

DEUTSCH PRIZE TRIALS

Former Inventors and Tests of Dirigible Balloons.

SANTOS-DUMONT'S OTHER ASCENTS

General Plan Pursued by the Daring Young Navigator, Who Is an Engineer by Profession—Expert's Description of the Construction of Balloon That Was Wrecked.

The Deutsch prize, which M. Santos-Dumont, who has just narrowly escaped death in attempting to circle the Eiffel tower in his dirigible balloon, has been trying for two summers to win, was offered in March, 1900, says the New York Tribune. The conditions of the contest were these: The aeronaut should start from Suresner, about three and one-half miles from the Eiffel tower, make a voyage around that colossal structure and return to the point of departure inside of 30 minutes. To do so it would be necessary to travel at the rate of 14 miles or more an hour for full seven miles and demonstrate the feasibility of propelling, steering and otherwise successfully managing his craft. The sum to be given is \$20,000.

M. Santos-Dumont got his airship up several times in the spring and summer of 1900 and made the attempt informally—that is, without summoning the judges to witness the performance. Finally he made a trial under official scrutiny. This was in September. But something went wrong with his apparatus, and he descended before completing the journey. His first notable ascent this year was not made over the Suresner-Eiffel tower course and hence was not an attempt to secure the prize. He sailed from St. Cloud to the Longchamps race course and simply maneuvered in the air.

The general plan which this daring young navigator pursues is much like that of Captain Krebs and Renard of the French army in 1883. They employed a gas bag to sustain their apparatus and shaped it like a cigar in order to reduce atmospheric resistance. With a screw propeller, driven by an electric motor and storage battery, Krebs and Renard developed a speed of 14 miles an hour, but this was maintained for only a few minutes.

Among those who have followed this well known precedent was the German Count von Zeppelin, who tried his airship over Lake Constance last year both in July and October. The enormous size of the craft—it was over 400 feet long—and the man's own prominence as a military officer and friend of the king of Wurttemberg attracted so much attention to the venture that scarcely anybody noticed Santos-Dumont, whose work was really much more promising. Von Zeppelin had a big ship with a feeble engine, a small gasoline motor, while the modest young Brazilian in Paris had a small ship, with a motor which was relatively much more powerful. In certain details perhaps his craft was superior. Von Zeppelin was doomed to failure from the outset. He made eight or ten miles an hour for a few minutes, but could not beat the record. He spent a good deal of money, mostly his own, and has now definitely retired from the field.

Santos-Dumont is an engineer by profession and about 26 years old. His gasoline motor is a marvel of lightness. It was designed especially by the Messrs. Daimler, develops seven horsepower and weighs 70 pounds. The gasoline tanks are cigar shaped. But even with this beautiful equipment, in some respects unequaled, Santos-Dumont has not yet beaten the record of Krebs and Renard.

This accident, which resulted so happily, reminds one of the fate of Herr Lilienthal, who lost his life in August, 1896, through the wrecking of his flying machine. That device was practically a pair of large wings and meant to sustain him while he slid down an aerial slope from a house top or a cliff. He had made 2,000 such flights before his death.

A young Englishman, Pilcher, who imitated Lilienthal to some extent, but exhibited much originality, met a similar fate in 1899. His plan was to start from the surface and rise very gently while horses towed him. Evidently he meant to drive his aeroplane with a gas motor.