

A Scientific Balloon

BY W. L. ALDEN.*

Illustrated by CECIL HAYTER.

“**Y**OU'RE quite right, sir,” remarked the Colonel in reply to young Thompson's question, “I have been in some pretty tight places in the course of my life. A man can't fool along through fifty or sixty years of active life without finding himself occasionally in middling tight places. But wherever I am, so long as I am on solid ground, I generally calculate to be able to work myself out of almost any difficulty. It's when you put me aboard a ship, or in a balloon, that I begin to lose my grip. Speaking of balloons, I'll tell you right here, if you don't mind, of a little adventure I had—the only time that I ever was fool enough to trust myself in a balloon.

“One day there came to my house in New Berlinopolisville a fellow with a letter of introduction from Sam Kendall, who used to be ring-master of the ‘Hail! Columbia’ circus at the time when I was the manager and proprietor of the concern. Sam was one of the best of fellows, and consequently any friend of his was welcome at my house. Professor Montgomery, which was the name of Sam's friend, was a small, determined-looking chap that at first sight I would have taken for a light-weight fighting man, but, as it appeared, he was a balloonist. It's a singular thing that every man who goes up in a balloon professionally calls himself a Professor, while a miner who goes down a

shaft professionally never thinks of giving himself any such title. Sam's letter didn't say that Professor Montgomery was a balloonist, and I supposed he was a regular college Professor who had caught the look of a fighting man through teaching football and other athletic games to the students. So when he accepted my invitation to dinner, I just sent over for my old friend Professor Van Wagener, the great electric sharp, to come and join us, thinking that the two Professors would be good company for one another.

“Now it happened that Van Wagener, who was always interested in everything that was scientific and useless, was mightily interested in ballooning, and instead of being disappointed when he found out that Montgomery was an ignorant chap, who couldn't speak ten words of good grammar, he was just delighted to find that the man was a practical balloonist. The two got to work and talked balloon till you couldn't rest. Van Wagener said that it was his belief that a balloon properly constructed ought to be able to stay in the air for a month or a year at a time, and when Montgomery said that the thing wasn't possible, Van Wagener wanted him to explain why.

“‘It's plain enough,’ says the balloonist. ‘When your balloon rises and gets into thinner air the gas expands and escapes through the mouth of the bag. Even if it didn't escape it would always leak out through the silk or cotton, or whatever stuff the bag is made of. That's the reason why you can't

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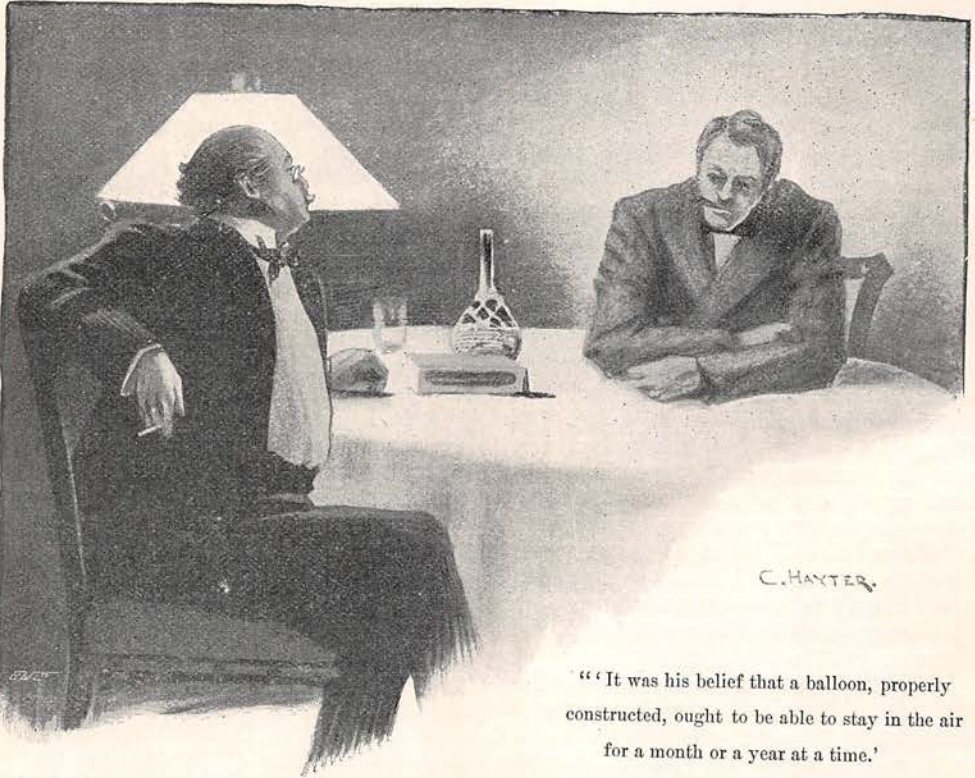
stay up only a few hours. No man ain't never been able to invent a balloon that won't lose gas, and nobody never will invent one, for it can't be done.'

"'If I make a balloon that can't possibly leak a single cubic inch of gas will you make an ascension with me, and attend to the practical management of the machine?' says Van Wagener.

"'You can just bet I will,' says the other chap. 'Why, man, there'd be an everlasting fortune in such a balloon. But what's the use of talking about it? The thing can't be done, as you'll find out when you set down to invent your gas-tight balloon.'

and make it expand. When it had expanded to a certain point it would flow over into the rubber bag, and the lifting capacity of the machine would be increased about one third. Of course the balloon would rise, and when the balloonist wanted to descend again, all he would have to do, according to Van Wagener, would be to put out his lamp and let the globe cool off. It was a mighty ingenious contrivance, and Montgomery, who began by having no sort of confidence in Van Wagener, ended by thinking that perhaps he had really invented a balloon that could be made to stay up for ever.

"Nothing would satisfy Van Wagener but



"'It was his belief that a balloon, properly constructed, ought to be able to stay in the air for a month or a year at a time.'

"Well the upshot of it was that Van Wagener set to work and made a balloon that even I could see was going to meet his requirement. The main balloon was a big globe of aluminium, and on the top of that was a bag of thick rubber connected with the globe by an automatic valve. The idea was that the globe would hold just enough gas to float the balloon at a height of two hundred feet above the earth. Now, being at that height, if the balloonist wanted to rise, all he had to do was to light a big spirit lamp that would heat the gas in the globe

that I should go along on the trial trip of the balloon. I wasn't in the least anxious to do it, for solid ground was always good enough for me; but Van Wagener, being an old friend, and liable, like all scientific chaps, to get himself into difficulties when he didn't have some practical man to look after him, I finally agreed to go. The ascension was to be made from my back-yard, where we would be out of sight of Mrs. Van Wagener and the general public. The machine was carted over to my house after dark, and the next morning, when we were ready to start, no

one knew anything of our intention except my coloured man, and he knew how to hold his tongue.

"I was surprised to find that Van Wagener had calculated the lifting power of the balloon so closely that he knew to an ounce just what weight she must carry in order to float, as he meant her to, a couple of hundred feet above the earth, and stay right there. Consequently all three of us had to be weighed, and we were a good two hours in reducing the weight of things in our pockets, or of increasing our weight with bits of gravel, until at last Van Wagener was satisfied that the whole weight of the machine, with us and our instruments and traps in it, would be exactly what he calculated that it ought to be. Then came the filling of the globe with pure hydrogen made on the spot, and consequently it was five o'clock in the afternoon before everything was ready and we made our start. The balloon rose slow and gentle, and when it was up to about the height of the steeple of the Roman Catholic church it gradually ceased rising and hung here perfectly quiet. There wasn't a breath of air stirring, so the thing had no sort of drift, and promised to stay just where she was until the wind should rise. The Professor was mightily pleased, and to my mind Montgomery ought to have been satisfied that the invention was all right, but he seemed a little uneasy, so I asked him what fault he had to find with the balloon.

"'We're all right so far,' says he, 'but the difficulty is going to be in keeping our weight just up to the standard and no more. I'll have more confidence in thish yer thing when the trial trip is over, and nobody killed. There's one thing that I don't exactly see, and that is how we are going to descend.'

"'I declare I forgot to provide for that,' says Van Wagener. 'However it will be time enough to think of that when we get through ascending.'

"He was as delighted as a child, and about as capable of looking into the future. With that he lights his spirit lamp, and presently the balloon begins to rise, just as he said it would.

"'What do you say to that?' says Van Wagener to Montgomery.

"'That's all right,' says Montgomery; 'she'll rise fast enough, but she ain't going to rise no more this afternoon,' and he blows out the spirit lamp.

"Van Wagener was pretty mad, and demanded to know what Montgomery meant by putting out the lamp.

"'While that lamp is burning she's using up spirit, ain't she?' he answered. 'Well, that is decreasing the weight in this balloon, ain't it? If you'll look over the side you'll see that we're rising at this minute, and there ain't no earthly way of pulling up.'



"'A small, determined-looking chap.'"

"Van Wagener and I both looked over the side, and we could see that we were about twice as high in the air as we had been. Just then the machine took a fresh start, and we could feel her going up at a pretty good pace.

"'What's the matter now?' says I.

"'Matter enough,' says Van Wagener, 'I've dropped my false teeth overboard.'

"'More weight gone,' says Montgomery. 'Now we'll go up till the balloon busts. If I'd known that you had false teeth I'd never have trusted myself here with you. I might have known that you would have been heaving of 'em overboard the first chance you could get. I never see a scientific man yet that was fit to be trusted.'

"'Do you really mean,' said I, 'that this balloon is bound to keep on going up?'

“‘We’ve only one chance,’ says Montgomery. ‘If there’s a heavy fall of dew tonight it may weigh us down enough to make up for the Professor’s teeth and the spirit he’s been burning. It’s our only chance.’”

“I knew then that I was in a pretty tight place, and I’d have given considerable if I’d never agreed to go along with Van Wagener. However there was nothing to be done except to wait for the dew, and so we all sat down in the car and waited.

“Luckily there was a heavy dew. Montgomery made us take off our coats and hang



“‘Montgomery made us take off our coats and hang them over the side.’”

them over the side so that they could catch all the dew there was, and about eight o'clock we found, by throwing over a bit of tissue paper, that we were gradually sinking. We kept on sinking most of the night, as I judge, and when the morning came we found we were about six hundred feet above the earth, and that we had drifted out of sight of New Berlinopolisville.

“Van Wagener was in high spirits, and began wringing out his coat and putting it on again. All of a sudden he sings out something which I didn't quite understand,

not being familiar with scientific terms, and at the same time the balloon began to mount up again.

“‘What has that blasted scientific idiot dropped overboard now?’ yells Montgomery.

“‘I happened to drop my purse out of my coat pocket,’ says Van Wagener; ‘but that is no excuse for your objectionable language.’”

“‘I knew it,’ says Montgomery. ‘Now we are done for; the sun will be out presently, and then the gas will expand. Colonel, I'm sorry you're in this scrape, but I'm glad you're not a family man.’”

“It did look middling scary. We sailed slowly upwards till the sun had warmed up the aluminium globe, and then we travelled straight up at a pace that couldn't fail to bring us up to twenty or thirty thousand feet before noon. There was only one way of making the balloon descend, and that was by letting out the gas. There being, however, no escape valve, we couldn't let out gas, and it didn't seem as if there was any possible way for us to escape. I will say this for Montgomery and the Professor, that they both showed that they were brave men. Montgomery cursed Van Wagener and science generally, but that was natural under the circumstances. Van Wagener sat quietly on the bottom of the car watching the barometer and making entries in his notebook, which he said would be of immense value to science in case they should be found. Neither of the men flinched a particle, though they knew that in all probability they would in course of time have a clean fall of say forty thousand feet. Of the two I was more sorry for Montgomery than for the Professor, for he didn't have the love of science to sustain him which the Professor had.

“We went up and up. The gas expanded with the heat of the sun and flowed over into the rubber bag, as Van Wagener had meant it should, and when this happened we about doubled our pace. We lost sight of the earth by nine o'clock in the morning, and by eleven o'clock the air had grown so thin that we began to have difficulty in breathing. Professor Van Wagener, whose lungs were weak, suffered worse than the rest of us, but he kept right on making his scientific notes, and to all appearance was enjoying himself as much as he had ever done in his life. Montgomery sat quiet, having grown tired of cussin' the Professor, and not having anything else to occupy his mind. I turned around to look over the side when the hilt of my revolver, which was in my hip pocket,



“Montgomery yelled to me to jump!”

caught in the wicker work of the car and gave me an idea.

"See here, Montgomery," I said, "I can let the gas out of this balloon, but we'll have to take the risk of it's escaping so fast that we shall land in almost as much of a hurry as we will when the thing bursts."

"I'll take the chances," says Montgomery. "If you let out the gas we shall have a chance, even if it is a slim one; but if you don't let it out we're as dead as Julius Cæsar."

"What do you say, Professor?" said I, for I didn't want to act rashly.

"Certainly!" says the Professor. "By all means try your experiment, Colonel, though I should prefer that you should wait till we reach an elevation of twenty-seven thousand feet, which will be greater than anyone else has ever attained."

"We're high enough," says Montgomery. "I ain't pining to get among the angels just yet. Terry firmy is good enough for me."

"All right," says I, and I drew my revolver and fired at the aluminium globe. Of course the bullet went through it as if it was paper, making one hole where it went in and another where it came out. This gave the gas the choice of two ways of escaping, and it took them both.

"In the course of the next five minutes the balloon began to sink, and I had hopes that we might reach land safely. But Montgomery knew better. The balloon kept sinking faster and faster as more and more gas escaped, and in a little while we were dropping down almost as fast as we would have done had the balloon burst. The earth wasn't long in coming in sight, and the trees and fields and houses seemed to be rushing up to meet us.

"There was a good breeze blowing when we were, as Montgomery judged, about a mile high, and it drifted us westward towards a good-sized lake.

"If we can only stay up till we're over that lake we shall be all right," said Montgomery. "Colonel, just heave overboard everything there is in this car."

"With that he seized whatever he could lay his hands on, and I did the same, and for a minute or two it just rained instruments and things over that section of the country.

"Off with your boots, coats, waist-coats and hats," yells Montgomery. "Professor, if you've got any more portable teeth heave 'em over. We must get rid of every ounce of weight if we want to reach that lake."

"Well we reduced our clothing down to a pretty low point, and Van Wagener went so far as to throw over his glass eye, he having

no more teeth ready for discharging. Then we sat down and waited to see what the end would be.

"We were perhaps a quarter of a mile high when we came over the lake, and the moment we got where the water looked as if it might be fairly deep, Montgomery caught the Professor in his arms and threw him over without waiting to ask him if he was ready to go. Then Montgomery yelled to me to jump, and we all three left that balloon so suddenly that we all struck the water at pretty near the same time.

"I went down to the bottom, which was, as I judged, about fifty miles from the surface, though I afterwards heard that the lake was nowhere over forty feet deep. When I came up, Montgomery and the Professor were already swimming for land, and I followed their example. All the people of the neighbourhood had seen the balloon, and there was already a crowd of men, women and children on the shore waiting for us to land.

"This is exceedingly awkward," says the Professor. "I really can't face those people with only one eye and no teeth. Colonel, there's the balloon floating out there; I think we had better swim back to her and wait for an opportunity to land after dark."

"I'm going ashore," said Montgomery, "and I'd go if I hadn't a limb left, and every female boarding-school in Illinois was standing on the shore." However the Professor's general appearance was so ghastly that most of the women and children didn't care to wait for us.

"We came quietly ashore, and a farmer rigged us out with dry clothes that fitted about as badly as a French soldier's uniform, and then drove us twenty-two miles to New Berlinopolisville.

"The Professor seemed as happy as a young man coming back from a picnic with his best girl. He kept on talking about the tremendous success of his balloon, and what a fortune there would be in it when he should have invented some way of getting it down from the clouds at a reasonable pace. But Montgomery was mad all the way through. He wouldn't open his mouth till we got to our door, and then he turned on the Professor and told him that sooner than go up in a balloon that a scientific man had invented he would take and fill his pockets with dynamite and then get a New York policeman to club him. Then he said good-night to me, and went off down the street, swearing to himself in a way that was really unfit for publication. I never saw or heard of the man again."