EUROPE AMÉRICA AEROPLANE



'LL cross the Atlantic in thirty hours," said Claude Grahame-White, the aviator, and named next summer as the time when he would make good his

He might have said: "I will tempt all the terrors of the unknown. I will accomplish what has never been tried. I will risk my skill against the elements and win. I will take to myself the swiftness of the meteor and the sureness of the seagull. I will defy

time, the wind, the weather, the trackless wastes of the sky and the ocean. I will make real the dream of the dreamer."

But Grahame-White is a true Briton and as such has a hearty dislike for the grandiloquent. He is quite content with: "I'll cross the Atlantic in thirty hours"-as if the feat were the most matterof fact performance in the world-and the chances are that he regards it a good deal in that light.

At first hearing, it sounds like an idle boast, but those who have followed the career of this eminently shrewd, clear-headed and capable airman know that he is neither a boaster nor a visionary. If he says he will do a thing it is certain that he believes firmly that he can-and believes it because he has studied his facts and tested his

It is but a short look back to the beginnings of the aeroplane and in the brief time that that wonderful machine has been in the hands of men it has performed the very things that skeptics have declared impossible. It seems almost certain that at a time not remote someone will make the perilous trip overseas. And why not Grahame-White?

To the average earth-man who is satisfied never to rise above the top stories of an office building the attempt, even under the best of conditions, appears reckless to the point of foolhardiness. Not so to the aviator. "Give me the kind of a machine I'm thinking of," he remarks, "and the transatlantic trip would be just so much duration flying-plain sailing."

Just there lies the nub of the question of air navigation from Europe to America-in the machines. They must first of all have speed, great speed; they must have a lifting capacity enough to carry the required amount of fuel, they must have motors capable of standing the strain of terrific and stupendous distance, they must have instruments that will locate the course with ac-

All those elements must have been considered long and carefully by Grahame-White before he ratisfied that he has an aeroplane that fulfils all the conditions. So far, little detail has leaked out as to the manner of equipment he will use. It is known only that he is building a machine which will carry four engines, arranged in independent pairs and each rated at 250 horsepower. He has said that he is convinced that he can show enough lifting capacity to carry the required fuel and enough speed to rush him to these shores in thirty hours.

That may seem simple to the unthinking, but consider. Roughly speaking, it is 3,000 miles from coast to coast and at Grahame-White's reckoning of thirty hours that means that he has a machine which he trusts for at least one hundred miles an hour, minute after minute without interruption.

What course he will choose has not yet developed. He has the whole great ocean to choose from. It has been hinted that the steamship lanes are the natural path for the adventurer to give some measure of protection in case of accidents. If he chooses that from Queenstown to Sandy Hook lightship he must traverse 2,800 miles; if from Plymouth to Sandy Hook, 2,962 miles: if from Southampton to Sandy Hook, 8.100: if from Havre to Sandy Hook, 3,170 miles; and if from Cherbourg, 3.644. The Mauretania has made the passage in four days ten hours and forty-one minutes. The aviator proposes to clip at one swoop 6,341 minutes from that record.

To be sure there are other roads which are said to be safer. There is that which leads from the Azores to the Bermudas, one that allows for two relatively short hops and a long one from mainland to mainland. Then there is that other one favored by those who have planned out the course not for an aeroplane but for a power dirigible.

This recond course is practically the same over which Columbus was wafted across by the kindly trade winds centuries ago. From a meteorological standpoint it is said to be the best. It lies from Cadiz to Teneriffe, a distance of 807 miles; from Teneriffe to Porto Rico, a distance of 3,219 miles; from Porto Rico to Havana, distance of 1,124 miles; and thence to the mainland. The course lies in a zone varying little from twenty degrees north latitude and in the winter and spring offers fair weather and a wind with a velocity of fourteen to sixteen miles an

The matter of wind, however, seems to have troubled Grahame-White little. It is probable that he will select one of the northerly courses and it is probable that he may fly even as far north as Labrador. By choosing that as a point of landing and Ireland as point of starting, he might reduce his distance by hundreds of miles.

Whatoever his course, however, he must have speed. Even at his own estimate of thirty hours, the nervous strain of guiding an aeroplane for that length of time without sleep would be terrific and would increase immensely with every

the speed possibilities of his air crafts. Some





GRAHAM-WAITE

very remarkable rate. "Friends of mine," he said, "who are experts on the scientific aspects of airmanship, predict that eventually speeds of 200 miles and 300 miles an hour will be possible. At this, one's imagination is apt to reel, but this much is certain: If the flying machine is to become of real importance, and not remain always a sporting toy, it must be speedler than any method of transit on land."

Perhaps he is convinced that his new fourmotor arrangement will give him 100 miles continuously. He must have that to make his journey in the time he has set. Jules Vedrines has flown at the rate of a trifle better than 105 miles an hour and George Fourny holds a record of fifteen hours of continuous flight. Nothing like a union of the two records has yet been known and if Grahame-White succeeds according to his promise he will have approached one and bettered the other.

It may seem strange, but to the aviator the matter of swiftness is a secondary consideration in the problem. To him the lifting power is the thing that counts. One prominent aviator figured the other day that on such a trip as Grahame-White plans he would under known conditions have to carry fuel amounting in weight to more than 4,000 pounds.

It is estimated that an average aeroplane motor with a speed capacity of sixty miles an hour will use on an average five gallons of gasoline an hour and one gallon of lubricating oil. Both these weigh approximately six pounds a gallon Grahame-White is to have four motors and stay in the air thirty hours. The result is simple figuring.

The main difficulty, then, will be in producing an aeroplane which has the power to make a tremendous lift without materially reducing its speed. It is generally conceded that the type of airship used will be necessarily a biplane as the dainty monoplane is not a weight carrier. Even the biplane has not yet shown power of moving the tremendous weight which it is estimated the cross-seas adventurer must carry.

In France there is a record of a machine of this sort lifting thirteen people from the ground. That, however, was a mere hop and not a sustained flight. At best only 1,950 pounds of human freight was thus carried, if each person is allowed 150 pounds.

Whatever improvements Grahame-White may have in his new machine it is certain that he must have unusual lifting power even if he has discovered some means of cutting his oil and gasoline requirements. He will have to have a tremendous drive to overcome the drag of the weight in his storage tanks.

To achieve what he has set out to do he will have to secure a machine of a type superior to anything that has been so far seen in motor equipment, in strength, steadiness, and speed. His motors will have to better the continuous flight record by half, equal the speed record and beat the lifting record by long odds.

Granted, however, that he will have at his command a machine equal to all emergencies he will still have the ocean to cross. That in the estimation of the aviator is the least of his troubles. Philip W. Page, aviator, expert in the management of hydroplanes, and one of the foremost cross-water flyers, expressed the views of many of his fellow-airmen in discussing this phase of

the proposed flight the other afternoon. "Of course," he said, "there is a possibility of making a flight from continent to continent. Such a flight, however, presupposes an aeroplane theoretically perfect for the purpose. With such a machine the journey would be by no means as terrifying as most people imagine. If the aviator were sure of staying in the air and making the required speed, the rest under normal conditions would be one of the simplest kinds of flying

-straightaway over an unimpeded course. "Contrary to the general belief, he would have conditions better than those on land. The winds in the summer should be steady and never very strong. He would encounter no buildings, trees or abrupt changes in the face of the country to split his air currents. Almost any aviator will tell you that he prefers a forty-mile steady to a

fifteen-mile puffy wind. "The air-hole theory has come to be a good deal of a myth, but there are still troublesome up and down trends of the atmosphere which lend no little difficulty to land flying. These are caused in a large measure from sudden obstruc-

"The atmosphere over the ocean is not subject to these obstructions nor is it affected by

any such radiation as we meet with over land on a hot day. I should say that his difficulty would not lie primarily with atmospheric conditions, provided he had reasonably settled weather, but rather with the possible unsureness of his aeroplane, possible trouble with his motor and the intricacies of navigation."

Given fair weather and a machine which will make the speed he hopes, the actual physical demand upon Grahame-White would not be a severe one. The control of a machine running in steady currents would not be a trying one. Plain flying even at a great speed does not call for any very large amount of exertion.

On the other hand the nervous strain would be tremendous. It is hard to imagine the state of mind of a man hurled into the unknown with only a slender fabric of metal, wood and cloth between him and death. It is equally difficult to conceive of what thirty hours or more of catapulting across mile after mile of ocean at 100 miles an hour would mean. At the least it would necessitate a tension the like of which few men have ever experienced.

PENALTIES FOR TOMMY ATKINS.

How British Soldier is Punished for Offenses in Time of War.

When a soldier proceeds on active service he has to mind his "p's" and "q's," for offenses which in peace time would be lightly punished may in the field render him liable to death, says London Tit-Bits. In time of peace, if Tommy Atkins, being on sentry go, sleeps or is drunk on his post or quits it without being properly relieved, he will probably get off with a short dose of imprisonment or perhaps of "detention" only. On active service the penalty for these offenses is

It would not usually be enforced nowadays, except for a repeated offense or where, owing to the prevalence of misbehavior among sentries, it is necessary to "make an example," but still the liability to death is there.

In peace the maximum penalty for desertion is two years' imprisonment, with or without hard labor, but in practice a first offense will get a short term of imprisonment. On active service the deserter takes the risk of death if recaptured and if the offense is committed actually in face of the enemy he will probably be shot.

Similarly, acts of insubordination which in the ordinary way would be comparatively vental offenses become punishable by death on active service. In passing it may be mentioned that even in peace an insubordinate soldier may be sentenced to death if convicted by a general court-martial on one or another of the fol charges: Striking or using or offering any violence to his superior officer, being in the execution of his office; or disobeying, in such man- Children Cry for Fletcher's Castoria ner as to show a willful deflance of authority. any lawful command given personally by his superior officer in the execution of his office, whether the same is given orally or in writing or by signal or otherwise.

In peace, however, the maximum penalty has not been inflicted for these offenses for many

Active service brings into being offenses which practically do not exist in peace. One of the most serious of crimes peculiar to active service is "forcing a safeguard." The commander of an invading army will often detach parties of his own men to protect the persons and property of civilian inhabitants from violence by his own side. To force such a safeguard almost invariably means death.

Breaking into a house or any other place in search of plunder may also mean death, even when there is no safeguard; but as a rule a lesser penalty would be inflicted. It depends a good deal on the commander. Some generals wink at looting; others-Lord Roberts, for oneare very severe on it.

During the Boer war more than one of our men was executed for the sake of a Boer fowl or bottle of "square-face." On one occasion only the readiness of an Irish "Tommy" saved him from the firing party or the gallows. He was caught with a couple of fowls under his coat and by no less a personage than "Bobs" himself, out riding with his staff.

Asked for an explanation, he instantly replied that he had caught the fewls running loose on the veldt and that, hearing the commander in chief was on short rations, he was on his way to ask his lordship to accept them as a present.

The fowls and the explanation were accepted. It is possible for a soldfer to show cowardice in time of peace. In such a case he would probably be charged with an act or conduct "to the prejudice of good order and military discipline." sentenced to a stiff dose of imprisonment and to be "discharged with ignominy."

On active service any act of cowardice is punishable by death, while a soldier who, "in action or previously to going into action, uses words calculated to create unnecessary alarm or despondency," is liable to penal servitude.

Who carries out a sentence of death on active service? This is the duty of the provost-marshal. who, with a large force, is an officer of fairly high rank. He is responsible for making all arrangements for the execution and, if necessary, he must himself act as executioner. In the Boer war one provost-marshal was Major (now Colonel) R. M. Poore, the famous Hampshire crick-

A Natural Mistake. "What do you suppose the financial editor has done?"

"What?" "He has put the article called Stock Phrases under the head of Market Quotations."

| her sect, that anthropoid apes are old, a patient at the Middletown, N. degenerate human beings. Other Y., State hospital, committed suicide apes, Mrs. Tingley tells us, are on the in an extraordinary manner in the upgrade of evolution, but the anthro- grounds of the institution. A locomoby squirting water at him with fire polds have been humans once and tive was backing down a car and are on the way down. The disturb- Nicholas ran to the track and lying FORMALITY.



"Will you take my card to your sister and tell her I would like to speak to her on a very important mat-

"You'll probably have to take is up with her secretary."

RASH ALMOST COVERED FACE

face was terribly red and sore, and ing and creating transportation facilifelt as if my skin was on fire. At last ties. I tried a sample of Cuticura Soap and Building operations in the several Cuticura Ointment and I found them cities, that have already marked so cool, soothing and healing, that I themselves a place in the list of sucgot some Cuticura Soap, Cuticura cessful and growing cities, will be

Wanted to Compromise. Mr. Levi is a kind-hearted, conscientious man, an example of what Materlinck calls "our anxious morality." But he is also German, and spends the pennies hard. He has a queer; he wants me to work all the time he has me hired for." Mr. Levi also has a young horse that balks. "If you would just let me take a whip to him once!" the hired man expostulated, exasperated and yet dominated by the other's point of view. Mr. Levi looked at him uneasily, stood first on one foot, and then on the ready to start?"

Examine carefully every bottle of CASTORIA, a safe and sure remedy for infants and children, and see that it derful and great future. And in this

Bears the Signature of Chart Fletcher. In Use For Over 30 Years.

The Infant Terrible. "Mr. Lilsbeau, is it true that you hain't got sense enough to come in out of the rain?"

"Yes, Miss Kitty; you must always believe what papa tells you."

ASK FOR ALLEN'S FOOT-EASE, the Antiseptic powder to shake into your shoes Relieves Corns, Bunions, Ingrowing Nalls, Swollen and Sweating feet, Bilaters and Callous spots. Sold everywhere, 25c. Don't accept any substitute. Sample FREE, Address Ailen S. Olmsted, LeRoy, N.Y. Adv.

Question. "Now a big Chicago firm complains that its girls will not stay single." "Well, will they stay married?"

When your hair starts going it doesn't say, "Au revoir." It says

PREPARING FOR

CITY BUILDING, RAILWAY BUILD-ING AND FARM OPERATIONS IN WESTERN CANADA, BIGGEST EVER.

The machinery, the money and the men for carrying on the big works in Western Canada in 1913 are already provided for. The splendid harvest which was successfully garnered, and by this time mostly marketed, responded to the big hopes that were had for it early in the season, and inspired capitalists and railroads to further investment and building. From lake ports to mountain base there will be carried on the biggest operations in city building and railway construction that has ever taken place in that country. The Canadian Pacific railway has everything in waiting to continue their great work of double tracking the system and by the time the Panama Canal is open to traffic there will be a double line of Warrenville, O .- "I have felt the steel from Lake Superior to the Paeffects of blood polsoning for eighteen cific coast. The cost will exceed years. I was never without some erup- thirty million dollars. The Grand tions on my body. The terrible itch- Trunk Pacific plan of building a firsting caused me much suffering and dis- class trunk lipe and then feeders at comfort, while the rubbing and various points will be carried forward scratching made it worse. Last spring with all the force that great company I had a terrible breaking out of blis- can put into the work. The Canadian tery sores on my arms and limbs. My Northern is prepared to put into moface and arms were almost covered tion all the energy that young giant with rash. I could not sleep and lost of finance and railroad building can nineteen pounds in five weeks. My put into various enterprises of provid-

Ointment, and Resolvent. I bathed carried on more largely than everwith hot water and Cuticura Soap, Schools, public buildings, parliament then I applied the Cuticura Ointment buildings, colleges, business blocks, every night for two months, and I am apartments, private residences, banks, cured of all skin eruptions." (Signed) street and other municipal improve-Mrs. Kathryn Krafft, Nov. 28, 1911. ments have their appropriation ready, Cuticura Soap and Ointment sold and the record of 1913 will be somethroughout the world. Sample of each thing wonderful. Other places which free, with 32-p. Skin Book. Address are towns today will make the rapid post-card "Cuticura, Dept. L. Boston." strides that are expected and will become cities. There will be other Edmontons, Calgarys, Reginas and Saskatoons, other places that may in their activity help to convince the outer world of the solidity and permanency of the Canadian West. The country is large and wide and broad and the ends of its great width and hired man who says, "Mr. Levi 's length are but the limits of its agricultural area. Its people are progressive, they are strong, there is no enervation there. The country teems with this life, this ambition, this fondness to create and to use the forces that await the settler. If they come from the South, and hundreds of thousands of them have, they are now the dominant men of the North, other. "Ain't there nothin' else you and they have imbibed of the spirit could be doin'?" he asked, "till he gets of the North. Therefore it is fair to say that no portion of the continent will show such wonderful results as Western Canada, and the year 1913 future the 200,000 Americans who made it their home, and those who preceded them, will be a considerable Constipation used in bringing about the results predicted.

> The development of 1913 will not be confined to the prairie provinces. Railway building and city building in British Columbia will be supplemented by the farm, the ranch and the orchard building of that province. Vancouver will make great strides in building, and Victoria, the staid old lady of so many years, has already shown signs of modern ways, and if the progress made in 1912 may be accepted as anything like what it will be in 1913, there will be wonderful developments there. During last year the permits went over the ten million dollar mark and much more is promised for the year now entered upon.-Advertisement.

In Style. "I want a light fruit lunch." "How would some electric currents

the kidneys to rid the blood of uric cacid, an irritating poison that is con- 1. stantly forming in-When the kid-

neys fail, urle acid causes rheumatic . attacks, headaches, ; dizziness, gravel, urinary troubles, weak eyes, dropsy or heart disease. Doan's Kidney Pills help the kid-neys fight off uric acid—bringing new

strength to weak kidneys and re-lief from backache and urinary ills. A Montana Case

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will give you FREE a sample of Dr. Pierce's Pleasant Pellets that have brought health and happiness to thousands-also a book on any chronic disease requested.



During many years of practice I have used numerous combinations of curative medicines for liver ills. I have kept a record of the result in case after case, so that my staff of physicians and surgeons, at the Invalids' Hotel, Buffaio, N. Y., are able to diagnose and treat cases at a distance with uniform good results.

But for the permanent relief of blood disorders and im-purities, I can recommend my "Golden Medical Discovery" a blood medicine without alcohol or other injurious ingredients. R. V. PIERCE, M.D., Buffalo, N.Y.

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expected to cure consumption in its advanced stages-no medicine will do thatbut for all the obstinate, chronic coughs, which, if neglected, or badly treated, lead up to consumption, it is the best medicine that can be taken."

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Grahame-White has always been a believer in tion to air currents and from radiation. time ago he held that 100 miles an hour was no WANT FULL HOURS OF SLEEP Monkeys In Captivity Distinctly Ob-

ject to Being Disturbed Too Early in the Morning. extinguishers. An orang-outang named Jacob got Orang-outangs are always trying out of his cage in the London Zoo a to get out of their cages, and are very few days ago by prying off a rod ingenious about it. If one is awaksomewhere in the roof of it. Then ened in the morning before a certain would be explained if the ape's anceshe escaped to a tall linden tree in the hour he is disturbed and upset all tors had been lazy men. park and built himself a platform the rest of the day.

ed in getting him back into captivity

high up in the tree and resided there | That may point to the theory of all night. The keepers only succeed- Mrs. Tingley and the Theosophists of

before the regular getting up time over him, killing him instantly,

Put His Neck on Rail. Clarkson Nicholas, thirty-two years a nich hanned his mind

ance of the orang-cutang's nervous down, placed his neck on the rail in arrangements through being aroused front of the car. One wheel passed

> Nicholas was committed from Jeffersonville, N. Y., several weeks ago. hir fances dropped dead while sitting beside bigs on a sofa and this