Thrilling Voyage of Scientists Studying Atmospheric Phenomena.

Traveled 142 Miles in 344 Minutes-Dangers Threatened, but Eluded-Valuable Scientific Results

of the Expedition.

A report has just been made of the most extraordinary balloon voyage on record. It is of the most intense interest to scientists and everyone studying the problem of aerial navigation. It sets aside one of the objections which have been offered to the flying that man feels no serious discomfort either from cold or from immense speed when at a great height. And there were other scienof considerable importance which will be told of farther on in this article. The story of the trip itself as another triumph of man over nature is of thrilling interest to everyone,

Four men in the balloon Wega crossed the Alps from Stilten, in Switzerland, to Mt. Soule, in France, some distance north of Dijon. The speed was equal to that of the fastest European railway train, and at times exceeded that of the most rapid American express. A distance of 142 miles was covered in 344 minutes.

The expedition was undertaken for purely scientific purposes. The captain of the balloon was Prof. Ed Spelterini, who has made more than five hundred successful balloon ascensions. He was accompanied by the eminent geologist, Prof. Albert Heim, and Prof. Julius Maurer, the great meteorologist. One passenger was taken along, a student of Prof. Heim. The project of ascending the Alps in a balloon was broached as long ago as 1891, but it was slow of realization. Money had to be collected for the construction of the special balloon required and many other preparations were necessary.

The balloon was built for the purely scientific purpose of the trip. The diameter of the balloon when filled was about sixty feet, its circumference was 190 feet, capacity 9,000 cubic feet. It was made of Japanese pongee silk, of great strength, and was built in forty-eight meridional chambers, consisting of no less than 3,168 pleces of silk. The interior received six coats of varnish and the exterior four coats. The covering net was mdae of Anjou hemp, treated with rubber, with 21,504 membes. The weight of the balloon, with anchor, ropes and all, was 994 kilograms. The ballast, scientific instruments and passengers added 2,096 kilograms, so that the balloon had to lift 3,090 kilograms as it ascended in air. It required five | Helm, "and our trip proved that dizziness days to fill the balloon with gas, and then there was a delay of three days before the weather appeared favorable. The wind must be in the proper direction and the air not too cloudy to prevent exact observations. Pilot balloons were sent up finally and showed that the wind set in the proper diection to carry the balloon directly over the Alps and the Jura, I. e., southwest.

The Ascent. Four men held the ropes of the captive balloon, ready to loose them at the signal. The passengers climbed into the car that swung beneath it and threw out sacks of ballast equal to their weight. Captain Spelterini cried "Lachez tout" (let go all) and

tists had come from all over Europe to see

this experiment. But let Prof. Heim tell of

the air. At first we ascended at the rate

of over a vard a second, but soon commenced

to go faster. We felt the wind of the val-

ley no longer at 7,200 feet, but stood still

for a moment poised in air, but the next

minute, 11:06, we felt the southeast wind of

the upper air, and the balloon darted to

northwest at lightning speed, in a straight

"And now we waited with bated breath

to learn our fate. Would we be dashed

against the mountain by a powerful wind

current or-and at 11:41 our doubts were

course did not diverge a moment from a

feet a second; when we were 14,000 feet high

two feet, then at eighty-eight feet a second,

not the least intimation of the direction or

force of the upper currents. Our course, so

long as we were in the upper current of

air, was astonishingly straight, for we di-

verged from the direct route in our course

hardly half a mile to right or left. We were

"At 12:55 we were 18,388 feet above sea

level, and then we descended slightly. At

3:43 we reached the highest point attained

"The balloon was in such good condition

that we could have stayed up in it all night,

and we had plenty of ballast, so the captain

"Do you want to travel all night?"
"A glance at my map showed me that we

borne by a mighty current of the air-sea.

during our voyage, 22,440 feet.

Might Have Gone to Paris.

over a mile a minute.

line. The shadow of the balloon fell on the

clouds with startling distinctness.

"It was 10:53 a. m. as the Wega rose into

it in his own words:

OVERTHE ALPS IN A BALLOON were moving direct for Paris, if the wind all that I saw it would be my greatest purple to bluish green. What other theory can be suggested? The heavenly blue must we should be in Paris before midnight, and

on the ocean before daybreak. "This would never do, and as a descent by night is accompanied by many dangers we decided that we must land now if at all From 3:43 to 4:23 we descended from 22,400 feet to 7,920 feet, at a rate of 363 feet a FOUND WHY THE SKY IS TINTED BLUE minute. Almost seven feet a second.

"Beneath us was a sea of mist. 'It's going too fast, drop a sack of sand overboard-now another sack!' the captain

"The sun was hidden behind clouds. We were passing through a shower of sand, for the sand we had thrown out. It was the most intensely thrilling and dangerous moment of the voyage. Could we stop her If not our contact

us! Imagine falling a mile and a half! "But over went more ballast, and moremachine as a mode of traveling, by proving and yet more. We had dropped almost a mile when we slackened as we passed into the clouds of mist. It was depressingly gloomy and gray about us. We looked down. Spelterini was the first to see the straight white lines of streets shining in a village. All was at last well. The mist did not reach so far as the earth. We could now see how to land, but there was a strong east village, it was Riviere.

"'Half a sack of sand overboard or we shall land among the hop-poles-quick! "And as we floated to the east we reached an open, treeless plateau, with woods behind

"Here it was or nowhere! " 'Let go the anchor!' "The anchor caught, the vents were opened

and hardly twenty seconds later the balloon lay half empty on the ground. It was 4:37 p. m. 142 Miles in 844 Minutes. "The balloon had passed over 142 miles it

344 minutes, or five hours and forty-four minutes. In the upper current it had traveled 118 miles in 285 minutes. This is 401/4 fee a second. We had been traveling at rail way speed!

"But you do not feel the speed in the balloon. You seem to hover stationary in that wondrous silence. There was not the least jolting, we did not know that we were moving unless we looked intently at the earth beneath and saw it slipping by. We felt the motion as little as we feel the motion of the earth around the sun. "Our balloon journey had been neither the

highest nor the furtherest ever taken, but it was the first that had ever been taken over a specified mountain, and the first in which a balloon had remained above 19,000 feet for houre at a time. "The trip of the Wega over the Alps was

the 503rd successful ascension conducted by

Captain Spelterini without accident. "We did not even feel dizzy," says Prof. is not one of the accompaniments of traveling by balloon, a long mooted question The most wonderful thing of all to us was the perfect quiet and sacred silence of the heights. Whether the balloon went up of down, or rushed through the air with railway speed, we felt none of it. We were in absolute quiet. About 15,000 feet you hear the blood rushing through your ears; at 18, 000 feet the noise of the circulation of your blood is unbearable. It is altogether different from the stillness on a mountain top There is still the noise coming from below even though brokenly. But with us the silence was absolute-oppressive.

Sensations of the Voyagers. "Until we had ascended to 12,000 feet al

complained of palpitation of the heart. At

19,000 feet Dr. Maurer complained of severe

"At 18,000 feet and 20,000 feet I felt won-

car on a sack of ballast. Half dreaming I

looked out over the shining clouds, or at the

yellowish horizon, or upward at the black

ever, no 'air-hunger.' But the ability to

work was gone, my energy lost. It required

weak; I could hardly find it, but it was

quietly beating sixty to sixty-three times a

second. All at once I felt freezing cold.

conscience spoke, saying: 'You ought to ob-

"But when we had descended 1,500

of us felt the least desire for food,

1,600 feet we were as new born. The effects

"Strange to say during all our trip none

The View from the Balloon.

is like trying to describe a symphony to a

deaf man. The woods looked like the softest

moss. The varying colors of the foliage

were clearer than ever, melting into won-

drous harmony. The lace work of field and

meadow, of fruit trees and forests wove a woof of beauteous color. All of the colors

seemed far brighter from the balloon, far

fresher, and as we rose higher and higher all

threads holding all together. If I could tell

took on a beautiful tint. The cities looked like master paintings, the streets like white

"To describe the view from the balloon

BIRD'S-EYE VIEW OF THE ALPS AND CLOUDS, TAKEN FROM THE BALLOON.

settled as we seared above the highest peak | But it was so delightful to sit there quietly.

of the mountain (10,616 feet) reaching a Better to freeze than take the trouble to put

height of 13,962 feet above sea level. Our on the cloak that lay at my side. But my

over the valley we traveled horizontally ten I looked out, but I noticed nothing and

"The currents of air in the valley give of the rarified air were feit only while we

were in it.

feeble.

tell their beauty! The results of this unparalleled flight over the Alps and Jura are of more than passing interest. It has shown that healthy men may ascend to about four miles above sea level and remain at this tremendous height without any serious inconvenience. It has shown aloc that dizziness is not an accompaniment of balloon voyaging, a most im-

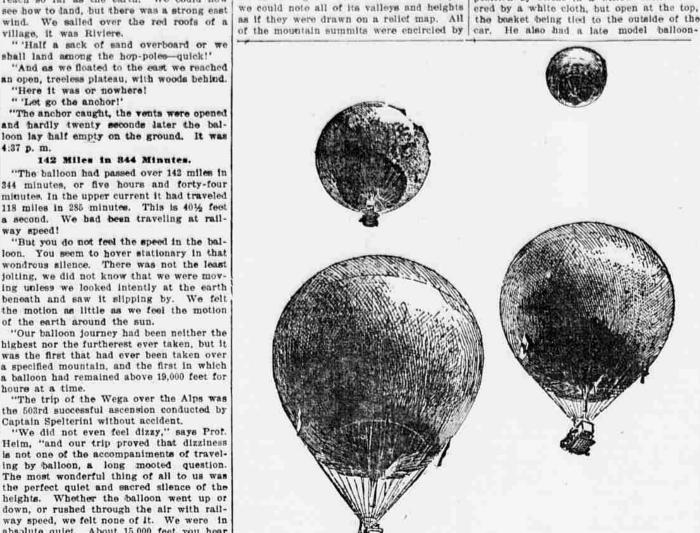
portant point for future aerial navigation. The phenomena observed were new and The fact that the earth apinteresting. pears to be bathed in an atmosphere of viothe balloon was actually falling faster than let color when seen from the balloon is accounted for by Prof. Heim in this way. "When we look at a mountain as we stand on the earth it appears to be blue, on account of the thick atmosphere at the earth's with the earth would well nigh annihilate surface. But when seen from a balloon the blue atmosphere the spectacles through which we gaze are made paler on account of the rarity of the atmospheric medium, and we at first see them in their natural colors. Seen from above they appear like islands, especially when we are above 19,000 feet. Mont Blanc was discernible only by the clouds that surrounded its summit, for it was hidden in mist, Jura looked like a series of ridges on the earth's surface, yet position by sticks in a willow basket cov-

The coloring of the clouds, the beiong to the atmosphere as such. Only shadows of the mountains, what words can if the optically pure atmosphere is its bearer can it operate as it does on the landscape when we observe it Blue of the Sky Explained

"It seems to me that we are forced to

believe that there is a direct reflection of the heavenly blue rays through the mole cules of the air. These appearances are well known in florescence? It is not true then that the heavenly blue is a phenomenor of florescence. This idea does seem to me to be in contradiction with any of the color phenomena of the atmosphere In fluids, such as petroleum, for example, we are familiar with this phenomenon. we could have other gases in such thick

"The meteorological observations were in the hands of Dr. Julius Maurer, who was vices for registering the results of this ex-To observe the atmospheric periment. pressure he had two registering anerold barometers and one quick silver barometer for corrective purposes. The temperature was taken by an Assmann thermometer fixed to the balloon and read by a spyglass. thermograph and hygrograph were fixed



REMARKABLE PICTURE TAKEN FROM A FIXED POINT, SHOWING BALLOON IN FOUR POSITIONS AS IT VANISHED.

balls of cloud (cumuli) some of which extended deeply into the valleys. No Birds in High Air.

"The birds which appear from earth to be near the highest mountain peaks never really fly very high. The atmosphere above 7,000 feet appears to be without a single inhabitatn. There was not a bird to be seen when we rose to 19,000 feet, although we were over the valleys in which the ravens are most common, and I watched intently for a glimpse of one.

Above 16,000 feet the coloring of the balloon and ourselves appeared to change, The sun cast no warm yellow light on us, but a pure white light, white to ghastliness. All of the shadows were a deep black. I noted the depth of this shadow when I had to look for something in a shaded corner of the There were six pall-bearers, an aulogistic

"If we looked first at the horizon and then at earth the former seemed to be blue-violet and the latter a bright yellow. The blueviolet coloring of the earth appeared at 16,000 feet and over. This was explicable by the fact that the yellow rays of the sunlight were absorbed in the atmospheric covering of the earth as we looked towards it, leaving the violet rays in the ascendant. Seen from the moon, the earth must look violet. Looking at mountains, distant not shouts of thousands of epectators, for scien- | felt well. At-14,000 feet Dr. Biedermann less than fifty miles, they appeared a bright vellow. In this case the white surfaces act as sources of light behind the thick layers sticking pains in the back of his head and of atmosphere, and the penetrating yellowred light (reflected as blue) made the distant mountains appear yellow to our eyes. derfully well, sitting in one corner of the

Gorgeous Coloring. lakes lying beneath us offered strong contrast to the yellowish horizon. sky. I did not want any oxygen, I felt no Lake Leman was one mass of deep blue, the difficulty in breathing, no uneasiness what. color of a perfect sapphire. When I looked at the sky I found it was no longer blue, but was so dark as to be almost black. a great effort for me to take my note book up and write in it. My pulse was very sea. Here is another proof that it is the sea. Here is another proof that it is the atmsphere alone which makes the sky appear blue to us on earth, but when we had ascended through 19,000 feet of it this blue well was for the most part beneath us and we saw the sky in all its forbidding darkness. We noted, too, that it made no differ ence in the lower altitudes whether the air straight line. When we were 6,900 feet serve, look around, note what you see!' and was laden with 10 per cent or 95 per cent moisture, the blueness of the sky was the same. Can we any longer maintain the we moved horizontally thirty-three feet a let the balloon ascend to heavenly heights, of little particles of matter? Impossible: wrote not a word. Only to sit quiet and theory that this heavenly blue is made up answered by knowledge of color. In that

| barograph which registered its results auto-

"It is most remarkable, as shown in the tables and self-registering diagram of the hygrograph, to note the extreme dryness of the upper layers of the atmosphere between 16,000 and 19,000 feet. According to the hygrograph the relative humidity is only 20

"As a pioneer scientific expedition this is great future for the use of the balloon for

QUEER FEATURES OF LIFE.

A pet monkey, untimely deceased, had a very formal burial in a satin-lined white casket in Baltimore one day last week. address, four carriages for the mourners and several flower designs, including an "empty chair" and a "gates ajar."

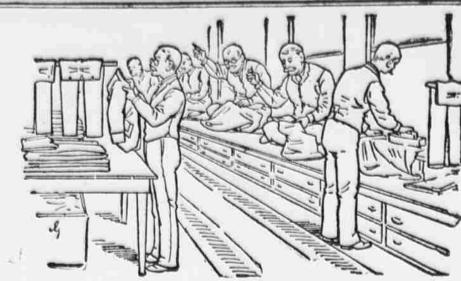
An ice man in St. Louis, who lost his right eye by an accident two months ago. was married a few days since and his fellow workmen, desirous of giving him some thing that should combine beauty with utility, made up a fund and with it purchased a glass eye as a wedding present to him.

When Charles Lipton, a letter carrier on Staten Island, kicked a small dog that ran out and barked at him while he was on his rounds, the animal retired, howling with pain, and another dog, this time a big one, rushed out and attacked Linton, biting him so severely that his injuries are considered

Mrs. Julia Benhard of Wichita, Kan., has found a certificate of deposit for \$10,000. which her brother put in the bank of Trenton, Tenn., to her credit just before he went to the civil war. Returning home to die of wounds, he gave his sister the certificate and she put it away and apparently forgot it. The Bank of Trenton has long since passed out of existence, but Mrs. Benhard is going to sue the stockholders for \$10,000 with interest at 6 per cent for thirty-five years, amounting in all to \$31,000.

Because she had been told by a physician after an examination that she was suffering from enlargement of the heart, two tumors and a diseased lung and liver, Mrs. Catherine Ketterer, 42 years old, committed suicide in New York last week. The coroner's physician, having performed an autopsy last case it could never be so constant in its Saturday, declares now that not only were color-tone. It ought then to change from the woman's heart, lungs and liver in good

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condition and entirely healthy, but that there was no trace of tumors. Evidences were found of a slight internal disease, but it was not of a serious nature and the voman might have lived many years.

-year-old child of a German family on the William Cross place near Gurlevville in Mansfield, Conn., recently. The eagle had been seen about the place for several days and while the child was playing with some other children the eagle swooped down and "As a pioneer scientific expedition this is eagle was able to lift the child and would considered most successful, pointing to a have carried it away had not its playmates caught hold of the child's feet and fought

> A cat on the farm of Andrew Harris near McKeesport, Pa., has adopted four baby rabbits in place of the litter of kittens which she recently brought into this world and which Mr. Harris thought the world could get along without. The day after the kitens disappeared the cat was observed carrying something to the barn in her mouth. Three times she was seen making the same ourney and then Mr. Harris made an investigation. He found, hidden in the hay, three paby rabbits. While he was looking at them puss appeared for a fourth time, carrying another little rabbit in her mouth It was deposited with the others and she lay down with them, purring with the greatest pride and satisfaction. The young rabbits are getting along finely. They hop all about their foster mother. Mr Harris is proud of his cat and is permitting her to raise her queer family undisturbed, except for the visitors who are constantly calling to witness this queer freak.

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> > Latest Bridal Fashion.

Unite the traditional white satin continues to be a greatly favored material for bridal gowns it is this season rivaled by other rich textiles. The accided tendency toward the use of every sort of soft, clinging fabric is very noticeable among the newest models for wedding tollets. Peau de sole, crepe de chine, mousseline brilliante over faille, Liberty gauze over satin royal, and, lastly, lace of the most elegant description are all employed and in making up the fabric the princesse style is notably favored. Entire lace walsts, or lace guimpes and sleeves, are seen upon some guimpes and sleeves, are seen upon some models and on others there are lace over-skirts arranged above clinging trained skirts of peau de soie or lustrous repped slik with a draped flounce to match placed

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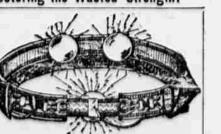
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