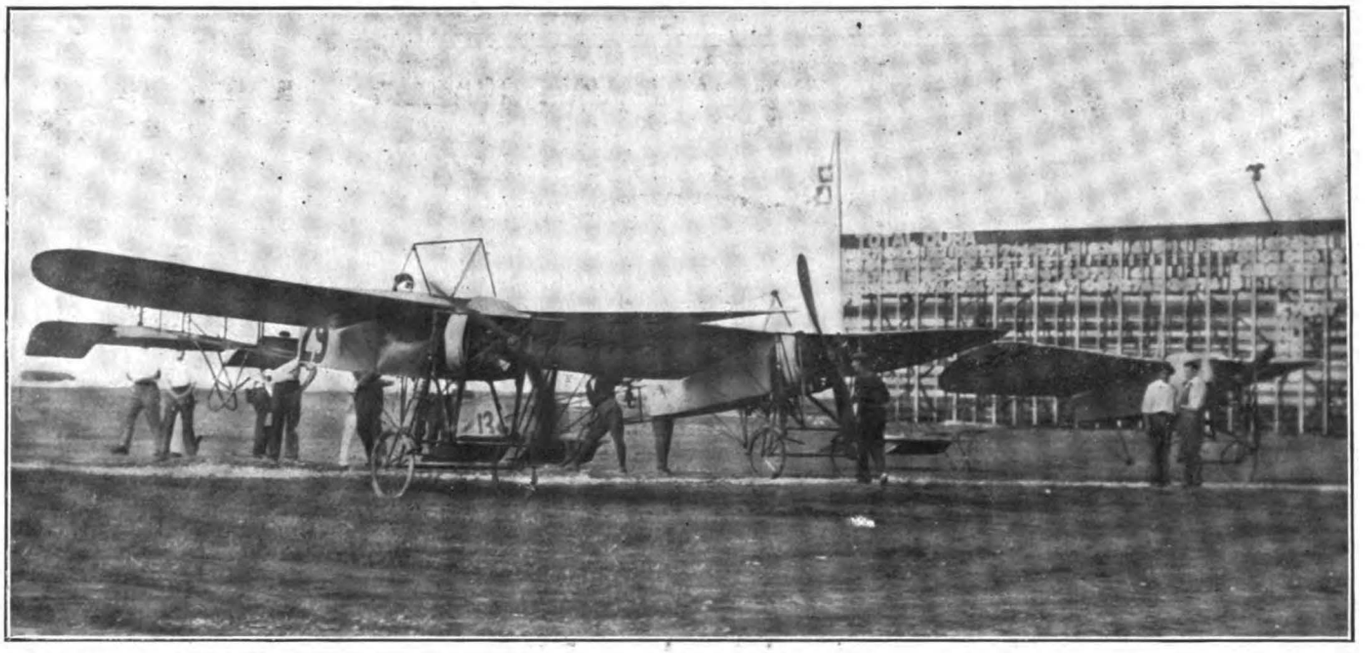
AIRCRAFT

Vol. 2, No. 7 SEPTEMBER, 1911 15 Cents a Copy

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A MONOPLANE RACE AT CHICAGO: SIMON STARTING, OVINGTON AND SOPWITH AWAITING THE SIGNAL.

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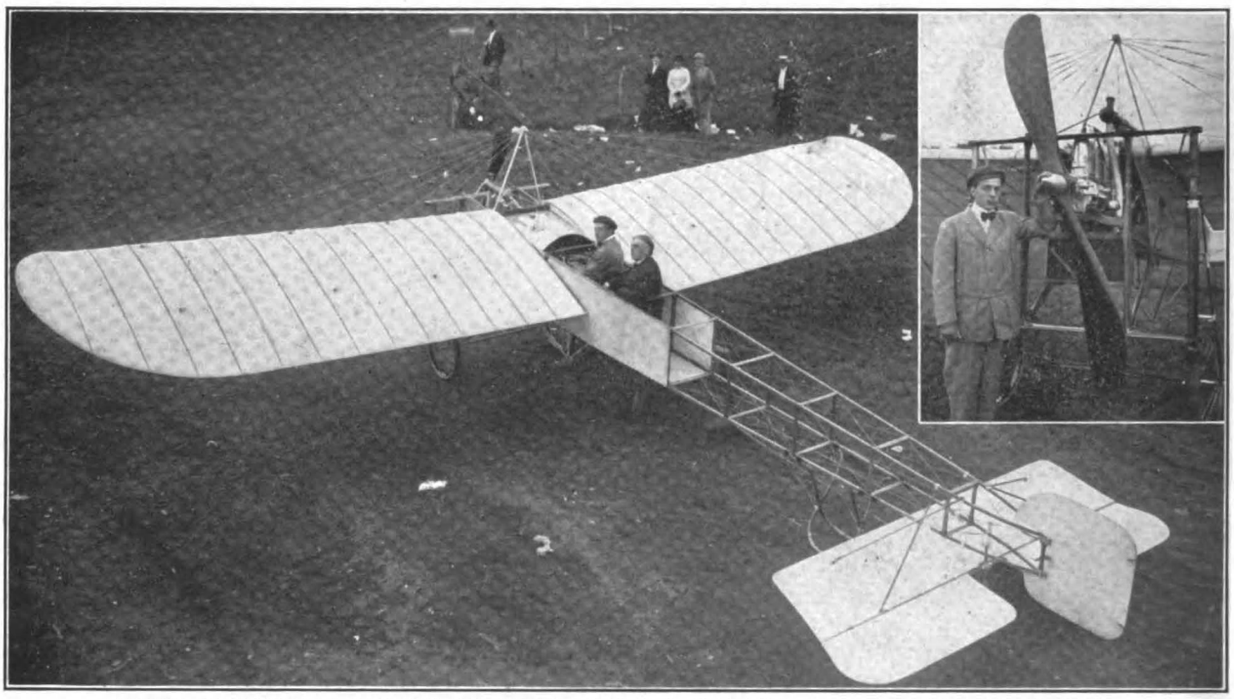
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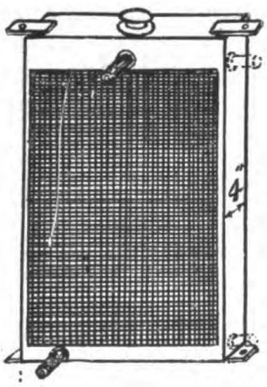


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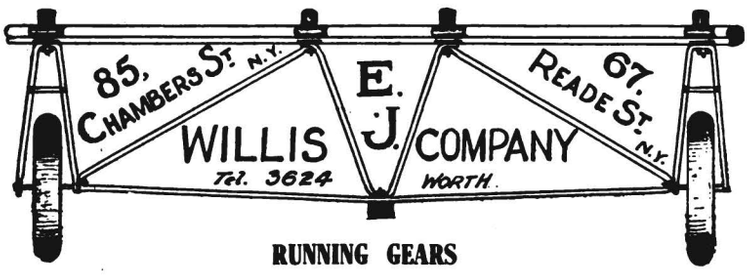
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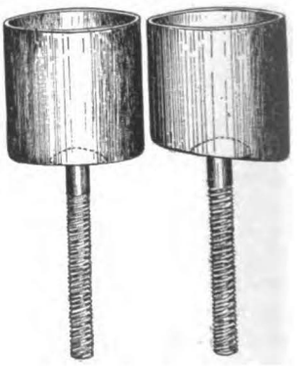
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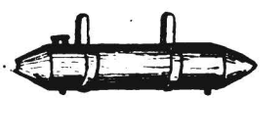
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AIRCRAFT

Vol. 2. No. 7 NEW YORK, SEPTEMBER, 1911 15 CENTS A COPY $1.50 A YEAR

THE CHICAGO AVIATION MEET

THE Chicago Aviation Meet passes into history as one of the greatest affairs of the kind ever held in America, or perhaps the world.

Conceived by Horace Wild, and made possible by the great generosity and influence of Harold McCormick and the hard work of a score of his able assistants, the Meet was a success in almost every particular except financially, and as the object was not to make money, but to advance the science of Aviation and introduce to the people of Chicago the adaptability of flying machines, the purposes for which Meet was organized were attained.

Never before in the history of Aviation in America were so many able flyers gotten together, nor performed better than on this occasion, and never before did so many people witness flying as here; it being estimated that from 2,000,000 to 2,500,000 people witnessed the Meet during the entire nine days. In mentioning these figures, repeaters are not included, for during no day were there less than 300,000 people present, and it ran as high as 600,000 people on the best days. Of course, the most of these were free spectators.

The organizers of the Meet, on the whole, did splendid work.

The work of James S. Stephens, Chairman of the Grounds Committee and Chief Engineer of the Meet, was stupendous, and too much credit cannot be given to him for the great work he accomplished in making the field at his disposal a fit place to fly from.



HAROLD F. MCCORMICK, CHAIRMAN OF THE FINANCE COMMITTEE INTERNATIONAL AVIATION MEET ASSOCIATION.

Grover F. Sexton, Chairman of the Co-operation and Attendance Committee, did admirable service, while James E. Plew, Chairman of the Executive Committee, worked heroically from the beginning to the end of the Meet.

There could have been no better work accomplished than that by B. J. Mullaney, General Manager of the Meet.

One man who did a great deal to help make the Meet a success was George F. Campbell Wood, Secretary of the Aero Club of America, who not only acted as one of the judges, but whose advice and work went a long ways toward making the entire program a success.

Major Samuel Reber, Chairman of the Contest Committee of the Aero Club of America, and James A. Blair, Vice-President of the Aero Club of America, were much in evidence and did splendid service.

What threatened to be an interruption to the meet in the beginning—an injunction by the Wright Company—was probably averted by the diplomacy of Alfred W. Lawson, who, after all negotiations between the Wright Company and the International Aviation Meet Association had been broken off, succeeded in arranging matters whereby the Wright aviators became participants of the Meet on the same terms and conditions that all the other aviators were entered. The Wright Company, however, did not relinquish their rights to bring suit against any member of the Meet Association or aviators whom they might consider offenders. This they did on August 16, when summons were served on the members of the Executive Committee to appear in court on the first Monday in October.

This action could have been avoided by the Executive Committee, through the acceptance of a very liberal offer made by Mr. Lawson for the Wright Company, whereby a reasonably small sum of money—exclusive of the aviators' prize money—would have been put in escrow until the full status of the Wright patent claims were decided by the courts.

The majority of the members of the Executive Committee of the Meet Association refused to consider the proposition, however, and decided to abide by whatever consequences might result from their action. However, whatever the outcome, the Meet itself was a decided success, and will do much to stimulate interest in Aviation throughout America.

H. W.

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JAMES S. STEPHENS, CHAIRMAN GROUNDS COMMITTEE.



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HORACE B. WILD, FIELD CAPTAIN.



JAMES E. PLEW, PRESIDENT CHICAGO INTERNATIONAL MEET; PRESIDENT AERO CLUB OF ILLINOIS.



GEORGE S. WOOD, CHAIRMAN OF PUBLICITY COMMITTEE.



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IMPRESSIONS OF THE BIG MEET

By G. F. Campbell Wood

THE greatest aviation meet ever held came to a close at Chicago on August 20th, and as the final cannon boomed the closing hour a monoplane leaped skyward from the starting enclosure and, for a few last laps, swept around the course at fifty-four seconds to the mile, bearing the meet's greatest victor—Tommy Sopwith—as pilot, and the man who made the meet possible—Harold McCormick—as passenger.

A few moments later a biplane, barely discernible in the waning light, glided silently into the lower reaches and grounded before the sheds; from it stepped the cleverest flyer of the day—Lincoln Beachey—and between its planes hung the instrument with the proof that it had carried him into the sky higher than any motor-driven craft had ever climbed and, with fuel exhausted, had slid through these eleven thousand, six hundred feet of air with nothing but its own design and the brain within it to counteract the ruthless call of outraged gravity.

It was a great meet, and there was hardly a thinking human among those present at its finish who did not realize that he was witnessing the close of another brilliant chapter of the far-from-finished history of America's share in giving man wings.

The meet cost its organizers some fifty or sixty thousands of dollars, and this they cheerfully paid, satisfied they had furthered the education of their fellow-citizens and helped to maintain the speed of mechanical flight's uninterrupted progress.

And now, leaving generalities aside, what were the results and lessons of Chicago? The first point which stands out is that on a course a mile and a third in perimeter, three to four hundred feet wide with an infield but six hundred feet across, thirty-two men competed in machines of various makes and speeds and in winds from every direction and of every quality.

A year ago the combination of this small track, narrow course, sharp turns, large entry and big prizes would have made anything like safe flying impossible; that not a man sustained a bruise or a scratch attributable to any one of these danger factors means Progress with a capital P—progress in design, progress in motors, progress in handling.

The elongated heptaginal course brought out a great struggle between speed and control; in the early days of the meet Beachey and Simon both beat competitors swifter than they, through their sterling work at the pylons, but as the meet wore on the speed men did better and better until in the final races on the last day Ovington, Sopwith and Ely were reeling off laps between 1′ 21″ and 1′ 24″, Ovington finally negotiating the circuit in 1′ 20⅗″—practically a mile a minute officially!

The open speed races proved of exceptional interest, the banking of the Curtisses almost making up for the extra speed of the "seventy" Blériots and repeating the lesson of the Gordon Bennett Cup-race, so well set forth by Grover Cleveland Loening in his recent remarkable contribution to the *Scientific American*. In the over-water races the monoplanes had it, of course, their own way; of the two "seventies"—Sopwith's and Ovington's—the latter's appeared to be a shade the faster; he gave Sopwith a practical fly-over in several of the events.

Simon's flying on his old Belmont Park "fifty" was, as expected, one of the features of the meet, and it is certainly a pity that illness kept his teammate, Barrier, from giving a similar exhibition of perfect airmanship.

Of the other monoplanes, the Queens did not appear to be properly tuned up for the fray, the Morane was new to its driver, Cummings' Blériot was well flown by Ovington and the record-holding Moisant was creditably flown by Johnstone until his tragic fall.

When it comes to biplanes, let it first be understood that at Chicago there were between three and four biplanes to every monoplane. When the weather was half-way good, the sky was literally full of Wrights and Curtisses; looking upwards the great twin screws of the former could be seen on every side glittering in the sun hour after hour as Rodgers, Beatty, Brindley, Welsh, Gill, Parmelee, Turpin, Coffyn and others tenaciously strove for duration or altitude, while Beachey, Ward, Ely, Beck, Witmer on their swifter machines were in constant evidence and McCurdy, Frisbie on their Gnôme-driven biplanes and Captain Baldwin, Mars, Hammond and poor Billy Badger on the Hall-Scott engined "Red Devils" also contributed their share of flying.

Because they did not fly on Sundays the regular Wright men were hopelessly beaten for duration by the newly-fledged independent Wright flyers, three of whom—Rodgers, Beatty and Brindley—finished in the lead in this order.

Beatty's, Welsh's and Parmelee's main contributions to the sporting success of the Chicago meet can be found in the list of records made there.

Ovington and Ely had the swiftest monoplane and biplane respectively, and Sopwith and Beachey were the most consistent prize winners. Sopwith studied his programme carefully and with two machines (both of which he was entirely unfamiliar with one week before the meet) ran up his winnings to $13,520.

As to Beachey—believers in "safe and sane" flying would naturally feel prejudiced against a man who would fly over the falls and down the gorge at Niagara, but the man compels one's unstinted admiration by his admirable control, and his precision and accuracy give one a glimpse of what the future may have in store for all of us when machines are to present-day machines what Beachey as a flyer is to the open-mouthed thousands gazing at him from below.

Beachey's final flight, when he broke the world's altitude record, was, without question, one of the finest performances in the annals of aeronautic competition, and this is not saying little at a time when wonderful air feats are the order of the day; to put the matter bluntly, Beachey succeeded in staying off the ground for two hours with gasoline for but one and three-quarter hours' flying.

He left the ground at 5:03 P. M. and immediately began a steady climb, hastening to reach the record height before his fuel ran out. This he just succeeded in doing, reaching Captain Félix's great altitude two minutes before his tank ran dry. His motor stopped just an hour and forty-five minutes after he had left the ground and while the Curtiss was still climbing strongly; in fact the gradient of the line of the barograph record at this point indicates that this machine and motor are good for fourteen thousand feet or more.

Beachey came down from this height of nearly two and a quarter miles in just fifteen minutes, which, by necessity, is, of course, the longest glide on record. It is probable that if his engine had been going he would have come down considerably faster, as Beachey is a man who uses his motor more to help gravity than to counteract it when descending from great heights.

When all corrections for temperature, air humidity, latitude and altitude of starting point had been made to the barographic record it was found that Beachey had reached a point 11,642 feet above the aerodrome—which means about 12,300 feet above sea-level.

Lincoln Beachey thus becomes the holder of the world's altitude record with 3,500 metres (this record, as is well known, is only recognized for even hectometres).

(*Continued on page* 232)

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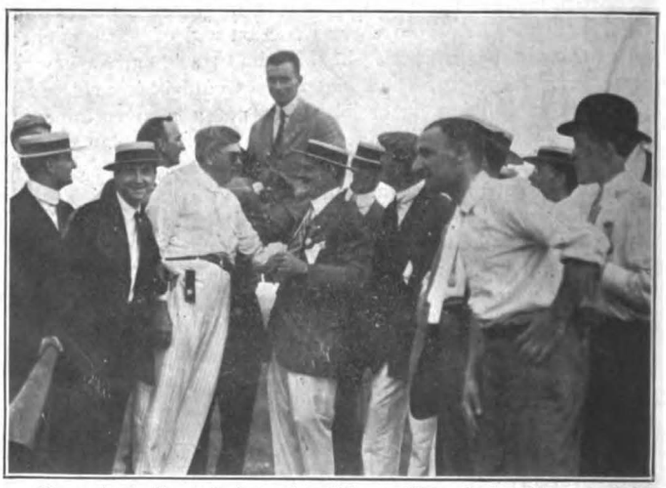
J. C. Mars, the popular Baldwin biplane pilot, about to start on one of his many speedy flights around the course. It will be noticed that Mars is now using a very heavy head gear which becomes a great protection in case of an accident. Mars will shortly leave America for another tour of Asia with Captain Tom Baldwin. The above picture certainly proves the falsity of recent sensational newspaper reports to the effect that Mars had been killed while flying.



Miss Cecil McLean waving a pleasant adieu to Oscar Brindley, who has just started up for an altitude flight. Brindley flew a Wright machine and finished third in Total Duration. He had just graduated as an air Pilot a few days before the meet. The large number of beautiful women who attended the meet and begged to be taken up for air trips were quite noticeable.



Andrew Drew, one of the latest recruits among the Wright biplane pilots. Mr. Drew owns his own machine and works independently of the Wright Company. He is a most promising young recruit to the ranks of air pilots. Mr. Drew gives Walter Brookins credit for teaching him almost all he knows about flying. He hopes to become as great a driver as his teacher in the near future.

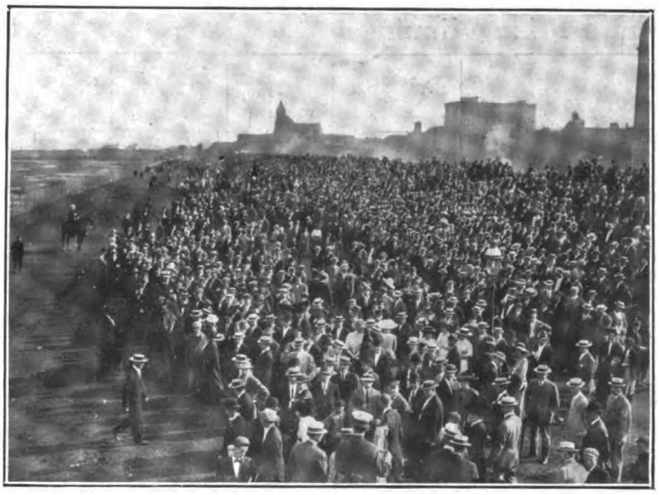


Upon Atwood's arrival at the Chicago Meet during his remarkable flight from St. Louis to New York, he was accorded a hearty reception by not only the great crowd of spectators but also by the leaders of the meet. This picture shows him held high in the air upon the shoulders of Harold F. McCormick and Alfred W. Lawson, who carried him from the place where he landed to the front of the grand stand and judges box.



The above picture gives but a faint idea of the great crowd which was in daily attendance at the meet. This is but a very small portion of the stands which were built to seat 70,000 people, including of course, the 26,000 free seats which it was necessary to give to the public owing to the meet being held on public property. At the southern end of the field, where the free seats were located, was a hill upon which fully 100,000 people were stationed each day. It is estimated that from 300,000 to 600,000 people watched the flights daily.

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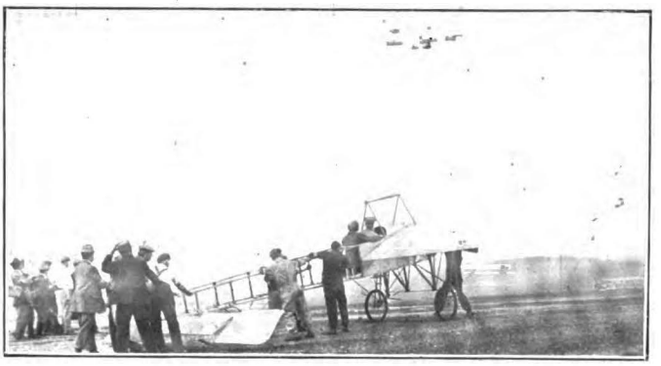
This picture shows the crowd in one corner, the seating capacity running in a northerly direction from this point as far as the eye can reach. To the right will be noticed the sky scrapers along Michigan avenue, the windows and roofs of which were invariably crowded with spectators.



Mrs. Eugene Ely and Mrs. J. C. Mars watching their celebrated husbands maneuvering in the air. These ladies were always present during the flying hours of the meet.



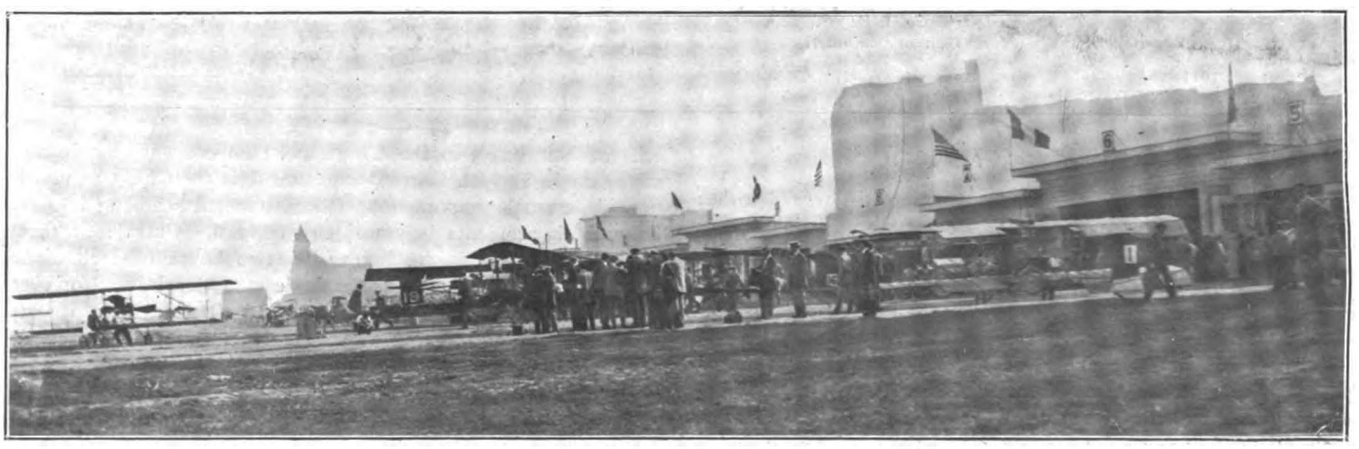
A Curtiss hydroaeroplane being made ready for a flight. This machine was flown almost exclusively by Hugh A. Robinson, who did some exceptionally good work both on the water and in the air with it. From a sportsman's standpoint this type of machine no doubt will become immensely popular in the future.



Arthur Stone about to start with a passenger in his two-seated Queen monoplane. Mr. Stone was much in evidence during the meet and did some very spectacular work.



A group of well-known aviators photographed upon their arrival in Chicago. Reading from left to right: Horace Wild, Lee Hammond, John J. Frisbie, René Simon, Chas. K. Hamilton, William R. Badger, J. C. Mars, René Barrier.



View showing the great activity in front of the hangars during the course of one of the flying days at the Chicago Meet. Only the aviators, their mechanics and those belonging to the inner circle of the aeronautical movement generally, were permitted within this enclosure. The rear of the hangars, however, were so arranged that the public, by paying an admission, could look through and observe what was taking place within the hangers. This style of hanger was originated by James S. Stephens, the Chief Engineer of the meeting.

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List of Aviators, Machines and Prize Winnings

Number.	Name.	Machine	Motor	Total Duration H.	M.	S.	Duration Money at $2.00 per min.	Amount won in prize money.	Difference due aviators.
1	Badger, Wm. R.	Baldwin biplane	60 H P 8 cyl. "Hall-Scott."	2	28	00	$ 296.00		$ 18.63
2	Baldwin, Thos. S.	Baldwin biplane	60 H P 8 cyl. "Hall-Scott."		28	02	56.07	$ 400.00	
4	Beachey, Lincoln	Curtiss biplane	60 H P 8 cyl. "Curtiss."	14	33	05	1,746.17		56.07
5	Beatty, W. G.	Wright biplane	30 H P 4 cyl. "Wright."	24	21	58	2,923.93	11,162.00	
6	Beck, Capt. Paul W.	Curtiss biplane	50 H P 8 cyl. "Curtiss."	1	03	53	127.76	6,625.00	
7	Brookins, Walter	Wright biplane	30 H P 4 cyl. "Wright."	2	38	11	316.37	400.00	
8	Bonney, Leonard	Wright biplane	30 H P 4 cyl. "Wright."		9	19	18.63		316.37
9	Coffyn, Frank T.	Wright biplane	30 H P 4 cyl. "Wright."		58	56	117.86	150.00	
11	Drew, Andrew	Wright biplane	30 H P 4 cyl. "Wright."		17	13	34.43	150.00	
12	Ely, Eugene	Curtiss biplane	70 H P 8 cyl. "Curtiss."	7	28	13	896.43	4,172.00	
13	Ovington, Earle L.	Curtiss & Blériot	60 H P Curtiss & 70 H P Gnôme.	5	04	49	609.63	5,400.00	
14	Frisbie, John J.	Curtiss biplane	50 H P 7 cyl. "Gnôme."	2	49	43	339.43	1,500.00	
15	Gill, Howard	Wright biplane "Baby"	30 H P 4 cyl. "Wright."	3	45	17	450.56	1,950.00	
16	Hammond, Lee	Baldwin biplane	60 H P 8 cyl. "Hall-Scott."	1	51	46	223.53	550.00	
18	Johnstone, St. Croix	Moisant monoplane	50 H P 7 cyl. "Gnôme."	4	56	36	593.20	300.00	293.20
19	Mars, J. C.	Baldwin biplane	60 H P 8 cyl. "Hall-Scott."	2	44	08	328.27		328.27
20	Martin, Jas. V.	Grahame-White biplane	50 H P 7 cyl. "Gnôme."	2	03	43	247.43	250.00	
21	McCurdy, J. A. D.	McCurdy biplane	50 H P 7 cyl. "Gnôme."	2	55	55	351.83	1,900.00	
22	Mestach, George	Morane monoplane	50 H P 7 cyl. "Gnôme."	3	53	48	467.60	450.00	17.60
23	Brindley, Oscar A.	Wright biplane	30 H P 4 cyl. "Wright."	23	44	54	2,849.80	2,851.00	
24	Parmelee, Phillip O.	Wright biplane	30 H P 4 cyl. "Wright."	5	04	08	608.26	3,951.00	
25	Lewkowicz, Ladis	Queen monoplane	50 H P 7 cyl. "Gnôme."		55	51	111.70		111.70
26	Robinson, Hugh A.	Curtiss hydroaeroplane	70 H P 8 cyl. "Curtiss."	27	00	16	3,240.53	10,785.00	
27	Rodgers, C. P.	Wright biplane	30 H P 4 cyl. "Wright."	9	55	47	1,191.56	4,550.00	
29	Simon, René	Blériot monoplane	50 H P 7 cyl. "Gnôme."	9	14	56	1,109.86	13,520.00	
31	Sopwith, Thomas	Blériot & Wright	70 H P Gnôme & 30 H P Wright	1	01	28	122.93		122.93
32	Stone, Arthur	Queen monoplane	50 H P 7 cyl. "Gnôme."	4	21	07	532.23	450.00	72.23
33	Turpin, J. C.	Wright biplane	30 H P 4 cyl. "Wright."	20	36	34	2,473.13	2,913.00	
34	Ward, James	Curtiss biplane	60 H P 8 cyl. "Curtiss."	19	49	46	2,379.53	5,621.00	
37	Welsh, A. L.	Wright biplane	30 H P 4 cyl. "Wright."			18	.60		.60
38	Lewkowicz, Ladis	Queen monoplane	60 H P 8 cyl. "Curtiss."		13	38	27.27		27.27
39	Witmer, Chas. C.	Curtiss biplane	50 H P 7 cyl. "Gnôme."						
				206	31	18	$24,782.53	$80,000.00	$1,364.87

American Records Made at Chicago

SPEED.

Time on a given distance.

Aviator and one passenger.

Kilom.	Holder.	Date	Machine.	Time.
10	T. O. M. Sopwith	August 17, 1911	Blériot	7 min. 50 sec.

Aviator and two passengers.

5	T. O. M. Sopwith	August 15, 1911	Wright	6 min. 56 2-5 sec.

Greatest speed obtained, whatever the length of the flight.

Aviator and one passenger.

Holder.	Date.	Machine.	Miles per hour.
T. O. M. Sopwith	August 17, 1911	Blériot	57.785

Aviator and two passengers.

T. O. M. Sopwith	August 15, 1911	Wright	31.497

GREATEST DURATION.

Aviator and one passenger.

Date.	Holder.	Machine.	Duration of flight.
August 12, 1911	A. L. Welsh	Wright	2 hrs. 04 min.
" 12, 1911	G. W. Beatty	"	2 hrs. 11 min. 35 sec.
" 19, 1911	G. W. Beatty	"	3 hrs. 42 min. 22 1-5 sec.*

Aviator and two passengers.

August 12, 1911	F. T. Coffyn	Wright	4 min. 20 sec.
" 13, 1911	T. O. M. Sopwith	"	1 hr. 10 min. 26 sec.
" 13, 1911	G. W. Beatty	"	1 hr. 18 min. 22 sec.

GREATEST ALTITUDE.

Aviator alone.

			Altitude attained.
August 18, 1911	P. O. Parmelee	Wright	10,837 feet
" 20, 1911	Lincoln Beachey	Curtiss	11,642 feet*

CLIMBING.

Aviator alone.

Metres.	Date.	Holder.	Machine.	Time.
500	August 13, 1911	T. O. M. Sopwith	Blériot	4 min.
500	" 19, 1911	René Simon	"	3 min. 35 sec.*
		T. O. M. Sopwith	"	3 min. 35 sec.*

WEIGHT CARRYING.

(More than one minute.)

Date.	Holder.	Machine.	Weight.
August 19, 1911	P. O. Parmelee	Wright	458 lbs.

* WORLD'S RECORD.

Order of Flyers in Totalization of Duration

Program Number.		
27	Rodgers	27 hrs. 00 min. 16 sec.
5	Beatty	24 hrs. 21 min. 58 sec.
23	Brindley	23 hrs. 44 min. 54 sec.
34	Ward	20 hrs. 36 min. 34 sec.
37	Welsh	19 hrs. 49 min. 46 sec.
4	Beachey	14 hrs. 33 min. 05 sec.
29	Simon	9 hrs. 55 min. 47 sec.
31	Sopwith	9 hrs. 14 min. 56 sec.
12	Ely	7 hrs. 28 min. 13 sec.
13	Ovington	5 hrs. 04 min. 49 sec.
24	Parmelee	5 hrs. 04 min. 08 sec.
18	Johnstone	4 hrs. 56 min. 36 sec.
33	Turpin	4 hrs. 21 min. 07 sec.
22	Mestach	3 hrs. 53 min. 48 sec.
15	Gill	3 hrs. 45 min. 17 sec.
21	McCurdy	2 hrs. 55 min. 55 sec.
14	Frisbie	2 hrs. 49 min. 43 sec.
19	Mars	2 hrs. 44 min. 08 sec.
7	Brookins	2 hrs. 38 min. 11 sec.
1	Badger	2 hrs. 28 min. 00 sec.
20	Martin	2 hrs. 03 min. 43 sec.
16	Hammond	1 hr. 51 min. 46 sec.
6	Beck	1 hr. 03 min. 53 sec.
32	Stone	1 hr. 01 min. 28 sec.
9	Coffyn	58 min. 56 sec.
26	Robinson	55 min. 51 sec.
2	Baldwin	28 min. 02 sec.
11	Drew	17 min. 13 sec.
39	Witmer	13 min. 38 sec.
8	Bonney	9 min. 19 sec.
38	Lewkowicz	18 sec.
	Grand Total	206 hrs. 31 min. 18 sec.

(*Continued from page* 229)

The hydraeroplane was the great attraction it deserved to be; the future of this type of air-craft becomes more obvious every day, and its demonstration is not the least point on which Glenn H. Curtiss can pride himself at a meet at which his biplanes covered themselves with glory.

In referring to accidents here, the writer fears he is not following the emphatic precedent set by some Chicago newspapers, which *headed* every account of the flying with a "Summary of Accidents" and followed this with a detailed description of each and every one, all of them, of course, being "narrow escapes from death."

There were extraordinarily few accidents at Chicago: Badger's machine broke in the air when he imposed an unnecessary strain on it, and St. Croix Johnstone, it is thought, was unable to glide when his motor stopped, and plunged headlong into the Lake, both accidents being of course fatal. Outside of these two tragedies which, coming within two hours of each other, were certainly unnerving, not a single man was injured or even bruised, and the hospitals did not see a single aviator, if only for a moment, throughout the entire length of the meet.

The usual proportion is about nine men injured to one killed, so Chicago's ill-fortune in seeing two men fly to their death will be appreciated.

Without being brilliant performers, Badger and Johnstone were both good flyers: their fine qualities as men made their loss all the more keenly felt.

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Some Things Not Generally Known About Aviation Death Rates

By Henry Woodhouse

EVERY time a flyer has an accident; every time a life is lost on the aviation field; every time a pilot fails to accomplish a task or retires from the field, a sensational newspaper story is bound to appear concerning the excessive danger in aviation. These stories are usually ingeniously written,—gripping, convincing,—but hopelessly misleading. It has become a habit with certain papers to give in full the aviation death roll every time they report an accident, speculating that if the injury proves fatal in this case, it will be the —*th* life lost in aviation since the death of Lieutenant Thomas E. Selfridge on September 17th, 1908, the first victim of power-driven flight. Some papers go further and deal with the matter editorially, expressing their opinion that aviation will never be more than a hazardous sport in which only acrobats and people of daring will indulge.

Some of the very best papers go a step further and use the ingenuosity of the cartoonist to carry out their ideas—with telling effect. I have such a cartoon before me now. It is by a famous cartoonist. There is depicted a desolate plain, overhung with a dark murky sky. On one side of the field, occupying most of the foreground, stands Death, tall and grim, one hand resting on the ominous scythe, the other outstretched in the act of knocking over an aeroplane. The caption reads: "His Newest Pastime."

It is a weird, appalling picture. Death is the dominating figure; its long, bony arms compass the plain and reach far up in the sky, ready to knock down the fragile machines, three of which are in the air, speeding onward towards the doom. It may be an appreciation to the artist's art to say that it brings lurid suggestions and makes one shudder, but it is not genuine art, for Art's purpose is not to mislead, which this picture does, as it creates the impression that aviation is an ultra-dangerous profession, which trustworthy statistics tell us it is not.

In dealing with aviation accidents the press is not always fair. As it confines itself to reporting only the most important news, it necessarily follows that only the very best and original achievements of aviators are reported, which are only abstract cases, and convey to the reader only the importance of each feat separately. From this the general public gathers that there are at best only about two scores of flyers, and that their volutions constitute practically all there is worth mentioning in the aviation field. That these are but a fraction of the actual activities of the aviation world, and not the most important, being only the demonstrations; that behind closed doors, in arsenals, factories, experimenting grounds, inventors' shops, schools, training and military fields, there is a tremendous activity going on; that hundreds of people, of whom the world in general has never heard, are working incessantly, inventing, draughting, constructing, testing, flying; that all this activity exists and makes aviation a positive science and an industry in which is invested a capital of over fifty million dollars, employing at least thirty thousand persons—of all these things the general world, especially in America, is entirely ignorant. Thence the man in the street doubtfully repeats with some editors, the query: "Do you think aviation will ever be more than a hazardous sport?"

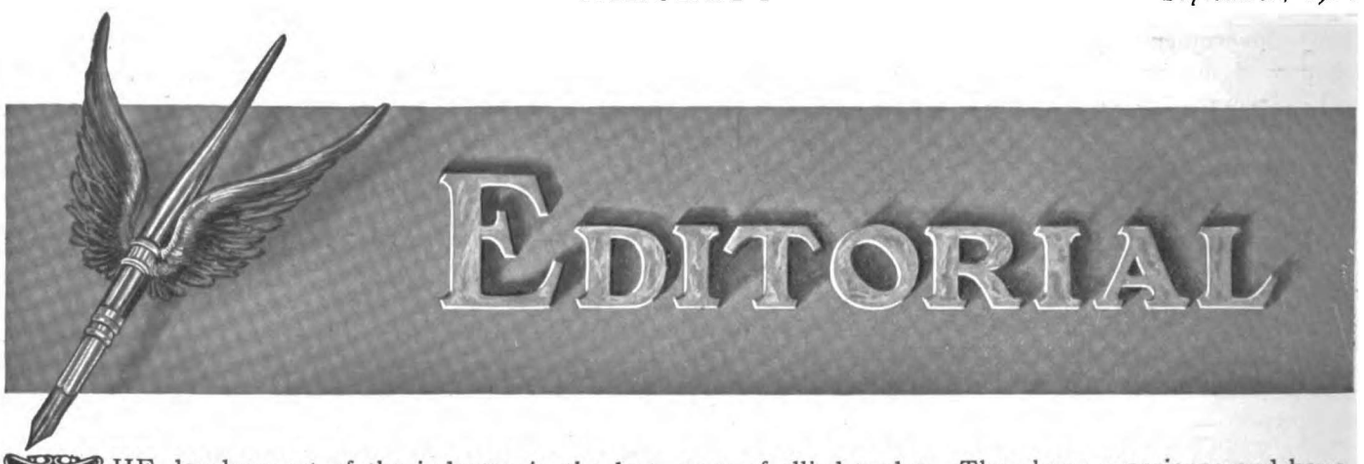
One does not hear such queries in Europe. In France the newspapers have ceased enumerating flights of from one to three hours' duration, being too numerous. A sporting paper that gives the report of the most notable flights reported recently 125 good flights made by as many aviators in one single day—a holiday—in France alone

The aviation world being cognisant of the true conditions, does not become hysterical over the matter. Ask: "What of the danger and the martyrs?" and the aviation world will echo—What? but will not pause to answer. The fact is, the aviation world loves its heroes no less than the outside world loves them; it always admired them and was enthusiastic over their feats; but it is too busy with big works and problems of far-reaching importance to spend time crying over them. Why bring back this or that accident that caused the death of this or that aviator a month or a year ago? It was an accident, it happened long ago—for a month is a very long time in the aviation field, where each day brings forth wonderful surprises. It happened, and may happen again, they suppose, nay, they expect it to be so, for do not these things happen in every field and profession over and over and over again? What about the mines, the railways, the automobiles, the ships, almost every sport and profession? Do they not have their accidents and deaths same as aviation has? Do not many of them pile up their dead stories high?

It is objected that the death rate is larger in aviation—is it? *The death roll of aviation from* 1903, *when the first power flight was made, up to date includes seventy names. That is for the whole world. The number of persons who have made flights is over ten thousand, including about* 950 *licensed pilots.* Seventy deaths out of the above number is surely not a sensational percentage. It actually compares well with the death rate of trainmen, which is a fraction less than one per cent., and of miners, which is only a fraction less. It compares well with automobile racing, which goes up to ten per cent., and with mountain climbing, which claimed over ninety victims in one year. The death rate in aviation seems larger because the accident to an aviator is reported in the news columns of the papers of the world, and in many cases columns of particulars and sensational comments are given. On the other hand, the casualties of railways, mines and others are mentioned only in exceptional cases. For instance, the reports of the Masssachusetts Highway Commission emphasize the great hazard attending automobiling, and reports that last year there occurred in that State 1,182 collisions, in which 963 persons were injured and 77 killed. The United States Bureau of Mines gives the number of deaths due to accidents among coal miners in the United States as 2,450 in 1908 and 2,412 in 1909. The railroad deaths for last year run close to 10,000. The general world does not know of this, for the newspapers report but few of these cases—and who reads official reports? Why don't we reckon the mortality in aviation in a general way, without sentiment, as we reckon the mortality in other professions? *The martyrs of aviation are numbered, their names, achievements and characteristics are made public and their fate is lamented;* all that is well—*but if we were to consider the fatalities of mines, railways and automobiles in the same way, would it not seem a veritable carnage?*

The element of danger in aviation is not excessive. Considering everything—the limited knowledge of meteorology, the youth of the science, the mechanical limitations, the eagerness of beginners to attain the ranks of good aviators and reap honors and prizes without adequate training, with self-made, crude creations; considering all this, one has rather reason to be enthusiastic over the big prospects of aviation. And one may suggest that if newspapers must give the totalization of the death roll each time they report an accident, they may, too, give the totalization of the number of persons engaged in the flying profession.

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THE development of the industry in the last few months has been remarkable. In Europe the increasing demand for aeroplanes and aeroplane material for sport and military use offer an especially good outlook for the near future; and while, of course, it is expected that the end of the season will see a decrease in the demand for speedy machines, we anticipate that the demand for improved machines for the Army, especially in France, Germany, Russia and Italy, will offset the loss.

We rather believe that the change will be advantageous to the trade. Developing speedy machines to take part in circuits and races has been an unprofitable business for most of the manufactures, for in these contests there were prizes for the winners only, and were all won by a few men representing two or three concerns.

Temporary indisposition and mistakes of aviators; carelessness and oversight of mechanics; petty motor troubles, and other contingencies in no wise reflecting on the excellence of machines, forced good, reliable aeroplanes out of the races and caused big losses in money and prestige to the concerns who had entered them.

One alluring side of the demand for military machines is that it promises steady, substantial returns for the near future. The military authorities are leaving their stand of observers and critics, and having realized the potential value of the aeroplane are advising its introduction as an auxiliary to nearly all of the units of the military system for general use, extending from carrying messages to making reconnaissances. That means that thousands of aeroplanes will be needed by each nation—and that is a bright outlook.

A no less alluring side of this development is that the demand being for machines of enduring and weight carrying capacity, the inducement is for development in the most practical direction, the kind of development that will take the aeroplane near to the perfect stage and give it a claim for consideration as a speedy carrier of mail and light merchandise in places where physical barriers prevent quick delivery by the usual means of transportation.

It is this promise of extensive demand for military aeroplanes that is attracting the attention of the big men of allied trades. They have experience and have better idea than aeronautical manufacturers of just how big the future of the aeroplane manufacturing industry is. For that reason the fact that they are trying to establish themselves in the new industry has special significance, for they would hardly connect themselves with anything that has not a big future.

In America a big improvement is also noted over the condition that existed in the beginning of the year, although things are yet rather unsettled, due principally to the industrial world being still a sort of house divided. But the demand for aeroplanes and general supplies has increased greatly, and there are indications that the Fall will see an increased activity in the shops, preparatory for a big season for the coming year.

The volume of the increase depends in large part on whether the Wright patent suits are settled. That is what has held the whole industry back in the last year; hope and fear are playing an equal part in holding manufacturers to half action and keeping capital waiting outside of the industry's doors. A settlement, whichever side may win, will no doubt start the business at a brisk pace.

Unfortunately, we cannot offer the assurance that our Government will contribute toward the increase of business, as much as we would like. We know, of course, that the Army and Navy will need at least fifty aeroplanes for next year, and we hardly see how, in the face of the progress that has been made and the exceptional increase of value of the flying machine for general military use, the Government can possibly shirk the issue, but past experience has taught that the Government does not always supply things when they are needed. On the other hand, should the Government decide favorably, it is quite possible that the outcome would be greater than we now can realize, as the support would be moral as well as material, and would afford a moral assurance to dubious manufacturers and capitalists. It is quite likely that it would have as big an effect on the industry here as the support of the governments of France, Germany, Russia and Italy had on the European industry last year. Needless to add, assurance and capital are the essential needs of the industry at the present stage of development. It is very possible, too, that the example of

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our Government would be followed by the countries south of us who, not having millions to spend in Dreadnoughts, would undoubtedly be glad to avail themselves of the opportunity to acquire aerial fleets at a small cost. That would open a new market and give the industry a broader scope.

While we warn against relying too much on support from the Government, we urge manufacturers and dealers to turn their attention towards the South American countries— not only with the hope of supplying the armies of those countries, as we have already mentioned, although that is also worthy of consideration,—but to develop the aviation business there, first, with the inevitable exhibitions, then as a sport, just as it is being developed in the United States.

It is a big field waiting to be developed and offers alluring promises. The people there are enthusiastic about aviation, and seem to be willing to support it. That and the fact that there would be no competition, rather make the time most propitious for the establishment of the new industry, an opportunity that American manufacturers cannot afford to overlook.

THE report that Graham-Gilmour, the well-known English aviator, has been suspended by the Royal Aero Club of England for flying over the regatta course at Henly, during the boat races, has created no little criticism. Graham-Gilmour is a popular aviator and some people feel that the Royal Aero Club was unduly severe. That involves one of the biggest problems of today. The crowd is eager to see flights and encourages flyers to take foolhardy chances. They say that Graham-Gilmour made a good flight. Quite true, but it might have had a tragic ending, and, not only the authorities, but the whole aviation fraternity would have reaped criticism. We have many examples of such cases, too many in fact; and there are proofs that the very best aviators are no less liable to accidents than the beginners, since their experience is offset by the fact that they undertake to do more. Only recently Olieslaegers, the famous Belgian aviator, fell while making a flight at Leeunwarden, Holland, and injured four persons; the Train accident at the start of the Paris-Madrid race killed the French Minister of War, M. Berteaux, and injured Premier Morris. In a repetition of the same accident at Augsburg, Germany, in May, one person was killed and two were seriously injured. For this reason, while we quite see the point of view of enthusiasts who deplore restraint of any kind, we do not approve unlimited freedom—not while the majority of aviators is made up of persons of limited experience, and while aeroplanes are still nothing more than wooden frames covered with cloth, trussed with wires. We realize that at first it seems that flights made over cities and inhabited localities would tend to popularize aviation, but past experience has taught us that it works the other way. Every little accident that happens in public is magnified many times and has the tendency of creating the impression that aviation is unsafe and to make successful feats appear like acrobatic stunts performed by dare-devils at the risk of their own lives. For the public does not realize that the problem of human flight has really been solved and we only lack better constructed aeroplanes and experienced men to handle them. The best way to convince the public of the practicability of the aeroplane is not by flying over dangerous zones, but rather the opposite. If one must do something unusual let him take a passenger along with him in a town to town flight or carry parcels or anything else that may tend to show the maximum practicability of the aeroplane at minimum risk.

THE cover illustration of this number of Aircraft is, we think, an exceptionally fine one. Give a good critical look at it—at that vigorous, intellectual specimen of manhood standing above the globe, above the clouds, supported by the air, master of the elements, indomitable and forceful, extending his arms towards uncharted space, forging onward, as it were, with genius as a light bearer.

Is this not a masterly group? Look again at that tense, forceful figure. Can't you see in it the genius, the tireless brain, the muscles of steel, the indomitable spirit, the surging blood, the youth—the combined elements that are behind aviation and are making it a stupendous monument? Can't you see in him the aviators, inventors, manufacturers, mechanics—all the figures you see in the aviation fields and shops—anxious faced and perplexed, it is true, but enthusiastic, vigorous, young—and all working tirelessly over problems of immense value, problems which when solved will revolutionize the things of to-day and bring about an amazing to-morrow?

We have seen a number of groups and trophies intended to represent aviation allegorically and otherwise, we have seen the works of a number of sculptures and designers on that subject, but we believe that the real spirit of aviation was never so well portrayed as in this case.

The sculptor who has been prevailed upon to execute this remarkable group is the celebrated Signor Leopold Bracony, who was called to New York for the Fulton Monument Project, the development of which he is now awaiting.

THE Aero Club of New York has made a meteoric progress and is making Nassau Boulevard the hub of the Eastern aviation world. It is a pleasure to visit their aerodrome. One finds there the best fliers of this section of the country, nearly two scores of standard machines in as many newly built hangars, and, above all, an enthusing, inspiring activity and interest. With a club of this kind in each State, America would be pylons ahead of all nations in aviation.

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THE GORDON-BENNETT OF 1912

By Henry A. Wise Wood

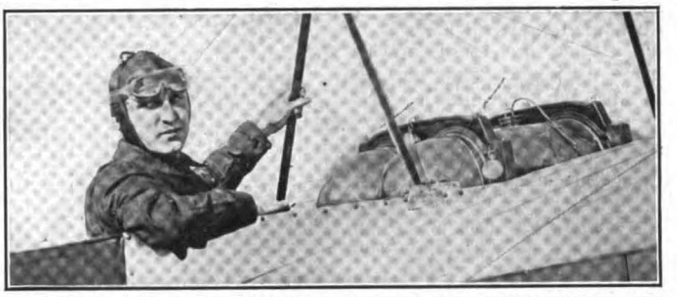
WHILE its entry of a French machine in the Gordon-Bennett aviation contest of 1911—made necessary by the failure of American designers to produce apparatus having sufficient speed—enabled the Aero Club of America to recover the international trophy, the enforced reliance of this country upon the products of foreign makers was not at all to the liking of the national club. Nor was it in harmony with the club's theory of what the most important yearly event in the sport of flying should express; nor with its view of its own national responsibilities. The Aero Club of America has assumed the position that this contest, which has been universally accepted as the sport's blue-ribbon affair, should be international in the broadest aspect; that it should be inter-national with respect to machines as well as to men. And, acting upon this theory, it proposed to the International Aeronautic Federation that it should be required of pilots competing in this event that their machines be wholly the product of their respective countries. Upon this proposal, which the last conference of the Federation failed to consider, it is hoped the next may act. Whether or not the suggestion will be acceptable to the national clubs of other countries it is too early to say; nevertheless, in conformity to the principle which it has declared, the Aero Club of America is determined, if it be possible, to go into the Gordon-Bennett aviation contest of 1912 with none but American aeroplanes and motors. Contained in the final report of the Gordon-Bennett Challenge Committee of 1911 is the following recommendation, which was accepted by the governors of the club, and has become its policy: "We are of the opinion that the representatives of the Aero Club of America in the Gordon-Bennett race of 1912 should, if possible, drive exclusively American machines, fitted with American motors." Further: "As this will entail the development of apparatus much speedier than any now procurable in this country, the year ahead is not too long a time for its preparation. It is therefore recommended that the Gordon-Bennett Defense Committee of 1912 be appointed at once."

In order to put the substance of this recommendation into effect there was promptly appointed a committee of one to take up with American constructors the defense of the cup in 1912. Upon the writer, who was acting chairman of the Challenge Committee of 1911, the responsibilities of this assignment have fallen, and by way of preparation for the work ahead he deems it advisable, even at this early date, to concentrate public attention upon the subject. While it is too soon to forecast the nature of the changes which the next conference of the Federation will make in the conditions surrounding the race, it is fair to assume that there will be a substantial increase in their severity. A lengthening of its distance to 200 kilometers or more is not too much to expect and prepare for. From England comes the suggestion that the race be converted from a track into a cross-country event; while Mr. Wilbur Wright proposes that each contesting machine be limited to the employment of 50-horsepower, and the race be flown over a smaller rather than a larger track. While the writer is a firm believer in the incomparable importance of cross-country work, and the wisdom of the policy of eventually developing whichever may happen to be the lagging "organs" of the aeroplane, by the tethering of such other of its "organs" as may be in advance, still he is not prepared to believe the Federation will adopt either suggestion for the race of 1912. Nor does he think the time has yet arrived for so greatly changing the nature of the Gordon-Bennett contest. We have not sufficiently ascertained the limitations of the aeroplane to warrant us in applying to it the hobble, even in the slightest degree; nor have we sufficiently solved, as yet, the problems of turning in the air to warrant us in eliminating this difficult feat from among those of which a man must prove himself master in order to wear the blue-ribbon of aviatics. If a new feature is to be added to the conditions which surround the contest, the writer believes it should be such as shall increase rather than curtail its rigors,—providing, of course, it serves to promote a further useful development of the flyer and his mount. For instance: were a contestant required within his flying time to make a given number of landings and get-aways it would add to the sporting difficulties of the race, and thereby serve to raise the skill required to compete; while a safe, though speedy, landing carriage would quickly be forthcoming. Other proposals aside, the regulations of the Gordon-Bennett should be changed in one respect; they should no longer permit a man to use any but the machine in which he first crosses the line.

But to return to the requirements of the moment. These compel us to begin the work of defending the cup by preparing the necessary apparatus, and training flyers in the severe work that will be required of them. If America is to rely upon its own resources there are two courses open to it: it may depend upon its manufacturers to supply machines and men for the contest, for the advertisement to be got out of it; or it may look to such of its patriotic sportsmen for the defense of the cup as are financially able to build or buy speedy American machines, and, if necessary, to command others competent to fly them. The latter course, if it be practicable, will be the healthier one, for it will raise the sporting status of the event, by lessening its use for commercial purposes, and will serve to develop the generous amateur support to which flying is entitled, and which flying must have if it is to survive as a sport, using the last word in its exact sense. Indeed, it is greatly to be hoped that the coming Gordon-Bennett will serve to arouse to action the sporting instincts of such Americans of means as are interested in aviation; for the apathy of these has been one of the very potent causes of America's falling behind other nations in general aviatorial progress. As the military exigencies of this country are not great, as are those of France, Great Britain or Germany, the support of its government cannot be depended upon to furnish the mainspring of its aeronautic industry; therefore the average citizen must view the sport in the spirit of optimistic generosity and contribute to its prosperity as liberally as his means will permit, or neither sport nor industry can thrive. As each is necessary to the other, and especially because of the detached position which our government occupies, the responsibilities of our national club are very great; and these can be discharged only by its directing the sport into channels which shall supply those engaged in the construction of aeroplanes, motors and appurtenances with sufficient encouragement to warrant them in developing their respective fields with energy and enthusiasm. And it is because of the necessity which compels the enlistment of the interest and purse of the amateur on behalf of the American industry, as well as a wise and far-seeing patriotism, that the Aero Club of America wishes to cast its lot with that of our native builders, and stand or fall with them in what has become the most important of international contests. Of the constructors it is expected that they will reciprocate, and that there shall result, between themselves and those who are charged with the control of the sport, earnest cooperation in the development of such apparatus as, from time to time, the national interests of the sport shall require.

To return, in conclusion, to the particular event in hand, it is well to point out, as having a vital bearing upon its outcome, that in all probability the speed of the winner of the next Gordon-Bennett will have to exceed a hundred miles an hour, flown straightaway; that the designer of the victorious machine, doubtless, will be found to have combined least head resistance with greatest power; that in this, the eighth year "after flying," America is still without a monoplane, and that, of motors, the so-far-invincible Gnôme has no rival in this country.

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THE LATE ST. CROIX JOHNSTONE IN HIS MOISANT JUST BEFORE BREAKING THE AMERICAN RECORD FOR DISTANCE AND DURATION.

CLUB NEWS

Aero Club of America

At a recent meeting the Aero Club of America passed the following resolutions regarding flying over large cities:

"*Resolved*, That the Aero Club of America strongly deprecates the practice of flying over large cities at this stage of the development of aeronautics; that this practice presents in many cases danger to the public and offers no particular good or utility, from a scientific or any other standpoint, and that any accident brought about thereby at this time would greatly discourage the progress of the art by arousing popular prejudice against it.

"*Further Resolved*, That the Aero Club of America while fully realizing the large margin of safety attending flights over cities when made by experienced aviators in standard machines at a height sufficient to glide to a safe landing should the motor fail, finds it difficult to make distinctions between flyers and machines and to enforce flying at an altitude of safety, which in itself varies with the breadth of the dangerous zone flown over, and that therefore it urges upon all its licensed pilots and those desiring to become such to refrain from over-city flying."

The following is a list of licensed American pliots and foreign pilots holding American licenses on August 9th, 1911:

1 Glenn H. Curtiss.
2 Lieut. Frank P. Lahm.
3 *Louis Paulhan.
4 Orville Wright.
5 Wilbur Wright.
6 Clifford B. Harmon.
7 Thomas S. Baldwin.
8 *J. Armstrong Drexel.
9 Tod Schriver.
10 Charles F. Willard.
11 J. C. Mars.
12 Charles K. Hamilton.
13 xJohn B. Moisant.
14 *Charles T. Weymann.
15 Arthur Stone.
16 Harry S. Harkness.
17 Eugene Ely.
18 J. A. D. McCurdy.
19 Walter R. Brookins.
20 xRalph Johnstone.
21 xArch Hoxsey.
22 J. C. Turpin.
23 A. M. Welsh.
24 J. J. Frisbie.
25 P. O. Parmelee.
26 Frank C. Coffyn.
27 Lincoln Beachey.
28 Lieut. P. G. Ellyson, U. S. N.
29 Lieut. H. N. Arnold, U. S. A.
30 Lieut. P. Z. Milling, U. S. A.
31 Howard W. Gill.
32 Edson F. Gallaudet.
33 Harry N. Atwood.
34 Lee Hammond.
35 W. Redmond Cross.
36 x Wm. Badger.
37 Harriet Quimby.
38 Ferdinand E. de Murias.
39 Paul W. Beck.
40 Wm. C. Beers.
41 Geo. W. Beatty.
42 Hugh Robinson.
43 Cromwell Dixon.

The sign * indicates a foreign certificate. The sign x indicates the death of the pilot.

Aeronautical Society

At the last bimonthly lecture Mr. A. F. Thompson gave an interesting if technical lecture on "Vanadium and Its Relation to Machine Design, and Its Uses in General." The Society continues to hold the interesting bi-monthly public lectures and weekly members meetings which are always fairly well attended.

Aero Club of New York

A number of contests were held at Nassau Boulevard during the past month under the auspices of the Aero Club of New York and a number of cups presented by different parties, were given as prizes to the winners of the contests.

The cup given for duration, by AIRCRAFT magazine was won by A. L. Welsh on July 22nd, while the cup given by the Farman Company of America was won by Beatty on August 5th, also for duration.

Below we publish a list of those now occupying hangars at Nassau Boulevard:

Ladis Lewkowicz—Blériot.
George Russell—Curtiss.
S. M. Moore—Curtiss.
A. A. Williams—Curtiss.
Albert Fileux—Queen monoplane.
Queen Aeroplane Company—Queen monoplane.
T. O. M. Sopwith—Howard Wright, American Wright.
T. O. M. Sopwith—Blériot.
Dr. Northwood—Curtiss.
W. Irving Twombly—Blériot type.
Alex. Hamilton—Hamilton monoplane.
F. P. Shneider—Shneider.
Earle L. Ovington—Blériot.
Earle L. Ovington—Curtiss.
A. N. Ridgely—Curtiss.
Wright Company—Wright.
A. L. Welsh—Wright.
W. C. Beers—Wright.
Redmond Cross—Wright.
Robert Collier—Wright.
Raymond Brown—Wright.
G. W. Beatty—Wright.
Glenn H. Curtiss—Curtiss.
Jas. V. Martin—Farman.
Cromwell Dixon—Curtiss.
C. K. Hamilton—Curtiss.
Mrs. Jas. V. Martin—Baby Grahame-White.

Most of the above mentioned aviators made flights during the month. August 5th was undoubtedly the biggest day. George W. Beatty, W. Redmond Cross, Thomas Sopwith, flying Wright machines, and Earle L. Ovington, flying the new Curtiss machine, contested for a number of cups offered for the best flights.

Redman Cross won the first leg on the Rodman Wanamaker trophy offered for the longest flight. He was up 56 minutes, 10 2-5 seconds. The cup must be won three times.

Sopwith, driving a Wright biplane for the first time, got the cup for accurate landing. He came within fifteen feet of the mark after twelve trials.

Ovington, in the new Curtiss machine, carried off two cups for speed. The other cup was for a cross-country flight from the aerodrome to Belmont Park and return.

Beatty made a new America record for altitude with passenger of 3,080 feet, taking Percy Reynolds, another aviator, up to that altitude. He also made a moonlight flight and won the cup for total endurance.

Orville Wright was one of the fliers at Nassau Boulevard on the evening of August 7th, making a trip over the surrounding country.

St. Croix Johnstone in a flight at Mineola broke all American endurance records for both distance and time in the air on July 27th. He remained in the air for 4 hours 1 minute 53 4/5 seconds and covered a distance of 176 miles. He had planned to fly for seven hours, but a leak in the lower tank compelled him to descend after he had made thirty-nine laps of the four and a half mile course.

Ralph Cole, of Norwalk, Conn., has been making some successful flights with a new monoplane of his own construction, which is fitted with a 50 H. P. Roberts motor.

Aviation Meet Planned

On August 16th plans were announced for an aviation meet at the Nassau Boulevard, from September 23 to October 3 next, under the auspices of the Aero Club of New York. If present plans are carried out the meet will be on a large scale. As the Aero Club of America shares the grounds here with the Aero Club of New York, the parent organization probably will take an active part in the meet.

The meet will probably last five days and cross-country flights will be an important feature. It is expected the prizes will average seven to eight thousand dollars a day. Most of the flyers having sheds at Nassau Boulevard are expected to take part in addition to several others. It might here be noted that the flyers at Nassau Boulevard won 38 per cent. of the prizes at Chicago. They include: T. O. M. Sopwith, E. L. Ovington, J. V. Martin, G. W. Beatty, A. L. Welsh, L. Lewkowicz, J. A. D. McCurdy, Cromwell Dixon, Arthur Stone, etc., etc.

Aero Club of Illinois

What with the Chicago Meet and the local interest, the Aero Club of Illinois has been kept exceptionally busy during the past month.

Dan A. Kreamer fell from a height of 75 feet and was killed on July 13 while flying for his license on the field of the Aero Club of Illinois. In making a short turn with an old Curtiss type machine he banked too much and the machine turned over and dived down. The engine fell on his back, crushing him.

Buffalo Y. M. C. A. Club

Fourteen members of the Central Y. M. C. A., Buffalo, met recently for the purpose of organizing a club for the study and practice of aeronautics.

After preliminary discussion, a temporary organization was effected with Frank Limpert as Chairman and Harry C. Myers as Secretary. Committees were appointed to outline a general plan of organization and to determine questions of policy. Frequent meetings are to be held for general discussion relative to the organization.

Three papers were read at the meeting—"Bird Flight," by R. C. Worden; "Envelope Materials for Balloons and Dirigibles," by N. E. Corrin; a talk on "Construction Details of Heavier than Air Machines," by F. Limpert. On May 18th a meeting of the club was held in Central Y. M. C. A. for the formation of a permanent organization. The meeting was called to order by the Chairman, F. Limpert. A report of the committee on the affiliation with the Y. M. C. A. was unanimously accepted by the club. It was decided to call the club the Aeronuatical Research Club of the Buffalo Y. M. C. A.

The following directors were elected: F. E. Limpert, C. L. White, Norman E. Corrin, Ralph C. Worden, C. L. White, J. Steller, E. Marks, E. E. Fleming.

The officers elected are: President, N. E. Corrin; Vice-President, James Stellar; Treasurer, N. E. Marks; Secretary, H. C. Myers; Consulting Engineer, C. L. White.

At a special election and in consideration for services rendered the organization, Mr. C. L. White was chosen honorary President and Carl Strattford first honorary member.

If interest and enthusiasm are any indication a successful future of the club is assured.

Aero Club of Ohio

The first international aviation meeting in Ohio will be held September 27th, 28th and 29th. In the neighborhood of $50,000 will be expended. Canton is the home of the Aero Club of Ohio, a pioneer organization in aeronautics and one of the greatest balloon cities of the world. The affair will be under the auspices of the Aero Club of Ohio.

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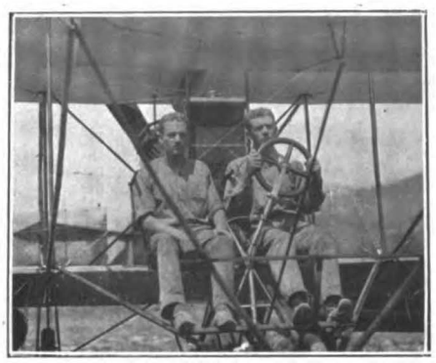
NEWS IN GENERAL

Navy Notes

The Wright machine purchased by the Government for the Navy was delivered on July 9th. Orville Wright demonstrated it, making an hour's flight alone and a 24-minute flight with Capt. W. I. Chambers, in command of naval aviators.

Lieutenants T. G. Ellyson and J. H. Towers, the two officers detailed to study the Hydro-aeroplane, are still on duty at Hammondsport.

Lieut. Ellyson is an expert aviator; Lieut. Towers is making excellent progress; in their flights over Lake Keuka, not always have they been favored by wind and weather conditions. But since an important part of their task was to ascertain what could be done with the Hydro-aeroplane under adverse circumstances, they have made some of their most notable flights when the weather was threatening.



LIEUT. TOWERS AND LIEUT. ELLYSON IN THE NEW U. S. NAVY DOUBLE CONTROL CURTISS BIPLANE. NOTE THE PIVOTED CONTROL WHEEL, WHICH CAN BE PASSED FROM ONE TO THE OTHER WHILE IN FLIGHT.

They have attained high altitudes, have flown long distances and have demonstrated the feasibility of team work in connection with the new Curtiss system of double control.

Captain W. I. Chambers, the officer having supervision of navy aeronautics, recently visited Hammondsport to see test flights made by the Triad. He saw performed some wonderfully accurate work; in making a test for accuracy, the hydro-aeroplane alighted exactly on the mark. In the course of his investigation Captain Chambers made several flights and for a while he held the wheel of the hydro-aeroplane. He found that the Triad could be steered beautifully; in fact, he reported that the hydro-aeroplane built by Curtiss for the United States Navy fulfilled all the requirements of the contract.

It has been said that the United States, from a military point of view, has been backward in developing the possibilities of the aeroplane. But the proven success of the hydro-aeroplane is something that cannot be ignored. In the utilization of these important accessories of naval equipment, a good beginning has been made and ere long the United States Navy will have a number of competent hydro-aeroplane operators.

New England News

By Denys P. Myers.

Many of the foremost aviators of this country and several from France and England, including the three men who in as many years have won the Gordon Bennett aviation trophy, will take part in the Harvard-Boston aviation meet, which will take place at the Harvard aviation field at Squantum, August 26th to September 4th.

Amongst those who are expected to take part are: Charles Terres Weymann, Claude Grahame-White, Maurice Tabuteau, Harry N. Atwood, Charles F. Willard, J. A. D. McCurdy, James V. Martin, Mrs. Martin, W. H. Longfellow, J. A. Cumimngs, A. A. Merrill, Glenn H. Curtiss and several of his flyers, while the majority of the flyers who competed in the Chicago meet will also take part. These aviators include Tom Sopwith, Earle Ovington, Arthur Stone, Ladis Leckowicz, René Simon, René Barrier, St. Croix Johnstone, Capt. Baldwin and Lee Hammond. One notable feature of the technical side of the contests will be the division of competitors into monoplane and biplane classes and the introduction of power handicaps. These innovations will put the contestants more on a par and emphasize skill rather than the mere possession of extra powerful engines. The prizes will amount to $50,000.

William Hilliard, of Boston, first known as a driver of racing automobiles and later as an aviator, is back from England, where he qualified as a pilot under the rules of the Aero Club of Great Britain.

Although he had flown machines long before he left for England, he had never fulfilled the requirements of the Aero Club of America. In England he studied for a time under Marcelle Blondeau, the Frenchman, and on July 9 was awarded certificate No. 102 of the Aero Club of Great Britain.

The Curtiss Aviators

The New York-Philadelphia Air Race.

The first big cross-country aeroplane race to be held in this country took place on August 5th under the auspices of the Curtiss Exhibition Company and Gimbel Brothers, for a prize of $5,000 offered by the Gimbel concern. The prize was for the fastest flight between the Gimbel store in New York and their store in Philadelphia.

The aviators entered were Charles K. Hamilton, Hugh Robinson and Lincoln Beachey, but at the last minute Hamilton withdrew from the race and Ely had to take his place.

The aviators left Governor's Island in the following order: Beachey first at 2:40; Ely second, 2:41; and Robinson third, 2:42. Each aviator described a circle over the island and then headed up the North River to 33rd street, where they turned and swept across town to Gimbel's store, where they were timed for the official start to Philadelphia as follows: Beachey 2:47, Ely 2.48, and Robinson 2:50.

Leaving New York the aviators steered toward Bergen Hill across the Hudson and continued on toward Elizabeth, which place they passed in the following order: Beachey 3:05, Robinson 3:06 and Ely 3:08. Beachey continued to Philadelphia, where he arrived first, having made only one stop at Trenton for gasoline. He passed over the Gimbel store in Philadelphia at 4:47:22. Robinson did not arrive till 5:25, having been delayed at New Brunswick through lack of gasoline. Ely was compelled to abandon the race near New Brunswick owing to a plugged feed pipe.

Earle L. Ovington, one of the foremost operators of the Blériot monoplane in the United States, has joined the Glenn H. Curtiss band of birdmen and will not only fly the Curtiss biplane, but will also have charge of the Curtiss school for aviators at Nassau Boulevard Aviation Field, Garden City, Long Island.

Army Notes

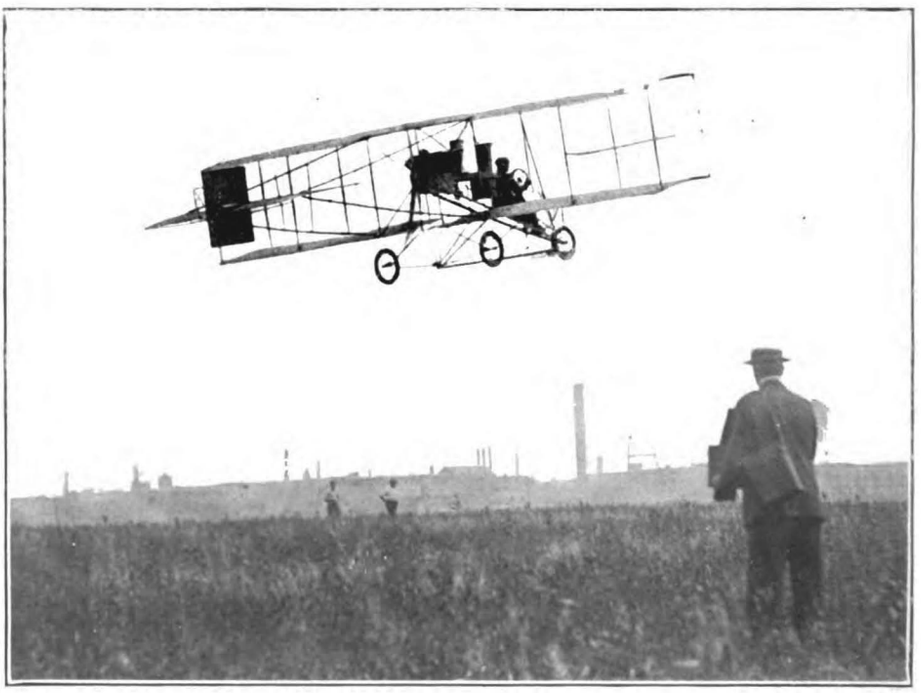
The Army flyers at the Signal Corps Aviation School, College Park, Maryland, have been exceptionally busy making over one hundred flights, half with passengers. So busy, indeed, that at headquarters it was thought advisable to issue orders confining the officer flyers within certain distances so as to preclude the chance of officers taking joy rides over the Capital. Another new regulation makes it compulsory for military flyers to wear uniforms on the field and in the air.

The school is in charge of Capt. De Forrest Chandler, a veteran balloonist, having been the aid of J. C. McCoy in the 1907 flight from St. Louis to Chesapeake Bay in the Gordon-Bennett Cup contest. The officers assisting him are Capt. Paul W. Beck of the 18th U. S. Infantry, formerly head of the aero squad at San Antonio; Lieuts. R. C. Kirkland, H. H. Arnold and I. DeWitt Milling, all aviation enthusiasts.

Capt. Paul W. Beck who pilots a Curtiss machine, made a number of clever flights recently, among which one on August 8th from College Park to Fort Myer and return, distance of twenty-four miles in thirty-nine minutes. During the flight he maintained an altitude of 2,800 feet, the highest flight ever recorded over the Capital. Soon after he landed at Fort Myer his fellow officers, Lieut. Arnold and Capt. Chandler, flew the Wright biplane in his path and followed him over the same course. Lieut. Arnold was pilot.

Capt. Beck asked for and was granted leave of absence by the War Department which he employed to advantage at the Chicago Meet.

Lieut. Arnold's recent feats include two records for altitude. On July 17th he made a flight of 27 minutes 35 seconds duration in which an altitude of 4,167 feet was reached. He thus improved on his own record for altitude of 3,260 feet, made July 7th. A few days later he made a new record of 4,886 feet 9 inches, registered by the new army barograph which registers both temperature and height.



BEACHEY STARTING FROM GOVERNOR'S ISLAND IN THE GIMBEL NEW YORK-PHILADELPHIA RACE, WHICH HE WON. BEACHEY'S MACHINE WAS ONE OF THE LATEST HEADLESS TYPE CURTISS BIPLANES WHICH LATER MADE SUCH A FINE SHOWING

$10,000 for Monoplane Race

On August 9th General Charles M. Taylor, publisher of the Boston Globe, offered a prize of $10,000 for an interstate aeroplane race at the coming Harvard Aero meet, which opens at the Squantum aviation field at the end of this month.

The race, which promises to be the big event of the meet, will be restricted to monoplanes. It will start on the flying field at Squantum on Labor Day, the last day of the meet, and will take in the cities of Nashua, N. H., Worcester, Mass., and Providence, R. I. Each of the cities named is about forty miles in an air line apart on the course, which is diamond shaped, making a total distance of 160 miles at least.

Arrangements are also under way to hold another race over the same course for biplanes on the Saturday preceding Labor Day for a prize of $7,500. As all of the contestants in the monoplane race fly biplanes, an equally large field of flyers is expected in the biplane race. The aviators will be permitted to make hour stops in the cities selected as the turning points.

In the Interstate race, the $10,000 will be divided into first, second and third prizes, $7,500, $1,500 and $1,000 respectively. In the biplane race the prizes will be $5,000, $1,500 and $1,000.

Burgess Aviators

Dr. Percy L. Reynolds has been appointed an instructor at the Burgess School at Atlantic. He received his instruction from Harry N. Atwood and has become an expert flier. Albert Adams Merrill and Phillip W. Page who have been taking a course in flying at the Wright school, will probably join the Burgess Company and Curtiss after qualifying for their licenses.

The Company has been conducting experiments with a view to cutting down head resistance and have designed a new seating arrangement, in which the passenger sits behind the pilot.

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Connecticut News

By S. H. Patterson.

The first official test for an aero license in this State was conducted at Charter Oak Park at Hartford early in July by State Commissioner A. Holland Forbes of Fairfield. William Nelson was the applicant, but was unsuccessful in securing a license, as he had engine trouble and was unable to complete the test. The machine used is one he constructed himself and is of the Curtiss type. A week afterward Mr. Nelson gave an exhibition flight in Middletown, Connecticut, at Fisher's Field, before 2,000 inmates of the Connecticut State Hospital for the Insane, and made a fine flight, going about two miles away from the field. As he was returning he struck an "air-pocket," and in attempting a quick landing one of his planes hit a telephone wire, throwing him out and badly damaging the machine. There was nothing left but the engine when the souvenir hunters left the wreckage.

Charles K. Hamilton, of New Britain, and Edson F. Galeaudette, of Norwich, have been granted licenses to fly in this State.

John M. Doehrer, of Bridgeport, has nearly completed his "Featherweight" aeroplane. The machine is made of aluminum and is 32 feet long, 16 feet wide and 5 feet high, and possesses many unique ideas. Mr. Doehrer has incorporated in his engine the same principles as found in the crossbeam engine of a ship. From this he claims that he can get 10 revolutions out of one explosion. There are four propellers, two at the sides and two directly in front. A telescopic balance pole adjusted to suit the desire of the operator is believed to do away with any trouble from which the exhaust from the engine is conveyed through a pipe keeping the bag constantly filled with hot air, and thereby giving buoyancy to the aeroplane.

Washington News

By Mrs. Lulu Wells Smith.

Paul Peck, of the Rex-Smith school, made a record by a flight into Washington after only fourteen days of flying, covering a distance of twenty-five miles in twenty-six minutes. He started from College Park a little before seven o'clock on the evening of August 5th, and after one circle of the field, headed for Washington, following the B. and O. railroad track, he entered the city at Fifteenth and H streets, headed directly toward the Capitol, where he circled the dome, and flew down Penn avenue, over the Willard Hotel across Market space to the Monument. About fifty feet above the Monument he cut off his engine and made a spiral glide to earth, straightened out and flew over the Potomac to Arlington, and as it was then quite dark he turned and came back, landing on the speedway exactly upon the white canvas which had been speard out for him as a guide. The machine was left on the speedway all night, and Peck returned to fly it back to College Park Sunday afternoon, which was made impossible by the crowd that had gathered in the largest proportions ever known to have assembled on the speedway in its history. So great was the crowd that it was impossible for Peck to gain headway enough through the masses of people to get off the ground, and after several attempts had to give up until the following morning, when he made the return trip from the speedway to College Park in just 12 minutes.

Flying Around San Diego

By W. D. Waterman.

San Diego, Cal., had its fifth aviation meet this year, which was held at the Coronada Polo Grounds during the Ground Breaking Carnival for the Panama-Pacific Exposition, to be held in 1915. Aviators Glen L. Martin and Beryl Williams were participants. As is usual with the weather in San Diego, conditions were perfect, there being only a slight wind blowing on all of the days.

The meet was opened the first day with a short hop by Williams. This was followed by three flights by Martin and two more by Williams. They ranged from ten to twenty minutes. Martin contented himself with staying near the grandstand, doing an occasional "Dutch Roll" and turning sharp, well-banked turns. Williams, on the other hand, flew out over the bay and ocean. The three days of flying were much the same. On the last day Williams "hatched out" a new stunt in the racing line. At the same time the meet was going on a motor boat race was being held in which the boat built for Harry S. Harkness was entered. This boat is the fastest on the Pacific coast, and is now owned by H. H. Timkens. While flying over the bay Wlliams was attracted by the sun shining on her highly finished mahogany decks. Since the boat is equipped with the 120 H. P. Emerson motor that Harkness intended for one of his Antoinettes, it is very fast. The boat, however, was no match for the fleet biplane of Williams, and was soon left in the rear. Both Martin's and Williams' machines are much the same. They are enlarged Curtiss types. In Martin's there are extensions on the upper places and the tail is shortened, while in Williams' machine the elevator is placed farther forward. In both machines the Goodyear fabric is attached to the under side instead of the over-side of the ribs. Strips are sewed over the beams and ribs, forming pockets. In both cases 60 H. P. Hall-Scott motors are used. The absence of tinkering and adjusting was very noticeable. Another thing of interest was the way in which the motor throttled down. It could run so slow that at times Aviator Martin was able to leave the machine in the middle of the field with no one near it and nothing blocking the wheels with the motor running. As far as flying is concerned, the meet was entirely satisfactory, and too much praise cannot be given to the aviators who took part in it.

California News

By Ernest Ohrt.

The Aero Club of California has begun a campaign looking toward bringing the next international aviation contest to the Pacific coast.

The California National Guard is going to have an aviation squad, and it will be headed by the noted aviator, Eugene Ely. This became certain when Ely came to Sacramento and successfully passed an examination for first lieutenant in the proposed aviation squad. George Loose, a member of this squad, has a biplane of the Farman type with which he has made several trial flights.

Jack Hamilton has made many practice flights in a Blériot type monoplane near Palo Alto. S. R. Tymothy, of Burlingame, Cal., is making short jumps in a monoplane of his own construction. Byrle Williams recently made a splendid flight of 15 minutes over the orange groves at Riverside, Cal., in a Curtiss type biplane. Glen Martin recently flew at Imperial, Cal., in a Curtiss type biplane, using a Hall-Scott motor. Louis Fortney, of Oakland, Cal., has his monoplane at the Inglenside Coursing Park, where he has made several flights; the machine is of the Antoinette type equipped with an automobile engine. L. T. Strover, of Oroville, Cal., is building a Curtiss type biplane.

The Hall of Fame

ATWOOD, (H. N.)—Among the things he has not done or planned are: crossing the Atlantic and flying to the North Pole. Possibly he could go there, too.

BALDWIN (THOMAS)—"I understand why they call him 'Red Devil' ventured the fair one, "he is up to so many tricks—is it?" No one tried to disillusion her.

BEACHEY (L.)—"The B is a mistake," said a Philadelphia belle; "it should be P!"

BROOKINS (WALTER)—Glad to see you back; we surely missed you!

CHAMPION (FRANK L.)—There's something in a name.

ELY (EUGENE)—He was right there with the goods.

WILLIE HAUPT is getting to be a wonder.

KEARNEY (H. F.)—Is still practising the shoot the chutes game but he is falling from heights now and that means that he is reaching them, too.

BUD MARS had a very narrow call but that is not a reason for London "Flight" to say "late" Mr. Mars. Incidentally, it is up to Mars to show them how much alive he is.

MOISANT (MATILDA)—Bound to fly; all angels do.

"QUIMBY on Pike's Peak," (Gimbel Lunch Menu—'Twas a delicious peach!

SCOTT (BLANCHE STUART)—A clever woman should have no trouble to master a "Devil" no matter how red he may be.

SINCLAIR (RICHARD R.)—Busy? That's putting it mild. Fellows wake him up nights to ask about hangars.

SOPWITH (THOMAS)—Can't say anything too good about him.—General opinion.

ST. HENRY ain't no saint, even if he's trying the angel stunt. He's a cowboy.

STONE—Is a rather misleading name when the owner of it can rise on the face of the winds like a feather.

WELSH (A. L.)—Remember what they say about small packages? Small but good!

WILLARD (C. F.) and McCURDY (J. A. D.)—Reads rather natural, don't it? Had seen both names together for ages, it seems.

WITMER (C. C.)—Is on the field again looking better than ever. Congratulations, old man!

WOODRUF (TIMOTHY L.)—A born Master Builder. Took a field and a pile of lumber and presto! turned it into an aviation center.

NEW (w) RIGHT FLYERS—Beatty, W. G.; Brindley, O. A.; Gill, Howard; Drew, Andrew; and *some* more.

OVINGTON (EARLE L.)—Tell us not in mournful numbers you are going to fly no more!

ROBINSON (HUGH A.)—"Come on, boys, the water's fine!"

LEWKOWICZ (LADIS)—Wanted to *do* Chicago, but didn't have the wings. Too bad!

Wright Fliers

Activity both in the Wright factory and at their training grounds at Simms Station is on the increase and many new pupils are being taught and new machines tested. Orville Wright recently tried out the new machines built for the United States Navy and successfully put it through all the tests required by the Government.

A new speed record in learning to fly was made at the Wright School in Dayton by O. J. Simmons. After only ten lessons, making a total time in the air of 96 minutes, he developed into a capable pilot.

Simmons' record follows:

July 18, two flights, 9 and 13½ minutes.
July 19, one flight, 14 minutes.
July 20, one flight, 11 minutes.
July 22, one flight, 16 minutes.
July 26, one flight, 13 minutes.
July 27, five flights, 1½, 7, 2, 5 and 4 minutes.

On July 29 Simmons took up C. W. Bonney, a Wright aviator, for three flights of 5 minutes each.

J. Clifford Turpin was the instructor. The five flights on July 29 were made with Turpin as a passenger, to practice landings.

On August 3rd P. O. Parmelee and J. C. Turpin gave an exhibition on Wright biplanes at Colorado Springs.

Frank Coffyn, flying with Russel A. Alger at Detroit, met with a slight accident owing to his motor stopping when he was about 200 feet up and compelling him to make a hasty descent with the result that part of the landing gear was broken.

George W. Beatty, who was licensed August 4th, flew one of the new Wright machines from Nassau Boulevard to Long Beach on August 6th, with a lady passenger. He landed on the beach, stayed awhile, then flew back to Nassau Boulevard.

On July 30th, F. L. Cahmpion, driving Earle Remington's Blériot machine, made a wonderfully fast flight from Dominguez Field to San Piedro. He had a strong wind behind him and traveled at a speed of close on to 80 miles an hour.

On August 1st Harry N. Atwood flew over Baltimore and did stunts while he was directly over the heart of the city.

Dr. J. J. de Praslin has been making some successful flights recently in a biplane of his own construction. At almost his first attempt he succeeded in flying two miles at an altitude of 75 feet.

Albert Carter, a dirigible balloon pilot, has just completed a small dirigible of tne Baldwin type, which he is fitting with a 50 H. P. Gnôme motor.

On June 24th Walsh flew in Vancouver, Wash., and tried out an automatic device designed to make aerial navigation safer, the invention of D. G. Ellsworth. The invention is designed to control the lateral guidance of the plane and to preserve the equilibrium of the aeroplane at any angle. It is controlled by electricity, two wheels turning in opposite directions on opposite sides of a moving pair of electro magnets governed by a brake connection, are affected by the least tilting of the machine. Mercury is used in making this connection. The inventor claims that the equilibrator will right the machine if the controlling lever is left at neutral in any gale. Walsh was quite well satisfied with the experiments. Walsh flew on July 3rd and 4th at Moscow, Inado, before one of the largest crowds ever known to have been in Moscow.

On July 14th Mr. J. C. Mars met with a bad accident while flying at Erie, Pa., when he lost control of his biplane through running into an air hole.

Atwood's St. Louis—New York Flight

A new world's record for a cross-country flight was made by Harry N. Atwood on his Burgess Wright machine when he flew from St. Louis to New York, a distance of 1,265 miles, in ten days. The start was made on August 14th.

Below we give a table of this flight, showing his progress stage by stage:

Aug. 14—St. Louis to Chicago, 283 miles, 6 hrs. 32 min.
Aug. 15—Chicago to Elkhart, Ind., 101 miles, 2 hrs. 16 min.
Aug. 16—Elkhart to Toledo, O., 134 miles, 2 hrs. 41 min.
Aug. 17—Toledo to Cleveland, 123 miles, 2 hrs. 20 min.
Aug. 18—Cleveland to Swanville, Pa., 84 miles, 2 hrs. 07 min.
Aug. 19—Swanville, Pa., to Buffalo, N. Y., 106 miles, 2 hrs. 23 min.
Aug. 20—Buffalo, N. Y., to Lyons, N. Y., 104 miles, 2 hrs. 14 min.
Aug. 21—Lyons to Belle Isle, 40 miles, 1 hr. 28 min.
Aug. 22—Belle Isle to Fort Plain, 95 miles, in 2 hrs. 10 min.
Aug. 23—Fort Plain to Castleton, 66 miles, in 1 hr. 32 min.
Aug. 24—Castleton to Hook Mountain, 2 hrs. 33 min. Expected in New York, August 25.

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CORRESPONDENCE

NASSAU AERODROME,
LONG ISLAND, N. Y., July 20.

To the Editor of AIRCRAFT:

DEAR SIR: I have just read Mr. D. E. Conner's article in July AIRCRAFT entitled "Airswirls and Their Relation to Aviation." As an electrical engineer and one interested in meteorology I cannot allow this article to pass without comment.

As an aviator let me say in the first place that the average "airhole," so called, is not "swirling," but is simply the result of convection currents in the atmosphere. The sun strikes the earth with equal intensity over say a certain aviation field, or portion of ground over which an aviator is flying. It is well known that dark colors absorb heat more readily than light ones, the later reflecting a greater percentage of the long heat rays. As the color of the ground constantly changes the absorption of the heat is never the same in any two places, with the result that the temperature of the air above the ground varies according to the heat received. In passing in my aeroplane from a wooded country to a flight over water, for instance, I usually encounter "airholes" or the "swiss-cheese" atmosphere until I am well over the water. If the breeze comes from the water the flying soon gets good, while if it is from the land the chances are the disturbances are blown out to me to a considerable distance. "Airholes," then, are not usually of a swirling character, fortunately for the bird-men, but are rapidly moving convection currents in a vertical position except as shifted from the vertical by prevailing breezes. When I strike a rising current of warm air I get a "puff" which lifts me and my Blériot according to the velocity of the rising current of air, the thickness of the column of air, and the velocity with which I may be travelling.

I am surprised that Mr. Conner should make such a laborious effort to bring electricity into the phenomenon of "swirling air-holes," as he calls them. He jumbles electricity, physics, and meteorology together in a manner unintelligible to even the physicist; what the lay reader of AIRCRAFT can get out of it is an infinitesimal quantity.

Air, under ordinary circumstances, is practically a non-conductor of electricity, and there is no "free electricity" in it whatever, as Mr. Conner states. Furthermore assuming that such electricity existed, it would not cause "airholes," swirling or otherwise, unless present in quantities sufficient to produce decided heating effects.

Very truly yours,

EARLE L. OVINGTON.

THE CHALET,
NEWPORT, R. I., Aug. 6, 1911.

MY DEAR SIR: I beg leave to draw your attention to the fact that, with my permission, Mr. Curtiss is using my "patent horizontal rudders" on all his machines. Yours truly,

HUGH L. WILLOUGHBY.

CLARKSVILLE, Tenn., July 25th, 1911.

DEAR SIR: I enclose herewith an extract out of my letter to you of January 22, 1911. You will see from this extract that in my letter I expressed the same ideas which you now publish in AIRCRAFT for August, 1911, in the article "Dynamics of the Flying Machine," and on page 196 at the end of article "Problems That Remain." Yours very truly. THEODORE GIBON.

Copy of Mr. Gibon's letter:

DEAR SIR:The cause of Hoxsey's death will be better understood by considering the following: In your valued paper, AIRCRAFT, of December, 1910, page 356, in the article "A Remarkable Demonstration," it reads: "They (Johnstone and Hoxsey), started to lose ground, and the higher they went the faster they went backwards!"

To this I have to say: In the wind all forward motion of the aeroplanes was lost, the aviators depended entirely on the wind keeping on blowing as it did, otherwise swift forward motion of the aeroplanes was the only thing to keep them afloat. If an aeroplane, having lost all forward motion, is caught by a change of the wind, as is, for example, to be expected in the "swiss-cheese atmosphere," then as all forward motion of the aeroplane is gone and forward motion being the only thing to keep floating, the aeroplane plunges suddenly downward, and all this occurs so instantly that the aviator hardly knows what struck him and he loses all control of the aeroplane, can never regain the control, and plunges to his death. Safety is obtained by speed, which means, of course, speed through the disturbed atmosphere. Automatic control is needed. Yours truly,

THEODORE GIBON.

CLARKSVILE, Tenn., January 22, 1911.
New York, N. Y., August 12th, 1911.

Dear Sir:

I have read with much interest the article, "Dynamics of the Flying Machine," by J. S Stephens, M. W. S. E., which was published in the August issue of AIRCRAFT, and agree perfectly with the conclusions arrived at by Mr. Stephens in his paper.

I have given this subject consideration some time ago, and after looking over all remedies, picked out one as being the safest, and simplest of application, and present it to you in case it may interest some of your readers.

My suggestion is, that the aviator install in his machine a reliable air speed indicator or anemometer, and mark off a safety limit (of low speed on one side, and high speed on the other) on the scale or, if the scale is enclosed, and cannot be so marked, that he note same mentally.

A little careful experiment, in comparatively calm air will suffice to show the safety limit of low speed by slowing down the motor gradually, and noting with the aid of the anemometer at which speed the machine becomes unstable, and difficult to handle.

This experiment should be repeated several times, both in turns and straightaway flights, and the results checked off. The limit of safe high speed would, of course, be the highest normal speed of the machine.

To apply the system, the speed indicator should be watched as carefully as possible, when making a turn or change of course, and, as soon as it nears either of the safety limits on the scale, the rudder should be brought back to neutral position and held there until the indicator shows that the machine has settled down to normal speed, at which point the turn may be continued.

The complications brought about by the laws of inertia and momentum, which the foregoing suggestion attempts to remedy, were explained fully in the article mentioned and it is not necessary to repeat them here.

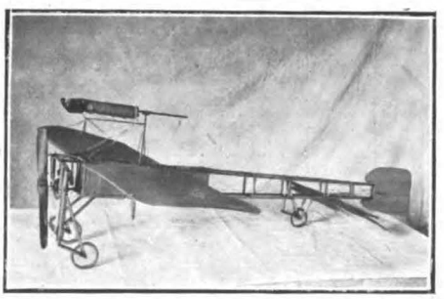
In case any of your readers are in a position to try out the system, I should be pleased to hear how it worked out as I cannot spare any time to try it myself at present.

I remain,
Yours faithfully,
ARCHD. BLACK.

The Marcucci Parachute Attachment for Aeroplanes

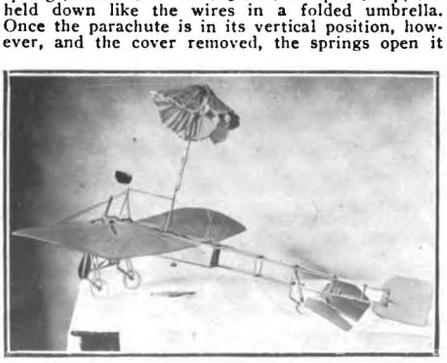
The subjoined illustrations show the new parachute attachment invented by Messrs. Marius and Julius Marcucci, of 242 East 116th street, New York City, for use in preventing loss of life when an aeroplane to which it is secured losses its buoyancy or becomes unmanageable. The illustrations show the parachute in both its inoperative or folded position and in the position in which it is ready to disengage itself from the aeroplane, lifting with it the seat of the operator.

In its inoperative or folded position, it is horizontally disposed above the central line of the machine in the vicinity of the planes and just forward of the seat, presenting, as one of the cuts shows,



THE MARCUCCI PARACHUTE FOLDED.

the appearance of a sky-rocket. The cords of the folded parachute are atached to the operator's seat, being led down thereto as shown in the cut. When an emergency occurs which makes it advisable for the operator to leave the aeroplane, he pulls a releasing cord, which causes the parachute to up-end itself and, at the same time, releases the binding cords that hold the parachute cover around the parachute. So long as the cover is fastened around the parachute, the parachute springs, which tend all the time to open it up, are held down like the wires in a folded umbrella. Once the parachute is in its vertical position, however, and the cover removed, the springs open it up; and upon the downward movement of the aeroplane it fills and lifts itself free from the standard upon which it is mounted. All this occurs automatically upon the operator's pulling the releasing cord.



THE MARCUCCI PARACHUTE OPENED.

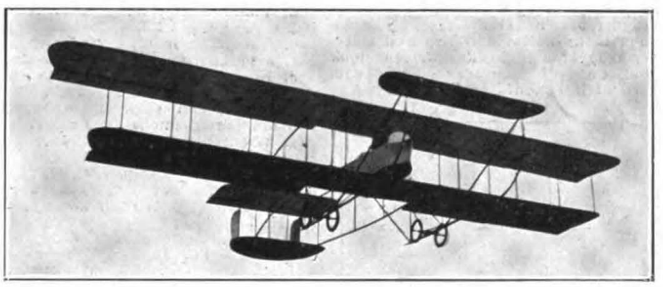
When the descent becomes sufficiently rapid, the parachute, which as before stated is attached to the operator's seat through the medium of the parachute cords, lifts the operator's seat from its bearings in the aeroplane, that is, it permits the aeroplane to drop but retains the seat. Thus the operator is gradually borne to the ground by the parachute, notwithstanding any accident to the aeroplane. Instead of attaching the parachute cords to the operator's seat, as just explained, they may be attached to the aeroplane itself in such a way that when the parachute opens upon the descent of the machine it will tend to right the machine, that is, restore to it its proper balance for gliding.

The Cause of "Air Pockets"

By Thomas Preston Brooke

Science has thoroughly established the fact that warm air shows a tendency to rise, and that these same rising currents will fall again when their temperature drops below that of their surroundings. This phenomena always occurs in a closed room. I have frequently watched small particles of dust traveling regularly between the floors and ceilings of rooms in which there was no heating apparatus and in which all the doors and windows were tightly closed. These floating particles of dust seemed to pursue the same general course in each ascent and decent and proved to my mind that there existed cool downward currents between the warm ones traveling upward. I have also noticed the same phenomena out of doors. On days when no air seemed to be stirring, a feather or bit of paper would sail up into the air in an almost perpendicular line and often to the height of a hundred feet or more; it would then drift horizontally for fifty feet or so and would again drop toward the earth. On the downward trip the speed always exceeded that of the upward motion by fully 50%. This difference in velocity can, in a measure, be accounted for by the force of gravity, but it is undoubtedly true that this greater downward motion was caused by a strong falling current of cooled air. Frequently the object would turn when near to the earth and again ascend. To prove that surrounding trees or houses did not create these opposite air streams, I have carried bits of lint and light feathers to the centre of level meadows, far from any trees, fences or buildings, and found that when I released these fluffy bits they sailed upward with even greater speed than when near to trees or houses. It is absolutely certain that these vertical air currents do exist on all days when the air is comparatively quiet and the sun is shining brightly. These vertical air streams are rarely ever near to each other, and I have frequently walked a mile over level ground before locating one with an upward trend. They also vary greatly as to their width. Some of them I found to be but a few feet wide, like the draught from a fissue in the earth, while others appeared to have a width of several hundred feet. These upward streams generally exist in pairs, with a downward stream between them. Where I found a down stream with an ascending stream on each side of it, the velocity of the falling lint was greater than when there was but one ascending stream. These vertical air streams undoubtedly extend to considerable heights, and I believe that in them is found the cause of the so-called "air pockets" so often met with by aviators. When an aeroplane leaps out of the still air, or gently ascending currents, into one of these down moving air streams, but one thing can result, the aeroplane must drop. How far it will drop depends upon three conditions. (1) The forward speed of the aeroplane. (2) The downward velocity of the air stream. (3) The width of the air stream. While the aviator has the impression that he is falling in a vertical line, his forward movement is but slightly checked and the actual movement of an aeroplane falling into a "pocket" is that of making a glide at an abrupt angle on an "even keel." Were this not true the aeroplane would continue to fall until it struck the earth. Indirectly, these air pockets have undoubtedly been the cause of numerous accidents. However, there should be no danger in them if the aeroplane has the slightest inherent stability and does not carry a revolving motor or a motor with a high flywheel velocity, for it is the brutal gyroscopic force in these motors that causes all the havoc. Even with the motor containing gyroscopic force the drop is not necessarily fatal, but it is always attended with great danger. Should the aviator become startled by the unexpected falling of his machine and, in his excitement, suddenly change his angle of flight, no matter how slight the change, he would awaken the gyroscopic force in his motor, and instantly the nose of his aeroplane would be thrust violently downward and the press of the world would chronicle another "unaccountable accident." With a properly built aeroplane and equipped with a motor having no gyroscopic force, one can glide across air streams, or "pockets," with perfect safety, and these "boog-a-boos" of the air will simply add to the exhilaration of flying.

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THE MAURICE FARMAN BIPLANE USED BY EUGENE RENAUX IN HIS RECENT WORLD'S RECORD DURATION FLIGHT OF 12 HOURS 12 MINUTES.

FOREIGN NEWS

Algeria

Aviator Edonard Paillole fell to his death from an altitude of 150 feet on July 14 at Maison-Carree, Algeria. As he was starting for a flight the machine turned turtle.

Austria

On July 26th Sablatnig on a new biplane made a cross-country flight from Wiener-Nieustadt to Fischamend and return. On the same day Lieut. Miller accomplished a cross-country passenger flight of 100 kilometres on an Etrich monoplane. Leaving Wiener-Nieustadt with Lieut. Riedlinger, he rose to a height of about 500 feet, and passed over Gramat-Neusiedl, Bruck, Ebergassing, and Fischamend, which place he was approaching at a height of 2,500 feet when he met Sablatnig returning. He immediately turned round and returned with him to Wiener-Nieustadt.

A Bavarian and Austrian circular flight, touching Munich, Stuthgart, Nuremberg, Salzburg, Linz and Vienna to take place during May next year, is being arranged. The Bavarian Aero Club has been entrusted with the organization work.

Belgium

On July 18th at Kiewit, Jean Olieslagers, the famous Belgian pilot, made a new world's record for distance of 388 miles (625 Kil. 200). Last June this flyer made a tentative flight for the $4,000 Grand Prize of the Aero Club of Belgium and made a Belgium record for distance of 219 Kl. 500. This was beaten on July 7th by Verrept who made a record of 338 Kil. 550 in 4 hours, 19 m. 42 seconds, establishing new Belgian records for both distance and duration. Olieslagers tried again with the aforementioned results. The record was made on a Blériot monoplane, the flight occupied 7 h. 18 m. 26 2-5 s.

Lanser made a good cross-country flight July 24-25. Leaving Berchem at 7.30 in the evening on the 24th, he landed half an hour later on Mont Cesar at Louvain, where he decided to spend the night. At 3.30 the next morning he was away again, and landed at 4.30 at Kiewit.

As we go to press the Belgian Circuit is in progress. There are seven stages as follows:

August 6—Belgian Circuit, 1st stage: Brussels-Mons.

August 8—Belgian Circuit, 2nd stage: Mons-Tournai.

August 10—Belgian Circuit, 3rd stage; Tournai-Blankenberge.

August 13—Belgian Circuit, 4th stage: Blankenberge-Antwerp.

August 15—Belgian Circuit, 5th stage: Antwerp-Liege.

August 17—Belgian Circuit, 6th stage: Liege-Namur.

August 20—Belgian Circuit, 7th stage; Namur-Brussels.

Canada

The aviation meet at Hamilton, Ontario, where J. A. D. McCurdy, Charles F. Willard and James V. Martin flew for four days, was closed on August 2nd with a race from Hamilton to Toronto between Willard and McCurdy. Willard left the Hamilton aviation field at 6 o'clock sharp and McCurdy followed in ten minutes. McCurdy's time for the 45 miles was 32 minutes. Willard made the trip in 45 minutes. McCurdy was using his new McCurdy racing biplane and Willard was using the Willard passenger carrying machine, both machines being equipped with Gnôme motors. It was the intention of the aviators on reaching Toronto, where the aviation meet opened on August 3rd, to land at the aviation field at Donland's Farm, but owing to adverse climatic conditions and a heavy smoke from the city, they were compelled to alight before reaching the field. McCurdy alighted at Fisherman's Island in Toronto harbor; Willard landed in the Toronto Exposition Grounds. McCurdy's altitude in this flight was at an average of about 3,000 feet. Willard did not go so high. This is the first city to city race between aeroplanes on the American continent, and the speed that McCurdy got out of his little racing biplane in this flight surprised himself.

China

Messrs. Koong and Haang, officers of the Chinese Army who have just concluded their training at the Brussels military school, have been ordered by their Government to go to the military aviation school, Paris, to learn aviation.

England

Morrison, the well-known English aviator, flew from Paris to Paris on July 7-8. After leaving Issy he lost his way, but finally landed near Calais. The day after he started again, followed the mail boat across the Channel, landed near Eastbourne for fuel, then flew to his destination, Shoreharm.

The "Daily Mail" Circuit of England

The biggest aviation event ever held in England, the Circuit, started on July 22d. The winner was to receive the $50,000 prize offered by the London *Daily Mail*. (Map and details of this Circuit occur in AIRCRAFT for May.)

The list of entrants was as follows:

1. André Beaumont (monoplane Blériot).
2. H. J. D. Astley (monoplane Birdling).
3. R. G. Fenwick (monoplane Handley-Page).
4. Lieutenant J. G. Porte, R. N. (monoplane Deperdussin).
5. Ronald C. Kemp (biplane Avro).
6. G. Compton Paterson (biplane "Baby" Grahame White).
7. Jules Vedrines (monoplane Morane-Borel).
8. James Radley (monoplane Antoinette).
9. G. Blanchet (biplane Breguet).
10. Lieutenant R. A. Cammell (monoplane Blériot).
11. E. Audemars (monoplane Blériot).
12. James Valentine (monoplane Deperdussin).
13. X. (Aeroplane Bristol).
14. R. C. Gordon, England (aeroplane Bristol).
15. C. P. Pizey (aeroplane Bristol).
16. C. Howard Pizton (aeroplane Bristol).
17. Pierre Prier (monoplane Bristol).
18. S. F. Cody (biplane Cody).
19. M. Tabuteau (aeroplane Bristol).
20. F. Conway Jenkins (mono Blackburn).
21. Olivier de Montalent (biplane Breguet).
22. Gustave W. Hamel (monoplane Blériot).
23. Lieutenant H. R. P. Reynolds, R. E. (biplane Howard Wright).
24. Robert Loraine (monoplane Nieuport).
25. B. C. Hucks (monoplane Blackburn).
26. C. T. Weymann (monoplane Nieuport).
27. H. Wynmalen (monoplane Deperdussin).
28. Lieutenant H. Bier (monoplane Etrich).

For different reasons de Monlinais, Radley Soraine, Tabuteau, Morison, Prier, Fenwick, Grahame-Gilmour, Kemp and Lieut. Porte did not start.

Brooklands-Hendon: July 22.

The start took place promptly at four o'clock on the 22d, Beaumont starting first, being followed in rapid succession by the rest. The aviators arrived at Hendon in the following order and time:

1. Vedrines, 0:19:48.
2. Beaumont, 0:20:2.
3. Hamel, 0:21:45.
4. Valentine, 0:22:41.
5. Astley, 0:24:16 4-5.
6. Audemars, 0:25:13.
7. Cody, 0:25:18.
8. Blanchet, 0:26:9.
9. Pixton, 0:27:9.
10. Patterson, 0:27:52.
11. Montalent, 0:29:24.
12. Pizey, 0:48:00.
13. Weymann, 0:58:18.
14. Reynolds, 1:41:56.
15. Bier, 2:06:27.
16. Hucks, 2:15:04.
17. Cammell, 3:03:31.

Hendon-Edinburg, July 24.

The next start took place at 4 A. M. Monday, July 24. Beaumont, through a mistake, started first in place of Vedrines at 3:59:36; Vedrines followed at 4 o'clock, the rest following at intervals. Only three reached Edinburgh; Vedrines, Beaumont and Valentine. Their time for the distance was as follows:

1. Vedrines, 7:15:50.
2. Beaumont, 7:33:41.
3. Valentine, 13:03:41.

The others: Weymann broke the chassis of his Nieuport at Leeds; Patterson and Audemars abandoned the race at Hendon; Blanchet broke his machine at Streatly; Pixton broke at Spofforth; Cammell quit at Wakefield; Lieut. Bier rested at Codiget; Reynolds and Cody rested at Harrogate; Montalent and Pizey rested at Melton-Mowbray; Hucks rested at Burton; Ashley rested at Kempton; Hamel abandoned the race at Harrongate.

Edinburgh-Bristol, July 25—

The third leg, Edinburgh-Bristol, was practically a race between Beaumont and Vedrines, Valentine having been forced down at Castle-Cary, between Sterling and Glosgow, owing to propeller breaking on landing to find his way. In this journey Beaumont, who had heretofore taken advantage of the rules that allowed twelve hours rest for each leg and had rested longer than Vedrines, gained first place by skilful piloting.

Vedrines lost nearly one and a half hours through his mistaking the flying grounds of an aviation school for the control. The classification was then:

1. Beaumont, 17 hours 21 m.
2. Vedrines, 18 hours, 45 m.

Bristol-Exeter-Bington-Brooklands, July 26—

This was a close race between Beaumont and Vedrines but Beaumont arrived first at Brooklands, beating Vedrines by 1 hour 8 mintes, 59 seconds, thus winning the $50,000 *Daily Mail* prize. His official time for the 1,010 miles was 22 hours 29 minutes 6 seconds. Vedrines' time was 23 hours 38 minutes 5 seconds.

Lord Northcliffe, the owner of the *Daily Mail,* who offered the prize was at Brooklands to receive and greet the aviators. A large enthusiastic crowd was assembled at Brooklands to receive the aviators and Beaumont was carried shoulder high. Vedrines was presented with a solatium of $1,000 by Lord Northcliffe. Valentine and Cody were the only other two to finish. After fixing his propeller at Castle-Cary Valentine proceeded towards Bristol, but could only go as far as Carlisle; then a new mishap held him up and only finished on August 4th.

Captain Cody first damaged the chassis in landing near Durham and could not proceed again until some days later. He finally finished on August 5th.

On August 6th Miss Trehawke Davies, an English lady, booked a return ticket between Hendon and Brighton at the Hendon offices of the Aeronautical Syndicate, Ltd. The flight took place on August 8th as per schedule, Mr. H. Barber, the famous Valkyrie flyer piloted the machine. (The "Valkyrie" machine was fully described in the March, 1911, issue of AIRCRAFT on page 9.)

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France

VEDRINES MAKES NEW DURATION RECORDS

On August 9, Jules Vedrine added a star to his crown by making a world record for duration of 800 kilometres (497 miles). The flight took place near Paris and lasted 7 hours 56 minutes 36 seconds. A height of 1,500 feet was maintained throughout the flight; the machine was a Morane, the same one with which he won the Paris-Madrid race and almost won the Circuit of Britain contest.

On July 14th Alfred Leblanc, the celebrated Blériot pilot Hubert Latham, the famous Antoinette flyer, Captain Bois, pilot of dirigibles, and Captain Secouney, well known expert flyer of military kites, were made chevaliers of the Legion Honneur.

July 25th was the second anniversary of Blériot's cross-channel flight. A monument commemorating the feat which was inaugurated erected on the border of the Calais-Sangatte route was on July 16th. Addresses were made by M. M. de Count de la Vaulx, Edgar Cordier, and M. Dupuis, the mayor of Sangatte. Mr. Blériot, who was present, thanked the Committee, and modestly said the honor was France's, of which he was proud to be a son.

Mme. Denise Moore was killed while flying at Etampes July 21. She was flying at a height of 120 feet when the aeroplane turned turtle. She was pinned under the motor and died instantly.

Another death, that of Henry Jolly, a licensed pilot, took place July 23rd, at the Juvisy areodrome. The weather was unfavorable, the excessive heat having disturbed the atmosphere. Jolly persisted in making a flight with his 70 H. P. biplane racer. At an altitude of 200 feet the pilot lost control and after making two quick turns the aeroplane dashed to earth, killing the pilot instantly.

In the course of some experiments in wireless telegraphy on July 23, Capt. Brenot succeeded in transmitting a message from a Farman biplane, on which he was carried by Lieut. Menard, to the Eiffel Tower, about 35 miles from Rambouillet, above which the aeroplane was flying when the message was sent.

On July 21 inst. a series of experiments with an automatic stability apparatus were carried out at Villacoublay in the presence of General Roques, the Archduke Alexandre, Commandant Renard, MM. Painleve, Eiffel, Leon Barthou, etc. Lieut. Menard was the pilot of a Henry Farman machine while Chevalier was piloting a Nieuport monoplane. Later Nieuport took up a passenger on his new military machine.

French Military Competition

The following machines have been entered for trials to be conducted by the French military authorities:

Antoniette	Goupy
Astra	Guyot
Bebin	Hanriot
Bilard	Lasternas
Blanc	Lecomte
Blériot	Legras
Bonnet-Labranche	Lepers
Borel-Moraine	Maurice
Bourgoin et Kessels	Moreau
Breguet	Nieuport
Caille	Paulhan
Clement-Bayard	Pesserat et Radiguet
Collin de Laminiere	Pierre Pons
De Bellet	R. E. P.
Deperdussin	Roissard
Dhumbert	Savary
Dumont	Sommer
Etienne	Timaskian
Fabre	Verdier
Farman (H.)	Zodiac
Farman (M.)	

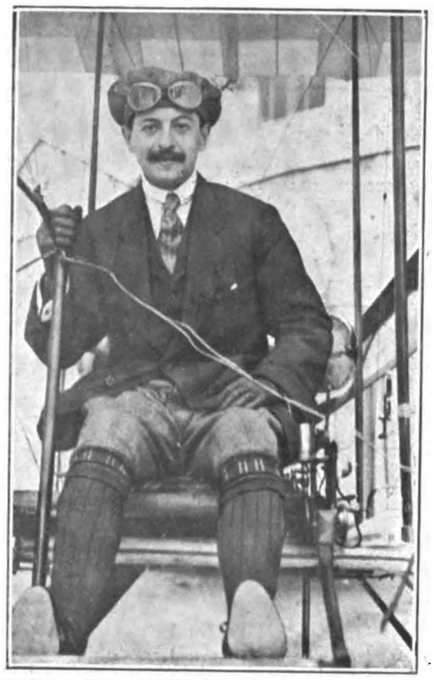
The makers of engines who have entered include:

Antoinette	E. N. V.
Anzani	Gnome
Aster	Gregoire
Aviatic	Labor
Bariquand et Marre	Lemasson
Berthaud	Nieuport
Canda	Panhard et Levassor
Canton	Péugeot
Chenu	Renault
Clement-Bayard	R. E. P.
Clerget	Unne
Coanda	Verdet
Dansette et Gillet	Viale

Flying at Mourmelon, July 21st, Loridan made a new record, flying aggregate distance of 700 kilometres (465) miles cross-country, over a 100 kil. course in 11 hours 33 minutes. This flight was the first this year for the Michelin Cup. Loridan started at 3.12 in the morning and flew at an average speed of 90 kilometres per hour, stopping every 100 kilometres to replenish the tanks. This gave him two world records, the other being for altitude made July 8th. The machine used was a small Henry Farman biplane.

The Voisin Brothers have made a number of experiments on the Seine with the Canard hydroaeroplane of late, all successful, the machine rising and landing easily on the water's surface.

Captain Julian Felix, director of the Military Aviation School, made a new altitude record at Etampes on August 5th, of 11,330 feet. The ascent was made with a Bleriot and required sixty-three minutes steady climbing. The descent took but twelve and one-half minutes. This beats Loridan's record of last month by 572 feet.



LORIDAN, WHO MADE AND LOST TWO WORLD'S RECORDS WITHIN A MONTH.

Renaux, the winner of the Michelin prize, made a new duration record of 12 hrs. 12 min. on August 7th. He started at 3 A. M. and flew over a course between St. Cyr and Chartres, covering a distance of 690 Kms. The excessive heat affected part of the covering of the planes and he was obliged to land. This record was made on a Maurice Farman machine.

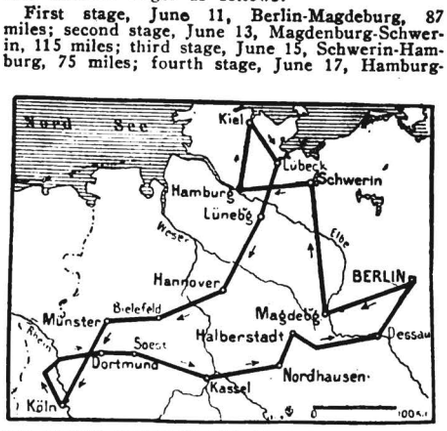
Germany

THE GERMAN CIRCUIT

(By Special Correspondent Stella Block.)

The German Circuit, which is the longest circuit made so far both in distance and duration ended most successfully. The race was divided into thirteen stages as follows:

First stage, June 11, Berlin-Magdeburg, 87 miles; second stage, June 13, Magdenburg-Schwerin, 115 miles; third stage, June 15, Schwerin-Hamburg, 75 miles; fourth stage, June 17, Hamburg-



MAP OF THE COURSE OF THE GERMAN CIRCUIT RACE.

Kiel, 68 miles; fifth stage, June 23, Kiel-Lubeck-Luneburg, 95 miles; sixth stage, June 24, Luneburg-Hanover, 71 miles; seventh stage, June 26, Hanover-Bielefeld-Munster, 112 miles; eighth stage, June 29, Munster-Cologne, 104 miles; ninth stage, July 2, Cologne-Dortmund, 87 miles; tenth stage, July 3, Dortmund Soest-Kassel, 95 miles; eleventh stage, July 5, Kassel-Nordhausen, 63 miles; twelfth stage, July 7, Nordhausen-Halberstadt (over Harz Mts.), 70 miles; thirteenth stage, July 10, Halberstadt-Dessau-Berlin, 126 miles. Total, 1,168 miles.

Eleven pilots started, nine with passengers, but only two completed every stage. The rest remained to fly at different meets.

1. König (bip. *Albatros*, Gnôme 70 H.P.), covered 1.506 kil.+25% for passenger=1.882 kil. 5.
2. Vollmüller (mono. *Etrich-Rumpler*), (Mercédès 70), 1.470 kil. + 25% = 1.837 kil. 5.
4. Lindpaintner (bip. *H. Farman*, Gnôme 70 H. P.), a parcouru 978 kil. + 25% = 1.222 kil. 5.
3. Büchner (bip. *Aviatik*, Argus 100), covered 1.091 kil. + 25% = 1.363 kil. 75.
5. Wittenstein (bip. *M. Farman, Renault*, 65), 840 kil. partiellement 25% = 941 kil. 5.
6. Wiencziers (mon. *Morane*, Gnôme 70), 751 kil. alone = 751 kil.
7. Schauenburg (bip. *Wright*, N. A. G., 50), 457 kil. + partiellement 25% = 941 kil. 5.
8. Thelen (bip. *Wright modifié*, Gnôme 70), 497 ki. seul, 497 kil.
9. Laissen (*Albatros* Gnôme, 70), 255 kil. + 25% = 318 kil. 75.
10. Müller (bip. *Saxon*, Gnôme, 50), 143 kil. seul, 148 kil.
11. Jalmow (mon. *Harlan-Argus*, 65), 83 kil. alone, 83 kil.

All the machines except two were of German construction. The two exceptions were French. Only one serious accident took place, Müller, who came to grief on the first stage from Berlin to Magdenburg.

The first prize goes to Benno König, Albatros, with 1.882 kilometres 50 metres; the second to Vollmüller, Etrich-Rumpler, 1.837 kilometres 50 metres; the third to Büchner, 1.363 kilometres, Aviatik, and the fourth to Lindpaintner, Farman, with 1.222 kilometres. The War office prizes go to König and Vollmüller, the military authorities purchasing likewise König's machines. At the eleventh hour the Crown Prince presented two prizes and there are others to be awarded.

The German Parseval airship ordered by the Russian government went for a long tour near St. Petersburg early in June, carrying a commission from the Russian War office.

An interesting military flight from Vienna to Buda-Pest was carried out recently by Captain Von Umlauff on a Lohner-Daimler monoplane covering a distance of 270 kilometres in 2 hours 22 mins. On the return, in landing the machine turned over but no damage was done to either man or apparatus.

"Schwaben," the new Zeppelin ordered by the dauntless German Aerial Navigation Co. has been through its trials, the first of which was supervised by Count Zeppelin himself. It is to go to Baden-Baden in due course.

Helmuth Hirth, using an Etrich-Rumpler aeroplane fitted with a 70 H.P. mercedes motor, won the handsome prize of 50,000 marks given by the Kathreines Malt Coffee firm for a journey from Munich to Berlin on June 30th. Starting at 6:30 P. M. from Munich on June 29th accompanied by a passenger, Hirth arrived at Nurembery two hours later, where he remained till 4:20 A. M. on the following morning. He flew to Leipzig, where he made a short landing, reaching Johannesthal at 9 o'clock in the morning. His actual flying time for the 550 kilometres was 5 hours 39 mins.

Italy

On July 9th Manisserro flew on his Blériot from Turin to Racconigi where the Royal family were staying. As he circled the castle he saw Queen Helena and other members of the Royal family at one of the balconies. Leaning down in the frame of the monoplane Manisserro produced a small Italian flag which he waved with one hand while steering with the other.

Holland

The War Minister of Holland has issued orders commanding the officers in charge of fortifications to notify the police when balloons pass over them, so that upon alighting the balloonists can be searched and examined to ascertain whether photographs or sketches have been made.

Russia

M. Vassilieff, a Russian aviator, won the St. Petersburg-Moscow race on July 24th. The distance flown was over 400 miles and the prizes totaled $50,000.

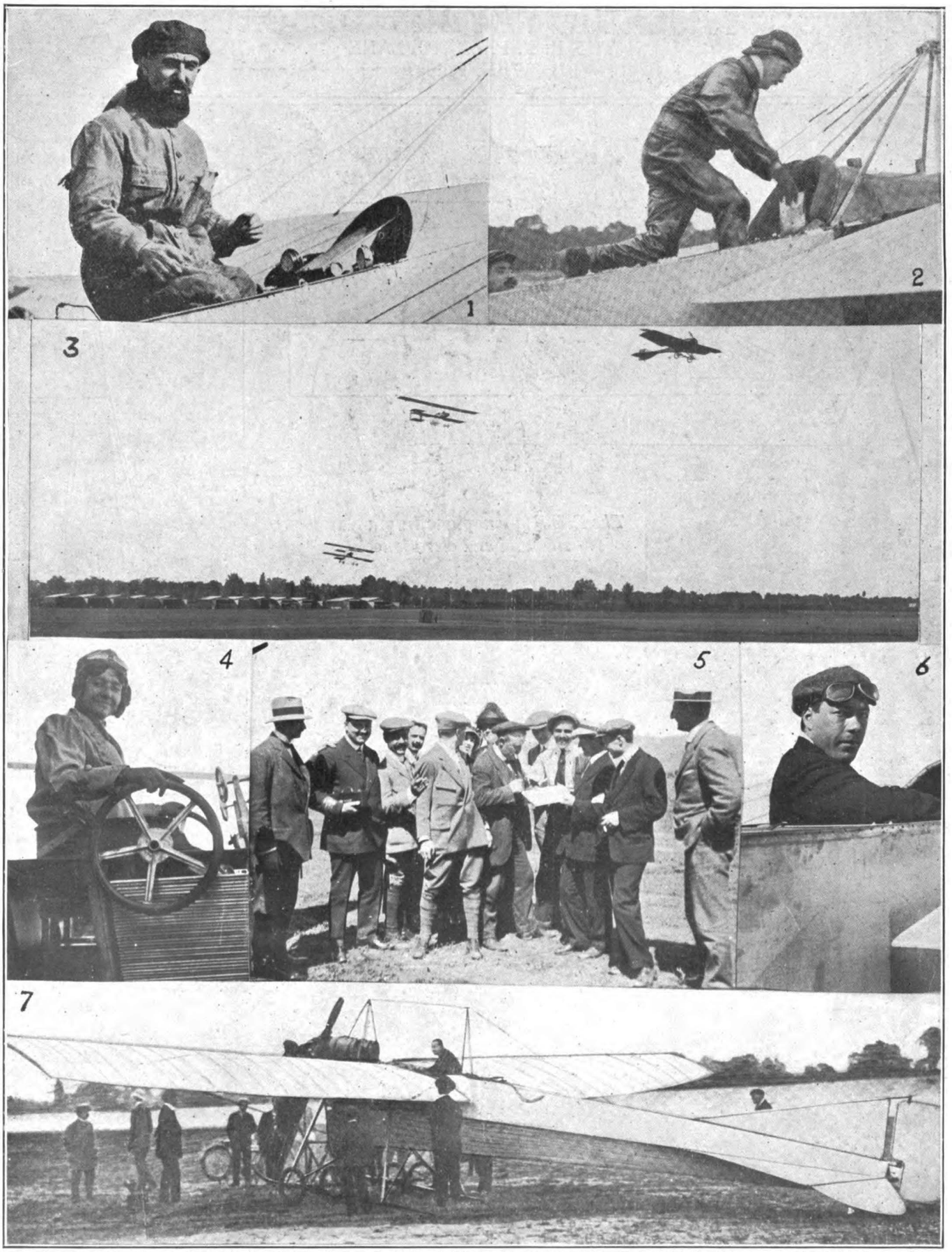
M. Slusarenkos, one of the contestants in the race, fell near Tsarskoe-Selo on July 25th and was severely injured, while his passenger, M. Shimansky, was killed.

Spain

A military aviation school has been established near Madrid. Osmont, the French aviator, was here for a time teaching five officers of the Spanish Army, who are now instructors in the school.

Spain's cross-country race from Valencia to Alicante and back was won by Le Lasseur de Ranzay, flying a Blériot. The outward journey was made on the 29th of July, when the 140 kiloms. which separate the two towns were covered in 1 hour 33 minutes, while at the end of the return trip on Monday last Le Lasseur's time for the complete course of 280 kiloms. is given as 3 hrs. 48 mins.

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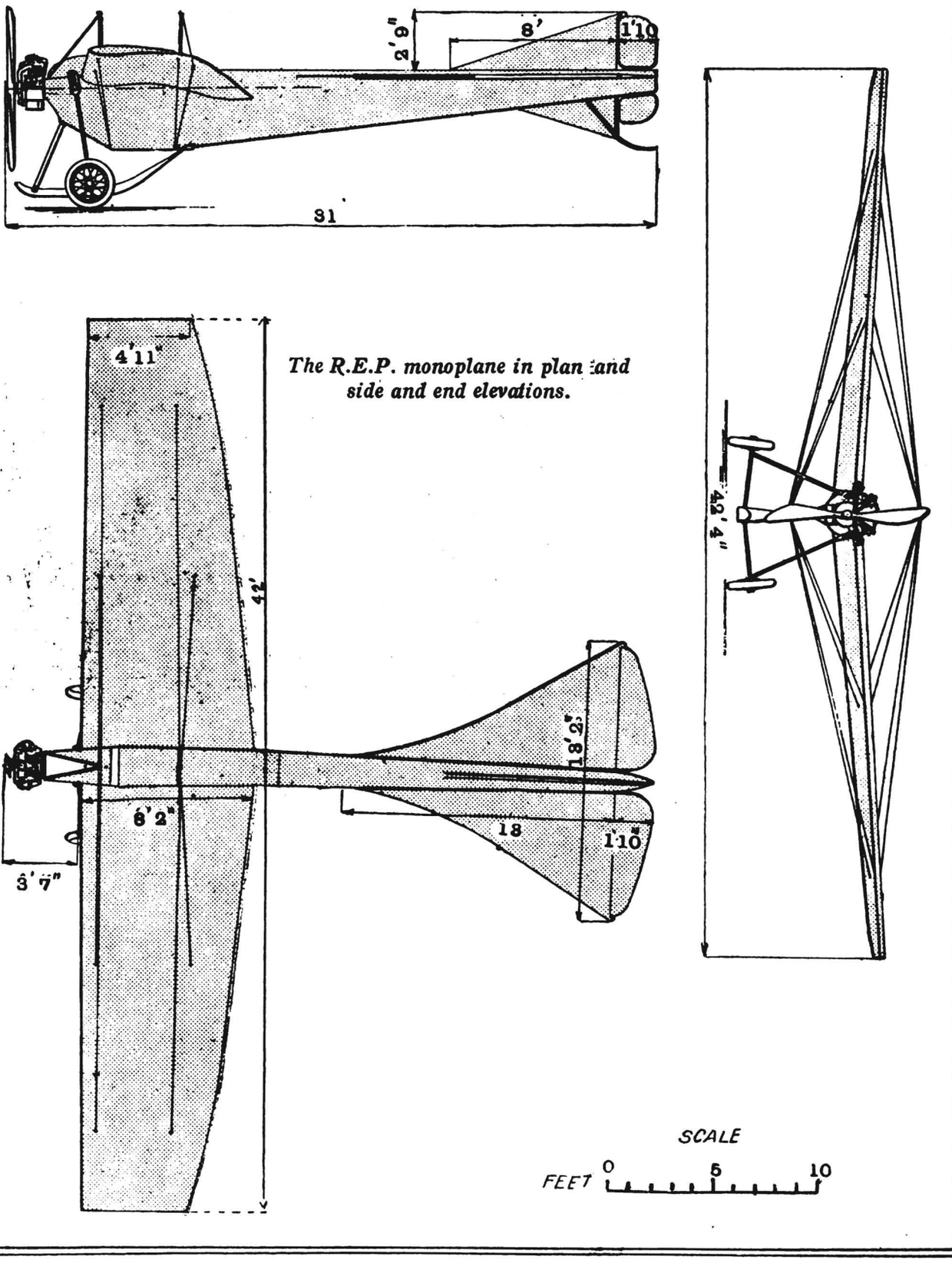
1. Beaumont, the winner of the English Circuit Race. 2. Jules Vedrines, the present holder of the Michelin Cup record, who finished second in the English Circuit. 3. A scene during a duration contest at the Turin meet. The monoplane shown in the foreground is the latest Pivot-Koechlin machine, which was flown by Weiss. 4. Mlle. Marvingt at the wheel of her Antoinette, with which she performed so creditably at the Turin meet. 5. A group of aviators who took part in the Turin meet. 6. Manissero, one of the stars at Turin. 7. The new Vickers-Maxim monoplane, constructed to the design of Esnault Pelterie and which will be used in Dr. Mawson's expedition to the South Pole.

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SUCCESSFUL FLYERS DESCRIBED

THE R. E. P. MONOPLANE

By W. H. Phipps



The R.E.P. monoplane in plan and side and end elevations.

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THE R. E. P. MONOPLANE

By W. H. Phipps

In view of the success attained by the R. E. P. monoplanes in recent European events, particular interest is attached to these machines and we believe the following description will not be untimely.

DESCRIPTION.

The Frame.—This is made entirely of steel tubing joined by autogenous welded fittings; the whole is triangulated; this construction is far stronger than the ordinary wooden one, it cannot become deformed and besides permits building every piece exactly for the weight that it must support. The stern part, which begins at the rear beam of the wings has a lozenge-like section; it diminishes toward the rudder and although very long is light and perfectly rigid.

Landing Chassis.—The apparatus is supported by two parallel wheels, each of them fitted to an independent half axle, connected to the lower part of the frame; a tube running to each side of the frame connects it to springs composed of four bands of india-rubber. A large skid, placed between the wheels under the motor protects the propeller and prevents the machine from turning over and also absorbs any great shock.

Wings.—Each wing is composed principally of two solid beams. The ribs are placed over and above them with light wooden cross-bars interlacing them in order to sustain the canvas. The ends of the beams are fixed to the frame by metal joints.

Seats and Control.—The driver and the passenger sit between the wings in the square part of the frame; their places are roomy and afford a good view. The rear seat is for the pilot and is fitted with controls and levers, which can be connected with double levers for teaching. These can be released by a special device in case the pupil does not follow the instructor's movements. The controls are instinctive; a lever in the left hand operates the rear elevator, and by lateral movements the warping of the wings; a lever in the right hand operates the steering rudder.

Motor.—The R. E. P. 60 H.-P. 5-cylinder motor is fixed upon the front of the frame by four bolts. The magneto is made for double ignition and the motor is started by contact upon accumulators. A speed indicator shows the pilot the number of revolutions of the motor.

Tanks.—These are generally made for two-hour flights and are provided with levels and taps which are placed behind and over the motor. The motor bears an air pump which allows the use of tanks in supplement, placed in the frame under pressure.

Spring Belt.—The R. E. P. Spring Belt absorbs shocks of bad landings and prevents the aviators from being thrown out.

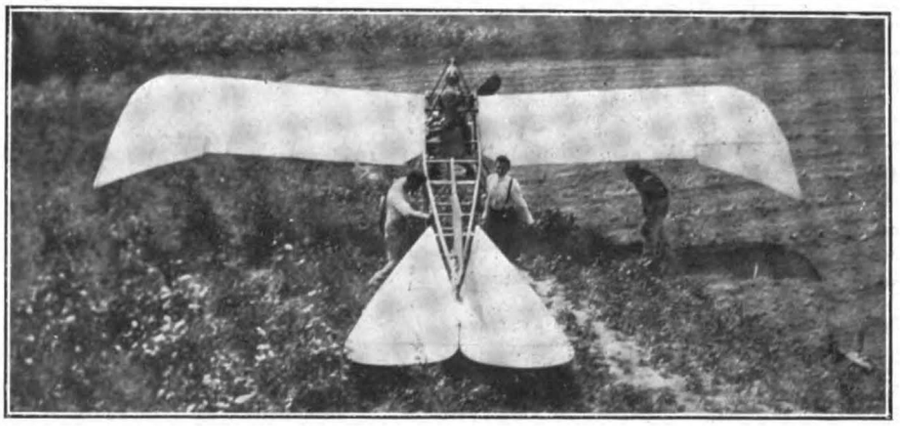
MAIN DIMENSIONS.

Total Length.—31 feet.
Width.—42 feet.
Weight of Apparatus.—500 Kilogs.
Weight with passengers and fuel.—700 Kilogs.
Length of wing.—20 feet.
Width of Wing.—8 feet 2 inches to 4 feet 11 inches.
Motor—60 H.-P. R. E. P.
Speed.—90 kilometres.

THE "HEINRICH MONOPLANE"

By A. Heinrich

The main fuselage consists of a box girder 22 feet long. Four ash spars run the length of the fuselage. The two lower ones being straight, while the two top spars are arched, the fuselage is strengthened out by stanchions placed every 30 inches apart held in place and further strengthened by bolts and steel wire No. 30. The four main spars come together at the stern and are fastened to a stern post of ash 1 inch by 2 inches, to which the rudder, 2 feet by 3 feet is hinged. The four main spars of the fuselage are not of one length, but are joined together in the middle of the fuselage between the stanchions by a sliding fit into square steel tubes, at the front of the fuselage they are 1¼ inches square and taper down to ¾ inch square at the stern. The vertical and horizontal stanchions of the fuselage are oval in shape. The spread of each wing is 13 feet 6 inches and the chord 6 feet 6 inches. The wings are built up on two ash main spars channelled on for lightness and two solid spars. The front main spar is about 18 inches from the leading edge and the next main spar is 2 feet back from that, the other two spars are solid, 1 inch thick, and 2 inches wide at the fuselage, tapering down to 1 inch at the end of the wing. The two front spars of the wings are bolted through the longitudinal members of the fuselage and are braced across the fuselage by a steel tube which keeps it from collapsing. The two front main spars are a sliding fit into a steel tube running around the fuselage. The ribs are of I-beam section made up of three pieces and are spaced 8 inches apart. Lateral stability is obtained by warping the wings. The landing chassis is of the wheel and skid type. The tail is flat and has about 35 square feet of surface, and wings have about 180 square feet. The wings are held up by four No. 33 steel wires fitted with turnbuckles and running to a V truss of steel tubing. The under fastening of the wings is by 3 steel bands in front running from the landing chassis to the wing, two to the front spars and one to the main spar. The warping wires are two in number of flexible steel and run from the rear main spar to the warping quadrant which is on a V truss under the aviator's seat, all three controls are governed by the one steering wheel. The aviator sits a little forward of the trailing edge of the wings. The motor and gas tanks are under a hood much the same as on an automobile.



THE HEINRICH MONOPLANE, A NEW AND INTERESTING AMERICAN MACHINE CONSTRUCTED SOMEWHAT ON THE LINES OF THE BLERIOT.

BOOK REVIEW

CHARTS OF THE ATMOSPHERE FOR AERONAUTS and AVIATORS, by A. Lawrence Rotch, S. B. A. M. and Andrew H. Palmer, A. M., (first edition) 11¾ x 9¼ (John W. Wiley & Sons).

Messieurs Rotch and Palmer need no introduction to the aeronautical fraternity. They are well known and the present book, 24 charts, with as many pages of explanatory text—the results of close study of meteorologic conditions,—will be appreciated by those who want to conquer the atmosphere methodically, especially aeronauts.

FLYING MACHINES TO-DAY. By Prof. William Duane Ennis, of Polytechnic Institute, Brooklyn. (D. Van Nostrand Company.) Cloth, 12 mo.

In this book the author explains to laymen the scientific principles involved in the art of flying, touching on almost all problems of heavier than air flight. In the illustrations, of which there are 123, one is pleased to note a number of the less known American made aeroplanes and motors that do not usually find way in books.

Les lois experimentales de l'Aviation, par A. Sée, former pupil de l'Ecole Polytechnique. A volume of 348 pages illustrated with 149 drawings. Price 7 fr. 50, Librairie Aéronautique, 40, rue de Seine, Paris.

"M. Sée's work constitutes one of the best works on aviation and worthy to be put in a class with those by Soreau and Ferber," wrote M. Faroux in the Parisian "Auto," one of the great authorities on aeronautics.

The author does not deduct any theory by means of reasoning, for he shows the danger of reasoning a priory in aerdynamics, which leads often to completely erroneous theories; he exposes the serious experiments made on the resistance of the air and the purely empirical laws that follow. Then he applies these laws to the aeroplane and studies the speed, work, useful lift and the drift.

He gives further a general theory of the propeller at a fixed point and the helicopter and the propulsive screw and mostly approves M. Riabouchinsky's laws on the screws, which reverse most of the former laws made by Hiram Maxim, Drzewiecki, Tatin, etc. A very complete study of the bird's different kind of flights, and especially of the "vol à voile" (soaring flight) closes this book, which is regarded as one of the classics of aviation.

The Aeroplane, Past, Present and Future, by Claude Grahame-White and Harry Harper, with contributions from well known authorities on aviation. It is a volume of 318 pages selling for $3.50 and published by J. B. Lippincott Company.

The work is a standard reference for all that has been done or attempted, or is in progress for the advancement of aviation, for some time to come.

The world of pioneers is first described by one who actually witnessed the early flights of Captain Ferber, Santos-Dumont, Wilbur Wright and Henry Farman. The story of the application of the gasoline motor to aeroplanes is told—how it was that a suitable propulsive force made flying possible. This leads to the fascination of men's first flights, and it is explained how the duration of aerial journeys was lengthened from seconds to minutes and minutes to hours. From this the reader is taken to the feats of the present day. All the most notable flights of the world's famous airmen are described. Records in high-flying, speed, cross-country, and over-sea flights are concisely tabulated. It is made possible to ascertain, at a glance, what the most remarkable feats have been. A special section of the book is devoted to an analysis of the aeroplane accidents that have happened. Each disaster is described, and, where possible, an explanation is given. A specially compiled list, alphabetically arranged, gives the Aviators of the World, with the aeroplanes they pilot, and notes concerning their flights. The building of aeroplanes is exhaustively dealt with, and finally come important articles supplied by the most famous authorities upon aviation.

PEUT-ON VOLER SANS AILES? par Paul Collard, In génieur civil, ancien officier de marine. Un vol. in-8 de 108 pages.—Prix:3 francs. *Librairie Aéronautique*, 32, rue Madame, Paris.

Les accidents d'aviation si nombreux, et souvent mortels, qui viennent d'assombrir la fin de l'année, appellent l'attention du public et surtout des spécialistes de l'aviation sur le nouvel ouvrage qui vient de paraitre:

Peut-on voler sans ailes?

par M. Paul Collard.

L'auteur étudie les diérents modes de sustentation d'un corps pesant dans l'air et démontre la possibilité de réaliser ce qu'il appelle: *La sustentation en vitesse.*

Cet ouvrage donne lieu a un débat sicentifique intéressant, et tous ceux qui s'occupent d'aviation voudront le lire, pour prendre parti pour ou contre la théorie de *l'Aérolet.*

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THE SOUTH AMERICAN TRADE

DO you remember the advice Horace Greeley used to give to ambitious men a few decades ago? "Go West, man, go West," he used to say, "there are opportunities worthy of your aspirations." He told them so because he knew the West—he knew of the rich resources, the splendid opportunities and their possible developments. Thousands of men who took his advice were benefited and made big gains.

In urging you to look Southward, to take steps to extend your industrial activities as far as the South American countries, we believe we are advising you to do something that will be highly beneficial to you, and we speak advisedly. Just as Horace Greeley advised men to go West because he had investigated and knew of the opportunities open there for them, we advise you to turn your attention to the South American trade because we have investigated and know that there is the making of a big industry, that the time is opportune, and that it is quite possible, if cared for rightly, that the South American trade will in a couple of years be as important as the home trade. This is your opportunity, don't overlook it.

The Editor.

New Corporations

Sharp Aeroplane Co., Cleveland, O., $10,000. James G. Reyant, K. C. Morris, Amiel Radtke, John Sharp and Hattie Sharp.

Tacoma Aeroplane Mfg. Co., Tacoma, Wash., $50,000. G. W. Stoomer, W. F. Longmire and J. A. Anderson.

Reimers-Mair Biplane Company, Chicago, Ill. Name changed to Standard Aviation Company.

Continental Aero Club, Richmond, Va., capital, $1,000. Incorporators: W. F. Higgins, W. J. Newson, H. R. Tevis and S. E. Norman.

The Pioneer Aeroplane and Exhibition Co. has been incorporated in St. Louis for $12,000.

Utah Aviation Association, $25,000, Salt Lake City. J. A. Kaufman, W. E. Palmer, E. M. Cooper, Peter Clegg, William R. Smith, William S. Marks, William Soelburg and Philip Aljets.

The Bridgeport Aeronautical Co., Portland, $100,000. C. E. Eaton, T. L. Croteau.

Chicago Aeroplane Mfg. Co., of Chicago, $100,000. Incorporators: W. J. Mahoney, M. C. Taylor, W. N. Amkers.

McCurdy Aeroplane Co., J. A. D. McCurdy, $5,000, 1780 Broadway, New York.

The **Hall-Scott** motor continues to gain in popularity and machines all over the country are being fitted with it and making successful flights. Amongst those who have recently purchased these motors are: Dr. H. Walden, William Evans, The Rex Smith Co.

Some splendid work has been done with the new model **Kirkham** motors during the past month and a recent purchaser, H. Angus Conners, has been making successful flights in a new biplane of his own design fitted with one of the 50 H. P. six-cylinder models.

We have received from the **International Oxygen Company,** New York, a catalog that would, we believe, convince many of our constructors that they could use oxygen and hydrogen for soldering, welding, etc., to good advantage.

Leo Stevens, the well known balloonist, is now manager for Harry N. Atwood, America's great cross-country flier.

Maximotor Makers of Detroit report that a 40-50 Maximotor equipped biplane has just been ordered by the Elton Auto Co., of Youngstown, Ohio. Mr. Elton and his assistant, Mr. McQuiston, have arranged for taking tuition at the Wright Brothers' school in Dayton, Ohio. Mr. Elton intends to fly his new machine on Maximotor Maker's field in Detroit. Mr. Elton states that he will have a large monoplane with a 60-75 N. P. Maximotor inside of two months.

Harris Bros., Vehicle Dealers of Columbus, Ohio, have purchased a model E Maximotor for their new "Antoinette" monoplane. This Maximotor will replace Harris Bros. 8-cyl. engine of another make which did not give the required power.

Mr. N. N. Umstead, southern capitalist, Durham, N. C., manager of the Umstead Aviation Co., is equipping his first 'plane with a 6-cyl. 50-60 H. P. Maximotor.

The Roberts Motor manufactured by the Roberts Motor Co., of Sandusky, Ohio, has been giving a very good account of itself and bids fair to become one of the most popular American motors. During the past month several new machines have been fitted with this motor and have made successful flights. This is the first American motor to be successfully used on a passenger-carrying type Blériot.

A new light-weight clutch of exceptionally good design is the Hele-Shaw clutch, which is handled exclusively in this country by the **Merchant and Evans Company,** of Philadelphia, Pa. The clutch is of a new design with V grooved friction plates that the clutch is locked in normal flight but can be instantly released when desired by pushing a hand lever.

Automobile Club Motor Contest

Fifteen entries were made for the $1,000 prize offered by the Automobile Club of America. This contest was to close on July 1st, but was extended owing to the small number of entries. The entries to date are as follows:

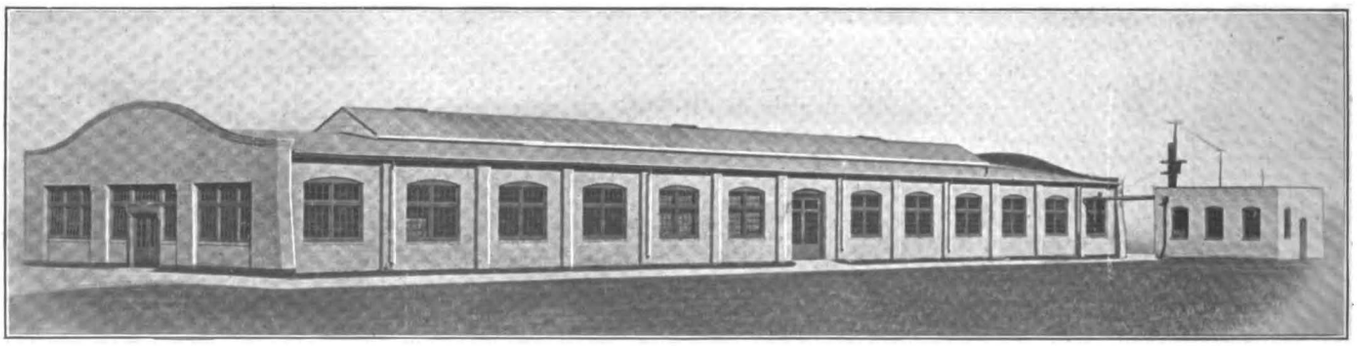
Albatros six-cylinder and Albatros two-cylinder, entered by Albatros Engine Corporation; Anzani, entered by Aerial Equipment Company; Cooke revolving, entered by W. C. Cooke; Gnome, entered by Aeromotion Company of America; Harriman, entered by Harriman Motor Company; Ithaca, entered by Ithaca Motor Company; Kirkham, entered by Charles B. Kirkham; Maximotor, entered by Maximotor Company; Renault, entered by Aerial Equipment Company; Requa, entered by Requa Motor Company; Roberts, entered by Roberts Motor Company; Springfield, entered by Springfield Gas Engine Company; Willard, entered by H. J. Willard; Wright, entered by the Wright Company.

The American Aeroplane House of Garden City, L. I., recently delivered a new type tandem Blériot to Judge J. Albert Bracket of Boston, Mass. The machine is of the latest type, fitted with the new inverse tail and the power plant is a 50 H. P. Roberts motor.

The monoplane was demonstrated by Willie Haupt and at the first attempt, made a straight-away flight across the field. A few minutes before, Ovington, who had tried out Wm. Evan's monoplane, had an accident, running into a ditch, and turning over, pinning him underneath the machine. Haupt, who landed close by, was the first to reach the overturned machine, and freed Ovington.

On Saturday morning, July 29th, Haupt again flew the machine, this time, going up to a height of 800 feet, staying in the air fifteen minutes, and circling the field several times. A half hour later, in the rain, he made a flight of seven minutes, this time carrying a passenger, George McNarra, of Boston, at a height of 100 feet.

The Goodyear Tire and Rubber Co., of Akron, Ohio, announces that the following well known aviators and companies use their fabric: The Wright Bros. and their aviators; Glen H. Curtiss, Ely, McCurdy, Willard, Grahame-White, the Moisant International aviators and Burgess Co. and Curtiss.



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FOR SALE—A PROPELLER, 6-7 and 8 foot, high grade laminated, DESIGNED BY J. FILIMORE COX, ENGINEER, BUILT BY THE AMERICAN VACU ARO CAR COMPANY, NEW, USED FOR EXPERIMENTS ONLY; high thrust; reasonable to first purchaser. REHBEIN, 281 AVE. E, BAYONNE, N. J.

GENUINE Glenn H. Curtiss aeroplane at a bargain. Plane or Curtiss motor separate. Will sell on part payment. Geo. Russell, 1370 Broadway, Room 16, New York.

AEROPLANE FOR SALE—Genuine imported French Aeroplane, monoplane type, French motor 30 H. P., 4-cycle opposed 5 x 5 cylinders. water cooled with French radiator, G. & A. carburetor, French magneto, Chauviere propeller, for $800.00, complete ready to fly. The power plant is high-class in every way and is worth more than what we offer the complete outfit for. Lanier & Driesbach M'fg. Co., 248 Butler St., Cincinnati, O.

CURTISS TYPE BIPLANES, 29 x 4½, guaranteed to fly. Special price for September $375. Complete sets of main beams, uprights and laminated ribs, special for ten days only, for 29 x 4½ Curtiss, $37.50. National Aero Supply Co., Staion A., Indianapolis, Ind.

FULL-SIZE MONOPLANE—Ready for power, $75. Fine flyer, single passenger; 4c stamp for particulars. E. C. Minert Aero Co., 1122 West Locust St., Davenport, Iowa.

CURTISS IMPROVED TYPE—Made very successful flights on three first ones I built. Thousand feet high and 100 miles cross-country. Free flying lessons to buyer. New, complete, $2,500. Buy direct from aviator who flys and builds his own aeroplanes. Ten years' experience. H. C. Cooke, Aviator, 128 W. 65th St., New York City.

FOR SALE—Dirigible balloon 12,000 feet, including gas generators, 300 feet 14-foot side wall, all ropes, stakes and poles. Seven H. P. Curtiss engine, all new ready to fly. Address Bert Brandford, Connersville, Indiana.

FOR SALE—Farman type biplane complete—will teach operation to purchaser; big bargain. Box 741 c-o AIRCRAFT.

FOR SALE—Complete Farman type biplane: 50 H. P. Gnome motor with lots of extra parts. Guaranteed to fly and in perfect condition. Tools and accessories. Will sell separate. Address J. J. de Praslin, LeBlanc Hotel, Lake Charles, La.

FOR SALE—A perfect Santos Dumont monoplane, thirty horse power, fitted with pontons for water and wheels for land. Guaranteed to fly. Just the thing for an amateur. Will demonstrate to purchaser or send photo while in flight. Reason for selling: buying two-passenger machine. Price at Akron, Ohio, $800.00. J. R. Gammeter, Akron, Ohio.

FOR SALE—Two aeronautic motors, 30 and 60 H. P. respectively; weight 130 and 180 lbs. Price low. Address Freed Snelly, R. F. D. No. 2, Bridgeport, Conn.

EXCHANGE

AUTOMOBILE, gentleman roadster, exchange for complete Aeroplane, Plane alone, or engine, not less than forty H. P. Small Dirigible or cash. Particulars first letter. Have photos of car. Fine locker, perfect order, extras. Box, 732, AIRCRAFT.

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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.

WANTED—A position as mechanic's helper by young man 18 years of age. Have had shop experience on automobiles. Want to hear from some aeroplane company or private party. Address: Box 743, AIRCRAFT.

AVIATOR—Trained at Wright Flying School, Dayton, Ohio. Open for position. Address H. V. H., 323 Newport Ave., Milwaukee, Wis.

MECHANIC for all kinds flying machines, wants position. First-class, all round workman. Have held position as foreman. Can furnish best of references. Address Box 742, Aircraft.

YOUNG MAN would like position with aeroplane company or private party. Have made many balloon ascensions. Theo. Blumenfeld, Bloomfield, N. J.

YOUNG MAN (17) wishes position with reliable aeroplane company. Salary while learning $8.50. Franklin Mapes, Lynbrook, Long Island, N. Y.

YOUNG MAN desires position with an aviator as helper or as assistant in aeroplane factory. Address Alex Le May, 10 Bamton St., Yonkers, N. Y.

WANTED—Young man (26) American born of German parents, good education and habits, position as assistant with an aeroplane company or private party in the construction and assembling of aeroplanes or dirigibles, with a view to become an aviator. Have built successful working models, am well read and posted on aeronautical work. Have no end of ambition and interest. I am an experienced operator of high speed electric suburban trains. Address H. Ficka, Box 219, Edgewater, N. J.

SERVICES WANTED

WANTED—Services of engineer and draftsman (American preferred) to make drawings and models from advertiser's ideas. Address Dodbun, care AIRCRAFT.

How Veteran Aviators Avert Danger on Landing

A tire tearing loose when the aeroplane lands means injury to its mechanism, a possible wreck and perhaps injury to the aviator.

When a tire tears off this way, the tire is at fault. Veteran aviators know this. So now the keenest of them have adopted a tire that *cannot tear loose.*

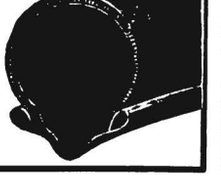
That is the *Goodyear Aeroplane Tire.* It is held to the rim in a vise-like grip by 42 wires in the tape at the base—21 wires on each side of the tire. Hence it *cannot tear loose!*

GOODYEAR
Wing Aeroplane Tires

Charles K. Hamilton, Rene Simon, Roland Garros, Glenn Curtiss' Eugene B. Ely, Claude Graham-White, Alec. Ogilvie, William Hilliard, Harry Harkness, P. O. Parmelee, Capt. Thomas Baldwin, J. A. D. Mc Curdy and scores of American and foreign aviators have adopted *Goodyear Aeroplane Tires.* Their verdict, prompted by experience with *all* makes of tires, is vastly significant.

These men *know*—to them *tires* are no longer a problem.

The Goodyear's *extra-tough tread* makes it practically non-puncturable. It is the strongest tire in the world for its weight.



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How It Flies, by Richard Ferris, B. S., C. E. The story of man's endeavors to fly and of the inventions by which he has succeeded. Illustrated by over 150 half-tones and line drawings showing the stages of development from the earliest balloons to the latest aeroplanes 1.20

How to Build an Aeroplane, by Robert Petit. Translated from the French by T. O'B Hubbard and J. H. Ledeboer, 8vo. cloth, 131 pp., 93 illustrations 1.50

Monoplanes and Biplanes: Their design, construction and operation, by G. C. Loening. This is a very complete and practical work on aeroplanes that fly..... 2.50

Art of Aviation, by Robert W. A. Brewer. A handbook upon aeroplanes and their engines, with notes upon propellers, accompanied by twelve valuable folding plates illustrating various types of machines and motors $3.50

Principles and Design of Aeroplanes, by Herbert Chatley. The very latest text book on Aeroplanes, containing many general details and mechanical drawings..... .50

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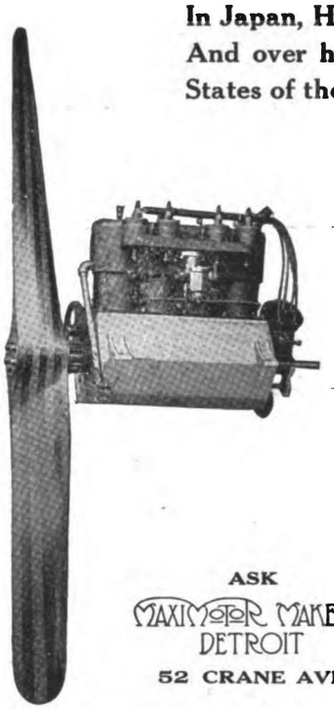
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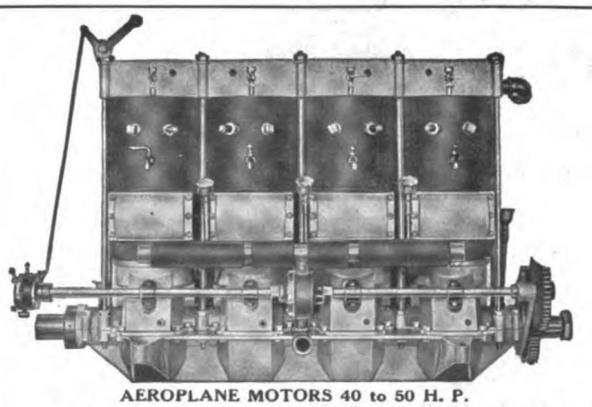
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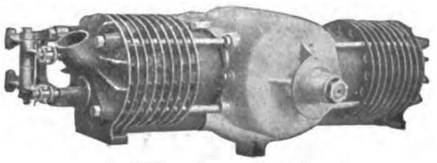
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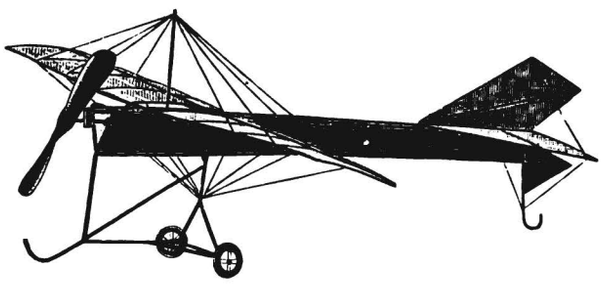
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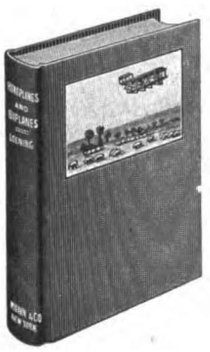
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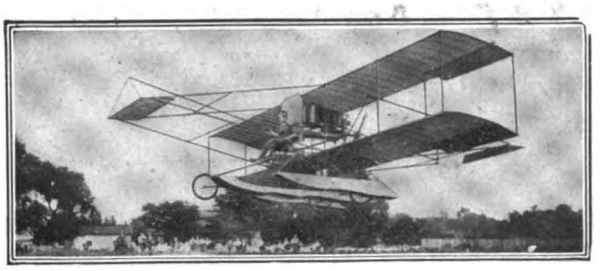
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on the market is this one of ours. You can regulate your pitch to suit your engine, no matter what make.

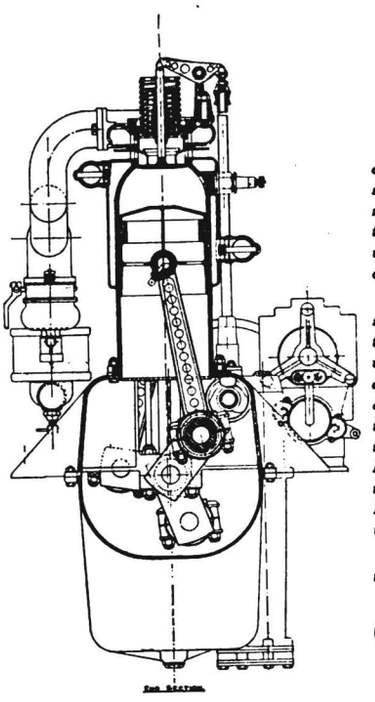
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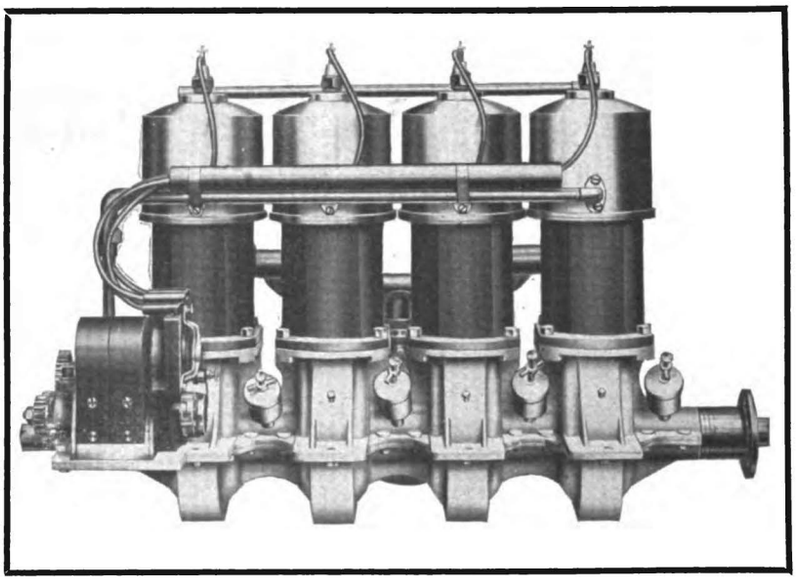
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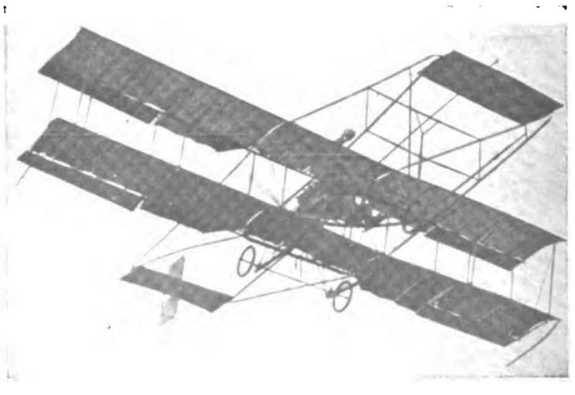
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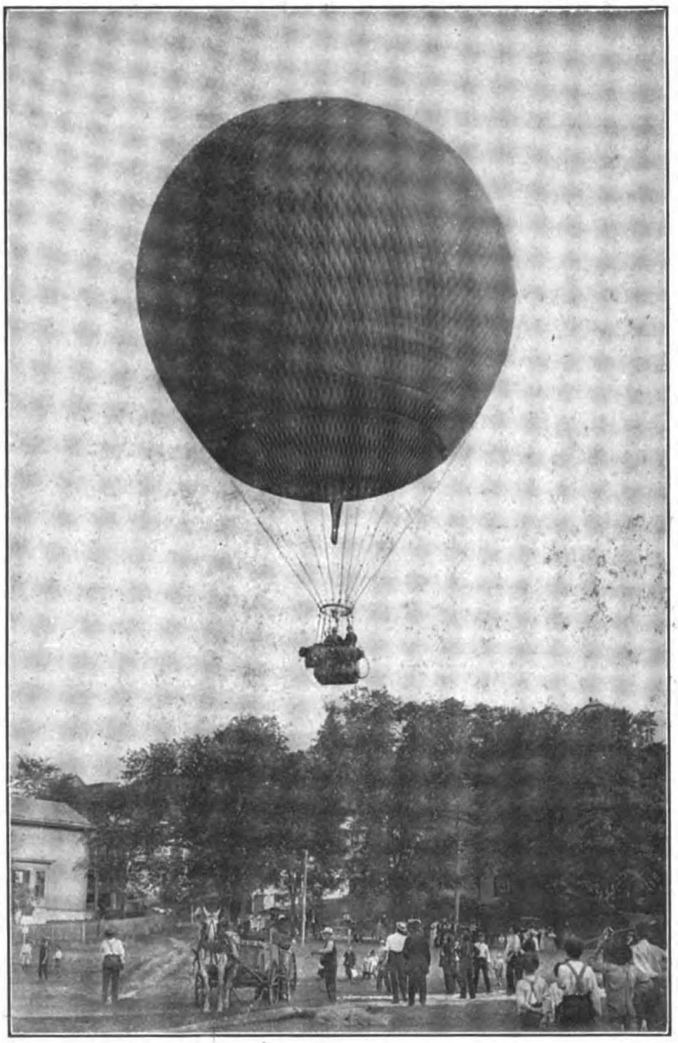
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This is more than I expected and I don't know how to express my appreciation of their performance, as I am simply "tickled to death"

Please deliver to me as early as possible one spare duplicate set, and one new design set for the 80 H.P. engine referred to at our last meeting.

Very truly yours,

George W. Beatty

If you are only generally interested write us.

Besides this, Beatty carried **Passengers** at the Nassau Boulevard meet all along with the **Same machine,** the **Same Propellers** at the **Same Increased Speed** of **Five Miles** per hour. We are now making these propellers one of our regular line and can supply from stock.

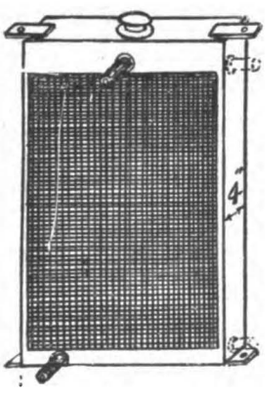
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GIBSON PROPELLER COMPANY

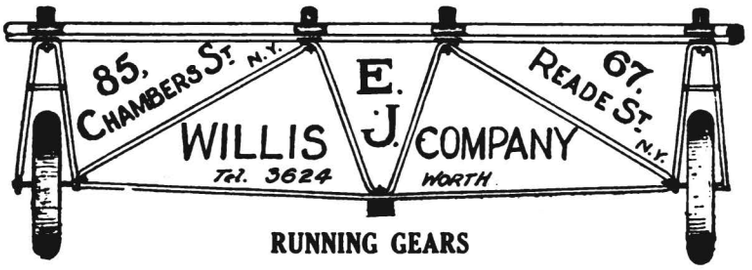
Telephone 6762 Audubon

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Fort George, NEW YORK CITY

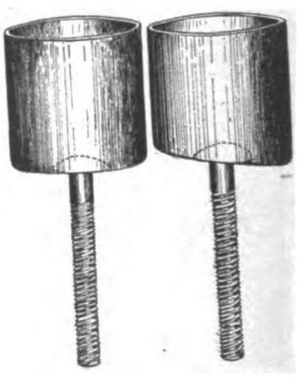
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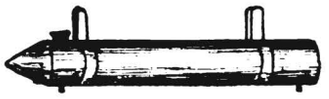


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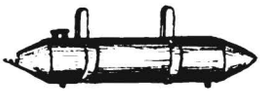
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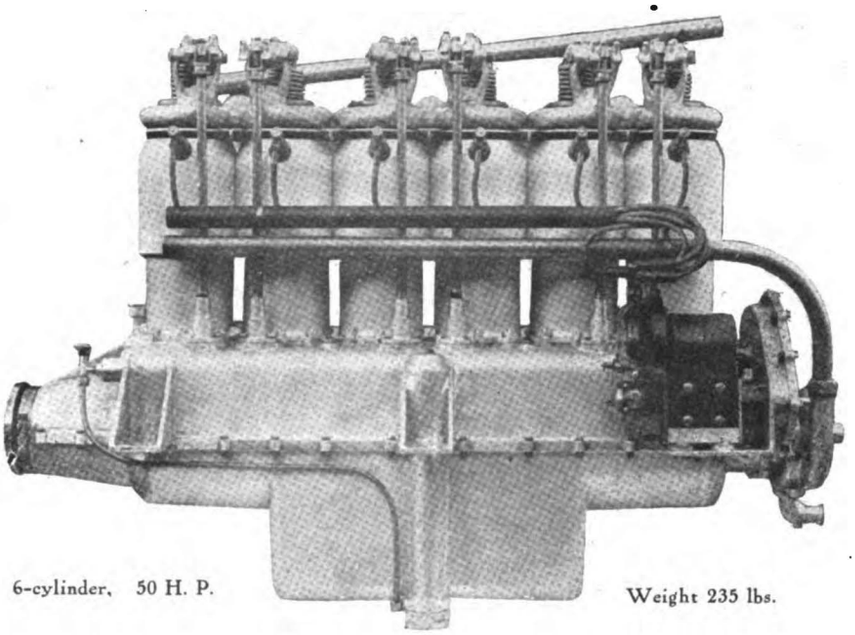


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6-cylinder, 50 H. P. Weight 235 lbs.

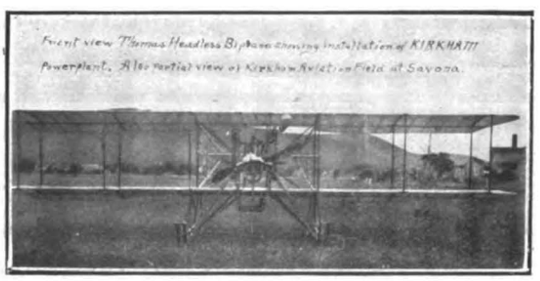
Are Endorsed by

Every Owner

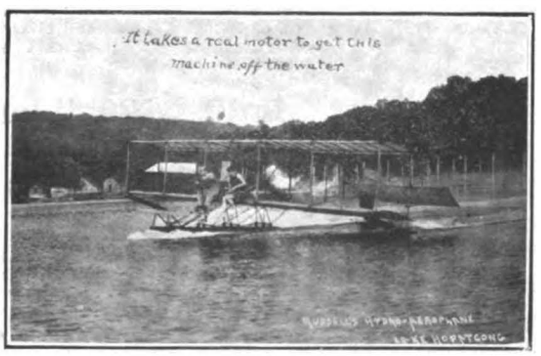
Kirkham Motors are the final result of years of experience in manufacturing High Grade Light Weight Gasolene Motors, and have always been known as the most reliable produced in America—and this SIX-cylinder Aviation Motor is no exception, as it is designed right, built right and of the right material. 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

SOME INSTALLATIONS



Thomas Machine. Note the compact Kirkham Motor and Radiators



Hydro-aeroplane

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Mr. Chas. B. Kirkham, August 24, 1911.
Savona, N. Y.

Dear Sir: We have been having very bad weather here—rained nearly every day last week, so was only able to get out with machine once, and that day I made two flights, making two good starts and landings, which shows that motor is all right.

This water proposition is not an easy one. The pontoons weigh about 175 lbs. and plane is a tricky one to handle, but I got away with it all right, which should speak well for your motor.

Very truly yours,
GEO. F. RUSSELL.

Bath, N. Y., Sept. 15, 1911

C. B. Kirkham,
Savona, N. Y.

Dear Sir: We have used your Six-Cylinder Motor since August 15 continuously for exhibition work and have obtained excellent results from it. Flights have been made across country, without trouble, at altitudes up to 3,000 feet. The motor has proven itself a strong flier in winds up to 30 miles per hour and is good for indefinite service if properly handled.

Flights have been made at Dansville, N. Y.; Moscow, N. Y.; Hornell, N. Y.; Naples, N. Y.; Honesdale, Pa.; Warren, Pa.; Butler, Pa.; Savona, N. Y., and Wellsville, N. Y.

During the performance of these flights the motor worked perfectly and flew the machine easily with a large margin of reserve power.

We can depend on getting off the ground under average conditions in a distance of 150 feet and climb steadily. This fact by itself is sufficient proof of the quality of power delivered by the motor.

We wish to say that we are thoroughly pleased with the work done by your motor.

Wishing you continued success, we are

Yours very truly,
THOMAS BROS.
Per O. W. Thomas.

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

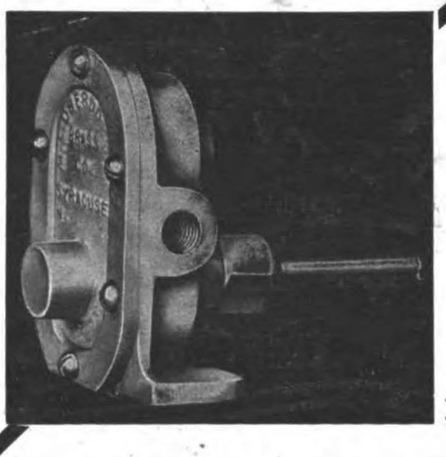
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Positive Suction. Positive Pressure 80 lbs. per sq. in.

Extreme in Lightness Strength Simplicity and Efficiency.



Mr. Air-Man This is Your Pump

If there's any place where you require a dependable device, it's in the air. The Oberdorfer Aluminum Pump has retained all the old strength and efficiency of the famous Oberdorfer Bronze Pump, but is lighter by 50 per cent.

All gears have been lightened by removing metal on points not interfering with strength.

It's the gear type which delivers water exactly in proportion to the speed. If necessary its pressure will exceed 80 lbs. per sq. in. Be sure it's an Oberdorfer Pump when you buy your new machine.

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E. Water St., Syracuse, N. Y.

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One danger signal, above the clouds, is *relaxation* of the aeroplane's wings. The cloth is flapping—it cuts down speed and heralds possible disaster.

Plain, "treated" and varnished fabrics are seriously affected by dampness and cold above the earth. They *stretch*—and *relax*.

Famous air-men have discovered how to avert this dangerous condition—equip the aeroplane's wings with the new

GOODYEAR
Rubberized Aeroplane Fabric

for its *moisture-proof* construction makes stretching and relaxation *impossible*.

The Wrights discovered how to avert danger above the clouds—all their machines are Goodyear-equipped. So are machines manufactured by The Burgess Company & Curtis, The Curtiss Aeroplane Co., The Metz Company and The Detroit Aeroplane Company. Foremost American and foreign aviators have equipped their machines with **Goodyear Rubberized Aeroplane Fabric.**



The Goodyear Tire & Rubber Co.

Main Offices and Factory: 92nd St., Akron, Ohio

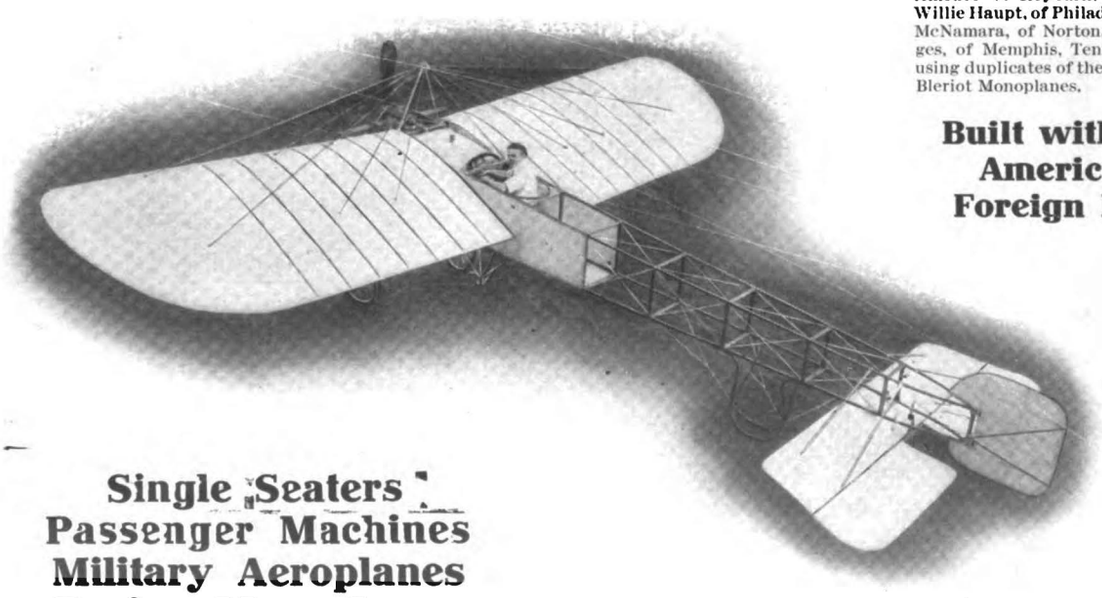
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Aviators Now Flying Our Machines

Amedee V. Reyburn, of St. Louis, Mo.; Willie Haupt, of Philadelphia, Pa.; George McNamara, of Norton, Mass.; A. C. Menges, of Memphis, Tenn., and others, all using duplicates of the 1911 Cross-Country Bleriot Monoplanes.



Built with either American or Foreign Motors

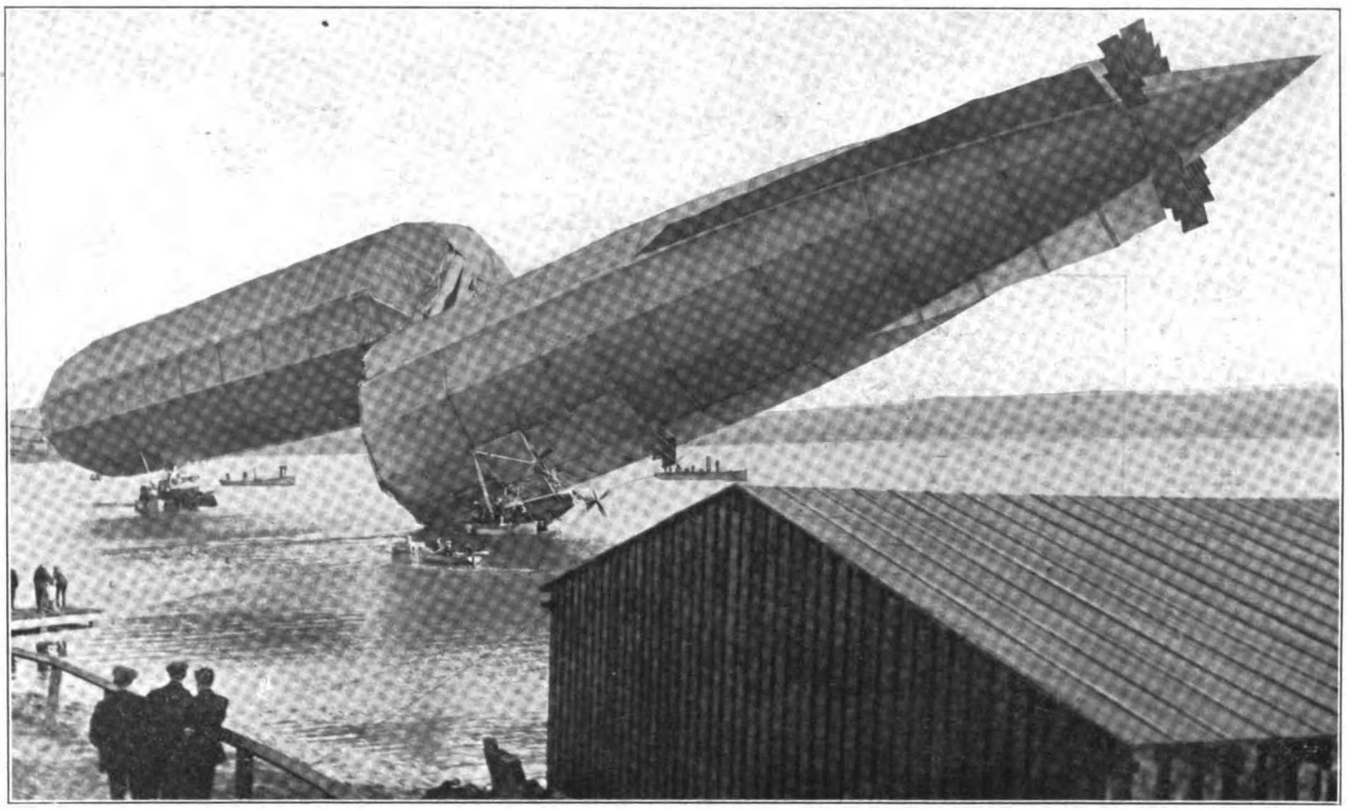
On October 5th, at Nassau Boulevard Aerodrome, A. Houpert, Aviator for A. C. Menges, made a ten-minute flight at the first attempt in one of our single seater machines equipped with 70 h. p. Gnome Motor.

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THE DISASTER TO THE BRITISH NAVAL AIRSHIP "MAYFLY." THIS VIEW SHOWS THE GIANT AIRSHIP SETTLING ON THE WATER AFTER IT HAD COLLAPSED IN THE CENTRE.

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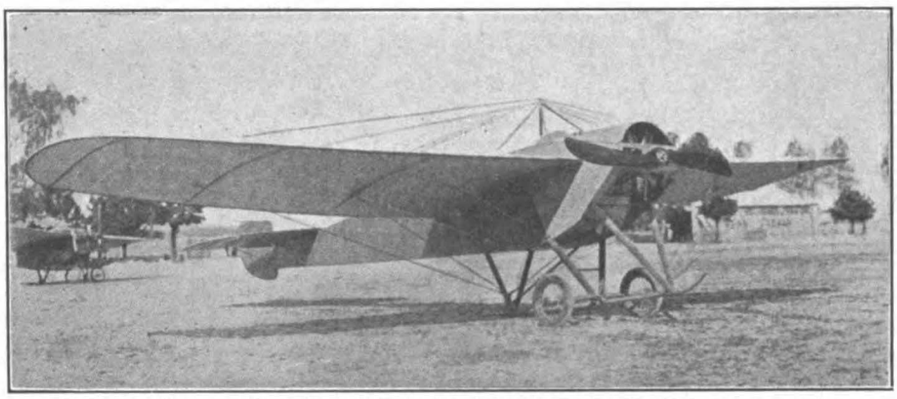
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