	Lieut. F. P. Lahm, pilot J. H. Wade, Jr., aide	Oct. 5th, 6:01 P. M.	La Crosse, Wisc.	Oct. 6th, 2:50 A. M.	365 miles.
Topeka II.	Frank M. Jacobs, pilot W. W. Webb, aide	Oct. 5th, 6:20 P. M.	Dunnell, Minn.	Oct. 6th, 8:30 A. M.	325 miles.
Million Population Club	John Berry, pilot Paul McCullough, aide	Oct. 5th, 5:56 P. M.	Mason City, Ia.	Oct. 6th, 5 P. M.	300 miles.
America II.	William F. Assman, pilot J. C. Hulbert, aide	Oct. 5th, 5:42 P. M.	Emmettsburg, Ia.	Oct. 6th, 1:30 A. M.	290 miles.

SPECIAL ALTITUDE FLIGHT

Pennsylvania	Arthur T. Atherholt, pilot E. R. Honeywell, aide	Oct. 5th, 5:13 P. M.	Buffalo Centre, Ia.	Oct. 6th, 6:20 A. M.	300 miles.
--------------	---	----------------------	---------------------	----------------------	------------

Ballooning in New England

Pittsfield continues to be one of the balloon centres of America. Several trips were recently made from the Aero Park of the Aero Club of Pittsfield. On October 7th Jay B. Benton and William Van Sleet made a trip which ended the following day near Freehold, N. J. On October 11th Leo Stevens, accompanied by Walter de Mumm and Mrs. Van Rensimer, ascended from Pittsfield in a Stevens balloon at 11 o'clock and drifted back and forth until 3 o'clock in the afternoon, when they landed near West Hawley, Mass., about forty-two miles from their starting point. On October 12th H. S. Clayton, president of the Ned England Aero Club, and James Benton and Frank C. Bowken of Boston landed on a farm in East Hartford after a balloon trip from Pittsfield which consumed a little less than two hours.

The Curtiss Aviators

Charles F. Walsh, the aviator who joined the Curtiss staff at the international meet at Chicago, has proven one of the most capable aviators on the Curtiss staff. Since he was provided with a Curtiss biplane, Walsh has filled engagements throughout Nebraska and Montana, and recently flew at the Utah State Fair at Ogden. Walsh has been wonderfully successful in flying in high altitudes. At Ogden, where the atmospheric conditions are particularly bad, owing to the conformation of the country and the high altitude, there had never been any successful flights previous to those made by Walsh.

Lindsey Hopkins, an automobile dealer of Atlanta, Ga., has purchased two Curtiss aeroplanes, which he intends to use in exhibition work throughout the south. They will be operated by Aviator Andrews.

The Canton Meet

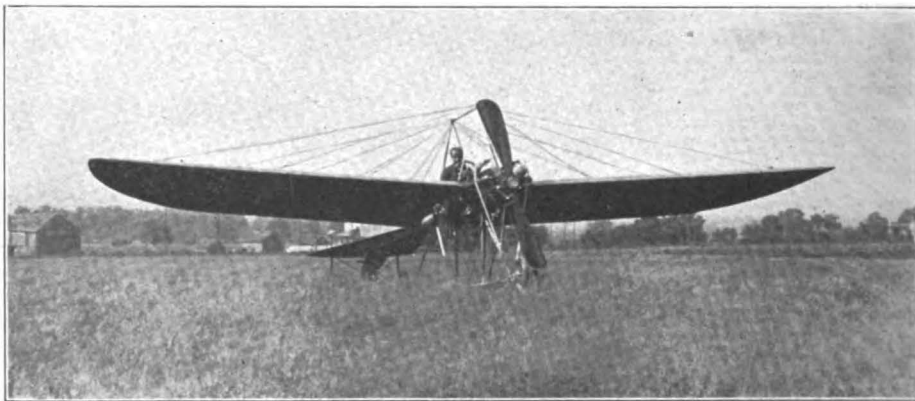
EARLE O. GUNTRE.

On account of the crowds that would be in their city attending the Stark County Fair, the Aero Club of Canton, Ohio, held an aviation meet September 26, 27, 28.

The flyers were Seligman, Ely, Brookins, Atwood and Drew. On the first day of the meet Brookins made an accurate landing record, by landing exactly on a designated spot. Atwood and Brookins made several exhibition and passenger carrying flights. Seligman, Drew and Ely made short flights.

September 27th. All aviators flew. Atwood and Brookins did passenger carrying. Ely had a slight wreck caused by making a bad landing and mashed one of his wheels and part of his chassis. Owing to the lack of repair parts Ely did not fly the rest of the meet.

September 28th. Almost the first thing that happened, Seligman started for a flight, and tried to climb at too steep an angle, and lost his headway, having to come down, and to avoid alighting on the crowd came down on a fence at the edge of the field almost completely wrecking his Anzani-



gined Blériot monoplane. This left Brookins, Atwood and Drew the only remaining aviators. Brookins and Atwood did their usual passenger carrying, among those carried by Atwood were Mrs. Ralph Rex, of Cleveland, Ohio, Mrs. Seligman (wife of Aviator Seligman), F. A. Seiberling, son of the President of the Goodyear Rubber Co., and Miss Mildred Laiblin, of Canton, Ohio. Most enthusiastic was Mrs. Ralph Rex, who made a special trip from Cleveland to get a ride in an aeroplane. Her first greeting to her husband and friends was: "Now I know what Toyland looks like." She was up about 600 ft. and was taken cross-country to Meyers Lake, where they circled a cottage which is her summer home.

Among the passengers carried by Brookins were Mrs. H. H. Timkins, Mr. William Timkins, of Canton, Ohio, and Mr. Seiberling, of the Goodyear Rubber Co.

Drew did not fly. Atwood gave the crowd some thrills in the way of spiral glides and dives that were almost perpendicular. Brookins also did some sensational flying.

Fully fifty thousand people saw the flights this day and showed great enthusiasm. The meet was thoroughly successful in every way.

steel crank shaft. The planes have a spread of 36 feet and a chord of 8 feet, and the total length of the machine is 34 feet. A non-lifting balance tail is fitted. A special shock-absorbing landing chassis is fitted employing a central skid, built low, to protect the propeller in case of the wheels breaking. A special feature of the construction is the using of the frame as a radiator, tank and engine bed in one. The total weight of the machine is 700 pounds.

Book of Models

The Second Boy's Book of Model Aeroplanes, by Francis A. Collins (The Century Co.) cloth, 1.20. Postage 11 cents.

This book supplements Mr. Collins' earlier and more elementary publication on the same line "The Boy's Book of Model Aeroplanes." The new book deals with the following:

Model Aeroplanes of 1911—Model Aeroplane Tournaments—Parlor Aviation—Tools and Materials—Theory and Practice of Plane Construction—Scientific Propeller Building—Assembling the Motors—Curiosities of the Air—Directional Control—Model Aeroplane Designs—Designing the Skids—Geared Motors—Lessons of the Man-carrying Aeroplanes—Selected Questions for Beginners—Among the Model Builders—Rules for Conducting Model Aeroplane Contests.

There are helpful working drawings and photographs of over one hundred new models, and detailed instructions for building fifteen of the newest model aeroplanes.



THREE-QUARTER VIEW OF THE GERMAN ALBATROSS BIPLANE WHICH WAS RECENTLY SENT TO BRAZIL.

FOREIGN NEWS

Argentina

On September 12th Cattaneo, deciding to attend the horse-races at Buenos Ayres, flew over from the aviation grounds and landed on the race course, where he was enthusiastically received by the crowd. Paillette, who had also started to fly to the meet, soon came to grief and fell into the water, but both machine and aviator escaped with little injury.

Belgium

In spite of the inadequate material at their command, the Belgian officers of the aeronautic corps are determined to do their best. Although there is only one Henry Farman biplane at the Brasschaet Military Aviation school, no less than eight officers have been trained to fly it in less than three months.

England

The British naval airship "Mayfly," which was illustrated and described in the April number of *AIRCRAFT*, page 43, came to an untimely end on September 24th as it was being drawn out of the shed at Cavendish dock, Barrow. We publish a photograph of the wreck on page 297 of this issue.

The framework of the dirigible broke in the centre and the airship collapsed. It is supposed that the general structure was weak and that the accident was hastened by the rupture of the central gas bag, which removed all local support at this point and caused it to break. The airship fell into the water, but fortunately no one was seriously injured, the crew of the gondola swimming to shore.

The dirigible had been undergoing tests for some time past and had just been accepted by the Admiralty.

The new two-engined short biplane was given its first trials recently and in the hands of Mr. Frank McClean at Eastchurch made many successful flights with and without a passenger.

The new monoplane constructed by the Bristol Co. to the designs of Pierre Prier, the former well known Blériot flyer, has been put through its paces and has proven itself to be a capable flyer. The most noticeable peculiarity of the machine is its short length and the small flat fan-shaped elevating surface, which is balanced in such a way that it operates as a stabilizing damper and elevator combined. There is no fixed stationary surface in the rear, the elevator alone acting as a stabilizer.

France

On September 12th Mdle. Dutrieu regained her lead over Mme. Herveu for the Coupe Femina by flying 230 kiloms. in 2¼ hours at Chalons. This flight more than doubles Mme. Herveu's record of 101.6 kiloms.

Tests have been going on recently at the Deperdussin grounds to ascertain the climbing qualities of the Deperdussin monoplane and it has been found that this interesting machine can climb 1,700 feet in less than 6 minutes.

The first aviatrix to gain her pilot's license on the Hanriot monoplane is Mme. De Rick, who successfully made the flights for her brevet on September 5th.

It is reported that Robert Esnault Pelterie has turned his attention to the biplane type of machine and will shortly bring out a tractor screw double-decker. The new machine will be similar to the Martin type Queen machine described on page 314 of this issue but will have the usual R. E. P. fuselage. The wings, however, will be set at a slight dihedral angle.

It appears that Maurice Farman's headquarters at Buc are becoming quite a favorite visiting place for celebrities, for almost every week we hear of one or more distinguished personage visiting the school, and being taken for a trip on one of the machines. Quite recently Mr. Gould visited the

aerodrome and was taken for a lengthy flight by Maurice Farman himself. Amongst others who have recently flown with Mr. Farman are a Chinese general, the British Minister of Tangier and a number of society ladies and gentlemen.

New Passenger Height Record

On September 22nd Mahieu, carrying his friend M. Fay, succeeded in breaking the height record with a passenger by rising to a height of 2,460 metres in 55 min. The machine used was one of the new Military Voisins. The old record was 2,250 metres made by Montalent on a Breguet at Brooklands, England.

The new mammoth Antoinette monoplane in which the passengers sit inside the body was given its first tests on September 24th and is reported to have given every satisfaction.

Leblanc was out flying the new Blériot single seater racing type No. 27 on September 23rd and was unofficially timed to attain a speed of 130 K.P.H. (81 M.P.H.). This machine is the latest of the tractor screw type, but it differs from the regular Blériot practice in that the body is quite sharp in front and does not enclose the engine, which is simply attached to the front in such a manner that the motor is only supported at one end, while this does not look as strong as the regular method it certainly renders the motor very accessible. The fuselage of the machine is built up in such a way that the top and bottom longitudinals spread out and come together in

such a manner as to form a very effective and neat pigeon tail.

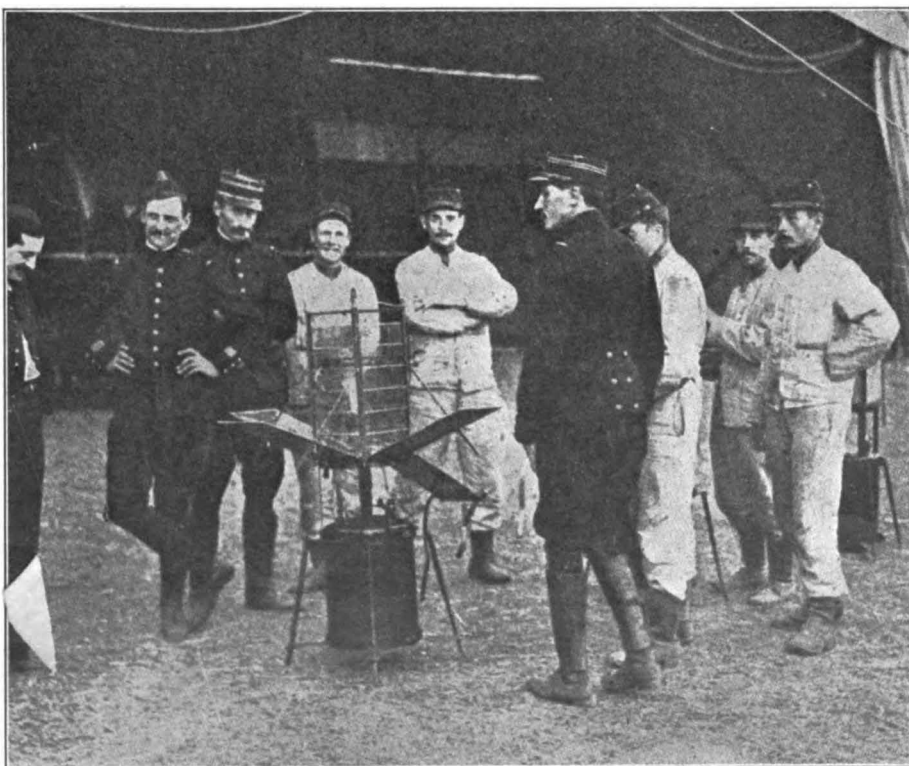
A new monoplane has been turned out by the Clement-Bayard Co., and in the hands of Dinard, it has been giving a very good account of itself at Chateaufort. At its first trial on September 23rd it flew for over 20 minutes over Buc, St. Cyr, and Guiancourt.

Fourny's New Distance and Duration Record

The report that Geo. Fourny, the chief pilot of the Maurice Farman establishment, broke the world records for both distance and duration has been confirmed. The flight was made on September 2nd. Fourny started at 4:43 A. M. on that day at Buc on a Maurice Farman biplane and flew for 11 hours 1 minute 29 seconds without stopping. He covered a distance of 720 kilometres (447 miles). By this he becomes the holder of the "riterium" prix, a prize of \$2,000 to be given to the pilot who has covered the greatest distance over a closed circuit by December 31, 1911.

A New Record for Dirigibles

The French military dirigible "Adjutant Reau" made a wonderful record on September 18-19. It started at Issy-les-Moulineaux at 5:11 P. M. on the 18th, cruised eastward to the French frontier, then returned to Issy, traveling 21 hours 20 minutes without stopping. The distance covered was 989 kilometres, making a new record for both distance and duration.



Portable "Lighthouse" for use in directing aviators in night flights. The light is supplied by an acetylene lamp and the rays are thrown upward through a series of lenses and are prevented from spreading by the use of the four blades which revolve around the lenses. The apparatus is the invention of a French officer.

Germany

The experiences which the officers of the German army gathered when they escorted the aviators in their circuit of Germany in the month of June was put to practical use during the last big manoeuvres which, in view of the critical position in which Germany found herself, was conducted with special seriousness. Two dirigible balloons and eight aeroplanes took active part. Several officers distinguished themselves by the rapidity and the accurateness of their observations, as to the position of the enemy and there is no doubt that the final decision was greatly influenced by the ascending flights of a young officer, the youngest pilot in the army. He succeeded in proving that maps which were placed by means of a trick in the hands of one party by the other were forged, and on returning he directed his aerial report in such a manner that it fell directly at the feet of the Emperor, who was able to formulate his actions accordingly. It has been shown beyond doubt, that the German officers of whose work the world knows nothing, have achieved brilliant results, and have secured for Germany a weapon of incalculable value in case of war.

From several points of view a pamphlet entitled "The Military Airship" and published by one of the fliers, Lieutenant Mackenthum, is of not a little interest. He speaks explicitly of the experience he has gleaned and concludes that the aeroplane—leaving the question be it mono or biplane—to be decided later—is the messenger of enlightenment most to be feared in the future and that it will be of immeasurable value to the troops of any country.

Whether the dirigible balloon or the aeroplane is the suitable flying machine for military purposes will soon be practically tested. The Zeppelin airship which is being built by order of the military administration is nearing completion and immediate trials are to be started, to gather practical experience so as to establish which system is preferable, a question which can only be decided by Germany. In dimensions the new giant air cruiser resembles the "Schwaben," which is at present making passenger trips in Southern Germany with splendid success. The ship is about 430 ft. and its diameter is about 45 ft.; an hourly record of about fifty miles is estimated. Three Maybach motors produce the power, which is reckoned at about 150 H. P. At present the men who manipulate the aeroplane are convinced of their absolute superiority but great surprises are anticipated as the Zeppelin cruisers can, in a comparatively short time, ascend to a height of 6,500 ft., in which they can maintain themselves for hours, a feat which for aeroplanes is utterly impossible.

The Kaiser has assured the pilot-officers that the war department will ask for an increase of military funds of the Reichstag as early as possible and it is planned to enter a requisition of five million Marks (\$1,250,000) for purposes of aviation to appear in the budget.

While the general postmaster of England decided that the English Post Office authorities will waive the trials with the aero-post, very successful trips for the purpose of transporting daily papers by aeroplane were in operation between Berlin and surrounding cities, and it can be regarded only as a question of time when these trials will develop into a permanent system.

Germany has the bearing of dignified quiet in the matter of its success in the field of aviation that has characterized her on other questions. But it would be well to regard that country more and more in the light of a pioneer in the mastery of the air, for there the work is not done to break records but to achieve practical results. The subject receives the most earnest theoretical and practical work and the achievements are proportionately splendid.

ARTHUR F. WIENER.

Mueller, the pilot who was injured during the German National Circuit, has recovered completely and has left the hospital for his home.

A new Scandinavian record for the distance from Aarlaus to Copenhagen has been set up by the German Wright pilot Thelen, who flew the 110 miles in 2½ hours.

An interesting feature of the annual grand Parade at Berlin on Sedan Day, September 2nd, was the arrival of an Etrich-Rumpler "Taube" monoplane, piloted by Vollmoeller, and an Albatross biplane, steered by Eyring. They both circled the Emperor and his staff before leaving, whilst Vollmoeller took a number of photographs from aloft. While flying from Mulhouse to Straßburg in the early morning hours of September 7th, Lieutenant Neumann and M. Lecomte of the Aviatik Company met with a terrible death about half way, as, owing to a stoppage of the motor, the aeroplane came crashing down to earth before they could carry out a vol plané, both men being killed immediately. Lieutenant Neumann was on his way to the manoeuvres of the 29th division, where he was to be entrusted with aerial scouting work. Lecomte was a member of the Aviatik teaching staff. The aeroplane was such a complete wreck that it was impossible to rescue any of its parts, barring the motor, as it was burnt up on the spot. The above is the second dual tragedy of the kind in German aviation annals, the first causing the deplorable death of the recordman Schendel and his mechanic at Johannisthal.

Two days later another fatal mishap robbed German aviation of one of its best men, Raymond Eyring, who came to grief at Stuttgart whilst testing his Albatross biplane preparatory to the Swabian Circuit. He had damaged slightly the top plane in ascending and whilst in the air it gave way unawares to him and hung down to the horror of his comrades watching, who shouted and beckoned to him to come down. In descending the machine suddenly lost its balance and tipped over, the motor striking Eyring on the skull. Although his body was a mass of fractures he did not die until a few hours later, thus one of the best German pilots vanished from the scene.

"MIII," the Gross military airship which was carrying out scouting trips near Demmin, came to grief on September 13th. The dirigible suddenly became enveloped in smoke and crashed down to earth. The crew, seven officers, had sufficient presence of mind to jump out before the impact occurred, so there was no loss of life.

The aeroplanes that did service during the German Imperial Manoeuvres proved an invaluable assistance, as the commanding general on each side confessed that he based the majority of his operations on the communications made him by the aviators given him for scouting purposes. The Red Army had Etrich Rumpler monoplanes only, the Blue Army Albatross biplanes. The tremendous saving of time is illustrated best by the fact that Lieutenant Mackenthum when sent out to report on the Red Army, flew down its whole front in thirty-five minutes, including the return journey and the report. A cavalry scout would have needed about four hours for the same task. The Emperor thanked each aviator personally and expressed his fullest recognition of their work. The weather was most favorable throughout.

The Swabian Circuit resulted in the first two cash prizes being shared between Vollmoeller (Etrich-Rumpler monoplane) and Jeannin (Aviatik biplane). Aside from the accident during training which cost Eyring his life, nothing occurred, although Bueclines (Aviatik) dropped out owing to his machine being damaged. Jeannin took the King's Cup for the fastest time on the Ulm-Friedrichshafen stretch, 58 minutes and, as he carried a passenger, he also won the prize presented by the War Ministry. The third prize goes to Hirth (Etrich-Rumpler) and the fourth to Hoffmann (Harlan).

STELLA BLOCH.

Holland

The Dutch Government has at last begun to turn its attention to military aviation, and Lieut. Poorteen has qualified for his certificate at the Brouckere School. It is expected that he will shortly be appointed by the Government to start an aviation school in connection with the Dutch Army.

Italy

Italian royalty is taking an active interest in aviation and numerous exhibition flights have been attended by the King and Queen and other members of the Royal Family, several of whom have been taken on flights. One of the latest to take a trip in an aeroplane was Duchess D'Aosta, who flew half an hour with Ruggerone on his Henry Farman biplane.

Russia

The first lady pilot to gain her license in Russia is Princess Helene Schakowski, who recently made the necessary tests in fine style.

The Russian aviator Audriade recently beat the Russian height and duration records on his Gnome-engine Blériot. He was in the air 2 hrs. 2 mins. and rose to a height of 1,260 metres.

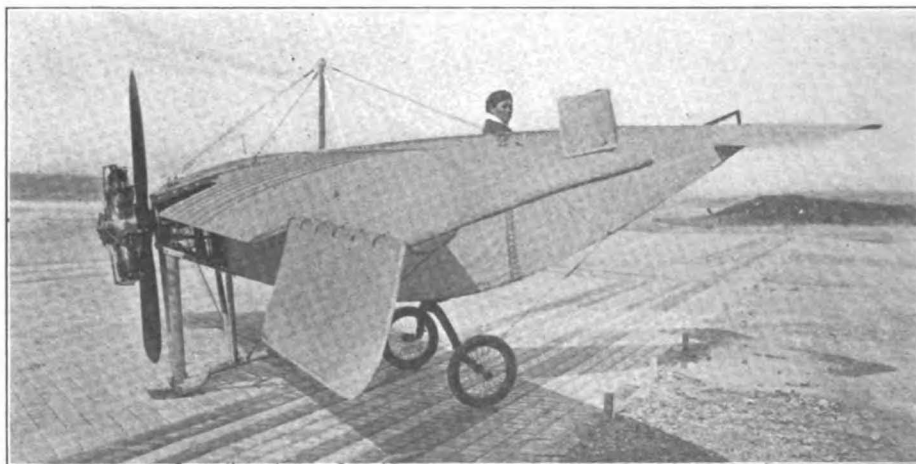
It is reported that the Russian Military authorities are taking a special interest in Military aviation and have ordered nine new aeroplanes which are to be purchased in various countries.

Switzerland

It is proposed to organize a Swiss National Flying Circuit in eight stages. The starting place will be Geneva and the other points Lausanne, Bienné, Berne, Thouve, Neuchâtel, Voerdon and Geneva. The event will probably be restricted to Swiss aviators.

Renaux Wins Quentin-Bouchart Prize

The Buentin-Bouchart prize of 40,000 francs for total distance covered in a year has been awarded to Renaux, the Maurice Farman pilot. The totalization of his flying for the year amounted to 6,600 kilometres; Helen, the Nicuport flyer, was second with 5,300 kilometres.



The new front control Blériot "Canard." Note the front elevator, position of pilot and motor, the peculiar landing gear and the ailerons. Although still in the experimental stage this machine has already made several short flights.



An improved type of biplane turned out by the English Bristol Co. Note the skid arrangement running up to the front elevator, the cabin for the pilot and the single tail plane.

The Advance Toward Aerial Law

Communicated by Denys P. Myers

The American Bar Association, at its meeting in Boston August 29, accepted the following adverse report on aviation legislation made by the Committee on Jurisprudence and Law Reform:

The committee cannot recommend the adoption of the resolution. The policy of the Association is not to propose legislation unless it is on a subject of general interest, and about which there can be no reasonable doubt as to the necessity for legislation. The navigation of the air has not become so general as to permit uniform legislation, so as to fix with legal certainty rules for its government. How far the man who "goes up in a balloon" engages in interstate commerce, when he happens to be accidentally blown across an imaginary State line, your committee is not prepared at this time to decide, but it is of opinion that the aviator should not be held to any greater liability than the modern common carrier. Commerce by air has not yet attained sufficient growth on which to justify its regulation by Congress; and even if legislation were desirable, it is not deemed proper to say that while a common carrier by land or water is excused from loss caused by the act of God, that a common carrier by air should be made responsible, whether injury resulted from negligence, or from inevitable accident, or *vis major*. Unless liability springs out of some contract, or arises out of some tort, the carrier should not be mulcted in damages, whether the carrier be by land, sea or air.

The resolution offered in 1910 by Judge Simeon E. Baldwin follows:

Resolved, That no one ought to be allowed to make an ascent in the air in any form of airship, who has not passed a satisfactory examination or been otherwise tested, by some public authority, with respect to his qualifications to make such ascents with reasonable safety to himself and others; nor without having first filed in some public office a bond with surety, to answer to all persons who may suffer damage by his flight in the air, whether such injury result from his negligence, or from inevitable accident, or *vis major*.

Resolved, That each State of the United States should regulate these matters by statute, as respects flights in the air wholly within said State, and as respects police regulation of all flights over its territory.

Resolved, That Congress, under its powers as to commerce, can and should regulate by statute flights in the air between States, or between the United States and foreign lands, or our territories of the United States.

Resolved, That the following project of a bill for such statute is drawn upon suitable lines, so far as its provisions extend:

An Act

TO REGULATE COMMERCE BY AIRSHIPS.

SECTION 1. *Be it enacted by the Senate and House of Representatives of the United States of America, in Congress assembled, that—*

The term *airship* in this act includes every kind of vehicle or structure intended for use as a means of transporting passengers or goods, or both, in the air.

The term *aeronaut* in this act includes every one who, being in or upon any such vehicle or structure, or anything thereto attached, undertakes to direct its ascent, or course, or descent in the air.

The verb *to fly* and the word *voyage*, as used in this act, include every kind of locomotion by an airship.

SEC. 2. No airship shall be flown from any point within the jurisdiction of the United States to a foreign country, or from any point within any State of the United States to any other State of the United States, or from any point in any territory of the United States to any other territory of the United States, or any State of the United States, or any foreign country, except under the conditions prescribed in the following sections:

SEC. 3. It must carry and be in charge of an aeronaut, whose competency as such is certified under the authority of the United States.

SEC. 4. It must carry a flag of the United States not less than six feet by ten in size, and display the same while over the territory of any foreign country, or it must have a copy of the flag, of not less size, painted on some part of the airship, so as to be visible to those who may be beneath it.

SEC. 5. It must have a number, in characters not less than three feet in height, painted on some part of the airship, so as to be visible to those who may be beneath it.

SEC. 6. It must be registered by this number in the office of the Collector of Internal Revenue for the district including the residence of the owner or charterer, or if such owner or charterer do not reside in any such district, then in the office of such collector for the district in which the voyage is to be begun by the ascent of the airship; and a certificate of the registry issued by said collector.

SEC. 7. The owner of the airship, or if he has let it to another for such voyage, either the owner or such charterer, shall, before the voyage is com-

menced, file in the office of such collector a bond to answer for all damages that may result to any person or persons, as an incident of any voyage that said airship may make or attempt to make, either from the descent of the airship, or from the fall of the airship, or any part thereof, or anything that was on board of it, or from the trailing of anything in the nature of a guide rope. Such bond must be a joint and several bond, signed by such owner or charterer and a sufficient surety, and shall be for such amount, not less than \$1,000, as the Collector of Internal Revenue for the district wherein the airship is registered may order, and such collector must also endorse the bond with his approval of the sufficiency of the surety. Such bond shall be payable to the United States of America; but any person claiming damages thereunder may bring suit upon it in any court having competent jurisdiction, whether a court of the United States or of any State or territory of the United States, or of any foreign country, within the territorial jurisdiction of which court he claims that such damages were caused; or, at the option of such plaintiff, in any such court within the territorial jurisdiction of which he can make due service of process on the bondsmen or either of them. If such a suit be terminated by a judgment for the defendant, he shall recover the costs of suit from the party bringing such suit.

SEC. 8. The airship must carry, throughout any trip, a copy of such bond and of its certificate of registry, and of the certificate of the competency of the aeronaut, which copies shall be authenticated under the hand and seal of the Collector of Internal Revenue, in whose office the original of each must be filed.

SEC. 9. The aeronaut for the voyage, as an incident of which any damage may be claimed, shall allow any party claiming to be so damaged to make and keep copies of any or all of the papers mentioned in Section 8.

SEC. 10. The certificate mentioned in Section 3 may be granted by the District Attorney of the United States for any judicial district, after such examination and tests as he may think fit to impose, to be conducted by himself or such persons as he may appoint or approve. It shall be signed by the clerk of the District Court of the United States in which he is attorney, and authenticated under the seal of the court.

The expense of such examination, tests, and certificate, shall be paid by the applicant for such certificate, in advance, and if a certificate be refused, the fee for the certificate shall be refunded to him.

SEC. 11. Said bond may be limited to be in force for only one year from the date of filing, or for any other term exceeding one year. If not so limited, it shall be in force during the life of the airship therein mentioned.

SEC. 12. No minor shall receive a certificate of competency.

SEC. 13. Fees under this act shall be collectible as follows:

To the district attorney.
For the examination and tests provided for by Section 10, such sum as he may demand in any instance, not exceeding \$25; for granting a certificate of competency, \$5.

To the clerk of the district court, for the issue of a certificate of competency under seal, \$2.
To the Collector of Internal Revenue.

For filing each certificate of competency or bond, \$1; for making, recording and certifying to each registry, \$2; for authenticating a copy of either certificate or of the bond, \$2; for approving or disapproving every bond offered for his approval, \$5.

SEC. 14. Any violation of any provision of this act by the owner or charterer of any airship, or by any aeronaut, shall be a misdemeanor, and punishable by a fine not exceeding \$1,000 or by imprisonment for not exceeding thirty days, or by both, at the discretion of the court.

Juridic Code of Aerial Law

The text of a part of an international code of the air adopted by the first Juridic Congress on Aerial Locomotion, organized by the International Juridic Committee on Aviation, held at Paris, at the Trocadero Palace, May 31-June 2, under the presidency of M. Millerand, is now available. The decisions of this congress are entitled to the utmost respect, being the final revision of projects which have passed the scrutiny of some of the greatest living jurists. The International Juridic Committee was formed late in 1909 and has been operating since 1910. About 500 of the greatest legal authorities of the world have co-operated in its work, each country represented having a national committee which passes upon projects submitted by the International Committee, which in turn studies these texts and adopts a single codification in harmony with the majority opinion of the national committees. The text accepted at Paris follows:

GENERAL PRINCIPLES OF AERIAL CIRCULATION.

Art. 1. Aerial circulation is free, excepting the

rights of subjacent States to take certain measures determined in view of their own security and that of the persons and property of their inhabitants.

NATIONALITY AND REGISTRATION OF AIRCRAFT.

Art. 2. Every aircraft should have one nationality and one only.

Art. 3. The nationality of an aircraft is that of its owner.

If the aircraft belongs to a company, the nationality will be determined by that of the headquarters of the company.

In case of different nationality among the co-proprietors of the aircraft, the nationality will be that of the co-proprietors who possess two-thirds of the value of the aircraft.

Art. 4. Every aircraft will bear a distinctive mark of its nationality.

Art. 5. Every aircraft should carry aboard it a certified document (*document signalétique*) containing all facts necessary to identify it.

Art. 6. Every owner should, before putting it into circulation outside of private aerodromes, have obtained from the public authority, the inscription of this aircraft upon a register of matriculation kept by the competent authority.

Each State will regulate the registration of aircraft within the limits of its own territory.

Art. 7. Every aircraft should carry a distinctive mark indicating the place of its registration.

Art. 8. The registration lists will be published.

LANDING.

Art. 9. Aircraft may land upon unenclosed property.

Art. 10. It is forbidden, save in case of necessity, (*force majeure*) to land:

a. On fortified works and in the vicinity of these works, within a radius determined by the military authorities;

b. Within the boundaries of cities or towns (*agglomérations*), with the exception of places designated by the public authorities.

Art. 11. Every landing makes obligatory for damage done.

However, if there is a fault on the part of the victim, the author of the damage may, in proportion to this fault, be discharged in whole or in part from the reparation incumbent upon him.

JETTISON.

Art. 12. Jettison consists in the voluntary throwing overboard (*soute projection*) of objects, bodies or materials of every kind.

Art. 13. Jettison of all things of a nature to injure, whether of persons or of goods, is forbidden.

Art. 14. In any case, the damage done gives rise to reparation.

WRECKS.

Art. 15. He who finds all or part of an aircraft should make declaration thereof to the competent authority.

Art. 16. The competent authority, duly advised, will immediately take the necessary measures to secure the preservation of the wreck and the discovery of the owner.

Art. 17. The owner of the wreck may reclaim it from the authority who is in charge of it, within a year of the request, by paying the expenses of preservation. He is liable, moreover, to pay to the finder a premium of discovery of 10% calculated upon the value of the wreck on the day of restitution, deduction of expenses being made.

This code has, of course, no official standing as yet and is couched in general terms so as to fix principles. It is expected that individual nations will accept the principles and legislate in accordance with them, adding details to meet national conditions. It is proposed to continue the code in consonance with the following outline, the above text being that of the original first three chapters of Book I. The remainder of the outline accepted follows:

Chapter 4. Extraterritoriality in Relation to Aerial Locomotion.

Chapter 5. Expropriation for International Public Utility.

Chapter 6. Diplomatic Treaties.

BOOK II.—PRIVATE AERIAL LAW.

Title I.—Civil.

Chapter 1. a. Property in the Airspace (by analogy with Art. 552 of the French Civil Code, 905 of the German Civil Code and 667 of the Swiss Civil Code).

b. Wrecks.

c. Servitudes.

Chapter 2. a. Rights of Citizens and their Application (by analogy with Art. 1382 of the French Civil Code).

b. Indemnities for Landing and Jettison.

Chapter 3. *Force Majeure* in Civil Matters.

Chapter 4. Terrestrial Common Law and Modifications Applicable.

Chapter 5. Domicile of the Aeronaut.

(Continued on page 317.)

THE QUEEN-MARTIN BIPLANE

By W. H. Phipps

Another addition to the rapidly growing list of American made machines is the new biplane built to the designs of James V. Martin, of Boston, by the Queen Aeroplane Co., of New York, who have also purchased the sole manufacturing rights of same.

GENERAL DETAILS.

The machine, although embodying many important monoplane features, is essentially a biplane of the now quite popular tractor screw type, and in this respect somewhat resembles the Breguet, Avro, and Pommier biplanes, which have met with such success abroad. At the time of writing, the Martin biplane has been fitted with a 100 H. P. Gnome and is being tried out by Mr. Martin himself. Several successful short flights have already been made, during which a speed of over a mile a minute was attained.

It has been the aim of Mr. Martin in designing this machine to evolve not a phenomenal speed creation, but a safe and steady aeroplane that would combine the speed and grace of the monoplane with the strength and stability of the biplane.

Turning now to a description of the machine, the principal dimensions are as follows: Span, 30 feet; length over all from tip of skids to tip of rudder, 29 ft.; length of fuselage, 23 ft. 5 in.; chord of wing, 5 ft. 1 in.; gap between planes, 5 ft.; motor, 50 or 100 H. P. Gnome; propeller, 8 ft. 3 in. diameter.

MAIN PLANES.

The main planes have a total span of 30 feet and a chord of 5 ft. 1 in. They are single surfaced, built up *à la Farman*, with the ribs fitted into pockets in the covering. The two planes are spaced 5 feet apart, the uprights fitting into the special steel sockets shown in Fig. 2, and braced with heavy gauge piano wire. Special interconnected compensating ailerons are fitted at the rear extremities of the upper planes.

FUSELAGE.

The fuselage, constructed of ash in the first half and elm in the rear section, is of the box girder type, somewhat resembling the Blériot, with the exception that the front is greatly strengthened and bent upward, so as to bring the axis of the Gnome engine more in the centre of the two planes, which are attached to the fuselage, one below and the other above. The seats for the aviator and passenger are situated behind the gasoline tanks, directly between the two main planes, in such a position as to give them an unobstructed view. Special fittings, which are shown in drawings 3 and 4, are used for joining the fuselage uprights to the longitudinals without drilling and weakening them.

CONTROL.

The control arrangement is similar in construction to the gate arrangement fitted to the Burgess "Grahame-White" biplanes. It consists of two universally jointed levers, situated one on each side of the fuselage just in front of the aviator's seat, joined by a cross rod which passes in front of the operator and the whole, so constructed as to enable the pilot to guide the machine with both hands—jointly or separately.

Pushing the cross-rod sideways, operates the special interconnected compensating ailerons and by the same movement, owing to the crossing of the tail elevator wires, the elevator flaps are slightly operated—one up—the other down, thus aiding the ailerons in righting the machine.

The ailerons are connected to the control bar by a slack wire, in such a manner that in normal flight they fly straight out in the stream line of the machine, and when in operation, they automatically adjust themselves, owing to the slackness of this wire, in such a manner as to exert an equal pressure on each side of the machine, making it unnecessary to use the vertical rudder to counteract any drag effect. Fig. 5 shows one of the special pulleys round which the aileron wire passes.

Steering to the right and left is accomplished by the usual monoplane practice, namely, by a pivoted foot rest.

RUNNING GEAR.

The running gear is of the wheel and skid type, similar to the Farman. Special attention has been given to strength and safety and in furtherance of this end, the skids have been continued quite some distance forward and braced to the fuselage and also to the biplane framework. In Fig. 6 is shown one of the skid sockets.

TAIL.

The tail, which measures 11 ft. 6 in. across, is semi-circular in shape and of the non-lifting type. In normal flight it floats straight out in the stream

line, much in the same way as the tail on the Nieuport, acting simply as a stabilizing damper and not as a supporting surface. This tail is supported when on the ground by a swiveling shock absorbing tail skid.

ELEVATORS.

The elevators consist of two flat semi-circular flaps measuring 4 ft. 10 in.; by 3 ft. 8 in., and are pivoted on hinges as shown in Fig. 1.

RUDDER.

The vertical rudder is of large size measuring 4 feet by 3 feet 6 inches, and is intended to facilitate steering when on the ground and at slow speed.

PROPULSION.

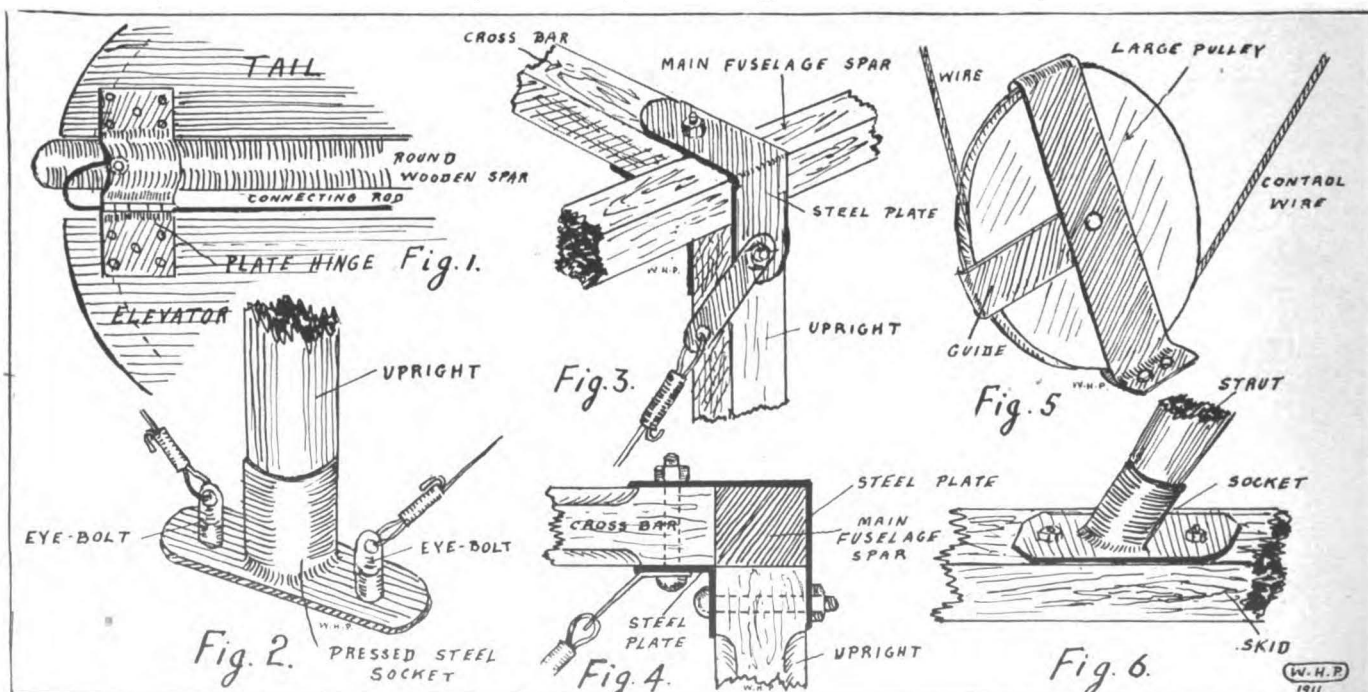
Propulsion is furnished by either a 50 or 100 H. P. Gnome motor driving direct a tractor screw. The engine is mounted directly in the front of the fuselage and is separated from the gasoline tanks by an aluminum shield.

MISCELLANEOUS.

The biplane was designed with a view of producing a touring machine which would fly at a small angle of incidence, and upon the motor stopping, assume automatically a good gliding angle. Piano wire has been used largely for rigid bracing both throughout the biplane cellule and fuselage and every wire is fitted with a turnbuckle. The control wires are of flexible stranded wire of large diameter. The gasoline and oil tanks are extra large and hold sufficient fuel for a non-stop flight of 5 to 6 hours.



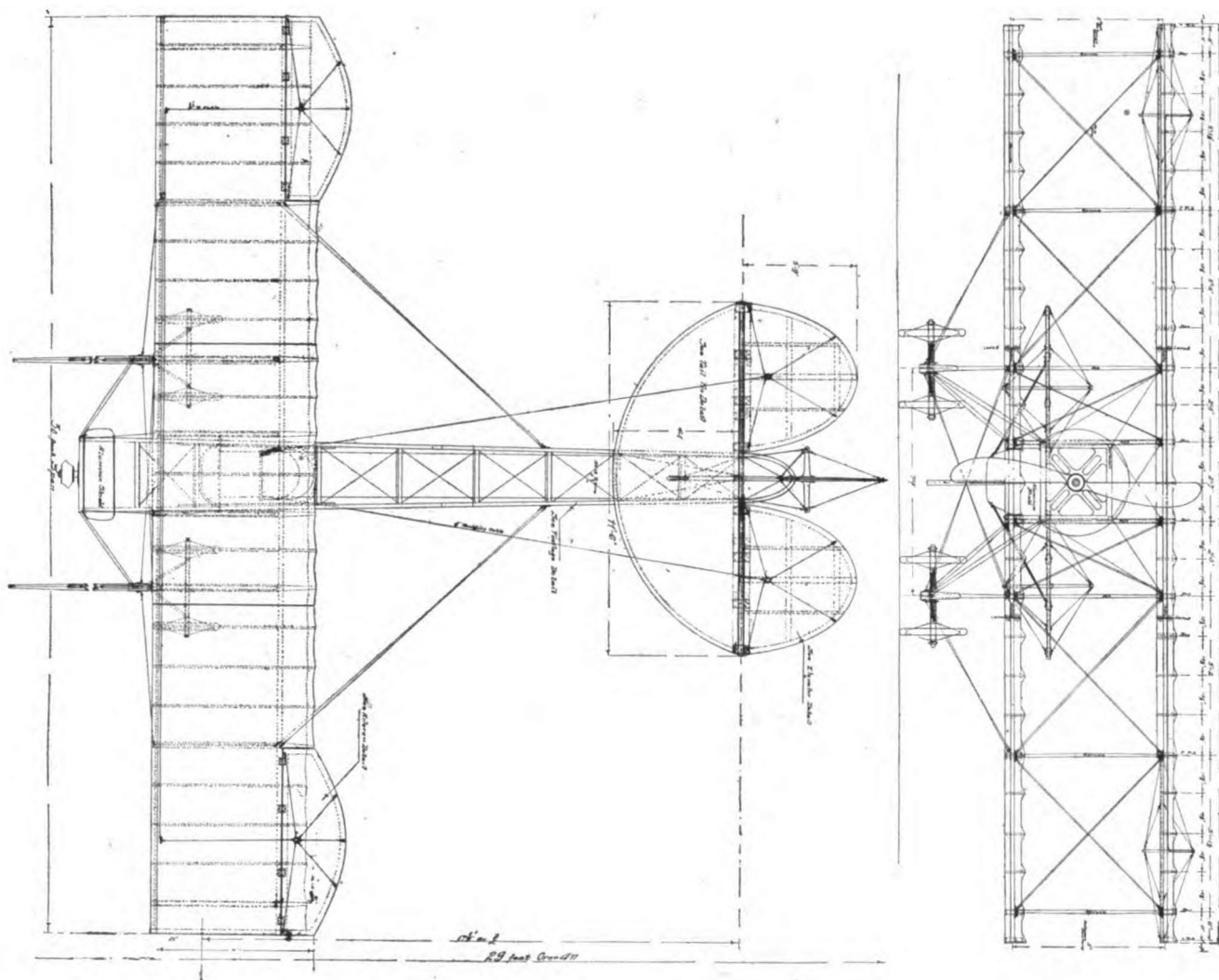
Mr. James V. Martin seated at the control of the new Queen-Martin biplane, which was constructed by the Queen Aeroplane Co. to his designs. The machine is fitted with a 100 H. P. Gnome and carries sufficient fuel for a non-stop flight of 5 hours. Note the strong landing chassis, position of tanks, ailerons on upper surface and flat non-lifting tail.



SOME CONSTRUCTION DETAILS OF THE QUEEN-MARTIN BIPLANE.

SUCCESSFUL FLYERS DESCRIBED

THE QUEEN-MARTIN BIPLANE

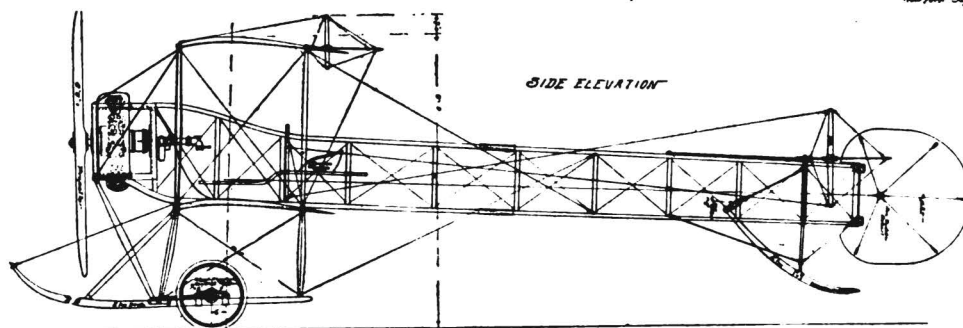


MARTIN Biplane

Designed by James Vernon Martin
Drawn by Chas. E. Muller
New York Sept 1924

Drawn by Chas. E. Miller
New York Sept 1944

New York Sept 1946





WE print this month an article by the Secretary of the Navy, George Von L. Meyer. This authority says he is waiting for the aeroplane to reach a suitable stage of practicability to put it in general use in the navy.

Do you get the real meaning of it all, Mr. Manufacturer? He is putting the matter up to you, and telling you what is wanted and that the navy is ready to patronize you if you can deliver the goods.

What are you going to do about it? Are you going to continue to give all your time to building flimsy racers to send on the ephemeral chase after prizes or are you going to concentrate and try to develop an aeroplane with qualities such as are required for practical use and get steady returns?

While we are at it, let us remind you that the present flimsy creation of wood, cloth and wires is not exactly what is wanted, it is too frail for every day use; nor is wanted the machine where the pilot is always in imminent danger of being burnt to death through the nearness of the gasoline tank to the motor, or being crushed to death through the motor being located right behind the pilot's seat: this involves too much danger and, as Secretary of the Navy Meyer says: "they cannot afford to lose good men." Once more, machines are not wanted if it takes the training of an acrobat or all the wit and senses of the aviator to pilot them; for the human element is too uncertain. Reliability is wanted rather than speed.

However, this is your opportunity; it is up to you to make the best of it.

Aeronautical Manufacturers' Association

MINUTES REGULAR MEETING.

By F. D. WOOD, Secretary.

Regular meeting of the Aeronautical Manufacturers Association, September 18th, 1911, at the Hotel Cumberland, Broadway and Fifty-fourth street, N. Y. C., called to order at 9:10 P. M. President F. L. Jones in the chair.

Minutes of last meeting read and approved. Treasurer's report read and approved.

The President opened for discussion the question of the Association's attitude concerning the subject of Aeronautical Shows. The discussion disclosed the fact that at this time there were no proposed shows and inasmuch as it was considered impossible for the Association to attempt to run a show, the matter was laid upon the table to await further developments.

Motion made by Mr. Gibson that Mr. F. A. Sieberling, a man who has for some time been connected with the Aeronautical industry, be approached by a committee from the Association as to whether he would care to accept the position of second vice-president of the Association; seconded and carried. The President appointed Mr. Lawson, Mr. Gibson and Mr. White as members of that committee.

Mr. Jones opened a discussion concerning the advisability of a national law for the licensing and controlling of aeroplanes.

Mr. Gibson moved that Mr. Jones be appointed a committee of one to investigate and report at the next meeting as to the possibility of federal laws for the licensing and controlling of aeroplanes; seconded and carried.

Mr. Wood opened a discussion on the question of testing out the products of various manufacturers in the aeronautical industry, citing as an example the test offered by the Automobile Club of America to the manufacturers of aeroplane motors.

After some further discussion on this question a motion was made by Mr. Gibson that the Association appoint a committee to take up such matters as the testing of the materials included in the aeronautical art; that arrangements be made, with the Automobile Club of America, or such other parties who may conduct tests, to the end, that they will recognize proxies from the manufacturers held by this committee; that members of the Association be notified that said committee is prepared to represent such members of the Association in any matters of tests of their products; that printed forms for application in such tests be immediately prepared and that the Chairman be empowered to appoint such members to his committee, not being members of the Association as may be expedient; seconded by Mr. Lawson; carried.

Motion made by Mr. Maus that Mr. Gibson be made Chairman of the committee; seconded and carried.

Discussion followed as to the advisability of publishing a bulletin which would contain the reports of these tests and such other information and data as would be of interest to members and prospective members.

Motion made by Mr. Lawson that the Secretary be appointed to compile and publish a bulletin from time to time concerning the work carried on by the Association; seconded and carried.

Motion to adjourn seconded and carried. Meeting adjourned 10:50 P. M.

Respectfully submitted,

F. D. WOOD, Sec'y.

The Curtiss Aeroplane Company, of Hammondsport, N. Y., always wide awake and extremely progressive, have decided that there will be no cessation of business during the winter months, and have established a winter training course at San Diego, Ca., where the Curtiss Aviation School opens for students October 20th and will be operated under the direct supervision of Glenn H. Curtiss, assisted by Lieut. J. W. McClaskey and a large staff of competent aviators.

Among the prominent aviators trained at these grounds last year were: Lieut. T. G. Ellyson, U. S. N., Capt. Paul W. Beck, U. S. A., C. C. Witmer, Hugh Robinson, R. C. St. Henry and others.

The Curtiss training course is located on North Island in San Diego Harbor, and contains 1,000 acres of level sand without a tree or a building to interfere with flying.

There is no doubt that a great number of newcomers into the movement, will take advantage of the opportunities this school offers this winter, to become competent and perhaps famous aviators.

The Roberts Motor Company of Sandusky, Ohio, report that there are in use to-day fifty Roberts aeroplane motors and that orders are coming in rapidly and continuously. They have recently started to manufacture a six cylinder motor of 75 H. P., weighing complete with carburettor and magneto 245 pounds. So great has been the success of the Roberts aeroplane motors that the company will soon place upon the market a six cylinder of larger bore and stroke, giving 125 H. P. This they expect to have ready for delivery by the first of the year.

The president of the Roberts Motor Company is Mr. B. L. Roberts, formerly cashier of the Mississippi State Bank of Canton, Mississippi, and the vice-president is Mr. E. W. Roberts, known as an authority on the gasoline motor design and a pioneer in aviation. He was actively engaged with Sir Hiram S. Maxim as his chief assistant on his famous experiments in 1894-95.

The Chicago Aviation Meet has stimulated to some extent the western trade, according to **R. O. Rubel, Jr., & Co.**, the big western supply house of Louisville, Ky., who report during the last month the following sales of their Gray Eagle motors: Mr. T. C. Starr, Stockton, Cal.; Mr. J. C. Westerhoff, Chicago, Ill.; Frank Heitz, Ash-ton, O.; L. Simmons, Joplin, Mo.; Whittier Aeroplane Co., Danvers, Mass., and Russell Potter, Joplin, Mo.

Mr. Rubel, the general manager of the concern, says that there is considerable activity shown by the builders of aeroplanes in Cincinnati, Dayton, Columbus, and Lima, Ohio; Fort Wayne, Muncie, Anderson and Indianapolis, Ind., towns which he recently visited. While on the trip he sold a Darracq motor to Jack Neider, of Columbus, O., to be used on a Demoiselle monoplane.

Mr. J. L. Morris, superintendent of the factory, is making an extended southern trip in the interests of the firm. He reports that the people of the South are beginning to take a lively interest in the subject of aviation.

Mr. George Kemp, the manager of the Gray Eagle motor factory, will shortly sail for France and England, where he will spend several weeks studying European aeronautical conditions.

The Goodyear Tire and Rubber Co., of Akron, Ohio, have not only taken up the manufacture of aeroplane wheel tires and aeroplane covering, but they are now going into the extensive manufacture of balloon equipment.

The Seiberling-Vaniman balloon is the first of their experiments along this line.

While it probably would have required from three to four months to construct this balloon in Europe, the Goodyear people did the work in exactly twelve weeks.

Mr. F. J. Hemmington, advertising manager, and Frederick J. Seiberling, son of the president of the Goodyear Company, are both aviation and aerostation enthusiasts.

The Gibson Propeller Company, of New York, is the development of three years of strenuous work of Hugo C. Gibson in the construction of the well-known Gibson propeller, the business of E. W. Bonson being absorbed.

The company have removed their factory to 197th street and Amsterdam avenue, where they will be near neighbors of the Queen Aeroplane Company, and also have more spacious workshops and up-to-date equipment than heretofore.

Mr. Gibson, who is the president and general manager of the concern, reports that the business has been and is steadily increasing each month and that their former premises were absolutely inadequate and that with the facilities at his command he intends to take advantage of the demands of the ever growing aeronautical industry.

The American Nieuport Aeroplane Company has just been organized as a New York corporation for the purpose of selling the Nieuport monoplanes in this country.

The president of the company is Allan A. Ryan, and the directors are: Mr. Ryan, I. V. McGlone, Kenneth R. Howard, Maitland F. Gregg and John Nordhouse. The new company owns all the American rights of the Nieuport monoplane, so that any machines wanted of that make by purchasers in the United States must be secured through the American Nieuport Aeroplane Company, who have established their offices at 32 Liberty street, New York City.

The capital stock of the new company is \$50,000.

The M. L. Oberdorfer Brass Company, of Syracuse, N. Y., are meeting with considerable success in the aeronautical line through the wide distribution of their aluminum circulating pumps for aeroplanes. This is another improved accessory which goes to make the life of an aeroplane driver easier and more successful.

The Queen Aeroplane Company, of New York, have decided to go into the aeronautical business on a much larger scale than they had ever attempted before. They have not only increased to a considerable extent their working forces at their factory at Fort George, but have also decided to employ some of the very best aviators in this country and abroad to demonstrate their machines.

Mr. Willis McCornick, president of the Aeronautical Society, is at the head of the Queen Company, and he believes that the time is now ripe to lay the foundation of a great manufacturing plant equipped to turn out flying machines of various types in large quantities.

Mr. Spencer Heath, the head of the **American Propeller Company**, of Washington, D. C., says that practically all the technical features of the PARAGON propellers are subject of claims in United States patents, either already granted and allowed, or about to be issued.

The X Company, of Detroit, Michigan, have offered \$25.00 in cash to the person suggesting a new name for a propeller which they have designed. The money will be paid November 15th, 1911, to the one first suggesting the name that is chosen.

Inquiries regarding the matter can be addressed to "Dept. B," The X Company, Detroit, Michigan.

Captain Hugh L. Willoughby has met with such good success with his hydro-aeroplane Pelican that he has decided to establish a factory at Sewalls Point, Florida, this winter and build duplicates of the Pelican.

Mr. Willoughby predicts a big spring trade for the hydro-aeroplane and intends to have a quantity of them in stock to meet the demand. Mr. Willoughby claims that his hydro-aeroplane is safer to drive than an automobile or motor-boat and that the pleasure is ten times as great. He knows of no good reason why people fond of sports should not tour the country in hydro-aeroplanes, following the same old water routes frequented by the motor-boat and stop for gasoline at the same old stations. An extra passenger or one hundred pounds of luggage can be carried along.

The International Aeronautic Construction Company, of Hollis, Long Island, are making a new addition to their present factory by putting up an extension that will give them an additional 25,000 square feet of floor space, which will be equipped with the latest improved aeroplane machinery.

The American Aeroplane Supply House, of Hempstead, Long Island, have received an order from the Republica Dominicana, through their State engineer, Z. H. Garcia, for a "Polyplane Type" aeroplane. It is expected the machine will be finished within a month.

Dr. Henry W. Walden has organized **The Walden Company**, of Mineola, Long Island, for the purpose of building and marketing the Walden monoplane, which is no doubt the first successful monoplane designed, constructed and flown in America.

The Walden Company has already two machines of the latest type completed and the third under way. Dr. Walden has also gone into the exhibition business and is making flights in various parts of the United States.

The Hall-Scott Motor Car Company, of San Francisco, reports that the coming of winter means an increase in their business instead of a decrease and that they are not only now working their forces overtime, but have had to make an addition thereto of over ten men during the past few weeks. Their payroll now showing that they have over forty men at work in their shops. These conditions are undoubtedly due to three facts:

First—That the Pacific coast is recognized as an ideal flying ground all through the winter season and professional flyers flock to that section during the cold months.

Second—That interest in flying has been awakened to a large extent in the Southern States, where flying all the year round can be done; and

Third—That orders are pouring in upon the manufacturers of aeroplanes throughout the United States for early spring delivery, which require the manufacturers to fill these orders during the winter months.

The Hall Scott Company have added a number of improvements to their shop equipment lately, so that they feel pretty well satisfied that they will be able to keep pace with their increasing business.

The Maximotor Makers, of Detroit, Michigan, have arranged to put in two 50-75 *maximotors* in an original type aeroplane being constructed by Charles H. Burleigh, of South Berwick, Maine.

The De Berseques Aeroplane Company, of Buffalo, are also installing a 6-cylinder *maximotor* in a new type of an aeroplane with flexible tip automatic stability device, which this company has constructed.

Also L. E. Dare, the veteran aeronautical lecturer, who has exhibited in stores and fairs from coast to coast, is installing a 40-50 H. P. *maximotor* in his "Staggered Biplane" now in course of construction.

The Wilson Company has been formed in Rochester, New York, for the purpose of building and exhibiting aeroplanes. The men who formed the company are: Fred Wilson, Frank Smite, John O'Day and Ray Chism.

H. J. Leighton, of Syracuse, New York, is beginning to attract considerable attention among aeroplane constructors with a new 40-50 H. P. motor, which he has lately produced.

Charles W. Cook, of New York, who has built and flown several machines, has increased his business and is now turning out Curtiss type machines of the latest pattern.

The Burgess Company and Curtis, of Marblehead, Mass., announce that Mr. F. H. Russell until recently the efficient manager of the Wright Co., is now associated with them, and

will henceforth assume the management of the Marblehead establishment.

During the recent Nassau Boulevard Meet, twenty-eight prizes were won on Burgess biplanes. The Burgess Company is now busy completing hydro-aeroplanes to be mounted on a regular Model F, the power to fly this combination being furnished by a 50 H. P. Indian rotary motor.

The E. J. Willis Company, of New York, report continued success in the sales and distribution of aeronautical supplies throughout the United States. They are of the opinion that there will be much activity among the inventors and builders of flying machines during the winter. In fact through their splendid system of following up the trade they are in a position to gauge with considerable accuracy its development and their records show that new builders and manufacturers are constantly entering the movement in all sections of the country.

Charles Lateiner, of Brooklyn, N. Y., one of the largest manufacturers of aeroplane models in this country, reports an exceptionally good business during the past six months.

One of the models which he turns out has remained in the air for 48 seconds, while another has flown a distance of 2,000 feet.

Mr. Lateiner supplies the trade all over the United States with model propellers as well as model machines.

The new six cylinder **Kirkham Motor**, manufactured by Charles B. Kirkham, of Savona, N. Y., apparently is meeting with continued and increasing success.

The sales for the Kirkham motor for the past month have been to Pedley & Wilkin, Chicago; D. Eshoo, Buffalo; C. O. Frowse, St. Louis, and A. B. Robert, Seattle.

Pedley & Wilkin have taken over the agency for the Kirkham motors in Chicago and vicinity.

(Continued from page 313.)

Title II.—Commercial.

Chapter 1. Patents and Additions Thereto.
Chapter 2. International Commercial Contracts.
Chapter 3. International Commerce Companies.
Chapter 4. International Pledges.
Chapter 5. International Rental Contracts.
Chapter 6. Seizure and Sale of Aircraft Outside of the Home Ports.

Chapter 7. International Insurance.

BOOK III.—ADMINISTRATIVE AERIAL LAW.

Chapter 1. Highway and Aerial Roads.
Chapter 2. a. Administrative Regulation of Aerial Voyages.

b. Police for Aerial Locomotion above and within the Bounds of Cities and Population Centers.
c. Police for Aerial Locomotion above Terrestrial, Maritime and Feuvial Ways.

Chapter 3. Administrative Regulation of Aerodrome and Aerial Courses.
Chapter 4. Guaranty of Competency of Aeronauts.

BOOK IV.—PENAL AERIAL LAW.

Title I.—Crimes and Misdemeanors Against the Safety of States.

Title II.—Crimes and Misdemeanors Against Individuals.

Chapter 1. a. Abuse of Authority.
b. Hindrances to the Free Exercise of Aerial Locomotion.

c. Attempts Against the Safety of Aeronauts or Pilots and their Machines.

Chapter 3. Damage to Monuments.

Chapter 3. a. Gross Negligence.

b. Involuntary Assaults and Homicides.

c. Disregard of Regulations.

Chapter 4. *Force Majeure* in Penal Matters.

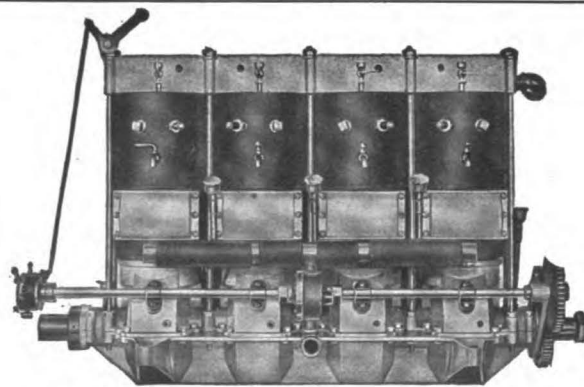
Manufacturers, Designers and Builders of AEROPLANES

Bleriot (No. 11 type) K. D. - - \$550
Curtiss (regular type) K. D. - - \$500
Farman (50 H. P. type) K. D. - - \$750

Power plant and propeller not included in above prices.
Blue-prints of the above \$1.50 per set.

We are the largest manufacturers of Aeroplanes and Propellers in the middle west.

CHICAGO EMBOSSED MLDG. CO.
1330-40 Clybourn Place :: CHICAGO, ILL.



AEROPLANE MOTORS 40 to 50 H. P.
H. J. LEIGHTON, 1017 West Fayette Street
SYRACUSE, N. Y.

CLASSIFIED ADVERTISING

10 CENTS A LINE * SEVEN WORDS TO LINE * CASH WITH ORDER

FOR SALE

IF you want passenger balloons, dirigibles, captives or aeroplanes; large stock; immediate shipment; any size built to order. Teach purchaser to operate. Exhibitions furnished throughout United States and Canada. G. L. Bumbaugh, builder and operator. Indianapolis, Ind., U.S.A.

ATINY PROPELLER, just what everyone interested in aviation wants for their watch fob or chain. Four laminations of spruce and mahogany, finished like the real thing. Price, silver mounted, 25; gold, 35 cents. Address The Model Shop, 1932 Riverdale St., Chicopee, Mass.

FOR SALE—Field Glasses and Binoculars. Everyone interested in aviation should have one. After scientific tests, I have selected two of LEMAIRE'S most powerful glasses as my head liners. Beachey can't fly too high for them.

No. 1, Field Glass, black morocco, high top, 12 lenses, very powerful, objective field 4 deg., 70 ft. field at 1,000 ft. length, closed 5 3/4 in. Weight 27 oz. Sole leather case with shoulder strap. Price \$20.00 and express charges.

No. 2, Field or Marine Glass, black morocco, high top, grand power, the best glass made, objective field 25 deg., 44 ft. field at 1,000 ft.; length closed 7 1/4 in., weight 34 oz. Sole leather case with shoulder strap. Price \$22.50 and express charges. Terms \$1.00 with order, balance C. O. D. with the privilege of examining and trying out. Address Silas J. Conyne, 3508 McLean Ave., Chicago, Ill.

MOTORS—2 and 4-cycle aeronautic revolving motors, weight from 2 to 4 lbs. per H. P. Whitehead Motor Works, Bridgeport, Conn. R. F. D. No. 2.

CURTISS latest improved type (Pigeon tail) 1912 Model. Made over 300 very successful flights 1,000 ft. high, 30 miles cross-country. My construction is strongest in the world. New, complete, ready to fly, tested and guaranteed, including free lessons to buyer, \$2,500. Buy direct from Builder and Aviator of 10 years' experience. H. C. Cooke, Aviator and Builder, 128 West 65th St., New York City.

FOR SALE—Three new 16,000 foot barographs. Box 747, AIRCRAFT.

AEROPLANE ENTHUSIASTS—Send for set No. 1A containing six perfect photographs of prominent aviators, aeroplanes, flights, accidents, etc., at close quarters, with interesting description. 25c. International Photo Specialty Co., Revere, Mass.

FOR SALE—Model Aeroplanes, Nieuport, Blériot, Antoinette or Curtiss; exact reproduction of large machines; 2 ft.; weight 1 ounce. Price \$3.00, Curtiss \$5.00; knockdown, half price. K. A. Pouch, 83 Tow Terrace, New Brighton, New York.

WOULD like to sell my patent for a dirigible airship, latest construction, or would like a capitalist to build a small or a large airship. The airship consists of 7 aeroplanes and 12 balloons. You can cross the ocean to France or Germany. The aeronaut can land on the water and can also fly against the strongest wind. Model to be seen at G. Scheel, 418 East 9th St., New York City.

POSITIONS WANTED

DO YOU wish an extremely light weight young man to assist you in aeronautical work? Great enthusiast. Address W. H. Morton, 358 Laurel St., Hartford, Conn.

YOUNG MAN, twenty-eight years old, weighing 130 lbs., and a practical mechanic who has had one year with Curtiss, wishes opportunity to drive plane. Address "Enthusiast," care of Aircraft.

A YOUNG MAN, nearly 18, desires position as an aviator's assistant, with prospects of learning to fly. Address: Louis Fenouillet, 132 West 47th St., New York City.

WANTED—Position in factory or as chief aviator's assistant, by expert aeroplane designer and mechanic with two years' experience. Have built three machines and made many short flights in two of them. Best of references; age 24. Address, R. M. Kinderman, 115 Clay St., Morgantown, W. Va.

YOUNG MAN would like to get position as helper to good aviator. Will go any place in the country. Great enthusiast that means business. Will work for expenses. My one ambition is aviation. Address H. G. care AIRCRAFT.

CO-OPERATION WANTED

BY MACHINIST—At present employed as expert on gasoline engines; have built two large successful monoplanes; own U. S. Patent No. 964,828, have been experimenting with aeroplanes as far back as 1901, know construction of all present type machines, have been flying own make machine over 25 times—would like to meet party with capital to finance building of one or more machines for exhibition and manufacturing purposes, willing to join established aeronautical company or engine manufacturing concern. Address Box 748, AIRCRAFT.

MADDER FLYER, style improved helicopter, rises straight from the ground direct lift, automatic balance, thoroughly practical, no visionary scheme; machine of the future. American patents on royalty, foreign patents. For sale very cheap. Correspondence solicited, co-operation desired. E. L. Madden, Cherokee, Okla.

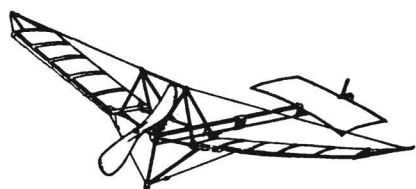
STOP! LOOK! exceptional opportunity offered to a man with two thousand dollars to invest as partner in an aeronautical proposition. Models have proven automatic balancing, speedy, light, and smallest monoplane; looks like a bird. Success assured. Don't write unless you mean business. Address Daniel Stephen June, Suffern, New York.

WANTED—To meet with some one interested in aeronautics who will help me with funds to build a NON-COLLAPSIBLE FLYING MACHINE. Nothing like it on the market. ABSOLUTELY SAFE. No engines to get out of order or explode. A fortune in it for those interested. Write M. W. W., 501-502 Besse Bld., Besse Place, Springfield, Mass.

GOOD INVESTMENT—I have a good novelty pertaining to aviation. Money wanted to patent it. R. M. Madrian, 66 Sumner Ave., Brooklyn, N. Y.

WANTED—Second hand aeromotor, 30 H. P. or up. Must be in good condition and cheap. Address Wesley N. Ensign, Whitestone, N. Y.

The Second Boys' Book of Model Aeroplanes



By Francis Arnold Collins

Author of "The Boys' Book of Model Aeroplanes"

THE book of books for every lad, and every grown-up too, who has been caught in the fascination of model aeroplane experimentation, covering up to date the science and sport of model aeroplane building and flying, both in this country and abroad.

Detailed instructions for building fifteen of the newest models, a special chapter on parlor aviation, full instructions for building small paper gliders, rules for conducting model aeroplane contests.

The illustrations are from interesting photographs and helpful working drawings of over one hundred new models.

THE PRICE \$1.20 NET, POSTAGE 11 CENTS

THE CENTURY CO.

\$25 For 5 MINUTES of **\$25**
SOMEBODY'S TIME

We have designed a type of so-called "propeller" that has already flown monoplanes and biplanes with three prominent makes of engines. It is the result of recent remarkable experiments in aerodynamics.

We have everything but the name.

"Propeller" will not do. "Propellers" are practically restricted to biplanes. The kind that pull (used on monoplanes) are tractors. What we need is a one or two syllable word that will apply to both—a word for any aerial screw. The more original the better.

When suggesting a name say why you select it. If an aviator, tell your experience with "propellers."

November 15, 1911, the \$25 will be awarded to the person suggesting the name then chosen. The money is now in the Old Detroit National Bank. The result will be announced in this magazine.

Address

The X Company,

DEPARTMENT B,

Detroit, Mich.

AVIATORS' DIRECTORY

REYBURN, Amedee V. Jr., with Bleriot one hundred horse power monoplane, is now booking engagements for exhibition flights. For particulars apply to 5305 Delmar Boul., St. Louis, Missouri.



PROPELLERS for model aeroplanes: light, smooth aluminum blades; variable pitch; steel shaft accurately and securely attached: 5 1/4 in. 10c, 6 in. 25c, 8 in. 35c, 10 in. 50c, 12 in. 75c. Post-paid. Low quantity prices. Jersey Skeeter Aeroplanes 25c.

LINCOLN SQUARE NOVELTY WORKS
Department B. 1931 Broadway, New York

THE PERFECTED RACERS NEW FRENCH :: MODELS ::

Record flyer, 950 ft. Very durable. Excellent for experiments. Wonderful prize winners. 30"x14" finished model, \$1.25 postpaid. Three-foot racer, very speedy and durable, 1000 ft. flights, \$2.25. Which one? Send now. Prompt shipment insured. Also our Catalogue of supplies Free Liberal Discount to Dealers.

ROBIE MANUFACTURING CO., WILLIAMSON, N. Y.
(Box 255)

A PROPELLER THAT PROPELS



The "EXPANDING PITCH" Propeller

Guaranteed to deliver a thrust of 6.25 to 9.25 lbs. per actual horse power at 1200 R. P. M.

R. O. RUBEL, JR. & CO., Main and 4th Sts., The Aero Supply House of America, LOUISVILLE, KY

Write for interesting circular describing these efficient propellers. SOLD ON A BROAD GUARANTEE

CHELSEA AERO CO. 513-517 West 21st St., New York

Write for Booklet

Latest Chauviere
Type in Stock

CHARAVAY



PROPELLERS

Highest Efficiency

Lowest Prices

WIRE

Aviator Wire supplied in 12 sizes with a plate finish making soldering easy. This wire is specially drawn from extra quality high grade steel. Also Aviator Cord of twisted wire. :: :: :: ::

John A. Roeblings Sons Co.
TRENTON, N. J.

CHICAGO AERO WORKS

H. S. RENTON
Proprietor

164 North Wabash Avenue

AEROPLANES ACCESSORIES MOTORS PARTS

WHEELS HARDWARE PROPELLERS

ESTABLISHED 1909. ALSO MODELS AND MODEL STOCK

Aviators Taught First in Chicago and the Middle West

Flights Furnished Send stamp for Catalog

ANGLO MODEL AEROPLANE MFG.

561 WEST 147TH STREET - NEW YORK CITY

Ready Models

Knockdown

2' BLERIOT - \$5.00

\$1.50

2 1/2' ANGLONETTE \$7.00 This machine we positively guarantee to fly 800 to 1000 feet or money refunded.

WE CARRY SUPPLIES

AEROPLANE RADIATORS

IN STOCK OR TO ORDER

Send for Price List

EL ARCO RADIATOR CO.

6 EAST 31st STREET
NEW YORK

PATENTS FLY!

That's the Thing
BENNETT S. JONES - PATENT ATTORNEY

Victor Building, Washington, D. C.

Can secure you a Patent that will PROTECT your invention on a flying machine, for a moderate fee. Advice free.

Printed copies of Airship patents 10c. each.

WRITE TO-DAY!

PATENTS THAT PROTECT AND PAY

Advice and Books Free.
Highest References.

Rates Reasonable
Best Services

WATSON E. COLEMAN, Patent Lawyer

622 F St., N. W., Washington, D. C.

PATENTS SECURED or Fee Returned

Send sketch for free search of Patent Office Records. How to Obtain a Patent, and What to Invent, with List of Inventions Wanted and Prizes offered for Inventions sent free. Patents advertised free.

We are experts on AIRSHIPS and all patents and technical matters relating to AERIAL NAVIGATION.

VICTOR J. EVANS & CO., Washington, D. C.

BAMBOO Special Grades of Bamboo for AERONAUTIC WORK

Reed, Rattan and Split Bamboo for Models. All sizes in stock. Large size Rattan for skids.

J. Deltour, Inc. 49-6th Ave., N. Y.

BLERIOT MONOPLANES

(GENUINE)

Winners of ALL the European Contests in 1911

In 1909—The First Aerial Crossing of the Channel.

In 1910—The "Circuit de l'Est".

In 1911—The Paris-Rome Race (1st and 2d.)

The European Circuit (1st and 2d.)

The English Circuit (Daily Mail Race.)

The Belgian Circuit.

The Saint Petersburg, Moscow Race.

The Valencia Alicante Race.

The London to Paris non-stop Raid, etc. etc.

WORKS AND OFFICES: - 39, Route de la Révolte à Levallois - PARIS
and Belfast Chambers, 156 Regent Street, LONDON

FRANCE

AVIATION SCHOOLS: Etampes, near Paris during Summer
Pau, during Winter

ENGLAND

Hendon, near London

For Cross Country Touring, Exhibition Flying Speed Contests THE LATEST SUCCESS!!!

COMFORT

SPEED

SAFETY

**FIRST SUCCESSFUL
ORIGINAL AMERICAN
MONOPLANE.**

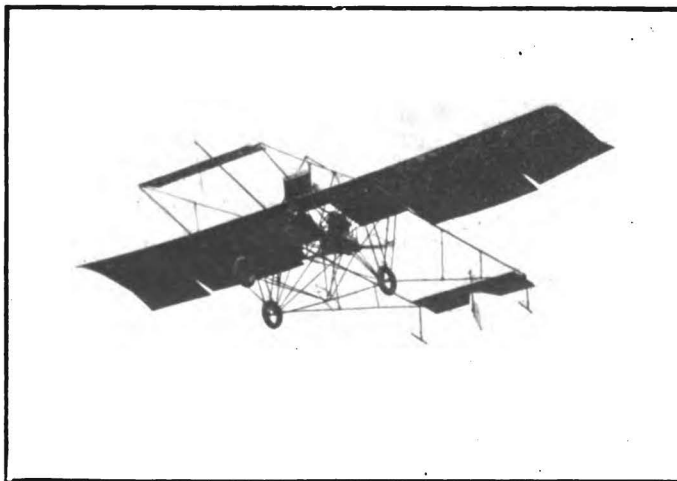
**THE ONLY SUC-
CESSFUL ALL AMERI-
CAN MONOPLANE.**

"Amongst the most attractive air-
craft that sail through space."—*N. Y.
American*, July 2nd, 1911.

"The best ever produced at the
Long Island incubator."—*N. Y.
American*, July 9th, 1911.

"A success for cross country
flights."—*N. Y. Herald*, Sept. 14,
1911.

"Dr. Walden surprises Nassau."
—*St. Louis Aero*, Sept., 1911.



**HALL-SCOTT STAN-
DARD POWER EQUIP-
MENT.**

**ONE SINGLE WHEEL
CONTROLS DOUBLE
ELEVATING SYSTEM,
THE STEERING AND
BALANCING DEVICE.**

"Made the other machines look
like stationary engines. When it is
considered that Grahame-White was
there with his Baby White, Beatty
with his Wright biplane and Eugene
Ely with his Curtiss machine, the
extent of Dr. Walden's achievement
can be appreciated."—*N. Y. Press*,
Sept. 18, 1911.

"One of America's successful aero-
plane builders."—*N. Y. Aircraft*,
Oct., 1911.

WALDEN IX MONOPLANE

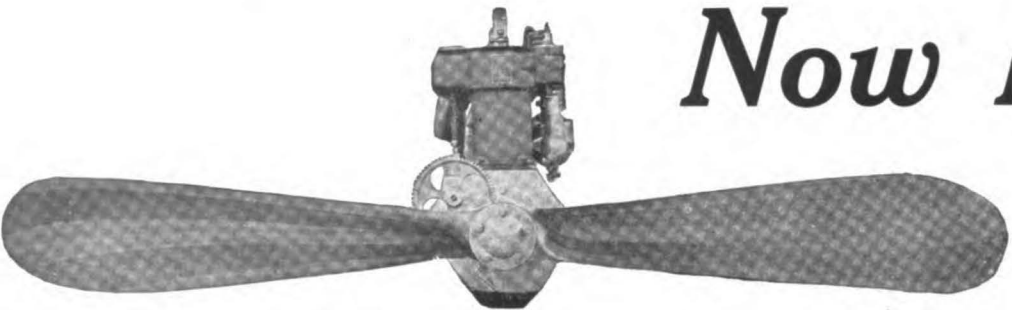
A Machine of Quality Built For Hard Service

Manufactured by

THE WALDEN COMPANY, Mineola, L. I.
TRAINING BOOKING

Address all communications to the Walden Company, 171 Broadway, New York City

Now It's Your Turn



MAXIMOTOR

- ☐ You understand the MAXIMOTOR is sound, simple, safe.
- ☐ But you have a power plant problem of your own that needs solving. Send it on. You'll know by next mail whether or not we can help you; and if we can, why and how.
- ☐ If you can spare the time, drop over to our factory. Several things we'd be delighted to show you.
There's the stuff-steel, for instance, with a strength of over 60 tons to the inch.
The way it's put together—dimensions accurate, on some parts to 1/3, others 1/10 of a hair-breadth.
And then the live engine working like half a hundred horses.

Will You?

MAXIMOTOR MAKERS
DETROIT
52 CRANE AVE.

THE CURTISS

Aeroplane

The Safest, Speediest
and Most Dependable
Aircraft

Hydro-Aeroplane

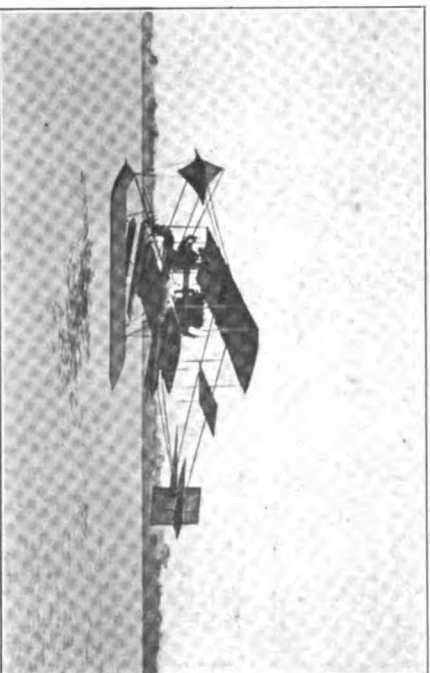
The Acme of Comfort,
Safety and Pleasure in
Flying

Equipped With

THE FAMOUS CURTISS POWER PLANT

Sold Without Prompt Delivery

Restriction Guaranteed



CURTISS TRAINING METHOD

The Safe and Efficient One

Summer School - - - Hammondsport, N. Y.
Winter Schools - - - California and Florida

For Further Information Write to

CURTISS

AEROPLANE CO.

HAMMONDSPORT, N. Y.

New York Office . . . 1737 Broadway

AERIAL CONSTRUCTION COMPANY

OF NEW YORK

AEROPLANES---ALL TYPES, BUILT TO ORDER
 FAC-SIMILES OF ALL THE SUCCESSFUL EUROPEAN AND AMERICAN MACHINES
 Supplied complete, with ENGINE and PROPELLER, or in knock-down form, as required.

PROPELLERS---ALL DIAMETERS---ALL PITCHES

BUILT SPECIALLY FOR YOUR PARTICULAR REQUIREMENTS

REPAIR WORK---WOOD, METAL or CLOTH, GUARANTEED
 OFFICES and WORKS, 44, 46, 48 and 58 West 43rd Street, New York, U. S. A.
 Write for details of "SANFORD SPECIAL" Monoplane. Price without Power Plant \$1000.

**THIS IS YOUR CHANCE !
 DON'T MISS IT**

AEROPLANES

Bleriot Type Monoplane: "XI Cross Channel," "1911 Cross Country." Curtiss Type Biplane: "Hudson-Fulton," "Military IV." Farman Type Biplane: "Passenger Carrier," "1911 Headless."

Standard machines of the World. Record holders. Having standardized these types, and owing to our exceptional manufacturing facilities we are able to offer them.

IN THE KNOCKDOWN. All parts fitted and finished, all holes drilled, metals and woods, all specifications and dimensions absolutely correct, all materials carefully selected and tested, and complete to the smallest detail. Full set of working-drawings, simple and complete.
ALL THAT IT NECESSARY IS TO ASSEMBLE. Will be delivered in three installments if so desired. 1. Main planes, spars, ribs, cloth (sewed), struts, screws, tacks, fittings. 2. Control planes, stabilizers, rudder, outriggers, chassis. 3. Running gear, wheels, tires, skids, controls, wire, etc., to complete machine. Prices on request. Immediate delivery. These are positively exact duplicates of our assembled planes, and we GUARANTEE workmanship and materials to be superior to any others manufactured. Exceptional facilities for building special machines.

INTERNATIONAL AERONAUTIC CONSTRUCTION CO., INC.

DESIGNERS, BUILDERS AND
 MANUFACTURERS

Factory, Hollis, L. I., Main Line L. I. R. R.

Members of the Aero Club of New York
 Office, P. O. Bldg., Jamaica, N. Y. City

Flying Grounds, Nassau Boulevard

Before Buying Inspect the SHNEIDER BIPLANE

*A successfull and reliable machine
 for exhibition and private use.*

Daily flights are being made at Nassau Boulevard with the Shneider Biplane. Three hangars are occupied at present, and the fourth machine will be shipped there within a few days. Great activity is shown in his school, the students are progressing very rapidly and making successful flights. Mr. Shneider himself is trying out a Gyro Motor, in one of his machines. This motor is an American built rotary engine, with which he has made several flights, he expects to break the American endurance record, with same. The Shneider factory has several machines under construction. Last week one was demonstrated and sold to Mr. N. Lapadat, of Johnstown, Ohio.

Place your order now for early deliveries

Full Course **Aviators Thoroughly In-** Full Course
\$250. structed and Trained. \$250.

School at Nassau Boulevard, L. I.

FRED P. SHNEIDER 1020 East 178th Street
 NEW YORK CITY

MODELS

2000 ft., World's Record, Size 3x2 ft.

Lateiner's Racing Models with
gnarantee to fly in any wind over 1000 feet. Post-paid ready to fly. **\$7.50**

PARTS FOR MAKING ABOVE GREAT FLYER

12 ft. of wood, spruce frame and wings	- \$.30
48 ft. of rubber, highest grade, 3-32 pure	- .72
2 Propeller blanks, bored	- - - .20
2 Propellers all ready finished, best kind	- 1.00
1 Bundle of split Bamboo, 40 feet	- .25
2 Special Silver Soldered Bearings	- - .40
1 Instructive Blue Print	- - - .50
1 Sheet Very Strong Covering Paper	- - .10
1 Set Skids, ready bent	- - - .45
Ambroid for paste	- - - .10

**Whole Knockdown Outfit
 with ready Propellers \$3.50**

CHARLES LATEINER
 108 LIVINGSTON ST. BROOKLYN, N. Y.

Burgess Aeroplanes

Some Recent Flights

Burgess Aeroplane No. 20

holds the **World's Record** for **Long Distance Cross Country Flight**. From St. Louis to New York, 1265 miles in 12 days.

Piloted by

Harry N. Atwood.

In spite of landings made in unsuitable places our Aeroplane No. 20 reached New York in perfect working order after its strenuous record breaking flight.

Aeroplane No. 20 also carried two passengers 140 miles from Boston into New Hampshire in June, 1911, and carried Atwood from Boston to New London, over New York City and to Atlantic City, in July.

Burgess Aeroplane No. 25

Has been flown by officers of the U. S. Army upwards of 1500 miles since August 1st. In all its flights it has carried a crew of two.

Burgess Aeroplane No. 26

Winner of the \$5000 Tri-State Prize for Biplanes, Boston, September 4, 1911.

Piloted by Lieut. T. D. Milling, U. S. A., New Hampshire, Rhode Island and Massachusetts Circuit, 160 miles.

Also won 6 first and 7 seconds out of 16 starts competing with ten other aeroplanes in five days at Squantum.

Aeroplanes Nos 20 and 26 are in regular service at the **BURGESS AVIATION SCHOOL** at Squantum. After October 15th they will be sent to our southern training station.

Price of the two-passenger Burgess Aeroplanes, duplicates of the above, \$5000, F. O. B., Marblehead.

**Burgess Company and Curtis
MARBLEHEAD, MASS.**

JUST PUBLISHED

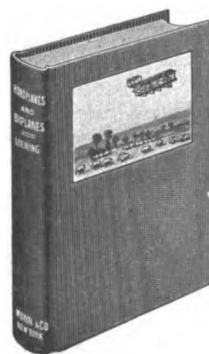
A New and Authoritative Book

MONOPLANES and BIPLANES

THEIR DESIGN,
CONSTRUCTION
and OPERATION

The Application of Aerodynamic Theory, with a Complete Description and Comparison of the Notable Types.

By Grover Cleveland Loening, B. Sc., A. M.



Aviation is a predominant topic in the mind of the public, and is rapidly becoming one of the greatest goals of development of the progressive engineering and scientific world. In the many books that have already been written on aviation, this fascinating subject has been handled largely, either in a very "popular" and more or less incomplete manner, or in an atmosphere of mathematical theory that puzzles beginners, and is often of little value to aviators themselves.

There is, consequently, a wide demand for a practical book on the subject—a book treating of the theory only in its direct relation to actual aeroplane design and completely setting forth and discussing the prevailing practices in the construction and operation of these machines. "Monoplanes and Biplanes" is a new and authoritative work that deals with the subject in precisely this manner, and is invaluable to anyone interested in aviation.

Mr. Loening, who has come in intimate contact with many of the most noted aviators and constructors and who has made a profound study of the subject for years, is unusually well informed, and is widely recognized as an expert in this line. In a clear and definite style, and in a remarkably thorough and well-arranged manner he has presented the subject of aviation. The scientific exactness of the valuable data and references, as well as the high character of the innumerable illustrations and diagrams, renders this work easily the best and the most useful, practical and complete that has ever been contributed to the literature on aeroplanes.

12 mo., (6x8¼ inches) 340 pages, 278 Illustrations.
Attractively bound in cloth.

Price \$2.50 net, postpaid

*An illustrated descriptive circular will be sent
free on application.*

MUNN & COMPANY, Inc., Publishers
361 BROADWAY, NEW YORK

NAIAD Aeronautical Cloth

Manufactured Especially for Aeroplanes and Used by Aviators
of Prominence

**LIGHT, STRONG, AIR-TIGHT
AND
MOISTURE-PROOF ON BOTH SIDES**
Sample books, including data and prices, sent on request

THE C. E. CONOVER CO.
101 Franklin Street - - New York

AEROPLANE WIRE WHEELS

STOCK SIZES

PROMPT DELIVERIES

16"x1 1/2" Monoplane Tail Wheel—weight 3 lbs.
20"x2" Curtiss Type—weight 7 lbs. sustain Dead Load of
600 lbs.—Rims either wood or steel.
20"x2 1/2" Wheels for Single Tube Tires.
20"x3" Wheels for Single Tube Tires.
20"x4" Wheels for Clincher Tires.
24"x3" Wheels for Clincher Tires.

Hubs furnished 4", 5", 5 1/2" or 6" wide fitted with Plain or
Knock Out Axle—also Bronze Bearing to fit 1" Axle.

14" Steering Wheels.

FARMAN TYPE RUNNING GEARS.

Write for Prices to

J. A. WEAVER, Jr., 132 West 50th St., NEW YORK

"No 3 O'Clock Fatigue"



THE quiet, unruffled,
self-poised operator,
whose work is always on
time—the one who shows
no trace of "nerves" at
the end of her day's
work—finds in one of the
exclusive features of the
Monarch Typewriter her
greatest aid to promptness and assurance against "3
o'clock fatigue." That feature is—

MONARCH LIGHT TOUCH

SEND FOR MONARCH LITERATURE

Learn the many reasons for Monarch superiority. Then try
the Monarch, and be convinced that Monarch merit rests in the
machine itself, not merely in what we tell you about it.

THE MONARCH TYPEWRITER COMPANY
300 BROADWAY, NEW YORK
BRANCHES AND DEALERS EVERYWHERE

WINTRY WINDS

DEMAND A

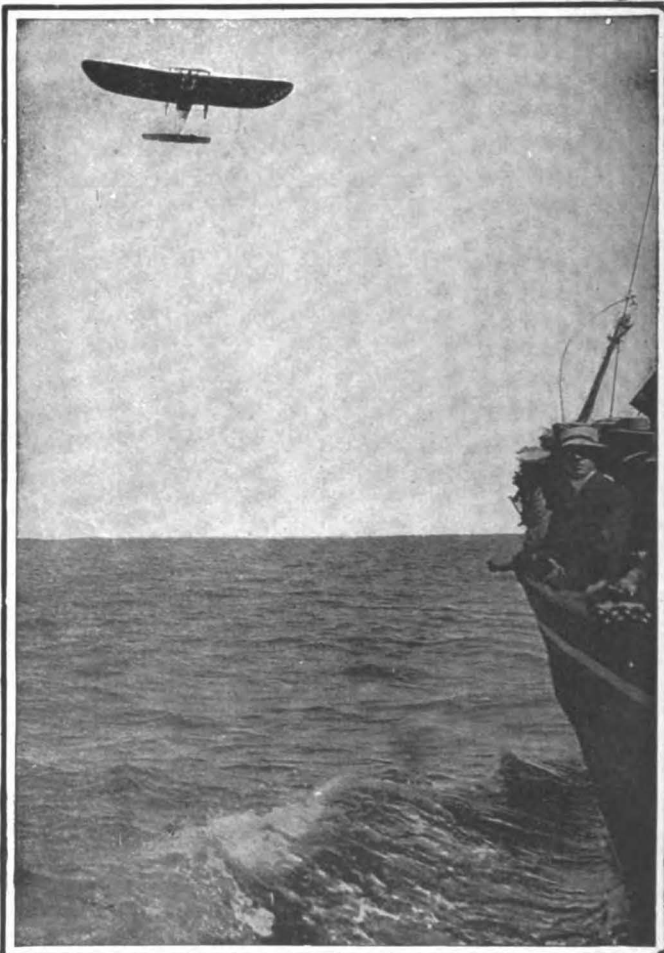
STABLE AEROPLANE

When the "first snow flies" you can make enjoyable
flights safely, despite the wind

IF YOU
USE A

BEACH GYROSCOPIC MONOPLANE

The only machine that can't upset in flight, since
it is held from tipping by a powerful gyroscope.



BLERIOT CROSSING THE ENGLISH CHANNEL

Many of the recent fatal aeroplane accidents that have occurred
would not have happened had the machines been equipped with our
gyroscope attachment, as this keeps the monoplane from tip-
ping, even in the strongest winds.

Had Pierre Marie and Lieut. Dupois flown in one of our machines
when they attempted a cross-country trip in a 43-mile wind on May
18th last, they would not have lost their lives as a result of the capsiz-
ing of the machine. And the same is the case with many other avia-
tors who have experienced fatal falls.

A leading editorial in a recent issue of the New York "Evening
Mail" ends in the following words:

"These wonders in aviation accomplished in Europe put the world
to blush. Where are our American fliers who will scale the Alleghanies
or the Rockies? OR, BETTER STILL, WHERE ARE THEY, WHO
WILL GIVE THE AEROPLANE STABILITY AT LAST, AND SET
ALL THE WORLD FLYING?"

Our **gyroscopic stabilizer** is the answer to this question.
It solves the problem of equilibrium completely and makes the aero-
plane safe and practical for everybody.

We can supply Beach monoplanes like the machine pictured
above, to carry one or two people. Delivery in three weeks. Write for
catalogue and prices.

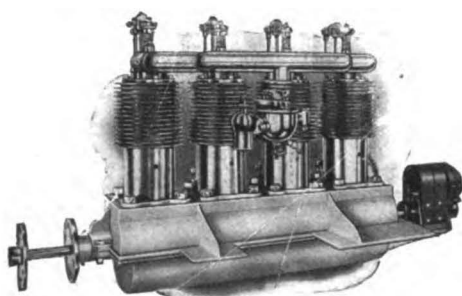
Scientific Aeroplane Co.

Beach Building, 125 E. 23rd St., New York



THE GRAY EAGLE MOTOR

"A POWER UNIT THAT IS BUILT TO FLY"



26 AVIATORS

ARE USING THEM

Costs **\$485.00** Complete

Guaranteed to fly standard Curtiss or Bleriot type Aeroplanes when properly Built and Balanced.

GRAY EAGLE MOTORS have made good.

"Ask the Aviator who uses one"

Illustrated circular giving names of all GRAY EAGLE owners and photos of their Aeroplanes, together with catalogue mailed on request.

Immediate deliveries on \$100 deposit.

A VISIT TO OUR FACTORY WOULD CONVINCE YOU!

Ask for a copy of our BIG SUPPLY CATALOGUE. IT'S FREE,

R. O. RUBEL Jr. & CO. Main and 4th Street **Louisville, Ky.**
The Aero Supply House of America

WITTEMANN AEROPLANES

Gliders, Supplies

The Wittemann Biplane built for safety and reliability equipped with double controls, strongest landing chassis with spring shock absorbers

Construction embodies the best design and a desirable factor of safety allowed for all materials used in our machines

Planes set up as to offer the maximum amount of stability



Wittemann Biplane to Seat One or Two Persons.

Our Gliders are the best, the safest, and easiest to operate

We carry a large stock of supplies, steel fittings and light metal castings; laminated ribs of all sizes and designs which are used in all standard makes of machines

Also can make up on short notice any special design of aeroplane or parts thereof.

Catalogue on request

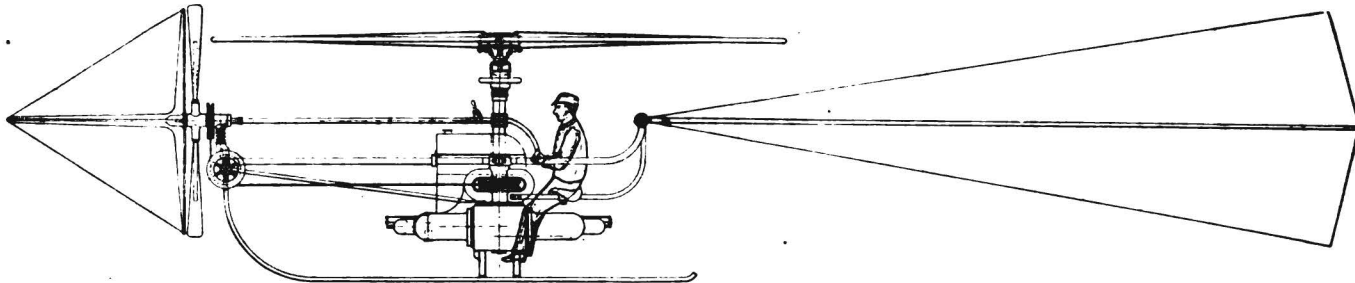
C. & A. WITTEMANN, Aeronautical Engineers

Works: OCEAN TERRACE and LITTLE CLOVE ROAD,

STATEN ISLAND, N. Y. C.

Telephone, 112 W-W-B.

IT TOOK ONLY 100 H. P. TO LIFT 6720 POUNDS, USING 27'-8" TWIN MULTI-BLADE SCREWS—
THEREFORE—



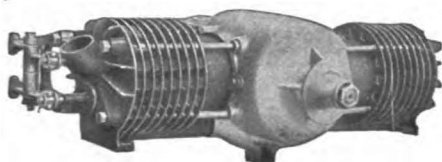
A 40 ft. gyro, similar to sketch, with equal blades and power should levitate 3 1-2 TONS, which is enough for all practical purposes.

JOS. E. BISSELL

(BOX 795)

PITTSBURG, PA.

Wolverine Aero Motor \$250
25-30 H. P. 200-250 lbs. thrust.
A High-Grade Motor at a Low Price.



Complete set of Wood and Metal
Parts for 30 ft. Curtiss type Biplane **\$90**

WOLVERINE AERONAUTIC CO.
ALBION, MICH.



HYDROGEN

For BALLOONING Uses

THE International Oxygen Company's plant is located on the main line of the Pennsylvania Railroad, and the Company is prepared to make immediate shipment for ballooning uses, to any part of the United States, of practically unlimited quantities of pure hydrogen, in high pressure cylinders, at a low cost per cubic foot.

We install complete plants or furnish
Oxygen and Hydrogen in cylinders

Write for I. O. C. catalog

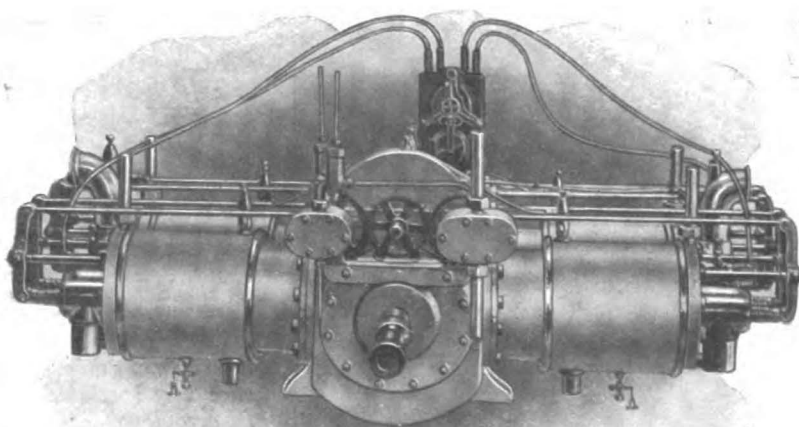
INTERNATIONAL OXYGEN COMPANY
115 Broadway, New York

Works:
Waverly Park, Newark, N. J.

Paris, France:
89 Rue de Chateaudun

THE CALL AVIATION ENGINE

THE AVIATION ENGINE WITHOUT A PEER



Right in Principle

Artistic in Design

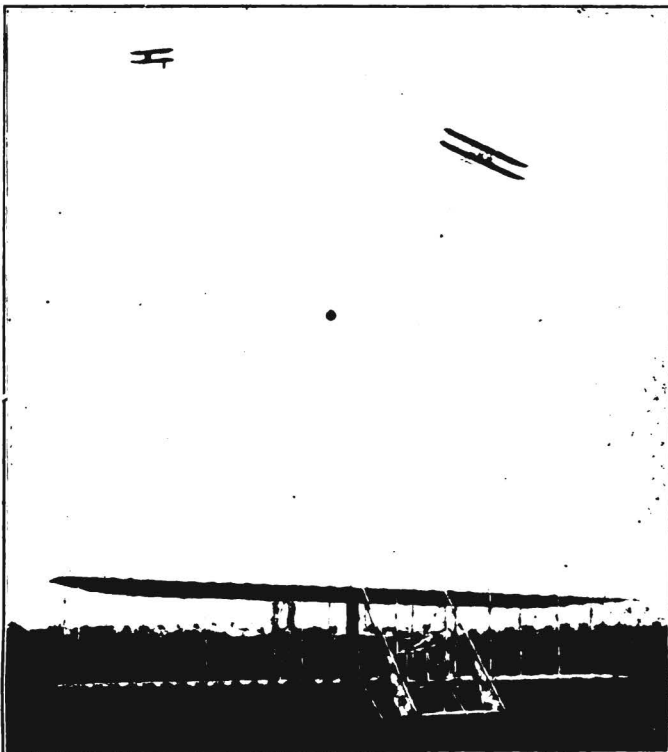
Powerful in Action

Perfect in Material and
Workmanship

**THIS ENGINE IS FLYING
OTHER SHIPS:
IT WILL FLY YOURS**

*Write for our Special Prices. We are giving our patrons the benefit
of our enormously increased facilities for the 1911 season*

THE AERIAL NAVIGATION COMPANY OF AMERICA, GIRARD, KANSAS



THE WRIGHT FLYER

Built to carry two people comfortably, and either one can operate the machine.

The standard B machine, used by both the Army and Navy, continues to hold all American Records for American-made Aeroplanes.

Learn to Fly an Aeroplane

Charging only a reasonable amount, we assume all risk of breakage, and there are no "extras" to run up the cost. The training consists entirely of actual flying in the air with an instructor. Using duplicate levers, the pupil learns to fly instinctively without risk.

Over one thousand flights have been made at our schools this year. While we strongly recommend instruction at our permanently equipped camp at Dayton, training can be secured at New York Aero Club's Aerodrome at Nassau Boulevard, Long Island.

The wonderful work of our Aeroplanes are not experiments. Every part is tested, standardized and made under constant expert supervision *in our own factory*. Manufactured under the Wright Brothers' patents and fully protected.

Orders should be placed at once to assure 1911 delivery. Training at Belmont Park, New York and Dayton, Ohio.

THE WRIGHT CO., Dept. "B" DAYTON, OHIO

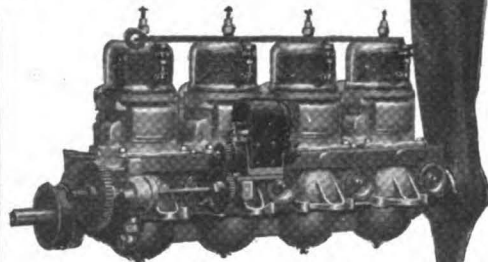
SUCCESS

Rests with you when you purchase a Fox De Luxe Aero Motor. The best Aviation Motor on the market today for endurance, power and efficiency.

Illustration shows 50 H. P. Fox De Luxe Aero Motor 4 cylinders $4\frac{3}{4} \times 4\frac{1}{4}$, with Bosch Magneto and Propeller.

We
build
other
sizes

Write
today for
cata-
logue



50 H. P. Fox De Luxe Aero Motor.

Expert Report on Fox Aero Motor Endurance Test

Lieutenant John Rodgers, U. S. N., detailed for Aviation, writes on April 9, 1911:

"After witnessing a six-hour run during which time the engine maintained a speed of between 1,200 and 1,300 R. P. M. I shut down the Fox De Luxe Motor (shown in cut). At the end of the run the motor was cool and in good condition, ready to start again."

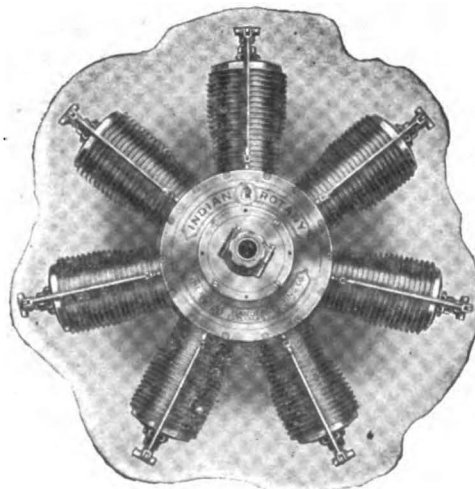
For Details, Sizes and Prices Write

The Dean Mfg. Co.,

225 Front Street, Newport, Ky.

THE NEW INDIAN ROTARY AERO MOTOR FIRST TO CARRY U. S. MAIL

P
O
W
E
R
F
U
L



E
F
F
I
C
I
E
N
T

SIMPLE - DEPENDABLE - ACCESSIBLE

Send for Illustrated Booklet No. 11

THE HENDEE MFG. CO.
SPRINGFIELD, MASS.

HALL-SCOTT

AVIATION POWER PLANTS

Purchased, Used and Endorsed by Professional Airmen

THE FOLLOWING PROFESSIONAL AIRMEN OBTAINED THEIR PILOTS
LICENSES WITH HALL-SCOTT EQUIPMENT:

J. J. Frisbie Lee Hammond Wm. Badger Glenn L. Martin
Paul Peck Beryl Williams E. L. Holt

Capt. Thos. S. Baldwin, Chas. K. Hamilton, Tod Shriver, are professional airmen who obtained their pilots licenses with other than Hall-Scott equipment, who are in a position to know what an aviation power plant should be, now using Hall-Scott.

Fred E. Wisemann, who has flown all over Northern and Central California in a home-made Farman Type machine; Geo. Thompson, associated with Mathewson Aeroplane Co. of Denver, who has flown successfully at 5000 feet altitude, made over City of Denver flights, etc.; Miss Blanche Scott, associated with Baldwin Exhibition Co., who made a cross country flight of over 35 miles, and has flown successfully at Mineola, L. I.; H. F. Kearney of St. Louis, who made a 3000 feet altitude, 40 mile cross country flight from La Couer Lake to Kinlock Aviation Field, in a home-made Curtiss-Farman Type; Geo. Schmitt who is flying in Eastern territory in a standard Wittemann Bros. bi-plane; Fred De Kor, who flew 35 miles from Santa Ana, California to Dominguez Aviation Field, Los Angeles, in a home-made Curtiss Type machine, after a little less than a month of practice; Thos. McGoey, associated with F. G. Kenworthy of Grand Forks, North Dakota, who has flown into the professional ranks with Hall-Scott Equipment; Hillery Beachy who is flying at Kinlock Aviation Field, St. Louis, in a Heimann-Beachy bi-plane. All these airmen, who are making good in every respect with their Hall-Scott Power Plants, can testify to the EXCELLENCE, RELIABILITY and EFFICIENCY of their equipment.

HALL-SCOTT is the aviation power plant you will eventually want. Purchase now save yourself the ignomy of failure with the use of cheap, chance assembly equipments that are being generally marketed throughout the country, and have immediate assurance of PROFESSIONAL SUCCESS.

Any of the following representatives will be glad to talk HALL-SCOTT over with you, and give you actual demonstrations of their powerful, non-vibrating, sweet running HALL-SCOTT EQUIPMENT:

CAPT. THOS. S. BALDWIN, temporary address, P. O. box 78, Madison Square
P. O., New York City.

HEARNE MOTOR CAR CO., Michigan Avenue, Chicago.

MATHEWSON AEROPLANE CO., Denver, Colorado.

REX SMITH AEROPLANE CO., Washington, D. C., or College Park, Md.

SPITTLER BROS., of Ewing, Nebraska.

H. F. KEARNEY, of St. Louis, Mo.

YOUNG AVIATION CO., of Topeka, Kansas.

STANDARD AUTO CO., of Pittsburg, Pa.

Or write direct to

HALL-SCOTT MOTOR CAR CO.

SAN FRANCISCO, CALIFORNIA

Mr. Reader!

WHY ARE YOU

Interested in

AVIATION?

TELL US YOUR REASONS

and we will mail to you

FREE OF CHARGE

An Artistic Autographed Photo. of

GLENN H. CURTISS



LIKE ABOVE CUT

This photograph is 5x7 inches, suitable for framing. It is an excellent likeness of Mr. Curtiss and is a work of art. This offer is made because

WE WANT TO KNOW the extent of the interest in aviation and the opinions of those interested in the future development of the Aeroplane Industry. If you are pessimistic regarding the progress of aviation, state your views on accompanying coupon or in a letter. If you are optimistic, say so! Fill in the coupon and mail it to

The Curtiss Exhibition Co.

Jerome Fanciulli, Gen. Mgr.

1737 Broadway, New York

Sales Agents and Foreign Representatives for

The Curtiss Aeroplane Co.

Hammondsport, N. Y.

Mark a "X" after those statements which cover your interest in aviation.

The Curtiss Exhibition Co.
1737 Broadway, New York.

GENTLEMEN:

BECAUSE I am interested in Aviation and read "AIRCRAFT".....

I want to operate an aeroplane.....

I want to own an aeroplane.....

I want to build an aeroplane.....

I want to conduct an Aviation Meet.....

I am a member of an Aero Club.....

I am developing an aero device.....

Name.....

Street.....

Town.....

State.....

AERIAL CONSTRUCTION COMPANY

OF NEW YORK

PROPELLERS

All Sizes in Stock. Immediate Delivery.
Orders Received at Discount for Spring Delivery.

AEROPLANES

All Types Built to Order.
"Sanford Special" Monoplanes Ready to Fly.

To Keep Our Experienced Workmen Employed During
the Winter Months, we will Estimate at Practically Cost.

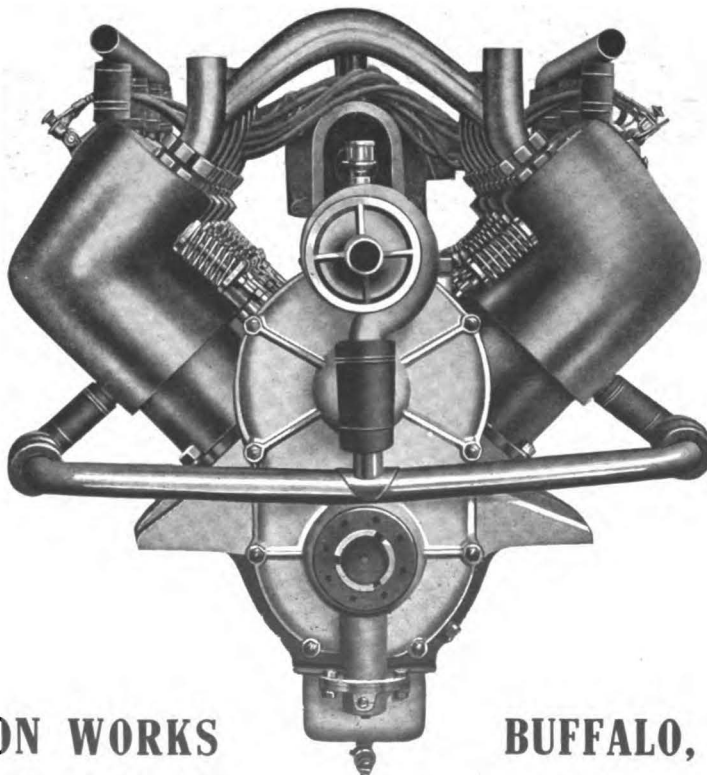
SEND US YOUR DRAWINGS AND COMPARE OUR PRICES

42, 44, 46, 48 & 58 West 43rd Street PHONE BRYANT 1381-2

Model A-1 Frontier Aerial Motor

SIXTY TO SEVENTY HORSE POWER, EIGHT CYLINDER

- ☐ The Motor Pre-eminent of Merit.
- ☐ Built like a Watch and delivers the Power.
- ☐ Ballbearing throughout.
- ☐ Hollow Shafts.
- ☐ Forced Lubrication.
- ☐ Centrifugal Water Pump Circulation.
- ☐ Copper or Iron Jacketed.

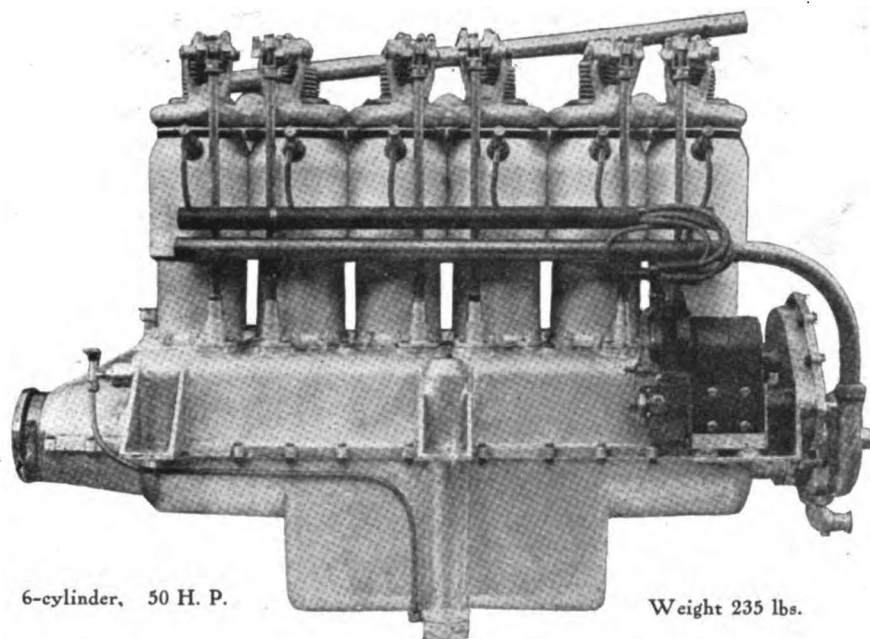


- ☐ Krupps Nickel Steel Parts, treated and hardened.
- ☐ No Experiment.
- ☐ Parts are interchangeable and can be duplicated.
- ☐ Built and backed by a responsible concern.
- ☐ Write today for descriptive folder and prices.

FRONTIER IRON WORKS

BUFFALO, N. Y. (Dept. C)

Kirkham Aviation Power Plants



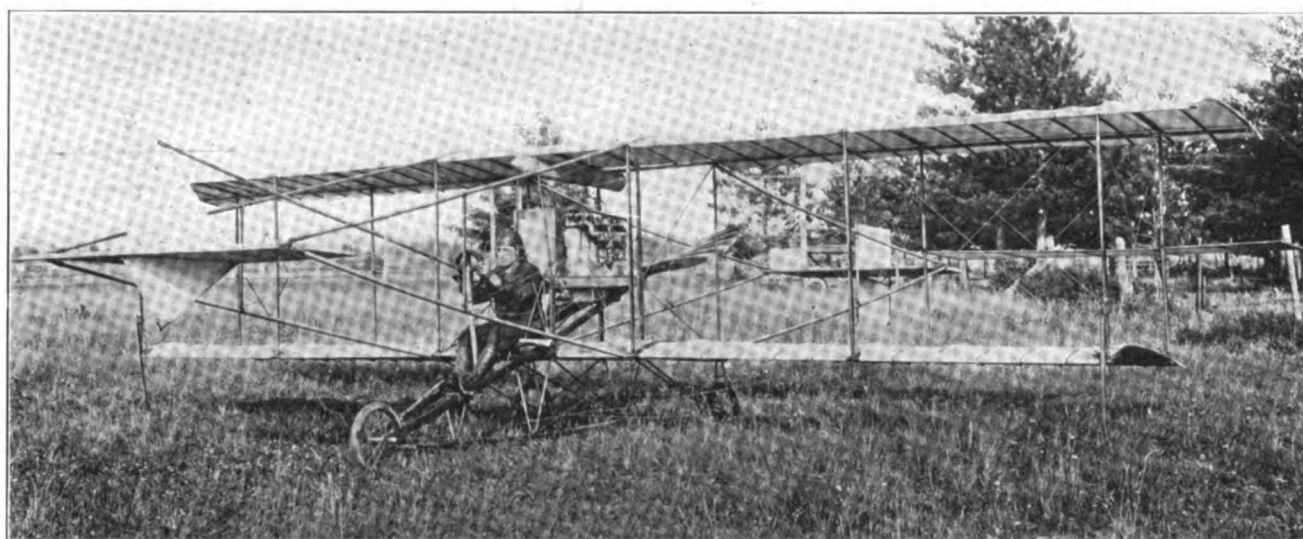
6-cylinder, 50 H. P.

Weight 235 lbs.

Are Endorsed by
Every Owner

Kirkham Motors are the final result of years of experience in manufacturing High Grade Light Weight Gasoline Motors, and have always been known as the most reliable produced in America—and this SIX-cylinder Aviation Motor is no exception, as it is designed right, built right and of the right material. Gives the same satisfactory service in aviation as the finest foreign and American engines do in automobiles. They get better by use.

Ask Any Owner



MR. JOHN SCHWISTER, OF WAUSAU, WIS., IN HIS "KIRKHAM" MOTORED BIPLANE.

Sausau, Wis., Oct. 18, 1911.

Mr. Chas. B. Kirkham, Savona, N. Y.

My Dear Kirkham—A day or two since I mailed you clippings from local papers respecting the flight I made here on Sunday last. In explanation further I would state—Got the machine out Sunday morning and started for a little town, Mosinee, some twelve miles south of this city, but after progressing some five miles and passing over the town of Rothchilds I found conditions unfavorable (a narrow road below skirted on either side by timber with no open spots in which to make landing if necessary) and turned back over my course, returned over my field and hangar and continuing on due north passed over Schofield village, three miles north of my shed, then on north three miles further into the city limits of Wausau. I skirted the eastern edge of the city, keeping well up over the valley and even above the rolling hill bordering the city on this side, at the northern edge of the town I turned over the St. Mary's Hospital and crossed the Wisconsin River. Up to this time I had been flying at from 300 to 1,000 ft., but just after crossing the river I entered into a bank of fog and was compelled to drop to within 150 ft. of the ground for a short time—reaching clear air again I rose and continued north by west some four miles beyond the city limits, at which point I turned south, striking fog here

and there on my route. When about on a line with the central portion of the town I turned due east, crossing directly over the Big Bull Falls of the Wisconsin, and I continued directly over the heart of the city east of Wausau Junction, thence south over a part of my first path and on over Schofield back to the grounds of the Country Club, just opposite my hangar. Just at the time I crossed the Wisconsin Bull Falls I rose to an elevation of 2,000 ft.

During this flight I travelled as closely as can possibly be estimated some 25 miles, and I remained in the air 45 to 50 minutes. The motor ran perfectly, never so much as missing an explosion during the entire time, and on alighting I found the radiator to be only just well warmed. The flight caused a vast amount of excitement in each of the places over which I passed, and more particularly in the city itself, and I feel that the thing was well worth while in what it may do for me later on. The city is very enthusiastic, and I myself am certainly highly satisfied with results. This is the longest test I have put your motor to and all worked perfectly.

Again, I am very well pleased with the work your motor is doing, and I shall continue to keep in touch with you as to my progress. I am, very truly yours,

(Signed)

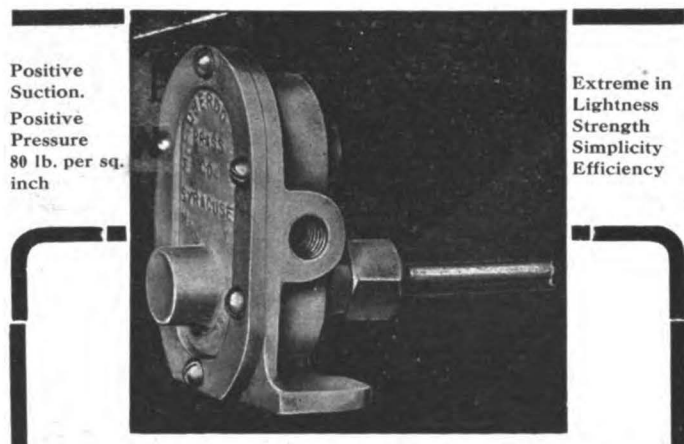
JOHN SCHWISTER.

KIRKHAM AVIATION MOTORS can be seen at all of the principal flying centers, or prospective customers are invited to visit the factory, where they can be seen in all stages of construction.

Start right by getting fully posted on the Kirkham Motor, which you will eventually use.

Chas. B. Kirkham
Manufacturer
SAVONA, N. Y.

The Aviator's Life Saver



Positive
Suction.
Positive
Pressure
80 lb. per sq.
inch

Extreme in
Lightness
Strength
Simplicity
Efficiency

Oberdorfer Aluminum Circulating Pump

All motor builders have long known the virtues of the OBERDORFER BRONZE PUMPS and every aeroplane builder should know of the OBERDORFER ALUMINUM PUMP which has been designed especially for him.

Although *one-half* of the weight has been saved, all the strength and efficiency have been retained.

The bearings are bushed with positively the best grade of bronze that can be produced. The size of the Drive Shaft has been reduced by replacing the bronze with steel.

Will you let us tell you more of the good news?

M. L. Oberdorfer Brass Co.

E. WATER STREET, SYRACUSE, N. Y.

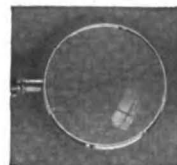
War Department O. K.'s Goodyear Aeroplane Fabric

Safe fabric can never become musty, mildewed—when **wet**. That means rot, weakness, peril. The only safe fabric that wet can't rot; that heat, cold or damp can't **affect**, is

GOODYEAR
Rubberized Aeroplane Fabric

Covered with this fabric, planes are **always** dependable. They can't be wrenched, strained, twisted out of shape by **contraction**, because Goodyear Rubberized fabric can't contract, tighten up with cold or wet. Nor can it sag, flap, cut down speed and cause ruinous vibrations, as do all plain, varnished or "treated" fabrics when warmed or dried out.

The rubberizing process makes this fabric weather-proof and rot-proof. Strength and longevity unequalled. That's why U. S. Government secured Goodyear **Fabric**, as well as Goodyear Rubber Springs and Tires in its recent purchase for the War Department.



Send for "The Proof of the Steam Test."

The Goodyear Tire & Rubber Co.

Main Office and Factory: 92nd St., Akron, Ohio
Branches and Agencies in 103 Principal Cities

(320)

PROPELLER PERFECTION



PATENTED MARCH 14, 1911; JULY 25, 1911; OCTOBER 17, 1911; OTHERS PENDING

**PARAGON is the last word in propellers—the sign of EFFICIENCY—
the synonym of PERFECTION**

After using his first Paragon Propeller Mr. Chas. F. Willard sent us the following voluntary and unsolicited endorsement:

"Beg to advise that I received the 7' 9" propeller which you sent me and that the results obtained with the same are most gratifying. To any one contemplating the purchase of a propeller you may quote me as saying that I consider 'Paragon' in propellers the synonym of perfection in propeller construction at this date. You may rest assured that I will give you the order for the two propellers on the passenger machine which I am now building."

The Franco-American Aviation Company of Chicago spent several months experimenting with propellers of other make before they could fly their Gnome-Farman machine. The first propeller we designed for them was a pronounced success. Mr. Walter R. Sollitt, president of the company, writes:

"Last special propeller acts perfectly in flight, please make two duplicates at once, using same measurements and materials; am thoroughly satisfied and hope the next will be as good. It flies my Farman machine perfectly. I want the others just like it in every respect."

The Young Aviation Company of Topeka, Kansas, using Hall-Scott Motors, wrote: "We have been using a * * * * * and it is doing fine work, don't see how a propeller could be better, *but we have heard so much about your propellers* that we have decided to try same." Later we received from them the following telegram: "Rush one Paragon Propeller same as shipped before, and ship two more as soon as possible. Paragon received works fine."

We give each order personal scientific attention, determining the size, pitch and width by our own system of calculation without experiment or guesswork; about half of our orders are for duplicates of the first propeller shipped.

If you have propeller trouble we can turn it into success; if you have success we can make that success greater and surer.

Write for printed forms on which to describe your machine and ask us anything that you want to know about propellers.

AMERICAN PROPELLER COMPANY

616 G STREET, WASHINGTON, D. C.