

FIVE MILES UP IN THIN AIR

Authentic Account of the Greatest Recent Balloon Voyage.

THRILLING INCIDENTS OF THE TRIP

Intense Cold Experienced and Life Sustained by Stored Oxygen—How it Feels to Drop a Thousand Feet a Minute.

The world's record for high balloon ascents belongs to Dr. A. Berson of Berlin, who made the recent remarkable aerial voyage from London. On an ascent made in the balloon Phoenix, from Strassfurt near Magdeburg, on December 4, 1894, he reached the altitude of 30,037 feet, with the barometer at 9.998 inches and the thermometer recording 54 degrees below zero, Fahrenheit, or 88 degrees of frost.

The nearest approach to this is Coxwell and Glasier's English record of 29,000 feet from Wolverhampton, on September 5, 1862, when Mr. Glasier became insensible and regained consciousness only after descending to 27,000 feet. It may be remarked that figures of heights reached by balloons are merely deduced. The calculation is based upon the pressure of the atmosphere

and would slowly fill the balloon. Instead of overflowing through the open mouth—the safety valve—as would have been the case with coal gas. We should thus retain our ascending power until the balloon was quite full, without the need of discharging ballast. Strange as it may appear to the general reader, a half empty balloon can ascend much higher than a full one.

My brothers and an efficient staff of assistants attended to the final inflation, so that Dr. Berson and I returned from a comfortable luncheon at 1 o'clock on the day of the ascent, to find the balloon in readiness. It was a glorious day for the purpose. The barometer stood above thirty inches and the temperature was 80 degrees in the shade at the Crystal Palace, a splendid clear sky with only a few fleecy clouds in its whole expanse. The day was one which seemed more suited to Italy than to gloomy England. A genial southeasterly breeze barely rustled the foliage and the sun shone brilliantly. The Excelsior stood upright with only the faintest sign of movement, ready for its upward career, awaiting the adjustment of the scientific instruments. It looked businesslike and powerful, towering some seventy feet high, covered with its symmetrical netting and ropes. Its semi-inflated condition did not add to its appearance, but the satisfactory lifting power was evident by the strain at the lines attached to the hoop and car.

Dr. Berson adjusted his instruments, which included a mercury barometer that required great nicety in position, an an-

on this occasion so clear was the atmosphere that we could see as far as the eye could reach. The North sea was visible and we could trace the coast line along to the Wash. We could observe the dots upon the ocean which denoted the position of steamers. To the south the English channel could be seen with the coast line of France beyond. At 14,000 feet the balloon had been discharging its gas for some time, thus causing it to lose its lifting power, and I noticed that the telltale violet line of the self-registering aneroid began a downward course. We thereupon began discharging ballast. In order to facilitate this each bag (we had eight) was tied by a line at top and bottom and hung outside the car; all we had to do was to untie or cut the top line when all the ballast was precipitated, leaving the empty bag hanging to the car by the lower line. Between 2:30 and 3 o'clock we discharged four bags of sand, each weighing fifty pounds, and thereby caused the balloon to reach its maximum altitude of 27,297 feet as shown in Dr. Berson's carefully worked out chart.

Cold Weather Sets In. The cold had become very severe at this height and though thickly clothed I was shivering. I noticed that Dr. Berson appeared colorless in the face and he remarked the same of me.

The oxygen inhalation seemed most advantageous, for with it one felt comfortable, but when as an experiment I removed the tube I found a drowsiness coming on. Dr. Berson suffered no ill effect and continued taking his readings. We both studied care-

fully when at the maximum height the direction of the wind as indicated by the course we were taking, and found that we were moving almost directly for the sea. This indicated that our course was more westerly than ever, and at 3:25 it was decided to open the valve and thus hasten the descent. Whilst floating at these great heights the sound of cannon being discharged below reached us with perfect distinctness, but of other sounds there was absolutely none. It will be observed from the barometer chart that after reaching the maximum height the balloon begins to descend without intervention on our part, and it is necessary to dis-

placed on a cart to be driven to the nearest railway station. Lessons of the Voyage. The result of this trip shows certain principles which we must bear in mind when contemplating these high ascent experiments. It will be noticed that the balloon towed upwards to 22,377 feet by 2:31 p. m. This was while the gas was expanding, completely filling the balloon and blowing off its surplus. After so much gas had left that an equilibrium was attained the discharge of ballast had but little effect, each bag of fifty pounds thrown giving but a trifling lift. It is therefore obvious that a greater altitude can only be reached by using a larger and lighter balloon. For future experiments a balloon of almost double the capacity, viz. 100,000 cubic feet, should be used. Pure hydrogen should be generated to give it the necessary lifting power. All depends upon the weight of the material of the balloon and the proportion it bears to the lifting power of the gas. If we can get a balloon to carry us up when only a quarter full we can then reach much greater heights. If, however, the balloon requires to be half filled to lift, it will be useless for such a purpose. Oxygen gas is breatheable and is not so expensive as hydrogen. It is possible to attain greater heights than is reached. There is a field for further research and I hope to obtain the assistance and collaboration of scientists and other friends in its exploration.

THE KLONDIKE THEATER. An Evening at a Show Estimated to Cost Four Hundred Dollars. H. B. S. Marcus, one of Dawson City's most prominent citizens, left New York City recently en route for home, after a stay of just twenty days in the United States. Mr. Marcus makes a specialty of furnishing the "colors" and other accessories at considerable expense to Dawson City's journeymen and others. He has a number of good gold mines that he personally did not discover. Mr. Marcus, in short, is the owner of the "Combination Theater"—Dawson's leading playhouse—and is the best known impresario about town. This is his second visit to the United States during the present year and he brought a matter of eighty-one pounds of gold dust, which he exchanged for greenbacks at the Philadelphia mint.

Marcus is in appearance the typical western miner, rather the New York Times. He was dressed in short coat, had corduroy trousers, a brown woolen shirt, in the bosom of which sparkled a high diamond. As a compromise to the amenities of eastern civilization, he wore a pair of immense gloves, such as might be affixed by a coachman in December.

Speaking of the drama in the Yukon district, Mr. Marcus stated that the stage did not require to be "elevated" there.

"We do not go in for much talent," he said. "All we want is plenty of lungs and legs to make the show a go, and the manager and actors make a pretty good thing of it the year round. The great expense in starting in the theatrical business there is the building. My theater is of logs, 100 by fifty feet, and cost \$40,000. Of course, the women draw the best. What we want above all in women is voice, and plenty of it. Good and strong, for variety business is our long suit, and plenty of singing is required.

"The show is a continuous performance, beginning about 9 p. m. and skimming along for about seven hours. The price of a seat is only \$2.50, and there are no reserved seats. There are tables inside, however, and the playgoers there are generally thirsty, so that the principal profit in the show business is in the sale of drinks. If a man wants to go in high and simply trot along in the procession, he drinks beer, which costs only \$6 a bottle; but it's surprising how many people there are who get in the way of drinking wine. This comes a-

Experiment Made by Prof. Lawrence of Rochester University. Probably the idea of a humble red brick would ever play any part in electrical experiments has occurred to few. However, this is just what a certain lot of bricks composing a pier at the Reynolds laboratory did, reports the Rochester (N. Y.) Chronicle, and it counts to do so long as they are within reasonable distance of the delicate electrical instruments used in the laboratory. A suspicion that the above contingency might exist has been in the mind of Prof. Henry E. Lawrence of the University of Rochester for some time past. That it is really he who feels sure and the methods he used to come to that conclusion are most interesting.

The professor, in collaboration with Otis A. Gage, a special student in electricity, began a series of experiments covering some months. The porphyry of the bricks which was used in measuring the magnetic power of a steel bar was the first cause for suspecting that the bricks were other than what their appearance would lead one to think. The magnetometer had rested on a brick pier for the purpose of making it plumb. Not long after Prof. Lawrence, while in an Arbor, heard of a similar experience occurring there. On his return the experiments went on with more zeal than ever. Bricks of all varieties were put through any number of tests and the great majority were found to be magnetic. Those manufactured by water power, known as "hydraulic" bricks, proved to be exceedingly strong, one equalling the power of a steel needle 2.3 centimetres in length. This same block of clay would make noticeable deflections in comparatively crude instruments, while delicate ones would flutter perceptibly.

One of the bricks, a plain white one, hydraulically pressed, possessed no magnetism. A certain amount of lime enters into the composition of a white brick, such as was used, and its presence undoubtedly had much to do with the absence of magnetic power. It was discovered that the bricks gazed magnetism in the presence of a dynamo, though the surrounding of the bricks by wire coils made no perceptible difference. Heating the bricks served in a measure to decrease the magnetism, though in each case a minute amount was retained.

To just what cause this is due neither gentleman is ready to state. It is the present opinion, however, that there is more or less magnetism in the clay of which the bricks are made. The mode of manufacturing is also thought to have something to do with the phenomenon. As stated above, the presence of lime served to decrease the magnetism, while the absence allowed of greater power. The professor thinks the importance of his discovery should be made innumerable experiments in that line during the last half dozen years. Their greatest proof was found by experimenting with several examples of ancient pottery which had been buried for centuries. Crude as they were, magnetism was found to exist in no uncertain quantities.

A baby is like crazy patchwork, composed of bits of different things, mental or moral, which together constitute something to baby's physical health. To a great extent the health of a child depends upon the health of the mother both before and after birth.

If during the period of expectancy, the mother enjoys good general and local health, she will have a child with a robust body, an alert brain and vigorous health. On the other hand, if she is weak, sickly, nervous, despondent woman, who is broken down by disarrangements and diseases of the digestive and female organs, a woman in that condition is almost sure to have a puny, sickly, peevish baby. Dr. Pierce's Favorite Prescription is the best preparation for the mother, and insures the maternity of its dangers, and of almost all its pain. It restores the delicate and important organs that bear the brunt of woman's naturally feeble and strength, and assists the regular and healthful performance of all the natural functions. It banishes the ailments of the critical period, and makes baby's debut easy and almost painless. It insures the little new-come's health. Thousands have testified to its merits. Good medicine dealers sell it, and no honest druggist will insist your intelligence by urging upon you something else as "just as good." This "just as good" kind is dear at any price.

Mrs. F. B. Casings, of No. 420 Humphrey Street, St. Louis, Mo., writes: "I am now the proudest mother for a healthy baby. I feel that your 'Favorite Prescription' has done me more good than anything I have ever taken. I took three bottles of the 'Prescription,' and the consequences were I was only in labor forty-eight hours. The little fellow was born eight hours, and then had to labor only a few minutes. I want to run about one night a week, but I'll have to raise the price of admission. I can't give a good drama for nothing, you know. We put on a prize fight every few nights, and it may seem odd to

you to know that the fights have been limited by the police to ten rounds. Another thing about Dawson that might surprise you people here is that all saloons and theaters close at midnight on Saturday nights and remain so ever Sunday. A Sunday in Dawson is tamer than in New York.

The busy season there begins in June, when the miners finish their cleanup. I should say that the ordinary evening's expense of a man who wanted to take in the theater would average about \$40, for everything costs a little something there. For instance, he'll want a bath first thing, as a man who has too much pay dirt sticking around on him wouldn't have any fun at the dance. There's a public bath house in Dawson which charges only a \$5 a bath, but that's something. A shave costs \$1, and \$2.50 more for a hot bath out. It's these little things that count up. The only thing in the way of luxury there that a man can't get is a shoe shine. There are no bootblacks, because they would starve.

You see, Dawson has only one street, and that runs on from six hundred to two feet deep. There are no sidewalks, but we are going to have some pretty soon, for the town treasury now has a surplus of \$180,000. To raise this they fined recently every sporting man in town \$50, and every gambling house paid \$1,000. We have a fine hospital, which was built principally by the gambling houses, and the town has nearly everything else that's required in a first-class place. There are about forty policemen on the force, and there is no disorder. Stealing is almost unknown, and the larger number of prisoners doing time in the theater for treating the police. The penalty for cheating at a game of chance is three years' imprisonment. Take it all together, Dawson is a pretty good little old town.

Manager Marcus desires it stated that if there are any stagestruck young women desiring to go to Dawson, they would like to accumulate money sufficient to start a bond, they may apply at the door of the Combination theater, Dawson City, any time during the coming night, which in that city lasts four months.

Dr. Bull's Cough Syrup is pleasant to the taste. No child refuses to take it.

MAGNETISM IN BRICKS.

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little dear, of course, costing \$40 a pint bottle. It was selling at from \$60 to \$80 a day, and the members of the orchestra are paid a little more. The actors get \$15 a week, and no difference is made in their pay. If they are good enough to go on at all, they are worth \$150, and we don't want any worth more.

As actresses get the same amount, but in addition are allowed 25 per cent on all drinks that they induce customers to buy. You see, between her turns a singer is allowed to rest herself at one of the tables out among the audience. While she's resting, if a gentleman desires to refresh her with wine, naturally she doesn't object. There's where her big money comes in.

DEATH OF A GIANT.

"The North Star Prodigy" Goes the Way of All. James S. Melindoo, known as "the North Star Prodigy" and "the Madella giant," recently died at his home in Madella, Minn. The St. Paul Pioneer Press has this account of the remarkable youth:

James S. Melindoo was born at Crescent, Iron county, Ill., on the 5th day of July, 1850, of Scotch-Irish parents. He was a normal child at birth and so remained until 7 years of age, when he began to show a quite rapid growth, and at 11 years old and thereafter has grown with a marvelous rapidity and abnormally developed. He measured 7 feet 2 inches high, 4 feet 3 inches around the chest, 4 feet 1 inch around the waist, 4 feet 6 inches around the hips and 4 feet 8 inches around the points of shoulder. He weighed 308 pounds, wore a No. 24 shoe and a No. 9 hat, measuring 3 feet 3 inches around the head. He spanned 72 inches with his hand and his feet were each 12 inches broad and 16 inches long. His feet and hands were a little larger than a proportionate size to his body, he doubtless having the largest feet of any person of his age in the world. He had many anomalous characteristics and peculiarities, among which was the fact that he was as much suited to the division of time as he was to other regulations of normally developed people. For him the days and nights were too short—the length of each twenty hours it would be more in accordance with his nature. He required one exceptionally large meal about every twenty hours, wanting to sleep from fifteen to twenty hours, and remaining awake proportionately. Although 18 years of age, he had not shed his baby teeth and had no more indications of a beard than a woman. His aspirations, thoughts and actions were those of a 10-year-old child. His appetite and capacity were enormous; he could eat 100 eggs at a sitting, 100 grapes without an intermission. He consumed on an average as much as two laboring men. His brothers and sisters, eight in number, and his parents are all of medium size, he being as much of an anomaly and abnormally to the family as to the human race. He was considered a genius, having made a violin, on which he played well. His education was poor, due largely to weakness of his eyes. He was of a kind and courteous disposition and was well liked by the community in which he lived. Considered in every particular, he was the most wonderful after-birth prodigy ever produced.

How Does Gold Exist in Its Native State? Experts in gold mining agree that pretty much the bottom fact now known about such metal is, briefly, that all original pyrites of small grain texture contain gold to a greater or less extent—this, of course, not covering such secondary large crystal pyrites deposits derived from veins. It is not yet known, however, whether the gold in these pyrites is in chemical combination with the sulphide of gold or whether each minute particle of gold is simply covered with a coating of sulphide of iron, or, finally, whether such particles are in the metallic state, but alloyed with silver or other metal, which combines more rapidly with sulphur than the gold does, and, consequently, forms a coat of sulphide of silver over the gold. The fact of gold are so minute and the combinations follow so rapidly during the splitting up of these pyrites that the finest instruments and tests known to chemistry have as yet been unable to settle this part of the question to the satisfaction of all concerned—this showing how easy it is to put in a mill that will not save the value.

Stops the ache and prevents decay. Dent's Toothache Gum. All druggists. 10 cents.

Dr. KAY'S LUNG BALM. Write us, giving all symptoms plainly and our Physician will give FREE ADVICE. A FREE SAMPLE of our Balm, by mail, for 10 cents, and a FREE SAMPLE of our Balm, by mail, for 10 cents, and a FREE SAMPLE of our Balm, by mail, for 10 cents.

BEAR IN MIND THAT "THE GODS HELP THOSE WHO HELP THEMSELVES." SELF HELP SHOULD TEACH YOU TO USE SAPOLIO

WINE OF CARDUI. JOY OF MOTHERHOOD. Gloucester, Miss., Jan. 6. I have been married three years and have no children. I am taking Wine of Cardui and can see improvement already. I hope for a greater result soon. Mrs. IDA NEYLAND.

Nature makes no imperfect men or women. If there is a weakness or a lack of power and strength, the fault is either with the persons themselves or their parents. The reproductive faculties are frequently lost temporarily by the attacks of disease upon the distinctive organs of women. To such homes no baby will come to coo and prattle until the disease is conquered. To overcome and completely banish the debilitating drains and weaknesses is not difficult. It will restore the reproductive functions, and instead of a lonesome, lifeless home, she will ere long hear the ring of childish laughter, and feel the soft, caressing touch of baby fingers on her cheek. Her period of pregnancy will be made comparatively free of distress and the pains of childbirth greatly diminished by this same vegetable Wine.

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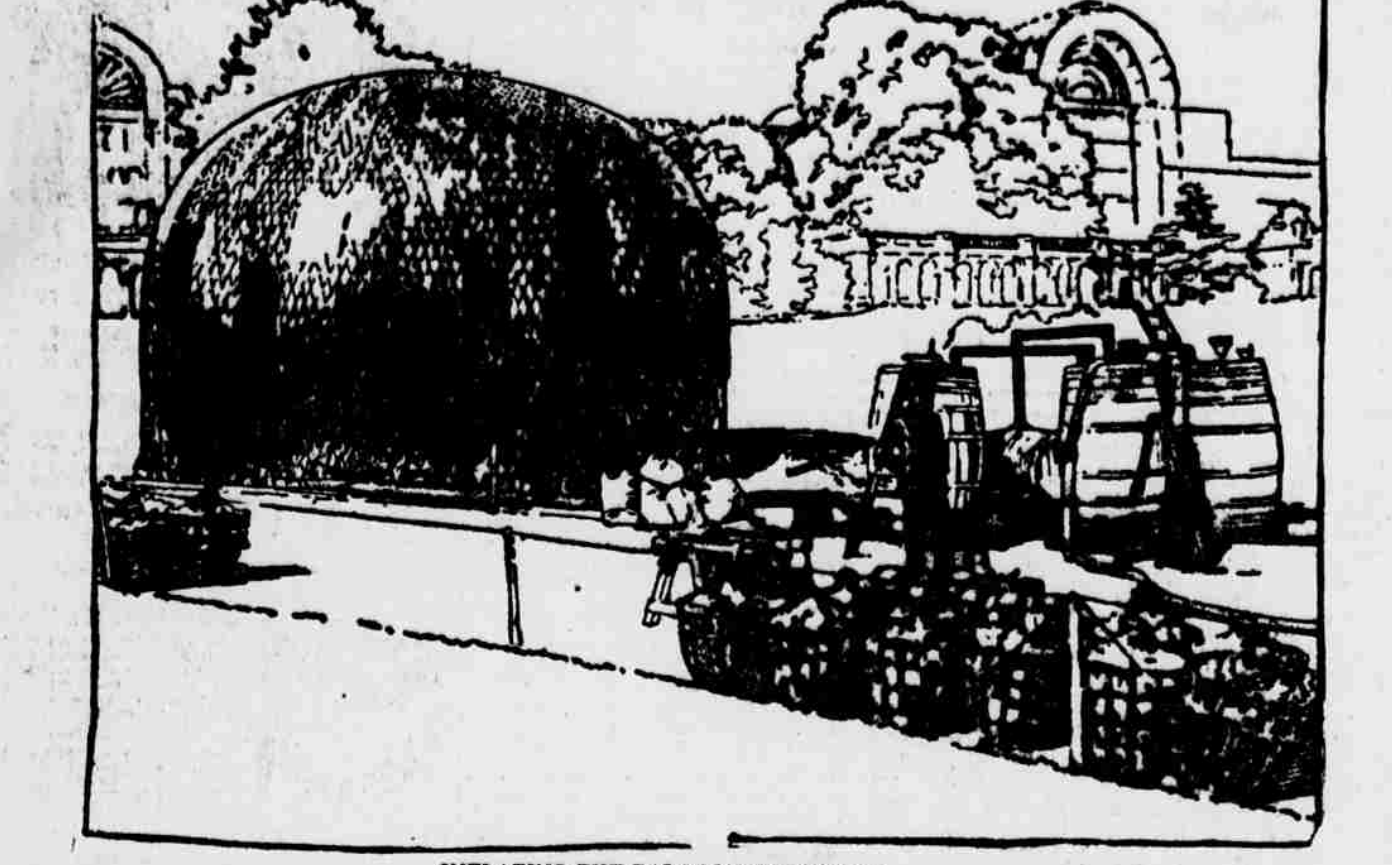
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INFLATING THE BALLOON EXCELSIOR.

as shown by the barometer, and also somewhat upon the temperature at the altitude in question. Mr. Glasier's claim of 29,000 feet was deduced from the barometrical reading of ten inches, but according to Dr. Berson the temperature calculation was far too high, as discovered by late ascents, so that the correct altitude should be 25,200 feet. The supposition is that while Mr. Glasier rose an extra coast of two miles, the balloon rose another 1,000 feet, and reached the altitude of seven miles, but this claim is untenable. A full balloon at that height out of which no ballast is thrown cannot possibly rise more than a few hundred feet. The theory therefore that human beings have existed at a height of seven miles must be considered as illusory. On April 15, 1875, Tilsander, Croce-Spenelli and Sivel made a high ascent in France, but the trip had a fatal termination. They reached an altitude of some 27,000 feet and the two latter were dead at the descent. Such was the record of attempts to reach high altitudes by balloon down to the ascent from Crystal Palace on September 15 of this year.

Making the Preparations. Dr. Berson came from Berlin early in September, his object being "to make a high ascent in the oceanic climate of England," and from the time of his arrival until the 15th we were busy with the preparations. The largest balloon available was secured the "Excelsior," with a capacity of 56,000

feet and weighing when empty 1,500 pounds. It had been used at the Earl's Court exhibition as a captive balloon, carrying parties of women and men to a height of 1,000 feet, whence a birdseye view of the district was obtainable. It received an extra coat of varnish to render it impervious to gas for the coming ascent. Calculation showed that it would be practically impossible to reach the desired altitude with the weight of two persons and the instruments in the car, if the balloon was inflated with the ordinary gas and it was therefore decided to manufacture pure hydrogen gas, which is much lighter than coal gas, for the purpose.

The grounds of the Crystal Palace were placed at our disposal for the purpose of the ascent and the installation for the manufacture of the hydrogen was erected therein. It consisted of a series of four casks of 250 gallons each, in which the gas was generated by means of iron sulphuric acid and water. These four casks were connected by means of iron gas pipes to a fifth cask of similar size, through which a constant flow of water was caused to wash the gas as it passed over. A sixth cask contained unslacked lime to dry the gas (connected to the series by a pipe) completed the apparatus. Forty-eight carboys of acid (about four tons), three tons of iron turnings and 5,000 or 7,000 gallons of water were used in the manufacture of the gas.

Balloon Half Filled. The generation of gas started in Wednesday, September 14, at 2 p. m., and continued until dark, being resumed at 6 a. m. on the following day, and at 1:30 p. m. about 22,000 cubic feet of hydrogen had been supplied to the balloon, which more than half filled it and gave it a lifting power equivalent to a complete inflation of coal gas, and with the advantage that as the balloon ascended into the attenuated atmosphere of the upper regions the natural expansion of the gas

fully when at the maximum height the direction of the wind as indicated by the course we were taking, and found that we were moving almost directly for the sea. This indicated that our course was more westerly than ever, and at 3:25 it was decided to open the valve and thus hasten the descent. Whilst floating at these great heights the sound of cannon being discharged below reached us with perfect distinctness, but of other sounds there was absolutely none. It will be observed from the barometer chart that after reaching the maximum height the balloon begins to descend without intervention on our part, and it is necessary to dis-

ered in a protective case and a self-registering instrument, with a clock to assist the time and a lever which contained a pen at its extremity which marked in violet ink on its chart every upward and downward movement of the balloon. His series of thermometers were contained in a case with a revolving fan worked by electricity which had the effect of keeping a constant flow of air past the bulbs of the thermometers. Everything was thoroughly protected in cases, so that any slight knocks in connection with the ascent or descent would not injure them. It may be stated as a rule that any instrument which will not stand dropping on the carpeted floor of an ordinary room will be unsuitable for the average balloon ascent.

On the Voyage. We entered the car (Dr. Berson and I), My brother Arthur, who had labored since 5:30 p. m. superintending the gas manufacture, informed us that the last acid added had done its work and practically no more gas was generated. The hydrogen pipe was therefore disconnected from the balloon. My brother Percival attended to the final balancing of the balloon, ordered the nearly forgotten tube of oxygen to be brought up, and eventually set us off with a lifting power of 170 pounds, equivalent to the weight of one man and thirty pounds of ballast.

At 2:05 p. m. we were off, soaring aloft at 760 feet a minute. In one minute we were four times as high as the towers of the Crystal Palace, which had appeared a dangerous height to us on the ground for the last few days. In two minutes we were double the average height of the Earl's Court captive balloon ascents. At three minutes we reached 2,350 feet, and at four minutes we were as high as lofty Snowdon, the highest mountain in England or Wales, 2,500 feet. In five minutes we were 4,400 feet, was being passed, and in six minutes there was no point on the earth within 500 feet as high as we.

Our lifting power was glorious. Dr. Berson busied himself with scientific readings and I was glad to be able to present the result of his investigations in the report he has prepared. I was free to note the grand panorama which opened itself to our gaze. Though ascending at so rapid a rate, we appeared absolutely stationary; noise there was none, wind we did not feel, and the view steadily opening to us was the only means by which we could tell that we were rising; as far as feeling goes, we might have been sitting at home in our drawing room. The view, however, was magnificent; the Palace, the grounds, friends and spectators had long since diminished into insignificant dots, the absolutely clear air enabled us to take into view the distant landscape for miles; while London itself, at first moderate assemblage of houses on the banks of a winding river, began to look smaller as we began to discern the distant coast line.

At 5,000 feet the doctor pointed out to me the southern coast of France, which we had left the ground had gradually changed to south and then to southwest, thus proving the correctness of an observation which he had made before starting that the upper currents generally bear to the right. At 14,000 feet, seventeen minutes after the start, we were nearing the maximum height which I had ever before reached, and were I asked to state what was the sensation I could only answer by saying that there was an entire absence of sensation. Up to now there had been no feeling of cold, no feeling of emotion, only absolute tranquillity, a perfect rest, with no left the ground had gradually changed to south and then to southwest, thus proving the correctness of an observation which he had made before starting that the upper currents generally bear to the right.

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