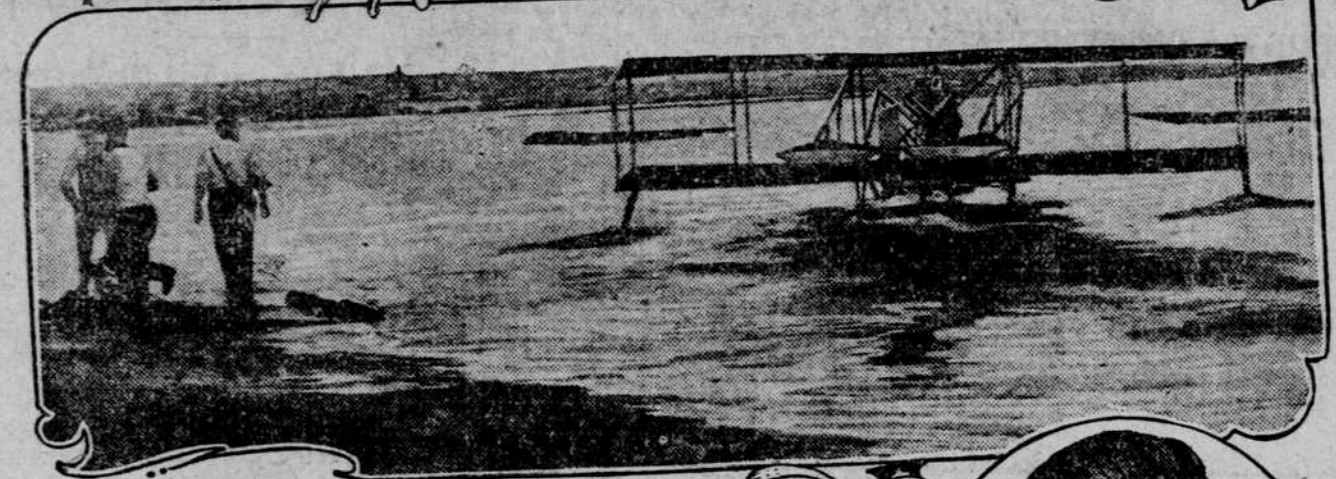


# AEROPLANES IN THE NAVY



THE CURTISS HYDRO-AEROPLANE

**W**HEN a naval aviator, Lieut. Ellyson was launched in an aeroplane from a catapult recently and his flying machine bore him gracefully aloft without slightest tendency toward stumbling it marked an important advance in the use of airships in the navy.

The aeroplane as an adjunct to military operations has already shown its value both in Tripoli and in Turkey. Besides dropping bombs upon Turks and Arabs it has proved of greater usefulness in reconnoitering the position of the enemy. The Bulgarians have gone a step further and have used the aeroplane for fire control purposes, enabling the battery commanders of the field guns to train their weapons so as to make them tell most effectively against the Sultan's forces. This matter of fire control is as vital to a navy as an army in action, especially when the guns of a fleet are searching out the weak spots in the land defenses. But heretofore the aeroplane has been less available for navy than for army use.

The catapult tested in Washington is the invention of Captain Chambers of the navy, and is the outcome of various lessons learned while trying to adapt the aeroplane to the needs of the navy. The practicability of sending aeroplanes in flight from a suitable platform on board ship was early demonstrated, but there were various minor problems to be solved. The launching platforms employed were both long and cumbersome. They took up space that would not be available in time of war, and they blocked the fire of some of the guns.

The long runway or sloping platform was therefore prohibitive. With a short track substituted which could be easily and quickly put in place and just speedily demounted and stored out of the way, there arose the question of a means of starting the aeroplane effectively. For this purpose Captain Chambers devised the catapult. For years he had specialized in torpedoes and was familiar with the devices successively tried in getting those weapons overboard from a boat. The catapult tried at Annapolis last summer was a sort of modified torpedo launching outfit of the earlier type, and compressed air was employed to give the initial push.

The trial mechanism was of necessity rather crude, but this fact did not deter Lieutenant Ellyson from subjecting himself in a hydroaeroplane to the extreme shock of the device in order to find out the effects of such a concussion, not only upon the air pilot, but likewise upon the motor attachments and other fittings which might be wrung loose or deranged. That test was entirely satisfactory in its lessons, but the aviator and his machine got a ducking.

The catapult lately tried at the Washington navy yard is devised so that the hydroaeroplane attains its launching speed without violence, and this insures the launching of the machine without fear of deranging any of the apparatus or dislodging the aviator from his seat. The runway or starting track is short and can be put in position in several places on a fighting ship without interfering with the maneuvering of the guns or impeding any other operation of importance.

Of course the demonstration at Washington over the Potomac river under fairly ideal weather conditions is not a counterpart of what may confront the naval aviator at sea, but so far as the actual getting away from the ship is concerned that function can be promised under any circumstances which on shore would warrant an aviator in trying to go up in the air. The other side of the problem is that of returning to the ship again, and here success is likely.

Glen H. Curtiss has devised a form of float or boat for his hydro which is capable of sustaining the flying machine when waves of considerable size

are running, and this will be taken advantage of when the hydroaeroplane returns from its scouting expedition. The aviator will alight with his machine upon the water on the sheltered side of the vessel, and, thus protected from the stronger sweep of wind and wave, the air pilot and his apparatus will be easily hoisted aboard.

Developments in other directions are increasing day by day the reliability of the aeroplane and its value as a military implement. Just as the self-starter has added to the convenience of the up-to-date automobile, a similar device is contributing to the efficiency of the hydroaeroplane as part of the equipment of a fighting ship. With a good self-starter, by which the air pilot can set his motor going from his seat, and with a launching apparatus like that devised by Captain Chambers, the aircraft will be able to assume its own propulsion the instant it leaves the runway of the catapult.

It is not enough, however, simply to get the flying machine into the air; the scouting aviator has a lot to attend to after he is aloft and started upon his mission. Until a short while ago the air pilot had his hands dangerously full of things to be manipulated in order to sustain him safely in flight, and a moment's inattention was pretty certain to invite trouble if not disaster. He had no opportunity to make observation of the land beneath him or to release bombs intended to hit a certain spot on the landscape below. The aviator therefore needed a companion whose duties should be limited to reconnoitering and to dropping projectiles upon the enemy.

Now it happened that the machines used by the Italians in Tripoli were not weight carriers, and it was therefore out of the question to support a second person in them. Accordingly the aviator had to do all the work himself, and this explains why bombs dropped from aeroplanes so often failed to hit their mark. The Italian dirigible balloons, on the other hand, because they could be maneuvered deliberately and could lift a number of persons, were successful as bomb throwers, and what they did showed what could be expected of a flying machine properly built for military work.

As a result of study a number of devices have been developed which make it possible now to insure to a large degree the automatic control of an aeroplane's equilibrium, and other apparatus is being perfected which reduces the demands upon the aviator. Quite apart from the military importance of these later inventions, the physical and nervous stresses upon the aviator are fewer. These have proved so exhausting during the war between Italy and Turkey that the pilots have become incapacitated after six months of service, and doctors declare a rest period of at least two years is needful in order to insure their recuperation and fitness again for duty with the flying squadron.

Among the helpful apparatus now being developed by an American firm is a gyroscopic device which gives promise of success in maintaining the stability of an aeroplane in flight. Captain Chambers is engaged in the construction of an aerial compass which will not only give directional guidance, but will also compensate for the drift or sidewise movement of the flying machine.

On the other side of the Atlantic instrument makers have been working away at the same problem with more or less success. The market supply of such apparatus is not large. That there is need of just such an aid to aerial navigation is evidenced by the fact that a German firm was suddenly denied of its supply by the demands of the war in the Balkans. It is safe to say that no small share of the effective aid rendered by the Bulgarian flying corps has been directly due to these instruments.

In the past aviation generally has been encouraged more as a sporting



LIEUTENANT J. H. TOWERS, U.S.N. HEAD OF THE NAVY AVIATION COURSE

proposition than an art susceptible of practical benefits, and this has really hurt aviation more than it has helped. Speed has appealed pre-eminently to racing men and to what may appropriately be termed the nautical acrobats, and in some senses this speed has saved more lives than it has sacrificed under the hazardous circumstances of its employment. The victorious Vedrines strongly advocates speed on the score that it makes for safety by offsetting or combating more successfully atmospheric vagaries while in flight, but this element of high velocity multiplies the hazard or the difficulty of alighting as well as increasing the danger of engine trouble and shortness of the life of the motor.

For war purposes an aeroplane motor should work efficiently at different speeds because varying drive power will be needed for dissimilar services. A motor of this sort would lend itself to relatively low speed so that the flying machine could return to the ground much as a vessel slackens her headway when coming up to her dock. Captain Chambers has a very definite opinion upon this subject, which he explains as follows:

"A weight carrying aeroplane, such as a hydroaeroplane, necessarily needs a motor with considerable range of speed, and the same kind of motor is needed to reduce the danger of alighting. I think aviation would be improved if the terms of future speed contests were arranged so as to require each contestant to go over the course twice—the second time at an average speed 20 per cent. lower than his highest average."

The layman has heard so much of anti-balloon guns and other weapons for the annihilation of all kinds of aircraft, that he pictures the flying machine as being knocked into bits by the precise fire of these weapons. As a matter of fact, during the war in Tripoli the Italian aeroplanes were but seldom hit, never disastrously, and when up in the air three thousand feet they were not touched at all. American naval aviators with their hydroaeroplanes, have proved that it is entirely feasible for them to reach this height, and so far, as endurance of flight is concerned, they hold the record—Lieutenant Towers of the navy having traveled for six hours ten minutes and twenty seconds in a standard navy Curtiss hydroaeroplane. Inventors have developed an aeroplane wireless outfit of very moderate weight, and with this equipment aviators are able to cover a range of fifty miles.

The next naval conflict is likely to find hydroaeroplanes a feature of the essential equipment of all large men-of-war, and the flying machine must be considered seriously and not as a mere fad or a mechanical achievement of no material value. In peace-time maneuvers the French have clearly shown that the aeroplane is capable of doing scout duty of an important character, detecting not only ships upon the water, but the presence of submarines supposedly hidden below the surface of the sea; and recent experiments with armor piercing bombs—dropped from aircraft—have turned a new page in the art of warfare.

**Old Fight Renewed.**

"My old barber has left the city."

"You seem very regretful."

"Yes; he had been trying to sell me a bottle of hair tonic for the last 15 years, and so far I had succeeded in standing him off. Now I shall have to start the battle all over with a new man."

you knew nothing," was the reply.

"But your manner was so free from constraint under what to some people would have been peculiarly embarrassing circumstances that we said to each other, 'That's the very man to make a diplomatist.' So we gave you a start on your career."

**Ungallant Chinese Proverb.**

"A woman's heart," says the Chinese proverb, "is like the moon. It changes continually, but it always has a man in it."

strengthened. So let the national game, the greatest of all games, be upheld and kept free from decadent influences, for it is worth our while.—Greenville (S. C.) News.

**One Indication.**

"Well, dear, do you think it is going to be smooth sailing with our new cook?"

"I'm afraid not, Jack. I rather think from the way she handled the supper dishes there are going to be breakers ahead."

## BIGELOW HONORED

Union College Plans Memorial to Author and Diplomat.

Committee Raising \$100,000 for Recitation Hall and Professorship at Schenectady Institution—Was 17 When He Graduated.

Schenectady, N. Y.—Plans are rapidly being perfected at Union college for the establishment of an elaborate memorial in honor of John Bigelow, the author and diplomat, whose long life of service ended in New York on December 19, 1911. John Bigelow was a Union man of the class of 1835, and was for many years the oldest living alumnus of the college. The memorial is to take the form of a recitation hall which will bear Mr. Bigelow's name and a professorship in political science, and for these two purposes at least \$100,000 must be raised. A committee, of which Joseph H. Choate is chairman, has dedicated itself to the raising of this fund, and the circulars calling for subscriptions will soon be sent out.

"It is felt," says this committee, "that the most fitting memorial would be a building erected on the campus of his Alma Mater at Schenectady, N. Y., with lecture halls and rooms devoted to the studies he loved, history, politics, and literature, and the establishment there in of a John Bigelow professorship of political science. The building would be named the 'John Bigelow Memorial Hall,' and would stand on the main avenue of the college grounds entered through the gateway erected to the memory of John Howard Payne, author of 'Home, Sweet Home,' a member of the class of 1810 at Union college.

"The service of John Bigelow to his country in the dark days of the Civil war should always be gratefully remembered. While William H. Seward, his fellow-graduate of Union college, was managing brilliantly the affairs of the department of state, John Bigelow, as minister to France, was successful in the delicate task of maintaining our national credit in the countries of Europe. Throughout the whole of his long life he devoted his powers without stint to unselfish and untiring effort in the service of his fellowmen.

"He held a place in the esteem and affection of his countrymen held by no other man, and when he died at the age of ninety-four his right to the title of 'The First Citizen of New York' was not questioned. We are confident that this plan will be received by many as a welcome opportunity to serve at once the double purpose of stimulating the spirit of patriotism and of doing honor to the memory of one whose name should be held among us in



John Bigelow.

grateful remembrance. In the last few years of his life Mr. Bigelow turned with peculiar affection to his old college, and a memorial serving such a useful purpose in the fitting of young men for citizenship is one which he would warmly approve."

Contributions may be sent to the treasurer of the committee, Oswald Garrison Villard of the New York Evening Post. Other members of the committee are Justice Charles E. Hughes, J. Pierpont Morgan, Henry Fairfield Osborn, George A. Plimpton, Eliphallett Root Potter, Andrew Carnegie, Elihu Rott, John L. Cadwalader, Joseph E. Ransdell, and President Richmond of Union.

**Declares Slim Men Cranks.**

Boston.—"Beware of slim men, for they're cranky ninety-nine times out of every hundred," is the warning given by Mrs. Blanche Mae Chandler of Revere, the professional nurse who said that earning one's own living was a far easier task than being a wife. Mrs. Chandler is being sued for divorce.

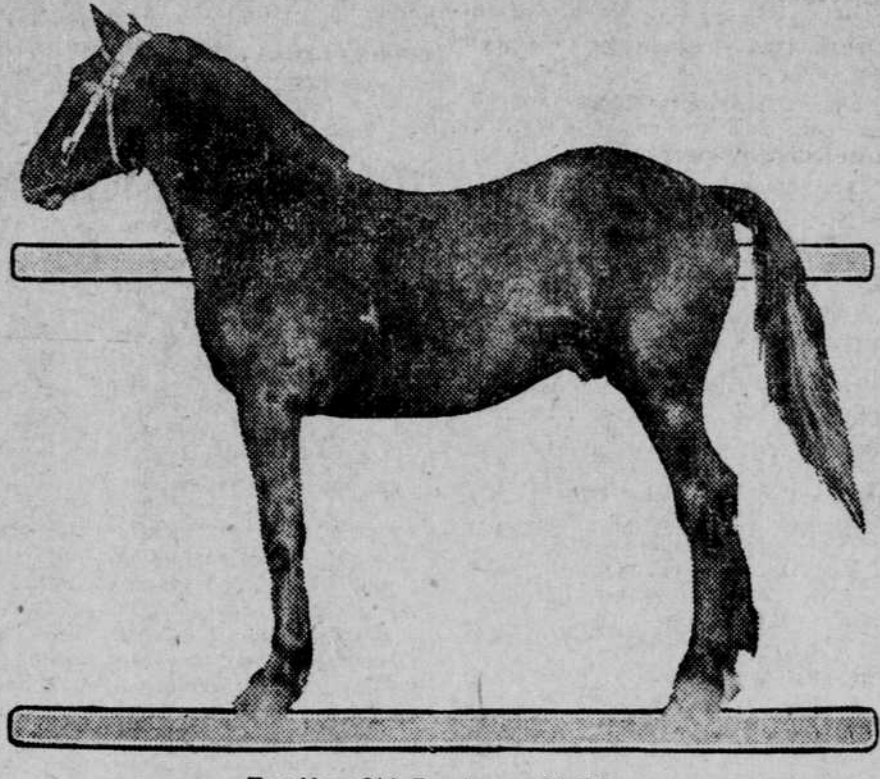
"Never marry," she said, "until you are certain that the man you intend choosing has perfect poise, both mentally and physically. Stout women should never marry slim men."

"Complaisance in marriage should understand each other and be fortified with a knowledge of the classics, politics, etc., so that they may hold intelligent discussions on topics of the day."

**Bishop Works as Coal Miner.**

London.—The Bishop of Birmingham, Dr. Wakefield, worked as a coal miner, when, provided with a miner's coat and lamp, he descended the pit of the Hamstead colliery, near Birmingham. After watching the men at work, Dr. Wakefield assisted in obtaining some coal. He expressed pleasurable surprise at the comfortable conditions under which the men worked. The bishop spent about an hour in the pit and traveled about a mile from the shaft.

## INCREASING DEMAND FOR HEAVY HORSES



Two-Year-Old Percheron Stallion.

The breeding of heavy draft horses is one of the most profitable branches of live stock farming. Few farmers realize the importance of size in a draft horse when put on the market, either in public or private sale. A horse that weighs less than 1,500 pounds is not considered a draft horse in any of the horse markets of the country, yet the mares kept on the ordinary farms are usually lighter than that. This accounts for the small, scrubby lot of horses that are constantly being put on the market at a loss to the breeder.

This was well illustrated at a sale of grade horses recently held in the Lamer sale barns at Salina, says the Kansas Industrialist. Here the horses of good size were readily bought at good prices, while some of the lighter ones could scarcely be sold at any price. There is an increasing demand for heavy draft horses in the cities in spite of the fact that many firms are using the motor truck in their delivery work. The motor truck can be used profitably only on long, heavy hauls where the roads are good and speed is essential. The motor requires good roads for its best operation and can be used to advantage only in the paved streets of the city or on good country roads. These remarks were made recently by the manager of a large express company at Chicago.

The delivery manager of a big packing company at Kansas City, says that the motor truck cannot be used on short delivery on account of the heavy

expense of operation. The motor truck has its place on the farm. It can be used for plowing and heavy hauling, but can never replace the draft horse. If the draft horse is a permanent part of agriculture, more attention should be given to its production.

There is an increasing demand for heavier horses on the farms. Deeper and better tillage must be practiced in the future, and this requires heavier machinery and more motive power. There are two ways of increasing this power. One is by increasing the number of light horses. But the most economical way is to increase the weight of the horses. This will reduce the farm labor force; will decrease the amount of equipment necessary in requiring less stable room and less harness, and the cost of feed will be lessened.

All farmers and breeders who are breeding horses for commercial purposes should replace their small mares with heavier ones. This must be done gradually by adding a few good draft mares to the herd every year and selling the poorer ones. Sometimes good colts may be reared from inferior mares by mating them to a good stallion, but better ones always will be the result of the mating of better mares to the same stallion. There are plenty of good stallions throughout the state, but the mares are lacking, and until the farmers come to realize the value of the right kind of mares the profit in breeding will be low.

## POTATOES GROWN IN STRAW STACKS

Unless Ground Is Reasonably Fertile One Should Not Expect Satisfactory Results.

Years and years ago potatoes were grown in old straw stacks, and this suggested hauling out straw to cover the ground no matter where the potatoes were planted. I have heard a great many praise this plan, while others give it as a flat failure. I have tried it with success, and in some cases have failed, but in that failure learned the cause thereof.

One cannot control the season, and for this reason, early potatoes in straw have been an indifferent success, while those planted later are almost always better than when given cultivation and the straw not used. If we have a cold, wet spring, potatoes planted in a deep furrow under straw, are not likely to do well, while if they are planted a little later, when the sun is warm, they will not lack for moisture, and the potato must have sufficient moisture.

I prepare the ground and lay off rows with a single shovel just as if I were going to plant in the regular way except that the rows may be some closer together. The potatoes are then dropped in the row, and barely covered, so that in some cases one side of the piece shows. It is often as well not to cover with dirt at all, but it is safer in case of dry weather to cover a little.

Then with a wagon haul out old or wheat straw and cover the ground solidly to a depth of six inches or a foot. Never fear, for the potatoes, they will come through the straw, and so will nettles which are akin to the potato vine in this respect, but other weeds will be smothered, and the patch will be perfectly clean except for the rows of green potato vines. It will not be necessary to cultivate with either plow or hoe, and if a few bull nettles should be found they may be cut off with a blade. The potatoes will form right at the top of the ground and in the lower layer of straw. There will be some elements of fertility in the rotting straw, but unless the ground is reasonably fertile one should not expect any better results from this plan than by cultivation.

At digging time begin on one side, fork the straw over and pick up the potatoes, then take the next row forking the straw from it over on the row that has just been dug or rather picked. The potatoes will be white and clean, and you will get all of them, whereas by the old method of cultivation and digging among the weeds as high your head you get maybe not more than half.

**Set Out Peppers.**

It is not too late to set out peppers. This plant should never be set in the open ground until the thermometer stands at about 60 degrees through the night and all danger of frosts is passed.

**Begin Spraying.**

Spraying vegetables should be commenced the very moment the insects are seen. Every day thereafter makes the work of observing them more difficult.

Where this plan has been a failure it was on account of wet, cold weather early in the season which caused the potatoes to rot before coming up. We usually use clean straw, but half rotten would answer the purpose probably as well. This coat of straw which may be turned under the next year, enriches the ground for subsequent crops whether of potatoes or grain.

## SOME PLANTS ARE BIG LABOR SAVERS

Require No Greenhouse, Hotbed or Window Garden—They Are Hardy.

(By JOSEPHINE DE MARR.)

It is not too late in the season to urge busy housemothers who love flowers, but who have little time to give them, to grow herbaceous plants.

These plants are labor-savers; for, once established in good, deep soil, they require little care or attention; they bloom profusely, and if a good selection is made, abundant blooms may be had from early in spring when the moss-pink (phlox subulata) covers itself with flowers, to late fall, when the hardy chrysanthemums withstand the early frosts.

These plants require no greenhouse, hotbed, or window garden, for they are really hardy. However, it is well to protect the young plants their first winter.

Herbaceous plants are propagated in several ways—by seeds, division, cuttings of tops of roots. Cutting of the roots, although not usually practiced, is easy and successful, and should be better understood.

If you will carefully dig up a plant, say, a one-year-old golden glow, you will find on the main roots little shoots close together. These are future plants. All one has to do is to cut the root in small pieces, being sure to allow one shoot or eye to the piece, and plant them in the ground. If one has too many plants, it is easy to exchange with one's neighbor, and thus acquire a new plant.

**White Geranium.**

A good white geranium is a jewel which, when found, should be kept. Select one or two zonales for ornamental foliage, and keep them bright by giving the plant as much sunshine as possible and a dose of ammonia once a week—a teaspoonful in a quart of water.

**Intolerable Nuisance.**

Moles in a garden prove an intolerable nuisance. While they may be trapped, the only sure way is to inject bisulphate of carbon into their runs.

**Potato Spray.**

Arsenate of lead is replacing Paris green in spraying potatoes because it adheres to the foliage better.

**Keep the Hoe Going.**

Keep the wheel hoe going all through the month, particularly if the ground is dry.

**Strawberry Plants.**

Do not set out fresh strawberry plants next spring in a bed that was occupied by the old plants this year.

The only consolation failure has is to sneer at success.

**Literal.**  
"Does Jims ever make a move at the club meetings?"  
"Ever make a move? Why, that man's never still!"

**Mrs. Winslow's Soothing Syrup for Children.**  
Teething, softens the gums, reduces inflammation, allays pain, cures wind colic. See a bottle at

**Strictly True.**  
"Mayme was bragging to me that she had married a man in high life."  
"So she has. He works on sky-scrappers."

**The Latest.**  
"I wish you'd state that I am going to star this summer," said the chorus girl to the affable reporter.  
"Nobody believes that stuff any more about chorus girls. But I will say that you are engaged to a steel millionaire."

**Square Foot and Foot Square.**  
There is no difference in area between one square foot and one foot square, though there may be a difference in the shape and dimensions of the surfaces. For instance, one square foot may be inclosed by a circular line, a hexagon, a triangle or a rectangle. One foot square is an area of fixed form, the four sides being equal and the four angles all right angles.

## You're Out!

If you have not perfect digestion, liver activity and bowel regularity. These should be daily functions in order to maintain health.

## Hostetter's Stomach Bitters

will help you when those organs become weak and lazy. We urge a trial today. Insist on Hostetter's.

**Affection Causes Dog's Death.**

Natural affection on the part of a dog was instanced in a remarkable manner at Beaumont, in the province of Soane-et-Loire, France, a few days ago. One of the inhabitants drove out of the town into the forest to gather firewood, taking with him the dog, which he left to guard his coat and basket of food while he wandered about gathering wood. In his absence the dog gave birth to three puppies, and the wood gatherer, when he started home, forgot to place the puppies in the cart with their mother. During the night the dog jumped over a fence and ran the whole distance, some ten miles, to the spot where the puppies had been left, and brought one back in her mouth. Then she made two more journeys in order to bring back the other two. Altogether she covered a distance of about sixty miles in the night. The next morning her master found her dead in the yard by the side of her puppies, which were alive and well.

**Factories That Float.**

Floating factories have become an important part of the development of the forest resources of India. In certain parts of the country forests are only accessible through the water-courses, and the great expense of erecting land plants for the utilization of the lumber resources makes such a course impracticable. Therefore sawmills and other manufacturing establishments are built on floating platforms and moved up the streams as they are needed.

After the lumber is prepared in a sawmill it can be packed in a way that makes transportation much more economical than any system of logging. Plants for the preparation of tannin extracts have also been established in this manner. The plants are built on flat boats, 200 feet long, by 27 feet wide, capable of carrying a load of 470 tons.

## Please the Home Folks

By serving

## Post Toasties

They are among the good things to eat, but not in the cook book, because they require no cooking.

Toasties are always crisp and appetizing—ready to eat direct from the package. You save heaps of time and avoid hot work in the kitchen.

Some rich cream—sugar if you want it—or cool fruit juice, with these fluffy bits of corn and you have a dish that is fascinating for any meal of the day.

Toasties are sold by grocers everywhere.

## CUT OUT FOR A DIPLOMAT

A Labouciere anecdote which has not been done to death is given in the new volume of recollections by Sir Henry Lucy ("Toby, M. P."), to whom it was told by Labby himself. It concerned the younger son of a peer, who thought that a berth in the diplomatic service was as desirable a place as any for one who took life rather easily. He knew nothing of the special subjects upon which the prelim-

inary examination was based, but was at least the promise of a lark. As far as he could make out, he did not supply a single correct answer to the long list of questions. Nevertheless, he came out first in the competition. It was a surprise even for a confident young lordling. Meeting one of the examiners at dinner a few days later, he ventured to ask how the thing came about. "We at once saw

**Uplift of Baseball.**

A ball game on a summer afternoon serves to take a man's mind from routine matters and refreshes him. It gives him an outlet for his feelings as well, for the opposing team and the umpire are the scapegoats of American grouches. But for the boys there is another aspect of baseball. The player who ranks high must be in good physical condition and he cannot be in such a condition unless he cares for himself in the proper way. The boys of the large cities have

their heroes on the ball teams, and will seek to emulate them. And knowing that physical perfection, or anything approaching perfection comes only with abstemious living, these young hero worshippers will be influenced to care for their physical natures. Many a boy hopes to make a ball player of himself, hence will develop his muscles. This is an excellent thing for him to do, for although in later years the halo about the ball player's head grow dim, the foundation for good health will have been

strengthened. So let the national game, the greatest of all games, be upheld and kept free from decadent influences, for it is worth our while.—Greenville (S. C.) News.

**One Indication.**

"Well, dear, do you think it is going to be smooth sailing with our new cook?"

"I'm afraid not, Jack. I rather think from the way she handled the supper dishes there are going to be breakers ahead."