

AIRSHIP IN FIVE YEARS

Prediction Made That It Will Be Capable of Traveling 75 Miles an Hour.

WILL BE LIKE A FLYING FISH.

Dream of Magazine Writer, the Fulfillment of Which Is Not Beyond Realm of Possibility.

From the standard of present development the airship of 1915 may be conceived as having a hull of rigid construction, 1,000 feet long and 80 feet beam, with accommodations for 125 to 150 passengers, with a crew of forty-two men.

The new air liner will resemble a submarine, or rather a flying fish, a writer in the Century says. All its parts will be compactly built into the hull. Its under body, 800 feet long, 12 feet wide and 9 feet high, will extend between the elbows fore and aft where the hull begins to curve toward its pointed bow and stern. The underbody will hold seven passengers and eight operating sections, after the fashion of a compartment sleeping car. A continuous passageway will extend from end to end.

The prow, glazed with artificial mica, will furnish an aerial observatory. Its interior will be a series of grill galleries, connected by steps. Here will be the "bridge," the air liner's nerve center, with signal radiation to all parts of the ship. A narrow gallery will reach the extreme nose, where a small exploring gun, swung on a universal joint, can be fired toward most points in space. On its several platforms will be the navigating deck, the helm, the "wireless," the chartroom and both meteorological and astronomical "observatories."

Below the "bridge" will be a hatchway to the main passage in the forward underbody of the ship, where there is a companion way which is the ship's portal. Aft of this will be the captain's cabin.

The sides of the "hold," or tunnel, five feet high and eight feet wide, will be lined with continuous tanking, containing gasoline fuel, to be forced upward into the engine rooms, as needed. The outside of the "hold" will serve as the airship's rounded keel, and will enable the craft to float on water; elastic buffers for landing will be fixed under each engine section.

The eight motor compartments will each be equipped with one 200-horsepower motor. The electric power plants, for lighting, cooking and operating the escalator, will be in the engine compartments.

The top of the hull, now the Zeppelin's observatory, will become a long "hurricane deck" of thin, light planking, with side rails. Here will be kept service implements; two slender masts, carrying the "wireless" antennae and the yellow "top lights"; observatories for cloud triangulation and taking the altitude of stars; searchlights, kite winch and the airship's "boats," two small, swift aeroplane "scouts"—one fore, the other aft, with ample space for launching and alighting. Along the port and starboard sides five sets of curved aeroplane surfaces will help to lift and support the airship or steer it up and down. They will be "stopped" to avoid interference. Between them will be eight small propellers, four on each side, at alternating levels along the hull.

It is believed that within five years such an air liner will be capable of traveling seventy-five miles an hour, ordinarily, and often 120 miles, in the upper levels.

In ten years an airship driven fifty miles an hour may perchance make that trip in eight days, flying at a speed of 120 miles an hour, or 3,000 a day. Is it all a dream? Ten years ago a prophecy of the present achievements of German air navigators would have been received with incredulity.

SLEEP OF HIBERNATION.

Different from Ordinary Repose and Near Complete Insensibility.

The sleep of hibernation is a very different matter from the sleep of repose. If it be complete, respiration can no longer be detected. A torpid bat when disturbed will leave a sigh or two and, being left alone, again to all appearances cease to breathe.

Submerged in water of a temperature slightly higher than his own, the hedgehog not only continues to live, but appears to suffer neither inconvenience nor harm. Inclosed in an airtight receptacle his atmosphere undergoes a change so slight that it affects him slightly, if at all.

But circulation does not cease, Harper's Weekly says. As respiration diminishes, the irritability of the muscles of the heart increases; and thus, without the stimulation of oxygen, although much more slowly, the heart continues to beat. In the absence of the fresh air drawn into the lungs in times of activity, uncleaned and unrevigorated and venous blood passes on to fill the whole system of circulation.

A profound lethargy ensues, distinguishable from death only by the slight beating of the heart. The waste is very small. The fat accumulated during the plenty of summer and autumn supplies all expenditure until the coming spring, when earlier or later the hibernating animal, having no capital in reserve, begins to suffer the pangs of hunger. In response to

the demand respiration very slowly increases. His oxidized blood flows more quickly and his energy returns. Then the bat flies forth once more from the hollow tree in the wood to find the warm dusk teeming with insect life and the hedgehog comes, it may be, from the cavity under the gnarled roots below, to find beetles worms and slugs once more among the spring grass.

Hibernation has saved both from death by starvation, but if their nooks had not been snug and wisely chosen they would not have been preserved from death by frost.

The hiding place also must be secret and free from intrusion, for the hibernating animal cannot bear to be suddenly roused. Even the little dormouse, which comes out at intervals to feed, when in deep sleep must be carried indoors to the warmer temperature of a room or revived by the heat of the hand passing through the nest. He then wakes refreshed and full of activity. But he does not survive too hasty an awakening.



A new method of producing thin metallic films by volatilization in a vacuum was described at a recent meeting of the Academy of Sciences, Paris, by Prof. L. Houllévié. The metal to be deposited is first disposed in a layer on a platinum wire, which is then heated in a high vacuum. The film forms on a plate of glass, which is kept in rotation near the heated wire. In this manner thin films have been produced of gold, silver, platinum, iron, copper, zinc, tin and cadmium.

Up to the present time, says F. L. Hess, the most important use of tungsten is as an alloy for steel tools. From 16 to 20 per cent of tungsten is ordinarily used for tools. It enables the steel to hold temper in a much higher temperature than ordinary carbon steel. A lathe may be speeded up until the chips flying from the tool are so hot that they turn blue. It is estimated that about five times as much work can be done with such a tool as with one made of ordinary steel.

In scientific annals the Beagle, in which Darwin made his first exploring expedition, is almost as sacredly remembered as "Old Ironsides" in American history. This ship has long been lost from sight, and nobody knew exactly what had become of it. Toyozaki Noda now writes to Nature that the Beagle was broken up in Japan, where it was used as a training ship until 1899, and that a part of its ribs has recently been found in use as a stand for stones piled up near the temple of Suitengyo, near the Oaki shipbuilding yard.

The predaceous beetle, Clerus formicarius, which has been found useful in the United States as an enemy of the pine-boring Scolytidae, is to be introduced in Ceylon to make war upon the "shot-hole borers" which are ravaging the tea plants in that island. The experimenters are only doubtful as to whether the imported insects will thrive in the tropical climate of Ceylon. The need of a foe capable of dealing effectually with the borers is emphasized by the fact that an allied species of borers is attacking the camphor plants also.

On the night of Jan. 21 some of the residents of Lake avenue, Chicago, were alarmed by what seemed to be a long-continuing earthquake, which jarred tables, shook curtains and moved pictures on the walls. It was found that these startling effects had been produced by the pounding of the waves on the shore of the lake where the ice had suddenly gone out, thus permitting the impact of the waves to come direct against the frozen soil. In that condition the ground was rendered more elastic and the force of the blows was transmitted to a considerable distance from the shore.

During his recent expedition in the Himalayas, Dr. T. G. Longstaff discovered a new chain of the Karakoram range, containing a group of immense peaks, one of which, Teram Kangri, situated in about latitude 35 degrees, 30 minutes, longitude 77 degrees, rises, according to his measurements, to the stupendous height of 27,610 feet. Only Mount Everest, Kinchinjunga, K2 and Makalu are known to have a greater height than this. The newly-discovered peak is said to be the culminating point of a totally distinct massif, which has hitherto appeared on no map. Dr. Longstaff has also discovered that the Siachen (Saichar) glacier is the longest in the Himalayas, and probably the largest outside Alaska and the polar regions. Its length is more than forty-four miles.

He Doubted Her Sincerity.
"I cannot give you a favorable answer until you have talked with my father."

The young man seized his hat. "What's your hurry?" the fair girl asked.

"I take no chances," replied the youth. "I am going to see your father before you can get to him."

And he hustled from the room.—Cleveland Plain Dealer.

Unprecedented.
"I couldn't believe my ears."

"What's up?"

"My wife told me yesterday that she discovered a flat that she likes better than the one we're in now, and the rent isn't a cent higher."—Detroit Free Press.

It takes the grappling hooks of confidence to remove truth from the bottom of a well.



The Crow and the Owl.

Said a crow to an owl: "Well, I may be obtuse, But I never can see any real excuse For the silly demeanor and ways of a goose." Said the owl: "I agree, so you are not obtuse, And of course we intend not a word of abuse, But I've heard it declared as the only excuse The goose acts that way just because it's a goose."

Heartsease.

Once upon a time, in a rich man's garden the trees and flowers began to wither away. The oak, because it could not yield any fair flowers; the rose bush, because it could not bear any fruit; the vine, because it had to cling to the wall and could cast no cool shadow.

"I am of no use in the world," said the Oak.

"I might as well die!" cried the Rose Bush.

"What good can I do?" murmured the Vine.

Then the man, walking sadly through his depleted garden, noticed a little heartsease, which all the while held up its cheerful face to the sun.

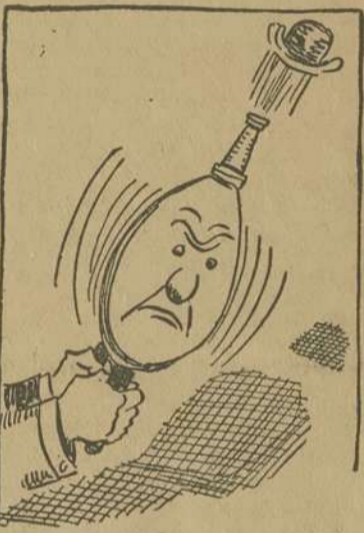
The man stooped and asked: "What makes you so bright and blooming when all the rest are fading?"

"I thought," answered the little flower, "you wanted me here because it was here you planted me, and so I thought I would try to be the best and prettiest little heartsease that could be."

The man pressed the dear little flower to his heart.

Are you, reader, like the oak and the rose bush and the vine, unhappy because you are not something else? Or are you, like the heartsease, doing your best, and happy because you are what you are?

Poor Mr. Bellows.



"Oh, dear, it's no use trying to wear a new spring hat! Every time I take a step my headdress blows off. Poor me! I'd like to bellow!"

Writing Tricks.

Can you write your name with your left hand? It is a good thing to know how, in case you ever hurt your right hand.

Can you write a looking-glass letter? That always amuses children, so if you have a friend who is ill send her a looking-glass letter to cheer her up. Practice by writing on a piece of paper held in front of a mirror, and soon you will find it is quite easy to do looking-glass writing. Looking-glass writing is done backwards so that it looks all right when it is held to the mirror. Also see if you can write your name backwards—that is, begin at the last stroke and go back to the first—and as a last trick to write your name upside down. That is not at all easy, but copy your signature upside down and you will be able to do it quite well after a little practice. After you can do all these things learn to write a good clear hand in the proper way, like a sensible person.—Chicago News.

Grandma's Parasols.

"Children," said grandma one rainy afternoon, "how would you like me to show you how to make dolly a parasol? A good many years ago your mother used to love to see me make them, and if you will draw your little chairs up to the table I will begin right away."

Two dismal little faces brightened up, and Daisy and Lucy ran for the chairs, and soon grandma was ready to begin.

On her table lay the materials—a small, flat cork about half an inch thick, eight large pins, each of them two inches long, some balls of gay worsted, and a short hatpin with a glass head. This head and the cork she had already gilded, as it took some time for the gilt to dry, and she did not wish to be hindered by waiting. Daisy and Lucy watched with eager eyes while grandma took up the cork and carefully stuck the pins all round it at equal distances, bending them downward slightly. These were for the ribs of the parasol. Then she asked the little girls to choose each of them a color from the pretty balls of worsted.

Daisy seized on a pale blue, and Lucy a bright pink.

"Yes, those will go well together," said grandma. "Now watch me closely while I show you how to cover your parasol."

She took the end of the blue worsted and tied it around one of the pins, close to the cork, and began winding

it round. At each pin she made a loop, or what sailors call a half-hitch, to steady the worsted.

The little girls looked on in delight, while the parasol grew under grandma's skillful fingers, and when the blue worsted covered a little more than half of the pins, she threaded a worsted-needle with the end of it, and fastened it off neatly on the under side.

"Now for my pink!" cried Lucy. And dear grandma tied it to the same pin where she had finished off the blue, and began to wind it, the two pretty colors making a charming contrast.

At last every bit of the pins was covered except their heads, and after finishing off the pink as she had done the blue, grandma took the small hatpin and stuck it firmly on the under side of the cork. "This is for a handle," she said.

It was a lovely dolly's parasol, and of course there had to be another just like it, for Daisy and Lucy always had things alike, and Seraphina and Araminta, their two dolls, were beautifully sheltered from the sun, and the admiration of every child in the street.

A word just here to the mammas and aunts who may help you to make one of these parasols some rainy day. If you have no gilt paint handy for the cork and the head of the hatpin, ink, ordinary paint or even shoe-dressing is just as good, only a trifle less effective. The parasol has a better shape if the pins are bent slightly and the worsted held firmly.—Youth's Companion.

Drawing Room Blizzard.

To enjoy this game best, go into the hall or longest room in the house. Sometimes the door between two small rooms may be opened and thus give plenty of space.

Divide the players. Send half to one end, half to the other. Fasten two extra wide tapes near each end for goals. For a ball make a large one of tissue paper. Place this ball in the middle of the room, and at a given signal let each player, previously armed with a small fan, try to blow the ball over the opposite goal. The number of goals to a game must be planned beforehand, and each success is scored to the winning side.

This game makes a wonderful lot of fun and soon a gray-haired man and woman can start as earnestly, blowing away to get the ball over the other goal as the children are.

NOT ALTOGETHER BAD.

Good Things About the Street Car That Are Worth Considering.

It is time the sleeping car woke up. Muckrakers are upon it. They accuse it of extortion and inquire why the dickens we must pay as much to sleep in a coffin—called a berth since opposites suggest each other—as in a commodious hotel bedroom. They think that when a sleeping car can pick up a profit of 500 per cent just by bumping around the country somebody is being fleeced.

Still, there are many kind words due the sleeping car, the "Clerk" in the Boston Evening Transcript thinks. For one thing, it teaches us the fallacy of the germ theory, since, if germs were injurious, those that teem by millions in the stuffy curtains and detestable cushions would have killed us off long before this. In the next place, the sleeping car proves the beneficence of carbonic acid gas. Why do you burst with vitality after a night on the rail? Simply because you have breathed the same air 7,000 times over. Besides, think of the educational advantages. Where but in the sleeping car do we acquire the arts of ladder-climbing, of parading half-clad and of keeping our tempers when the train men outside wakes us at every stop by loud swearing? Finally consider the employment afforded to the unhappy lunatics who, but for the occupation of inventing names for sleeping cars, might die of boredom.

Well, there is some merit in the muckrakers' investigations, nevertheless, and the clerk honors them for showing us a way to get even with the porter. Porters, it seems, are required to pay for toilet articles abstracted from the car. Beloved, let us remember this. When the Ethiopian shuts up the bunk with us inside it, though we piteously implored him to "put us off at Buffalo," let us not depart empty handed. Rather let us take with us the soap, the towels, the brush and the comb. Thus shall we render both justice to the porter and a service to public hygiene.

Ancient Iceland.

Iceland was founded A. D. 874 by men from Norway. In the words of John Fiske, "it was such a wholesale colonization of picked men as had not been seen since ancient Greek times and was not to be seen again until Winthrop sailed into Massachusetts bay. It was not long before the population of Iceland was 50,000. Their sheep and cattle flourished, hay crops were heavy, a lively trade—with fish, oil, butter and skins in exchange for meal and malt—was kept up with Norway, Denmark and the British Isles. Political freedom was unimpaired, justice was fairly well administered, naval superiority kept all foes at a distance, and under such conditions the growth of the new community in wealth and culture was surprisingly rapid."

Not Inquisitive.

"Are you a recent arrival in this town?"

"Sir, I am indigenous."

"Oh, well; no harm meant; I didn't particularly want to know."—Birmingham Age-Herald.

Nearly every time a man approaches a new field of pleasure he bumps up against a "keep off the grass" sign.



Keeping the Cow.

The cost of keeping a cow varies considerably according to the cost of producing the roughage from hay, grain and corn feeds, but figures from dairy associations place the average cost at \$30 or \$35 a year. To pay a profit, it follows that the cow must produce more than \$30 or \$35 a year. It pays to keep an accurate account with all the cows. There are many that do not near pay up. Apply the test of scales and Babcock tester then and get rid of those that do not come up to the mark.

In buying new cows, procure those that freshen in the fall. You will have the butterfat at the time when prices rule higher and the cow will continue in good flow all through the spring if you treat her well through the winter. Increase the feeding as the pastures decrease. Extra care and feed in the fall will keep the milk flow up and allow of good sales as the prices increase.

After years of observation the Cornell University reaches these conclusions: (1) With a fairly good herd carefully fed and kept, milk can be produced for 65 cents a cwt., and fat for 16 cents a pound, for the cost of food consumed. Large animals consume less pounds of dry material per 1,000 lb. live weight each day than the smaller animals do. The best yields of fat are obtained from cows that give a fairly large flow of milk. Pasture grass is the cheapest milk and fat producing food. (From this it seems that those who neglect their pastures or make little effort to start new ones, are in a losing game.) The cow consuming the most food produce both fat and milk at lowest rate. A good cow must be a hearty eater. Individuals of the same breed vary more widely in milk and butter production than do the breeds themselves.—The Ohio Farmer.

To Straighten Young Trees.

This device can be easily attached to a tree which is inclined to grow crooked. Make a framework of narrow boards sharpened at the end where the frame pieces come together and attach the frame to the tree with a wire. This should be attached at just the



right point to correct the crookedness in the tree. The tree should be protected from the wire by a cloth. The constant bearing down of the weights will in a very short time bring the tree to its proper position without injury.

Pigs Need Phosphate.

The relation of phosphate to the animal economy was finely worked out by the Wisconsin Experiment station. Three pens of pigs of three each were kept for several months. To one was fed the ordinary fattening ration; to another a little phosphate was added to their food; with the third all the phosphate was extracted from their feed. The effect was astonishing. The pigs to which was given an increased portion, though small, of phosphate, were wonderfully thrifty and vigorous, while those that ate the ration from which the phosphate had been extracted were dumplish, and not able to stand on their feet for a minute's time. Their growth and weight was also greatly retarded. Our soil, animals and crops need this important agent constantly.—Hoard's Dairyman.

Bacteria in Milk.

Undesirable bacteria in milk come from uncleanly condition about the cow, and from contact with contagious diseases. The chief source of contamination are dirty cows, dirty stables, dirty milkers, dairy utensils which have cracks for the lodgment of dirt and which are not properly sterilized, mudholes in the barnyard, impure water, bedding and feed, and from milkers and attendants who come in contact with a contagious disease.

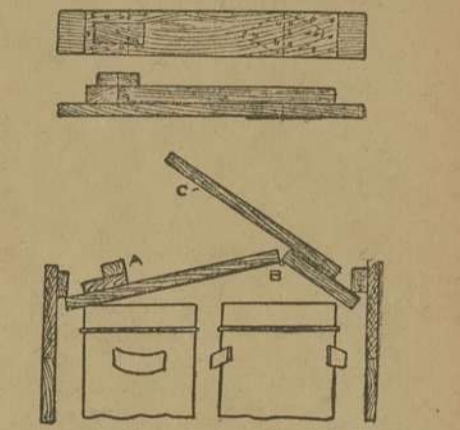
Straining the Auto Motor.

Very many amateur motorists delude in always taking a hill on the high speed, not realizing that this often strains a motor or requires the car to go too fast upgrade over rough places that could be taken with less strain and slower on the intermediate speed.

To Hold Milk Cans in a Cooling Box.

The usual practice of small dairymen to keep their milk cool is to put the milk cans under running water in a box. The cans are usually kept beneath the water by slipping strips of board, of proper length, over the tops of the cans and under ledges at the side of the box. In using this method one runs the risk of upsetting the cans when putting the strips in position.

An improvement over this method is shown in the accompanying sketch from Popular Mechanics, which is self-explanatory. The apparatus is



made of strips of board, 1 inch thick, the lower sketch shows how the device is put into the milk box, B is a hinge, and A a button to lock the tongue C in place when the device is straightened out. Boards for holding the grain in bins can be made in the same manner.

Most Profitable Farm Animal.

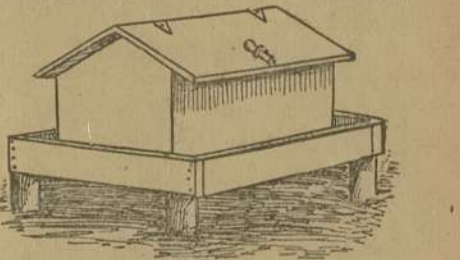
Opinion is divided and probably always will be on the question which is the most profitable farm animal to raise. Many believe the horse brings the greatest profit, others tie their faith to the beef breeds, and still others to the dairy breeds of cattle, but it seems that the friends of the hog are in the majority. A hog requires more care at times than do some other animals, but it is wonderfully prolific, and if the quality and breeding are right it is easy to make a market for the animals produced, and the farmer has the advantage of turning his money over more rapidly and more profitably in hog breeding than in perhaps any other kind of animal production. Of course, there are many risks to assume, as the modern hog is a purely artificial product and subject to humors and diseases which would not come to it in its wild state. The investment of a moderate sum of money in a few brood sows in the spring will make a man a hog breeder within a year; whether bred as a specialty or as a side line, the hog always gives a good account of himself.—Kansas Farmer.

Animals Need Juicy Feed.

The digestive organs of animals that chew their cud are so formed as to require comparatively juicy and bulky food. The cow can not thrive on dry food as well as the horse. The ideal food for the dairy cow is good pasture, but for a large part of the year green pasture is not available. The best substitutes to furnish this succulent feed during this period are root crops and corn silage. Corn yields about twice as much dry matter per acre as do root crops. As root crops require much more labor, silage is by far the most economical for those where corn can not be grown.

Salt Box.

The salt box is made out of two-inch stuff so it will withstand the pranks of horses and other stock crowding about the salt place. An ordinary bunk is made about three feet wide by four long and the salt receptacle made so as to fit inside the bunk end-



wise, but much narrower on the sides. The sides come down to within an inch of the bottom so that stock can lick the salt.

Correcting Acidity in Soils.

Acidity in soils, while not directly injurious itself to most crops, is not a condition of fertility and usually indicates a need of phosphates.

Especially is it detrimental to the growth of clovers, in that it does not favor the development of bacteria-forming nodules on their roots, which fix the nitrogen from the air. Clay loam soils, the organic matter of which has been to a considerable extent exhausted, should be kept in as favorable a condition for the growth of clover as possible, and the neutralizing of any acidity is one of the most important factors.

Legume Growth Good Omen.

The man who is looking for a new location agriculturally can hardly go astray if he picks out a piece of land in a section where either clover or alfalfa will grow, and this holds whether the district is under ditch or has its moisture supplied in the shape of snow and rain.