

is expressed for him. A movement is on foot to organise a great national gift. The Federal Government has decided to pay Count Zeppelin £25,000 compensation.

Count Zeppelin has sacrificed his fortune in his attempts to construct a ship that will successfully navigate the air, and it is to be regretted that such a catastrophe should occur just at the time when success seemed almost assured. The intrepid count is over seventy years of age, tall, broad, and with flashing eyes that belie his white hair. Comparatively soon after he began his experiments on Lake Constance 10 years ago he expended his whole fortune of £30,000. An old man, his whole heart was still in his experiments, and he went on. He was so convinced of the practical nature of his ideas that he convinced his friends also, and they formed a syndicate to continue the experiments. Although the Kaiser conferred the Order of the Red Eagle upon him, no Government help was forthcoming, and his experiments ceased for a period. In 1904 the Zeppelin Balloon Fund was opened by public subscription, and work began again.

Last autumn the count completed an airship which made several successful trials. On one occasion it manoeuvred round Lake Constance, and steered round the town halls of several towns in the district. The success then achieved determined the German Government to purchase the count's invention. The price was £100,000, and there were several conditions. He was to build another airship, which should be able to start and alight on the ground, instead of, as the previous airships, on the water, and which should make an uninterrupted voyage of 24 hours' duration. The airship destroyed represented Count Zeppelin's attempt to fulfil these conditions.

Count Zeppelin's new airship (not an aeroplane or heavier-than-air machine) made a successful maiden voyage at Friedrichshaven, Lake Constance, on June 20. Among the 15 passengers were German Government representatives, who were to watch the count's attempts to fulfil the conditions for the purchase of his invention by the army for £100,000. The test showed that it could easily rise, descend, and manoeuvre, but it had still to make a 24 hours' voyage. With the smaller predecessor the count last year sailed 220 miles. The aluminium cigar-shaped bag, divided into 16 gas-tight compartments or ballonets, is 426ft long and 43ft wide, making the airship the largest in the world.

Twelve minutes after the ship had gained the open its huge propellers, shimmering brilliantly in the sun, began to revolve, and the ship rose serenely to a height of 325ft above the surface of the lake. Taking an immediate course in the direction of the town of Constance, with a speed of 38ft to 43ft a second (about 28 miles an hour), it easily overtook the fleet of speedy motor boats skimming along underneath. It then proceeded to describe a series of circles measuring several kilometres in diameter (a kilometre is five-eighths of a mile), maintaining itself throughout at the height at which it started.

Thunderstorms are not the only dangers to which aeronauts are exposed. Every time an airship makes an ascent the passengers run the risk of the balloon bursting owing to the sudden expansion of the gas causing an exceptional distension of the envelope. The ordinary old-fashioned balloon simply consists of a bag of gas, the bottom end of which is left open; as a result there is no fear of the balloon bursting. When a spherical balloon reaches such a height that the gas expands there is not the slightest danger of any bursting taking place, as the gas escapes through the open vent. This is why the balloon is orange-shaped when it goes up and pear-shaped when it comes down. In the navigable balloon, however, it is not possible to have an open escape for the gas. It is very important that the envelope be properly distended, otherwise the balloon loses its shape and begins to sag in the middle; it is owing to the danger caused by the balloon losing its shape that various arrangements are in use ensuring the stability in case of a loss of gas. The cigar-shaped balloon which has lost a good amount of gas usually begins to close up like a razor; the result is that enormous strains are thrown on the cords which support the car at the end of the balloon, all the weight being on these cords. One by one they break, until either the car is hurled to the ground or the whole apparatus collapses in a shapeless mass.

Well-made navigable balloons are always provided with proper safety-valves, which are so arranged to allow the gas to escape only when the pressure becomes too great for the safety of the enveloping fabric. It is unfortunately the case, however, that inexperienced aeronauts do not always make proper use of these, and so the balloon bursts. The most re-

markable instance of this kind was in the ascent made by M. Severo, in his navigable balloon Pax. That balloon was provided with two safety-valves for the escape of gas when the tension became too great, but M. Severo stopped up one of these with wax before the ascent, thinking that he might be able to accomplish more on the voyage. With the assistant he got into the car, and made the great mistake of the novice of rising too rapidly. His assistant was so frightened that in his panic he threw out a whole sackful of ballast, which caused the balloon to shoot up into the air like a stone from a catapult. There was a tremendous explosion, and the two unlucky aeronauts were dashed to the earth within eight seconds, being smashed to pulp.

The navigable balloon, when driven through the air at a high velocity, also runs a great risk of bursting in another way unknown to the spherical kind. There is a great tendency for the end of the balloon to be blown out. This is not the front part of the bag, as might be imagined, but the rear part. The gas in the front part of the concern is pressed upon heavily by the atmosphere as the balloon rushes along, and this forces the gas against the hinder portion. Not only is there additional pressure of the gas at the back part, but there is no pressure of air; in fact, a vacuum is formed. The result is a dangerous pressure, which is often sufficient to burst out the end of the envelope, and so cause a terrible disaster. In order to cope with this, the best dirigible balloons have extra thicknesses of material in order to strengthen the rear end, and so to prevent the tail point of the balloon being forced out.

Another source of danger to the cigar-shaped balloon is the presence of clouds passing in front of the sun. The passage of a cloud in front of the sun will cast a shadow which chills the gas to such an extent that the balloon may wrinkle and descend with considerable velocity. On the other hand, should the clouds break and the sun shine through, the gas may expand with sudden force sufficient to burst the envelope. If much ballast is thrown out the balloon is bound to come to grief and a terrible disaster happen. Greatly mistaken notions are prevalent regarding the amount of sand which is thrown out in order to make a balloon rise. A sackful of ballast thrown out at once is pretty certain to cause a disaster; even if a mere handful of sand be thrown out it is sufficient to make the balloon jump to an appreciable height. It is surprising what a small thing may alter the stability of the vessel; moisture condensing on the envelope, a sudden gust of wind, the presence of a warm or cold current of air—all have a big effect upon the balloon. Thus it is that there are many dangers to be faced by the aeronauts on dirigible airships—dangers from which the ordinary balloon is quite free.

A cable message received this week states that enormous sums are being subscribed in Germany for Count Zeppelin, and enough has already been offered to provide a score of airships. Many individuals are contributing thousands of pounds. The Berlin Bourse gave £800.

Diocesan News

ARCHDIOCESE OF WELLINGTON

(From Our Own Correspondent.)

August 8.

Very Rev. Father Regnault, S.M., Provincial, left late in the week for Otaki on a visit to the north. He will be absent from the city for a fortnight or so.

The parish social in aid of the schools of Te Aro, held in the Town Hall on Wednesday evening, was an unqualified success. It is expected that nearly £200 will be realised as a result of the gathering.

At South Wellington on Sunday last the Rev. Father Herring, in announcing the presence of Mr. Moriarty, representative of the 'Tablet,' referred in eulogistic terms to the good work done by this excellent Catholic paper. He said that the priest was often pained while visiting the several homes to see the class of literature with which the bookshelves were filled. He exhorted his hearers to support the 'Tablet,' which so ably defended the Church and its doctrines. I am pleased to write that Mr. Moriarty has now sufficiently recovered to be able to resume his usual duties.

The Empire City has made wonderful strides in recent years, and it is most gratifying to know that the growth of the Catholic