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The World's First Successful Rocket Airplane Flight

by F. W. KESSLER, Sponsor
New York City

FOR THE FIRST TIME in history a rocket airplane took to the air under its own power on February 23rd, 1936, at Greenwood Lake, New York.

WHY ROCKETS? . . .

The question has frequently been raised as to why such great efforts have been made in transporting mails by rockets, because our present day airplane seems to be more than adequate and reliable for transporting passengers and goods to almost any point on the earth. The answer is that an airplane is limited in altitude simply because an airplane needs air to fly in. A rocket does not need any air, as a matter-of-fact, it is more efficient in a vacuum and therefore will be able to travel at an extreme altitude

in the upper stratosphere where there is no air resistance and where an airplane cannot fly. Naturally we are living today in a time when the first experiments are taking place and are having as an ultimate aim, transportation in these extreme altitudes. Therefore, the experiments made, up to date, have been limited to showing the feasibility of such a method. It is, therefore, gratifying to note that on February 23rd, although no great altitudes or distances were covered, it was the first time in history that a successful flight was made.

THE METHOD OF ROCKET PROPULSION . . .

The principle of rocket propulsion is very simple. The combustion of fuels taking place in a combustion chamber, which is open on one side, will furnish a "reaction" or "thrust" to the opposite side of the combustion chamber and thereby setting the rocket into motion in the opposite direction of escaping combustion gases. I want to state here that this force is not created by the escaping gases hitting the outside air. This is one of the most popular errors made in explaining rocket propulsion. As a matter-of-fact, if there is no air to hit the escaping gases the reaction is more powerful, which is the only reason why rockets will fly without atmosphere. There are two kinds of rockets. Everyone is familiar with the so-called sky rocket which uses a powder charge, and which, when ignited, burns off rapidly and throws the sky rocket into the air like a projectile. These rockets have very little, or no power a second or two after they leave the ground. It would take enormous amounts of powder to reach any kind of an altitude with this method. It therefore was necessary to invent a different method of furnishing power to the rocket, using a motor with continuous combustion, and a fuel which is much more powerful than powder and yet weighs less. The answer was the use of liquid oxygen, (having a temperature of minus 200 degrees below zero) and alcohol, gasoline, methane, and other fuels. These mixtures have an exploding force far greater than the well-known T.N.T. It was also necessary to control these mixtures and have them flow in a continuous combustion over a long period. This was accomplished by the construction of a special rocket motor.



●ABOVE—Loading mail into the first rocket airplane. Below—A portion of the battery of news reel cameramen who covered the flight.

ROCKET FLIGHTS

Aside from mail flights there have been a number of experiments made by rocket societies and other interested parties who strove to perfect this so-called liquid fuel method. A great deal of scientific data was covered and occasionally a trial shot was made. The difficulty always has been that the combustion chamber burned out after a few seconds because it could not stand the tremendous blast of a rocket motor having a temperature of some 3,000 degrees. On all of these trial shots, all that was necessary for the rocket to do was to lift itself off the ground without having to carry any additional weight. No rocket airplane flight, with the liquid fuel rocket method, has ever been made before by these societies.

MAIL ROCKET . . .

These have been made in a number of countries, but without a single exception all of these flights have been with powder rockets. There is, of course, nothing further to be learned from powder rockets and although these mail flights have paved the way for the development of the powerful liquid fuel method, we believe that the days of powder rockets are ended.

THE FIRST ROCKET AIRPLANE FLIGHT IN HISTORY . . .

As said above, this flight took place in Greenwood Lake, New York on February 23rd, 1936. More than six months of preparation and construction were necessary. A great number of tests had to be made to develop a rocket motor which would overcome the hazards and dangerous explosions encountered by the various rocket societies and it also was necessary to create a motor which would burn a relatively longer time than the few seconds accomplished by the scientific societies. The flight was originally announced to take place sometime in November. Continuous difficulties in the construction caused delays. In the meantime these activities received a world-wide publicity, as it was realized that something entirely new was being aimed at.



● F. W. KESSLER, sponsor of the first rocket airplane flight, editor and publisher of the Rocket Mail Catalogue.

THE ATTEMPT OF FEBRUARY 9 . . .

After overcoming previous difficulties and constructing two entire rocket airplanes the date of the flight was set for February 9th. The rocket mail was placed into specially made asbestos mail bags to protect it from fire in case of an explosion, should the rocket fail. The fuels were put into the tanks but great difficulty was encountered in filling the oxygen tanks. A blizzard raged throughout the forenoon and the atmosphere was heavily laden with humidity. After several hours it was assumed that only a little of this liquid oxygen had passed into the tanks. In the meantime it was our impression that the humidity of the air was freezing the feed lines continuously. Liquid oxygen, having a temperature of minus 200 degrees below zero, will freeze all humidity in the air to solid ice in any surroundings. The motion picture companies, news photographers and newspaper men were getting restless because they made the sixty-mile trip to Greenwood Lake to see this test. But the plane could not start without having the fuel in its tanks. When it was assumed that some of the oxygen had seeped into the tank, it was decided to make a short flight. Upon ignition to the rocket motor, no power was developed and all that could be seen was a long blue flame indicating that no oxygen was present for a complete combustion. But the newsreels needed a picture and a further attempt was made to fill the tanks. This was just a fruitless as the first one. However the airplane was put on a specially built catapult which was released in order to get a picture of the plane in the air. Having no power at all,

THE AIRPOST JOURNAL



● CAPT. "TIM" HEALY and F. W. Kessler assist little Gloria Schleck in the christening ceremonies.

it glided to the ground about 60 feet away from the catapult. Other attempts were abandoned on February 9th. The rocket mail was kept in the original bags for the actual flight which took place on February 23rd, 1936.

SABOTAGE . . .

Immediately after the failure of the 9th, the entire fuselage of the plane and the motors were taken apart for thorough inspection and it was found that sabotage was committed. Feed lines were twisted, making it impossible for the liquid oxygen to pass through. Also feed lines were clipped off entirely and if any oxygen had reached the tank there would have been a terrific explosion upon ignition. One of the mechanics, whose motive was probably jealousy, confessed to this contemptible act. Continuous day and night overtime work was necessary to rebuild the entire system in order to have the planes ready for the flight of February 23rd.

THE FLIGHT OF FEBRUARY 23 . . .

Again newspaper men, photographers, motion picture companies and a great number of invited guests came out to Greenwood Lake to witness this event. The planes were in perfect working order. No difficulties in any way were encountered in filling the fuel tanks. A new valve system was installed. The catapult had been rebuilt in the meantime and everything went on as per

schedule. The first airplane was put on the catapult ready for firing. About one-third of the mail had been placed in this airplane, as it was intended to make a long flight with as little overweight as possible. This rocket airplane was ignited, the catapult was released, and the plane glided into the air with the motor working to perfection. The plane took a very steep climb into the air, much too sharp for an airplane to fly. This was due to the catapult being at too high an elevation. The plane side-slipped and came down on the frozen lake. The motor was still going in spite of this impact and the airplane then started across the ice under its own power, sliding along for several hundred yards, picking up enough speed and momentum to take to the air again. Once more it went almost straight up, proving that not enough mail was put in the forward mail compartment to balance the plane. The plane side-slipped again and came to the ground. The catapult had been erected only a few feet away from the state line so that the state line actually was crossed in the air before the rocket slid to the ground the first time.

The rest of the mail had to be transported in the second airplane. We decided to disregard the catapult as the angle was too steep and we did not want to have a repetition of the plane stalling in mid air. Therefore, the second airplane was brought out into the center of the lake, from which point it started under its own power without the aid of the catapult or any other mechanical device. The plane slipped along the ice, gained speed and momentum and then gracefully took to the air. This plane was heavily overloaded, having to carry the balance of the mail, but it rose and shot through the air at tremendous speed, and this time the rocket motor, not being hampered by any more friction, developed its full power, pushing this overloaded rocket airplane through the air. The strain was too much upon the plane, however, and the wings folded up, not having enough resistance for this great speed. Once again the state line was crossed in the air. The total distance covered was more than 2,000 feet, of which approximately 1,000 was in the air.

Results of this flight have proven that a rocket motor of the type for this flight is able, not only to carry its own weight but also to drive an airplane loaded with heavy mail and can take this load off the ground into the air under its own power. It is inferred that a longer distance was not covered, due to the inadequate construction of the airplane wings. But we know today that this small and primitive beginning will no doubt lead to further development and ultimate transportation through the up-

per stratosphere, to almost any point on the earth within a few minutes or hours.
ROCKET MAIL . . .

The quantity of mail carried in this first rocket airplane flight is as follows:
 4,323 covers
 1,823 postcards.

Each cover was franked with a special green rocket stamp, cancelled by a purple cachet. These covers also bear a 16c airmail special delivery stamp, so that they would be backstamped upon arrival at their destination. This 16c airmail delivery stamp was cancelled at Hewitt, New Jersey on February 23rd. Each postcard was franked with a special red rocket stamp and cancelled by a green cachet. These also bear a one cent stamp, cancelled at the Hewitt, New Jersey postoffice on February 23rd. It is to be noted that the date on the cachet is February 9th, the original date set for this flight. This was not changed when the delay occurred, although the flight took place on the 23rd, since the mail had already been sealed.

The rocket stamps and the cachet are a private issue and are not U.S. postage stamps. The flown items should prove to be of great interest to any collector of airpost items because it is actually the first mail in history that ever was transported by a rocket airplane.

ROCKET STAMPS . . .

Although the writer sponsored this flight, he had nothing to do with the printing of the rocket stamps. These were engraved and the die was made under the supervision of Mr. Ralph A. Barry, stamp editor of the New York Herald Tribune, who also was present at all times during the printing of these stamps and who never has surrendered a die to anyone. The mail was counted in Greenwood Lake by a number of Philatelic witnesses and recounted just before the take-off on February 23rd, the day of the actual flight. These witnesses were Mr. Charles P. Graddick, Superintendent of Airmail Service, Post Office Department, Washington, D. C., Mr. Sydney F. Barrett of the Economist Stamp Company, New York, Dr. Louise D. Larimore, President of the Woman's Philatelic Society of New York, Mr. Ralph A. Barry, Stamp editor of the New York Herald Tribune, and Mr. Justin L. Bacharach, Stamp editor of the New York American.

THE A.A.M.S. LIBRARY

At the August 1935 Convention of the American Air Mail Society it was decided to build up an Air Mail Reference Library for the use of air mail collectors. This is a need which has long been realized and the successful start of this project was due to the untiring efforts of Samuel Ray of Chicago, ably assisted

by George Angers of Springfield, Mass.

The library is still only in its formative stage and the Librarian will appreciate any information and assistance in the work that the members of the A.A.M.S. can give. He proposes to prepare a subject index and classify all material for easy reference and hopes at some future date to have the index published.

Donations of books and periodicals have been received from the following: P. F. Robertson, Samuel Ray, Geo. W. Angers, F. W. Kessler, H. M. Konwiser, Nicolas Sanabria, Miss A. B. Cilley and E. W. Beitzell.

President Leech is donating his extensive collection of Pioneer Air Mail literature. Walter Conrath has completed and will continue to keep current the file of the Airpost Journal. Louis J. Heath, President of the W.A.M.S. is donating part of his fine collection of Air Mail catalogues. Mr. William Stuart has promised a duplicate set of his fine column in the Washington Post and 100% of the other members of the W.A.M.S. have promised donations. Donations from any members of the A.A.M.S. will be gratefully received. Duplicates can be exchanged for other material and while air mail literature is greatly desired, files of other magazines with some air mail news, such as "Stamps", will be appreciated.

Send your donations to:

Librarian, American Air Mail Society
 1737 Webster St., N. W.,
 Washington, D. C.

A. A. M. S. CONVENTION AND INTERNATIONAL PHILATELIC EXHIBITION NUMBER OF THE

AIRPOST JOURNAL

Our May issue will be distributed to visitors at the Convention Headquarters and the A.A.M.S. booth at "TIPEX"—Third International Philatelic Exhibition at New York.

Advertising copy must be submitted not later than April 25. Make your reservation now.

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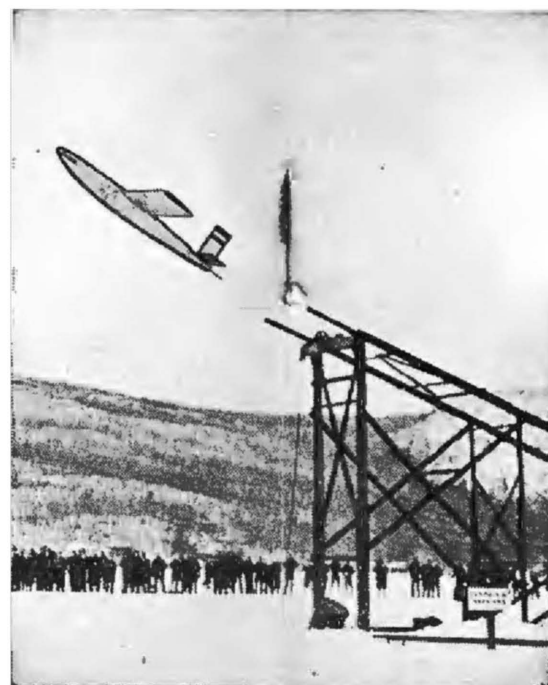
FIRST ROCKET AIRPLANE FLIGHT IN HISTORY!

Greenwood Lake, N.Y.

February 23rd, 1936



Rocket plane on catapult before firing—supercharging nitrogen pressure before taking off.



The actual take-off immediately after leaving specially constructed catapult.



The second rocket airplane in midair after taking off from ice on Greenwood Lake



Mail in fireproof asbestos bags is being loaded in special forward mail compartment preparatory to take-off.

History was made on February 23rd, 1936! For that day marked a new epic in scientific achievement---for the first time in history a rocket airplane took to the air under its own power!

A limited amount of mail flown on this rocket airplane flight is available.

Flown Cover with Green Rocket Stamp and Purple Cachet **\$2.00**

Flown Photo Post Card with Red Rocket Stamp and Green Cachet **\$2.00**



Filling of liquid oxygen, having a temperature of minus 200 degrees below zero

Mint Rocket Stamps at \$1.00 each or \$2.00 per set.

A Set of 11 Different Actual Photographs (size 3½x4½) of this event 75c

F. W. KESSLER

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