

MEN WILL SOON FLY WITH ABSOLUTE SAFETY, SAYS WRIGHT

Inventor of Aeroplane Thinks the Daring Few Will Cease Within a Few Years to Monopolize the Aerial Highways and Aviators Will Be As Common As Automobileists Are Now.

THE Wright-Curtiss suit, destined to become historic, was on. Orville Wright had come from Dayton to listen to the arguments of counsel before the United States District Court of Appeals. Glenn Curtiss, who had come to town for the same purpose from Hammondsport, had also noted every move.

Frederick P. Fish, former president of the Bell Telephone Company, made the principal speech for the Wrights, following H. A. Toussin, their chief counsel, who talked for an hour in a truly fascinating fashion on the mechanical points at issue. J. Edgar Bull delivered the final argument for Mr. Curtiss.

Mr. Wright and Mr. Curtiss shook hands in the Postoffice Building when the next case was called and separated at the earliest possible moment by mutual consent.

Asked what he believed the result would be, Mr. Wright said:

"The only question is whether the judges understand."
"Going down in the elevator Mr. Curtiss was asked how he felt about it. He said: "The trouble with a case like this is it is so difficult to make the judges understand. If we have been successful in that particular I am sure the judges will render a verdict in our favor."

Later in the day, at his office at No. 11 Pine street, Mr. Wright, no doubt the highest authority in the world in his particular field, expressed his views on the future of the aeroplane.

"As to the present aeronautical situation," said Mr. Wright, "our views have not changed from those of 1903. Our original predictions have been pretty well carried out. Speeds now attained were predicted ten years ago.

EFFICIENCY OF FIRST MACHINE.

"It is easy to calculate that a machine might make a thousand miles without replenishing tanks, and by going to extremes might even do better. Our first machine, built in 1901, has never been beaten in efficiency. We carried sixty-five pounds per horsepower. Now half of the stuff put on a machine is not for flying but for landing. The propellers of this machine were calculated for high efficiency.

"We knew exactly what it was going to do before we built it and it came out to our figures. The most that any one had tried before was from fifteen to twenty pounds per horsepower. Our machine was designed for sixty-five pounds.

"In the prior art there was no mention of presenting different angles of incidence on either side of the machine. This was original with us. Every one thought a rudder was simply for steering. A machine will not steer, except to the slightest degree, with the rudder only. Simply turning the rudder gives very little steering effect, unless on a bank.

"Another thing we discovered was that a greater angle would not always lift more. The wing presenting the lesser angle of incidence speeds up and may lift more than the wing which has the greater angle and which is moving at slower speed. The relative speeds of the two wings never entered the minds of any one before our time."

"Do you consider that there is any limit to the future of aeroplanes in the matter of speed?" Mr. Wright was asked.
"There is no limit to speed," replied Mr. Wright, "except what a man will

dare. As fast as motors are perfected to give greater power for less weight the area of aeroplane wings will be reduced and the speed increased. There is no more limit than there is to the velocity of a cannon ball. No one knows at what speed we will shoot a cannon ball in the future."

In answer to further interrogation as to eventual reduction of wing surface to nothing, Mr. Wright said that then the propeller would have to be tilted up. That would come only with enormous power and minute weight.

"The machines of the future," he continued, "will be equipped with automatic stability devices. It will take no daring on the part of any one in the next few years to fly. I have been flying every day for a month or so with one of our machines fitted with automatic devices for adjusting longitudinal as well as lateral stability. Alex. Ogilvie and Griffith Brewer, of England, have been flying with me in the machine so equipped.

"This automatic device may be fitted to any machine.
"New improvements, which are being patented, do away even with the slight oscillations noticed in using our first automatic device a year or so ago, which was actually flown as originally described in our patents on the automatic system. This automatic system will really teach a man to fly and shows the inexperienced pilot his mistakes. It feels things a person cannot feel. An automatic device would never let a machine get at an angle at which the machine will stall.

EASY AS MASTERING AN AUTO.

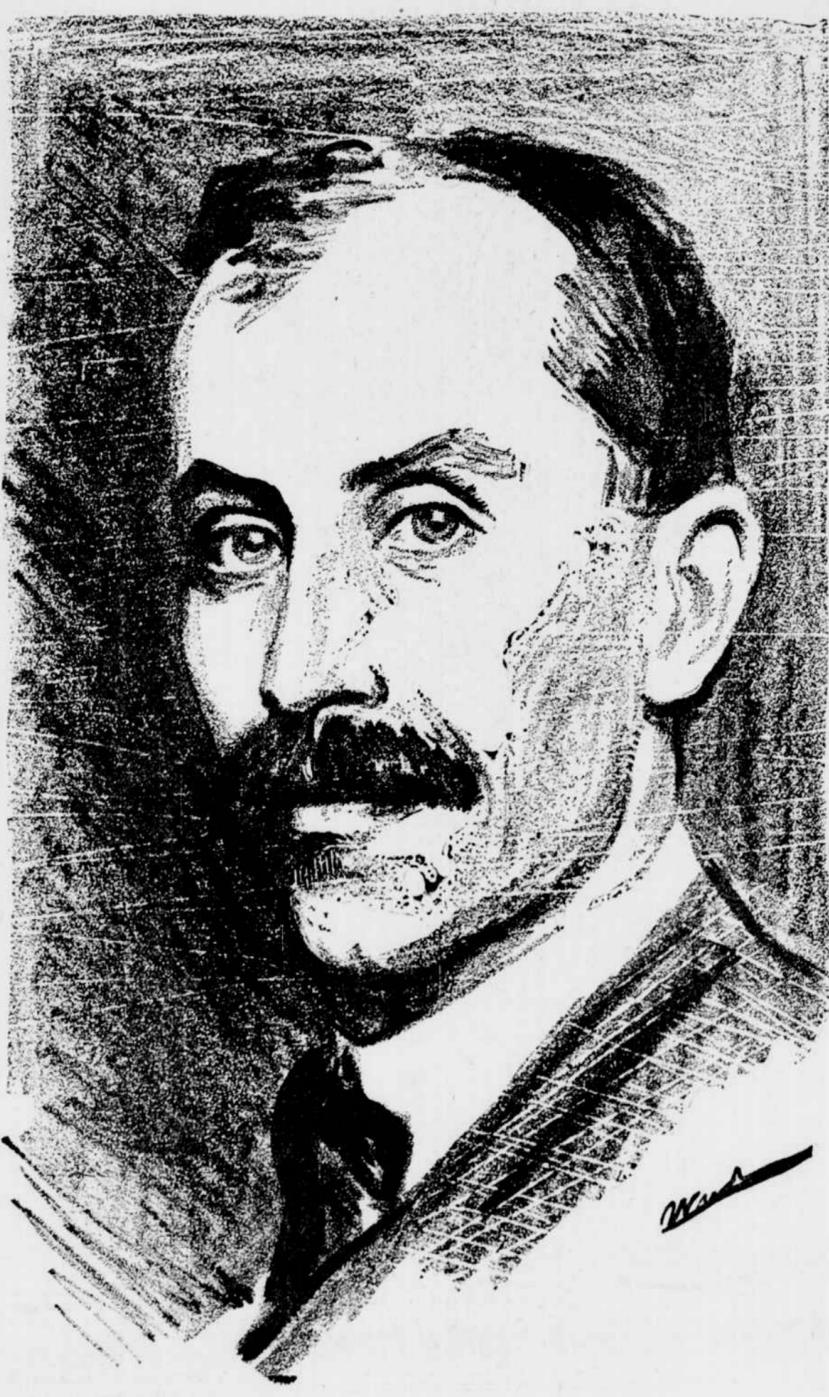
"Soon there will be no more learning to fly than learning to drive an automobile. Of course, a man will always have to learn to land. Yet, with this automatic device, even this will be simple. He can have a mark on his machine showing at which point the elevator lever must be set for the machine to assume a proper safe gliding angle. Settling the slide at the beginning of his glide to earth, the automatic system will take care of the fore and aft balance the rest of the way down.

"Properly balanced, one of our machines will even take its own gliding angle. I have just had an experience of this kind myself. After getting in the air a few days ago out at Dayton I found a control wire to the elevator had become useless through the loosening of a turnbuckle. I shut off the motor and the machine landed safely, without any control over the elevator whatever.

"Another thing which insures an aviator against stalling is the incidence indicator, on which we were allowed a patent by the United States government on October 13 last.

"The cause of most of the accidents today is flying at a wrong angle of incidence. Stalling produces a dive, which we have definitely calculated to be for about two hundred feet. Naturally, an operator tries to stop the dive by pulling on his elevator lever, and this makes it worse—a man may then be absolutely helpless. The only thing to do is to point the machine still steeper and dive worse, in order to gather an increased velocity for recovery."

Mr. Wright stated that he would shortly issue a treatise on the subject of "stalling" and would attempt to obtain for it as wide publicity as possible, that



Orville Wright

the greatest number of flyers might be benefited. When asked whether the machine of the future would be automatically or inherently stable, Mr. Wright replied in favor of automatic means.

"Everything in inherent stability makes a machine turn out of its course," he said. "A situation might arise in flying very close to obstructions where the machine would become unbalanced. If inherently stable, this condition would be corrected by a turning of the machine of its own volition, which might take it into the

obstruction. On the other hand, the automatically stabilized machine would correct its temporary instability, keep a straight course and avoid the obstruction."

Famous Airman Tells of Devices Which Insure Stability and Says There Is No Limit in the Matter of Speed--The Advent of the New Wright Aero-boat and Its Striking Feats.

land other than the element of safety?" Mr. Wright was asked.
"No," he replied. "In ten years we will see more land than water machines, because the pleasure of flying over land is so much greater than flying over water. If the danger of flying over land were eliminated every one would fly over land in preference to water."

The new Wright aero-boat, which was announced some time ago and which has been eagerly expected by the aviation world, made its first appearance recently on the Miami River, near Dayton. Under the expert hands of Orville Wright, who has been flying the craft, it showed high efficiency and stability than have previously been attained with this type of machine.

With only a 60-horsepower engine, the aero-boat demonstrated its ability to lift three or four persons, and showed a speed of very nearly sixty miles an hour. In numerous flights up and down the river, both in winds and in calm, the new aero-boat surprised spectators by the ease with which it rose from the water in a short run of only a few hundred feet.

The hull of the new craft is made of metal, and contains the engine and seats for the passengers. Contrary to former practice, the engine is placed low and the seats high, both being much better protected from spray and waves in this manner.

To lift two persons at a speed of about sixty miles an hour it has been necessary during the last season to equip these boatlike flying machines with engines of almost 100 horsepower, and a considerable advance has been attained in the development of the aero-boat by the new Wright type, in that the power required to accomplish the same result is practically halved. This is due to various novel features in the design and construction of the boat hull and the aeroplane wings.

PREDICT GREAT POPULARITY.

A convenient starting crank is fitted back of the seat, and the airboat flown by Mr. Wright, equipped with anchor, whistle, lights and other paraphernalia, shows the tendency in these craft more and more to approach standard boat lines. Experts predict that next season aero-boats will gain tremendous popularity and that a new sport has been founded which will greatly awaken interest in aviation throughout the country.

Oscar Brindley, the veteran Wright pilot, and Grover C. Loening have also done considerable flying in this machine, and despite the restricted nature of the Miami River at the point where these tests are held, the new boat has shown remarkable ease of control, both in the air and on the water.

"Do you believe in trick flying, like that of Pegoud's?" Mr. Wright was asked.
He expressed the view that Pegoud's looping the loop and turning over sideways successively like a corkcrew would do much to bolster up the faith of flyers in the aeroplane and teach them to keep their heads.

"One can always recover if a man keeps his head. There is no new principle in Pegoud's flying, for every flying machine manufacturer thought his feats possible, provided the operator could keep his head.

"If a man gets upside down and keeps his head he can recover. Chances are 100 to 1 that a man will forget and leave the

levers and grab hold of some part of the machine. There is no reason why any other machine could not do the same thing if properly built.

"These things that are spectacular are hardly ever dangerous. Beachey is one of the best flyers there are. None of his flights is ever dangerous. He knows just how far he can go. In making steep dives he never flattens out abruptly as many novices do—he knows or instinctively feels just what the machine will safely stand."

The effect of a decision in favor of the Wright patent would be that only the Wright company and its licensees would continue to manufacture aeroplanes now using the Wright system of control. This will make for improvements.

In dwelling upon this point Mr. Wright said:
"Any one is free to improve upon our machine. A patent is not to stifle, but to encourage advancement. When one cannot copy he must invent.

"The great profit was in the early part of the industry. We introduced the flying machine. All others had given up. At the time Octave Chanute went to Europe in the spring of 1903 Ferber was the only one experimenting. Had it not been for Ferber, Archdeacon and Voisin never would have gone in.

WORK OF THE VOISINS.

"Chanute got Archdeacon interested and he called the machine he built a 'Wright machine.' The Voisin brothers were young fellows out of school working for Archdeacon. They didn't start until Chanute described our machine. Our system of control was not used until after the patent came out. Chanute said enough about the rudder and warping to get us in trouble in Germany.

"Were it not for this we would have had a patent there on warping alone. Chanute told them that we maintained lateral balance by a peculiar contortion of the wings.

Mr. Wright believes that the slump in aviation is over. In the automobile industry and the stock market there are ups and downs. Aviation has been, particularly in this country, in an almost critical decline. The "game" is now starting an upward trend.

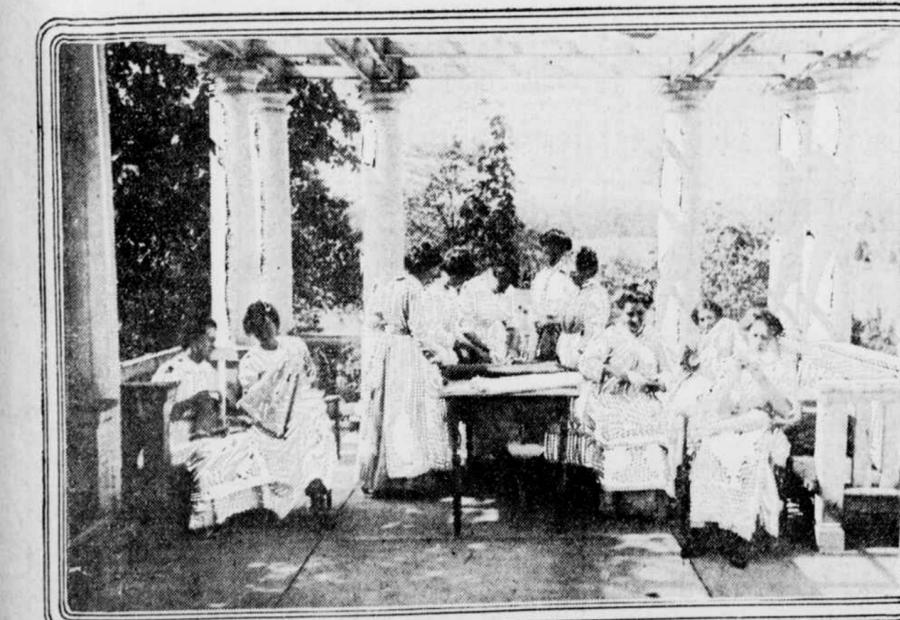
In the earlier years the American public was highly enthusiastic and thousands of young men wanted to fly. A large number copied the pioneer machines of the Wrights, Farman and Curtiss, bought motors from marine engine builders and tried to fly. Many were fairly successful. Some even developed into the well known flyers of to-day.

This big crop of amateur builders made a market for motors and a number of motor boat and automobile engine manufacturers lightened their engines and put them out as aeronautical engines. Almost suddenly this class died out and the engine makers found themselves without prospects. Many were the causes for this beginning, in 1910, of the slump.

Some of the machines failed even to fly—through ignorance, poor copying, bad construction. Some failed to fly because the builders, who tried to learn to fly by themselves, with no advice from those who could fly, made a mess of it—where the machines were not at fault. Many saw a barrel of money in the exhibition

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A. I. C. P.—THE ST. GEORGE TO POVERTY'S DRAGON—IS NOW 70 YEARS OLD



THE SEWING CIRCLE AT CAROLINE REST, HARTSDALE, N.Y. IT IS AN A. I. C. P. HOME FOR POOR N.Y. CONVALESCENT MOTHERS

It is doubtful if many moderns, assuming that they could find a copy, would pick up and turn over the following pages of a book "printed, not published," as the title page puts it, in 1882, and styled "Memorial of Robert Milham Hartley." It is not that the book would not be worth their while, but because they have never heard of its subject. Moreover, yellow pages of memorials are not very attractive to the eyes of individuals whose chief reading is the erotic fiction marketed by some of our present day magazines. If they did chance to get as far as the title page they would discover fronting it the portrait of a gentleman of the old school dressed in the garb of the Reformation. One could never imagine the man with the piercing eye, the beetling eyebrows, the strongly lined, shaven face, the long, wiry hair brushed forward in every direction from the center of the back of the head, the wisps of whiskers in front of either ear, the rolling collar, flowing black bow tie and broad-brimmed coat ever rampaging around an office on a hot summer's day in beited

trousers and shirt, dictating to a stenographer. No; he looks too much like a bishop of the Potter type.

This was the man, to adopt a style of phrase which one would never expect to hear from his sensitive and yet firmly bodied life, who put "improving" in the condition of the poor. He did it not only for New York, but for the world. The idea embodied by him in the work of the Association for Improving the Condition of the Poor when it was organized, seventy years ago, has borne fruit the world around. Robert Milham Hartley was the first general agent of this, the oldest charitable organization on the globe, which is now celebrating its seventieth birthday.

"You no longer find starving persons in rags in New York," said an official of the "A. I. C. P.," as those attached to the organization call it for short. Its mouth-piercing name was bestowed upon it in a period when men had time and loved to tell not only the truth, but the whole truth, in a title. "That kind of poverty," he continued, "has disappeared. No one

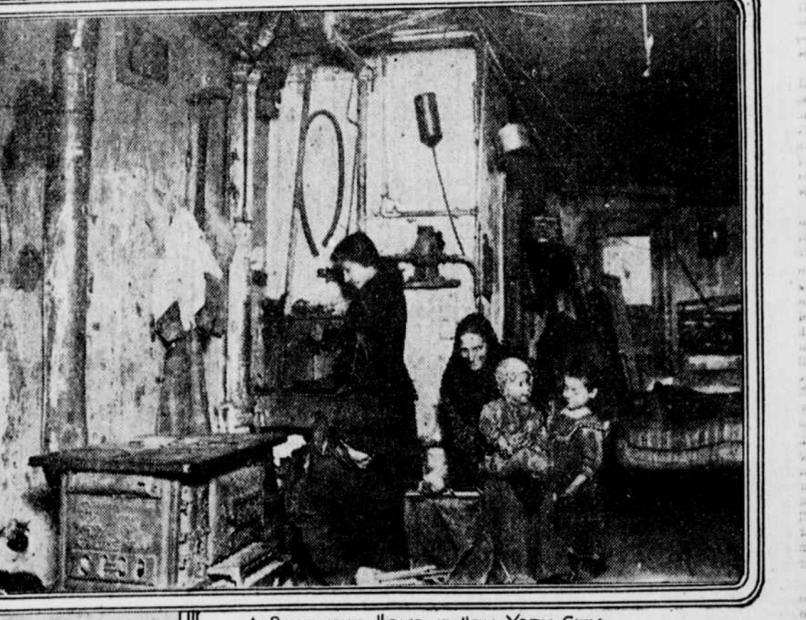
who deserves it is now without food and clothing. That was not the case once. The attitude of charity organizations now is that of strengthening the economic position of those threatened with poverty before they reach pauperism by helping them to help themselves."

There are few persons in New York who can recall the conditions existing in the city seventy years ago. So far as human beings are concerned it has become a community of the sons of other places. It is also another city physically. The Association for Improving the Condition of the Poor has played a larger part than is generally realized in the changing of the conditions which once made New York a hissing and a byword. One would not suppose from the low death rate of the city to-day that it could be said of it once that more persons in a thousand died here and more died before they reached the estate of manhood and womanhood than in any other city in Christendom.

Robert M. Hartley, the godly and high-thinking general agent of the Association



ROBERT MILHAM HARTLEY
The Man who put the BAN on INDISCRIMINATE GIVING



A BASEMENT HOME IN NEW YORK CITY

secured their adoption are indicated in the astonishing number of avenues of social work which have found their starting point in them.

Established in 1843, the Association for Improving the Condition of the Poor in 1845 made the first investigation of housing conditions in the city. Three years later, in 1848, it distributed plans for model tenements with the object of educating the public as to the needs of the poor and ways of supplying them. In 1851 the New York Juvenile Asylum was projected, and the De Milt Dispensary founded, the latter the first institution of its kind. The Northwestern Dispensary was founded the following year, to reproduce in another part of the city the successful work of the first dispensary. In this year also the first public washing and bathing establishment in the city was built, at a cost of \$42,000.

Bathing by the working class in those days apparently was not an accepted custom, if one may judge from the success of this earliest public bath. The poor, for whom it was intended, although having

few facilities in their wretched homes for washing themselves, did not avail themselves in sufficient numbers of the opportunities thus offered freely to make the experiment a success. The bathhouse was ultimately closed because it was ahead of its times. Exactly fifty years afterward, in 1902, the city, through the efforts of the association, opened three municipal baths.

In 1853 a state law was secured to meet the conditions prevailing regarding idle and truant children. It was not until seven years afterward, however, that the appointment of the first truant officer was obtained.

One would think in these days of strenuous effort to improve the tenement conditions that they were never so bad before. It is only necessary to read Mr. Hartley's description of conditions existing in the early 50's to discover that the "world do move." Thousands could find no better homes than cellars, many of which whenever it rained were flooded.

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THE FIRST MODEL TENEMENT IN NEW YORK CITY

for Improving the Condition of the Poor, laid the foundation of the work which removed this stigma. The principles which he enunciated for the cure of pauperism and the reduction of poverty have been adopted by many charitable organizations throughout the world. His theory was