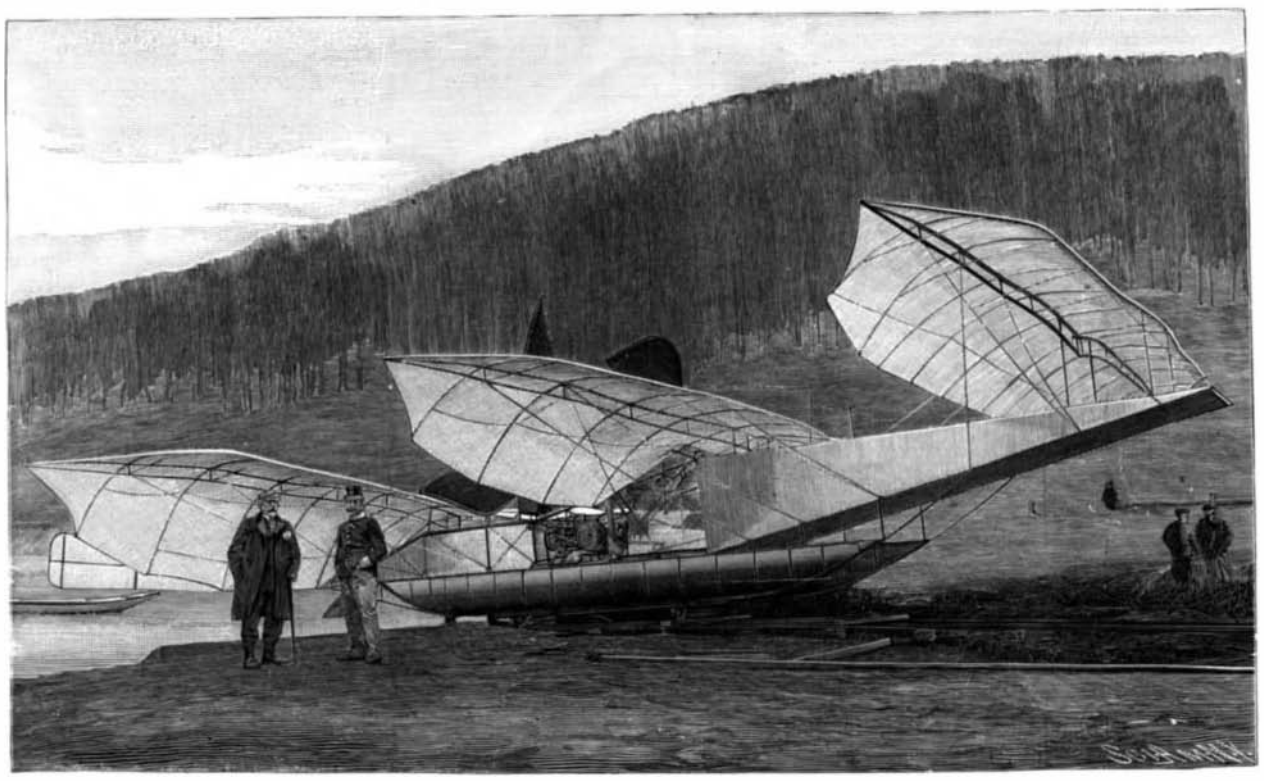
THE KRESS AEROPLANE.

The most recent attempt to solve the problem of artificial flight has been made by W. Kress, a German engineer, who for twenty years has patiently labored on an aeroplane in which he has embodied his ideas.

The Kress aeroplane consists of an ice-boat having two keels and a long stem. The keels serve as runners when the machine is traveling over ice or snow. Two resilient sail-propellers, rotated by a benzin-motor in opposite directions, drive the apparatus. Above the boat, arched sails, constituting resistant kite surfaces, are carried, one sail being mounted somewhat above the other, so that it will receive an impinging body of air without interference from the other sails. The aeroplane thus constituted is guided by a horizontal and a vertical rudder, both of which, however, are used only in flying.

Owing to lack of funds the inventor could not equip his air-ship with a benzin-motor of the special construction and power desired, and was therefore compelled to use an ordinary automobile-motor. Thus fitted out the aeroplane was first tried on water. For it is Mr. Kress' opinion that water-trials should first be made in order to ascertain whether the motor, propellers, rudders, and other parts have been properly arranged and are trustworthy and perfectly efficient in operation. Only when the safety of the machine has thus been proven should aerial flights be taken. The sense of security obtained by numerous water-trials and the increased speed attained with each trial will finally give to the aeronaut that confidence which will enable him to soar aloft. That moment, according to Mr. Kress, may come unawares; the ship may of its own accord leave the surface of the water.

So far as the preliminary water-trials are concerned, the Kress aeroplane seems to have met its inventor's expectations. In the presence of an officer of the aeronautical division of the German army, the flying-machine was taken from its housing and carted to a nearby lake. Kress seated himself in the boat and pulled the starting lever. The propellers drove the machine along at a uniform speed, according to the accounts which have been received. In order to test the maneuvering power of the contrivance Kress is said to have performed various evolutions and to have succeeded even in making headway against the wind. The steering apparatus seems to have acted efficiently. The motor, however, proved inadequate. With a motor of less weight and greater horse power the inventor believes that his flying-machine would be an assured success. Lack of funds may prevent him from carrying out his plan with an improved motor.



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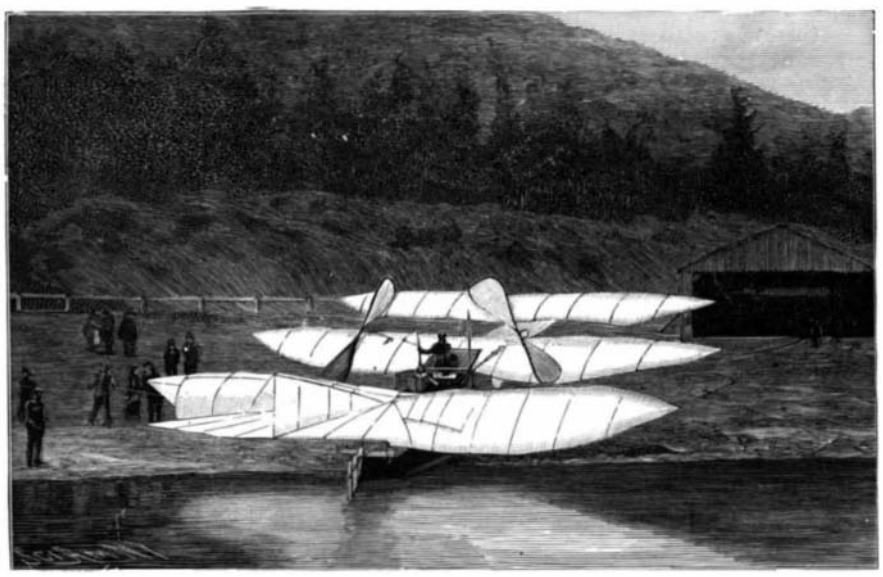
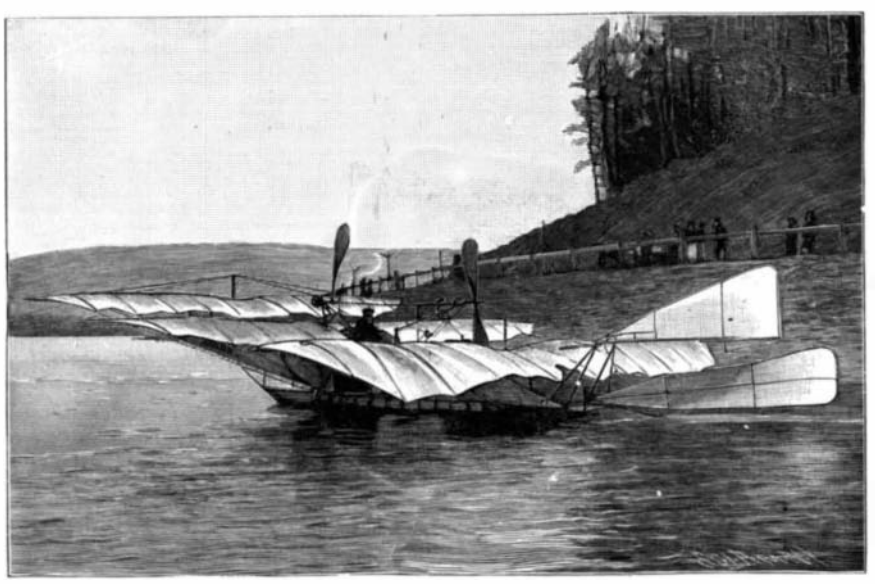


THE START OF THE AEROPLANE.



THE KRESS AEROPLANE SAILING ON WATER.

The Italian government has purchased the statues and paintings in the Villa Ludovisi. It has Guercino's "Aurora," one of the best works of the master of the decadent schools. The ancient statues are most important, including the Ludovisi "Juno" and other famous statues, busts, and bass-reliefs.

THE VERTICAL GROWTH OF NEW YORK CITY.

It is a fact that no one in the closing years of the past century left the imprint of his hand so clearly upon the surroundings and conditions of modern city life as the engineer. If anyone doubts this, we invite his attention to the two accompanying photographs showing the sky line of the city of New York, taken, one at the beginning, and the other at the close of the last decade of the century. In the year 1890 the art of composite steel-and-stone building construction was becoming firmly established, and, indeed, in the city of Chicago, to whose enterprise the development of the lofty office building is mainly due, a dozen or more giant structures, ranging from twelve to eighteen stories in height, were to be found in that year scattered through the business portions of the city. New York, ever conservative in municipal matters, whether it be in electric lighting, electric transit or underground construction, was only commencing in 1891 to erect at the southern end of Manhattan Island those towering structures which, to-day, render this portion of the city one of the most marvelous spectacles in the world. Architecture of the composite steel-and-masonry type has helped to solve the most difficult problem with which New York city is confronted. The shape of the island is such that a business center such as that represented in our engravings has no possibility of enlarging its borders, being shut in by the broad waters of the Hudson and East rivers. If room was to be found for the rapidly multiplying financial interests which gravitate to the district lying between City Hall Park and the Battery it could only be secured in a vertical direction by building story upon story and utilizing that free space to whose occupation there was no limit except such as might be imposed by conditions of a structural and operative kind. The limit to the height of these buildings has been determined indeed far more by the conditions of their operation than by any difficulties of a structural kind; since it would be perfectly practical to construct office buildings 500 or 600 feet in height, if there were any advantage in so doing. It was found, however, that the space occupied by elevators became so great, when a building exceeded a certain number of stories in height, as to reduce very seriously the available office floor space, and by common consent it seems now to be agreed that the limit of economic height lies somewhere between sixteen and twenty stories.

The two views of the lower end of Manhattan Island were taken from the New Jersey side of the Hudson River, and in order to make clear the extraordinary height and mass of the new structures, we have indicated upon the sky line view of 1891 in dotted lines the buildings which have been erected subsequently to that date. Commencing from the Battery, we see first the huge western façade of the Bowling Green building, a sixteen-story structure, which had the reputation at the time of its construction of being the largest office building in the world, a claim which we believe has not even yet been challenged. On the opposite side of Broadway, and a little further north, is the Standard Oil building, while to the northwest of it are seen the upper stories of the Johnson building. Facing east on Broad Street is the twenty-story Cable building, conspicuous by reason of the rather shapely twin domes which surmount its eastern façade. To the west of the Cable building, fronting on Broadway, is the Manhattan Life building, one of the first lofty office structures to be erected in New York city. The dome of the Manhattan Life structure was for several years the home of the Weather Bureau Service in this city, and from its flagpole were displayed the storm and weather signals that have come to be so highly appreciated by people both ashore and afloat. On the opposite side of Broadway is the magnificent twenty-one story Empire building, and a little further north, at the corner of Broadway and Pine Street, rises the tower-like pile of the American Surety building, whose coping, like that of the Empire building, is over 300 feet or more above the sidewalk. To the northeast of the American Surety building, and at the corner of Nassau and Cedar Streets, is the National Bank of Commerce building, an eighteen-story structure, while on the opposite side of Cedar Street is a lofty building whose proportions would be more impressive were it not so greatly overtopped by its bulky neighbor. Coming back to Broadway, we see fronting us on the western side of the thoroughfare the stately pile of the Washington Life Insurance building, which can boast of sixteen stories to the cornice, with four additional floors in the roof. Opposite this, at the corner of Liberty and Broadway, is the Singer building. Looking down upon the venerable St. Paul's churchyard from the opposite side of Broadway is the slender pile of the St. Paul building, whose sheer height of 308 feet would look more impressive were it not entirely overtopped by that nearby mammoth structure, the Park Row building, whose topmost office floors are 340 feet above the street level, while the top of the cupolas on the two towers lack only 10 feet of being 400 feet above the same level.

The third view of our series is taken from Grant-