

immense plain was beneath us; the villagers appeared to us like children's toys, rivers seemed like little rivulets, it was magical. The sun shone splendidly over all. Towards eight o'clock we arrived near a great lake. There we found our bearings and announced that we were at the end of Holland, near the sea." A violent gale arose, the balloon began to race for the ocean. the anchors were hurriedly thrown out but the momentum of the "Geant" snapped them off short, and after a brief rise the balloon fell and began a fearful and giddy career. All disappeared before them, trees, thickets, walls, all broken or burst through by the shock. Sometimes it was a lake into which the car plunged, then a bog, the thick mud of which entered their mouths and eyes.

"It was maddening," writes one of the passengers. "'Stop! Stop!' we shouted, enraged with the monster who was dragging us along. A railway was before us, a train passing. It stopped at our cries, but we carried away the telegraph posts and wires. An instant afterwards we perceived in the distance a red house—I see it now—the wind bore us straight for this house. It was death for all for we should be dashed to pieces. No one spoke. Strange to say those nine persons—one of whom was a lady—who were clinging to a slender screen of osier, for whom every second seemed counted, not one had any fear. All tongues were mute, all faces were calm. Nadar held his wife covering her with his body. Poor woman, every shock seemed to break her to pieces. Jules Godard then tried and accomplished an act of sublime heroism. He clambered up into the network, in spite of the shocks, which were so terrible that three times he fell on my head. At last he reached the cord of the valve, opened it, and the gas, having a way to escape, the monster ceased to rise, but it still shot along with prodigious rapidity."

Suddenly a forest appeared on the horizon: the voyagers must leap out at whatever risk, for they felt that the car would be dashed to pieces at the first collision with the trees. One jumped and made numerous somersaults falling upon his head. Another was stretched on the soil fearfully wounded, his arm broken, his chest torn, and an ankle dislocated. Nadar had a dislocated thigh, his wife had fallen into a river. But after a time the travellers were picked up, vehicles were brought and they were thus conveyed to Rethen in Hanover. In seventeen hours they had made nearly 275 leagues

During the siege of Paris there was a great deal of ballooning, and it showed the same lessons, *viz.*, that it was impossible at times to know the direction, equally impossible to steer out of danger, and very difficult often to perform the simplest functions of aeronauting. The services were performed by experienced aeronauts, such as Tissandier, Nadar, de Fonvielle, Durouf, Godard and others, some of whom had made as many as 800 ascents, and all knew their business well. The first thing they found out of course was that there was no getting back to Paris. That difficulty was, however, to a certain extent got over by sending carrier pigeons with the balloons, which brought messages back of often valuable import, such value in fact that had the conditions of the struggle been less one sided the fate of the besieged might have been changed effectually. The sailors of the French navy did very good service with these balloons. Said one of them one day when asked about the trip he was about to make "Sir, our topsail is high, and hard to reef, but we shall sail all the same, and we shall, please God, arrive at some port."

Another set of men utilised for the service were the professional acrobats from the circuses and street shows. These were not so reliable as the sailors, nor were they so faithful, sometimes escaping down a guide rope leaving balloon passengers and mails in a tight place. But out of 64 balloons despatched, no less than 57 fulfilled their mission so that the authorities had some right to claim that their service had on the whole been a success. The total number of persons who got out of Paris was 175, the weight of despatches carried was nine tons, and the number of letters reached 3,000,000, and the speed varied from 20 to 50 miles an hour for the most part, in one instance getting up to the phenomenal figure of 80.

When Gambetta got away in the "Armand Barbes," he got within shooting distance and for a long time the Prussian needle guns were very busy trying to riddle holes in him. He had an extremely narrow escape.

Now for the casualties. Three balloons soon after the start of the service fell into the hands of the enemy, and after that, as it was seen that the Prussians were prepared with relays of Uhlans on the roads to follow, and guns of special calibre to shoot, the balloons were sent off only at night. This, however, exposed them to a new danger, the danger of being taken anywhere but where they wanted. One night the "Ville d'Orleans" rose from Paris with one aeronaut and one passenger and with a north wind blowing it was hoped she would reach Tours in due course during the night. But towards morning the travellers heard the sound of surf under them and when day broke found themselves suspended over the sea out of sight of land. They saved themselves from falling into the sea by throwing away bag after bag of their despatches, and eventually they landed among the wilds of the back country of Norway.

Very shortly after that the "Jacquard" went up in charge of a sailor named Prince, sailed down the English Channel without being able to turn landwards, and hung suspended for a few moments over the Land's End. During that interval Prince threw out his despatches, when he ought to have opened his air valve. As a consequence of his blunder, the balloon rose up at once and darted out with him over the Atlantic disappearing for ever more.

The "Jules Favre" followed soon after, and found itself not at Lyons where the skipper expected to be according to the set of the wind, but over the island of Hoedic in the Atlantic and driving furiously seawards. Fortunately the larger island of Belleisle still lay between them and the open ocean. It was seen that they would have to pass one end of it which was very narrow, and that they must either land there or be lost. They tore open the valve with frantic energy, brought the balloon down a thousand feet in a few minutes, and luckily succeeded in striking land. The shock was terrific. Three times did the balloon bounce into the air, and at last, catching against a wall, shot the occupants out on to terra firma. They were badly injured but received much kindness and attention from the people of the country.

Some weeks later the "Richard Wallace" got away down to La Rochelle, the people called out to the aeronaut to descend, but he, losing his head threw out ballast frantically and was carried to sea never more to be heard of. Two other balloons fell into the enemy's country and that completes the record of the casualties during the siege of Paris.

These stories enable us to realise how the Aldershot officers got out of hand with their balloon the other day.

## Attack on the North Pole.

### WELLMAN'S BALLOON.

#### THE FATE OF ANDRE.

Where André died Wellman hopes to reap success. He is not waiting for aeroplane developments, being content with the "Dirigeable" balloon. With this type the French military authorities have just announced a great success.

Mr. Wellman believes that his new balloon will easily carry him and a party of four or five men, with twelve dogs, and the necessary provisions and equipment, from Spitzbergen to the Pole in from ten to twenty days. They will never ascend more than 300 to 500 feet, and their guide-rope will trail over the surface of the earth. This guide-rope is absolutely essential to the safety of the balloon's navigation, and is of considerable weight. It is made of leather, 15 inches thick and 130 feet long, weighing about 1400lb, and the explorers have hit upon the ingenious notion of packing the inside of that guide rope full of reserve food to the amount of 1200lb. The expedition will be able to carry 3000lb of food, or enough to enable them to subsist on their own stores for a period of ten months. If the airship fails as a true cruiser at, or anywhere near the pole, they will descend upon the ice pack, make a snug hut of the fabric and material and pass the entire winter at or in the vicinity of the Pole, returning by sledge the following year. They will carry dogs, sledges, and small boats and complete sledging equipment with this possibility in view.

The Wellman airship ("America") is at present housed at Spitzbergen in readiness for the start. With the single exception of Count Zeppelin's it is the largest ever built—184ft. long and 52ft. at its greatest diameter, giving a total lifting force of 19,500lb. The car consists of a framework of steel tubing, 115ft. long, 10ft. high and 8ft. broad, suspended close under the balloon at such a distance that those standing on the top of the car can easily reach the balloon. The keel or backbone of the airship consists of a steel tank 18ft in diameter and 115ft in length, with a capacity of holding 1200 gallons of petrol. At the stern of the vessel is a rudder of some 900 square feet, in the form of a bicycle wheel, which, despite its great size, only weighs 30lb. A little forward of the centre is placed a very heavy motor, built for endurance and safety, of 70 h.p., and having a weight of 900 lb. In this new airship the propellers are placed in the centre on either side of the vessel. They consist of two blades of steel, 11ft in diameter, and capable of 380 revolutions per minute. The living quarters of the airship are in triangular bunk-like spaces within the enclosed steel car. These are capable of accommodating ten or twelve men, and twelve dogs, together with provisions and equipment. The total weight of the steel car and tank is 1200lb. The motors, screws, and machinery weigh 1350lb. The petrol tank carries 6800lb of petrol, capable of running the motor for 150 hours at a normal speed of 14 knots per hour. The weight of the cargo diminishes on an average of 600lb per day by the consumption of petrol for the motor, but, deducting gas leakage, the net result is that the airship has on an average day 450 to 500lb of lifting force no longer required. The utilisation of the waste gas as fuel will augment the motoring vitality by 30 hours, increasing the radius of action to 2500 miles, double the distance to be covered.

The expedition is now at Spitzbergen and proposes to start in the present month sometime for the Pole.