

bake bread at all like Aunt Mary. She bakes hers in tins and these are baked right on the bottom of the oven."

"This is rye bread, and rye bread, as well as French, Vienna and German twist bread are baked on the bottom of the oven instead of in pans. Notice the cornmeal on the bottom of the loaves. They are always dusted with cornmeal just before being put in the oven, so that they will not stick to the bottom. The cornmeal sometimes scorches in flakes and so, when we take the loaves out we put them on a rack covered with coarse meshed wire, thru which the burned particles drop, leaving the loaves fresh and sweet."

"How many loaves are there in that oven?" said Jack. "It looked to me as if there must be a hundred."

Mr. Regan smiled as he replied, "There were 360 loaves in that oven before the man began taking any out. If we were rushed by orders, we could make it 400 loaves at a baking."

"How long does it take to make a batch of bread from the time the things are put into the mixer, until the bread comes out of the oven?" was Jack's next question.

"About seven and one-half hours. We can do it in five hours by forcing the process in various ways, but seven and a half to eight is the natural time."

"Why Aunt Mary starts bread the night before, doesn't she?" Jack exclaimed, turning to Uncle Dick.

"Very likely," was Mr. Regan's dry comment. "But then, the home bread baker does not have the advantage of the even temperature that we have here. In the coldest days in winter, the temperature in the mixing room is kept at 80 degrees, hardly ever is there any variation one way or another. In summer, the temperature is likely to be higher than 80 degrees on the hottest days, but we plan to put in a refrigerating plant in the mixing room, and so be able to control the temperature the year 'round. I want you to see another oven, now, with white bread in," he ended, as he moved toward the fourth of the four groups of iron doors that pierced the shining whiteness of the tiles upon one side. As the door opened, Jack laughed aloud.

"It's just like a merry-go-round!" he exclaimed. "Are the other white bread ovens built like this one that takes the bread on a ride around all the time?"

"We use this oven for baking a certain kind of white bread, but the other two ovens are similar to the one you saw the rye bread in. Here, you see, the fire is built only in one small spot, and the bottom of the oven, on which the breadpans sit, turns around, giving an even heat for all the loaves. By the way, have you noticed that the crust of most bakery bread is tender? Here is the steam valve thru which steam is turned into the baking chamber part of the time, so that the crust will not harden before the inside has had a chance to bake. The temperature is so hot in there that you can hardly see the steam, it evaporates so quickly."

"How hot is it in there, please?"

Mr. Regan looked at a big thermometer sunk deeply into the wall. "About 500 degrees," he said.

"What did he do that for?" Jack exclaimed suddenly, as one of the men picked up a loaf of bread that had fallen to the floor in the hurry of the rapid handling and tore it in two and tossed it aside.

"It is a strict rule in the bakery, that no bread or biscuit or doughnut that falls to the floor shall be sent out. When such an accident happens, the loaf is torn in two at once."

"But what do you do with them?" persisted Jack.

Mr. Regan smiled broadly, as he said, "We feed them to the horses."

"Horses!" was all Jack could say in his astonishment.

"We have ten horses here for use in the business, hauling flour, delivering the bread, etc., and it is a strange fact that they all like bread. Most of them take naturally to it, but those that don't at first like it, have invariably learned to. In fact, so much do they relish the torn loaves tossed to them now and then, that if they have already started on their oats, they will leave them for the bread. In our office records, we know each day, not only how many loaves of bread are baked altogether, but how many of these are perfect, how many under weight, and how many 'crippled' and torn.

"What do you do when they are under weight? You don't have to throw the bread away, do you?"

"We sell such bread at 3 cents a loaf right here at the bakery," was the reply.

"And how many loaves of bread do you make a day?"

"The average is 16,000 loaves of bread a day, but in summer, we frequently make 22,000 in twenty-four hours. You see, we run night and day, except Saturday. A batch of bread, for instance, is started by the shift of men who go on duty at 1 o'clock in the morning. While that is being beaten in the mixer, they are busy weighing the ingredients for the second batch, and no sooner is the first batch out of the mixer, and the mixer thoroughly cleaned, than the second batch goes in. So it keeps on, until the second shift of men comes on, say at 9 or 10 in the morning—the factory hums every minute in the whole twenty-four hours. From this floor, the bread goes either into the wagons for city delivery or else into the boxes for shipment to outside towns. In the basement are lockers, dressing rooms and shower baths for the men. We try to keep the place as clean as possible. No smoking or chewing is allowed; the men are furnished three white suits a week, which the firm also launders, and three women are employed all the time cleaning. The utensils in the mixing room are cleaned after each using, all the tubes that carry liquids are flushed with hot water, and the mixers and 'tros' are made with rounded bottoms, so that no dough can stick anywhere and sour."

As Uncle Dick and Jack walked away from the bakery, Jack said:

"When I first went into the mixing room, all those belts and pulleys and all that machinery did not look nice to me when I thought of Aunt Mary's nice white bread bowl and her shining pans, but when I found how extremely clean it all is, I really think that I never shall object to any baker's bread after seeing how clean this bakery is."

(THE END.)

AN AERIAL RUNAWAY

By W. P. and C. P. Chipman.

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CHAPTER XXIII.

A Perilous Descent.

As soon as there was sufficient light, the professor began his operations, assisted by his companions. Going over the pile of apparatus which the professor had explained to his comrades while the articles were being made. They unrolled the big air sack and placed it on an elevated platform, which had been erected by the aeronaut's order, with the hoop projecting a short distance over the edge. The car was now quickly attached to a native wickerwork basket and then the work of loading was commenced.

Professor Barton would allow no one to do this but himself, as it was of the utmost importance that the packages be so arranged as to keep the car in perfect equilibrium. One by one the carefully made parcels were handed to him and stowed away in the space under the circular seat. It took but a short time, however, for the skilled hands of Mr. Barton to arrange each parcel in its proper place, and the sun was hardly a half hour high when he announced:

"Everything is now in readiness. We will therefore begin inflating the balloon. I will start the fire."

This was soon done, and then at the aeronaut's direction a number of the attendants of Tupac mounted the platform and held the folds of cloth apart as much as possible, so as to allow the heated air a free passage into the great sack.

While the fire was getting under way, the professor turned to his companions, saying:

"You will notice that the wind is now blowing from the east, and will, therefore, carry us away from the plateau. I chose this time and this place for two reasons. The wind here is always an easterly one in the early morning, and it is only about four thousand feet down to the lower spur of the mountain at this point; whereas on the other three sides the descent is from six to seven thousand feet."

Ten minutes passed. The great globe was now nearly distended and no longer needed the support of the servants, who descended to the ground. The amazement on the faces of all the natives had increased as the work progressed, until there was somewhat of fear mingled with it.

"Come," said the aeronaut, "it is time for us to take our places in the car. In a very few moments the balloon will rise." Then turning to Admaxla's father he continued, "Yesterday I promised the people at the temple that Admaxla should return in five years. He will come with powers which will enable him to scale the mountain side. On the evening before the day he is expected, therefore, have a trusty messenger waiting here, who can bring you word of his arrival before it is announced to the people."

The two chefs readily promised that the courier should be there, and then, after all had shaken hands with the curacas, the five voyagers stepped into the car. Already the airship was swaying in the morning breeze, and barely had the little company taken their assigned positions when it slowly began to rise.

Inch by inch it rose, with an even motion, and so quietly that the car was several inches from the ground before the onlookers noticed it; when they did, however, with awe-stricken faces they fell to the ground, and once more that cry went up:

"The gods have come down to us!"

Here a stronger current of air caught the balloon and carried it, still rising slowly, off beyond the edge of the plateau, and over the spur of the mountain nearly a mile below. As he saw the ground receding, Admaxla's face grew pale, and he clutched the side of the car tightly.

Noticing this, Professor Barton said kindly and reassuringly:

"Do not be alarmed, my lad. There is no danger so long as you sit perfectly still." Then turning to the other occupants of the basket, he went on, "On account of the rude nature of our airship, we will be obliged to remain as nearly motionless as possible."

The native lad seemed entirely satisfied by his friend's assurance, and gazed calmly back at his native land, now some distance away.

"How long with this balloon keep afloat, professor?" questioned Todd.

"Not very many minutes," was the answer. "We shall probably reach the ground again within a half hour. See, we have already commenced to fall!"

It was a fact which all could detect by glancing back at the cliff they had just left. Its summit was some distance above them, and as they looked, rose higher and higher, a conclusive proof that they were slowly dropping.

"We shall be down in ten minutes more, if all goes well," declared Professor Barton; "and see! we shall land almost exactly opposite the break in the pathway down the mountain side. That is well, for it will enable us to follow the old trail, just as if we had crossed the chasm by a bridge."

Slowly the moments passed; the balloon was within fifty feet of the ground when suddenly Rod touched the aeronaut's arm. "Look there!" he cried in alarm. "The canvas is on fire!"

As he spoke a flame burst out from one side of the sack; then with a rush the heated air escaped; the canvas collapsed; and balloon and car dropped to the ground with a thud which threw them into a heap, yet no one was seriously injured; and hastily picking themselves up, they jumped from the wreck.

"Any one hurt?" asked the professor, anxiously. Then as he saw all were able to move about, he went on: "No! Thank God for that! Now we must remove our supplies from the car before they take fire," and he suited his action to his words, and the last parcel was removed just as the wickerwork of the car took fire.

"It served our purpose at any rate," remarked Todd, "and, as you suggested, professor, we are down at almost the exact spot where we would have crossed the chasm could we have bridged it. Look!"

His comrades glanced in the direction indicated by

his outstretched hand, and noticed for the first time that they were within a dozen rods of the abyss which had been caused by the earthquake, and directly opposite the place where the path down from the plateau ended so abruptly.

The packages were soon distributed among the party, and the tramp over the mountain range begun. The path led for some distance along the edge of the abyss caused by the ancient convulsion of the earth, and was fairly smooth; but it then turned away from the chasm, and became rough and broken. The steepness also increased, and the wanderers were soon sliding and slipping and scrambling down the mountain side in a way which to say the least was very trying to their nerves.

"I should think," Mr. Todd at length observed, panting heavily, "I should think we must have missed the pathway altogether."

"The worst portion of our march is over, unless I am much mistaken," responded Professor Barton. "This is, without doubt, the little valley up which the old Peruvians fled, and in which they were besieged. The pathway will probably descend into it before long."

But it was some time before his words proved true; for the slope was so gradual for the remainder of the passage that the little party were almost of the opinion they should not reach the bottom of the gorge at all, when a sudden turn of the path brought them into it.

"The fleeing Peruvians came up the valley, so our way is to go down it," said the aeronaut. "I should say we have but to follow this tiny stream down the slope," pointing to the west, "and we shall come out into a more open country. Anyway a trial will soon show whether I am right or not."

In this opinion the other members of the party concurred, and the march was soon resumed in the direction indicated by the aeronaut. The surface of the gorge, while to some extent broken, was, nevertheless, smooth enough for easy walking, and quite a relief after the mountain pathway.

The valley increased in both width and fertility as they descended it, until they approached its mouth, perhaps a mile beyond the point where they entered it; then its walls suddenly contracted again to within twenty-five or thirty feet of each other. This space was nearly filled with the ruins of what had once evidently been the defenses of the Peruvians in their fight with the hostile Indians four hundred years before.

With the aid of the big rope ladder which they had brought along with them, but which they had not previously needed, the travelers climbed the old wall, and when once down upon the other side, the aeronaut said, meantime looking earnestly about him:

"It must be somewhere near here that your ancestors buried their treasure, Admaxla. I wish we might locate the place now, so that when you are on your way back to your people, you will know just where to dig for it," and he took from his pocket the note book in which he had written a description of the spot at Malca's dictation. Referring to this, he said:

"They made their stand for the disastrous battle upon a knoll, hemmed in on two sides by a cliff which terminated in three peaks. After the contest they buried their fallen Inca and treasure at a point where converging lines drawn from the three peaks would intersect. Do any of you see a small hill within a short distance which answers to the description?"

"There is one over there!" the native lad exclaimed, pointing to a slight rise backed by a three-pointed rock a half mile to their left.

"Yes, I see it now," was the professor's answer. "We will go over there."

A ten minutes' walk was sufficient to bring them to the knoll, which rose to a height of perhaps fifty feet above the surrounding plain. Its southern and western sides were against a cliff that ascended abruptly and solidly until near its top, where it split into three narrow and pointed peaks. This left only two sides of the little elevation open to an attack, and it was just such a spot as any party, suddenly surprised by an enemy, would have chosen for a defense.

Having arrived there, the professor stood for some time in silence, measuring the three prongs of the cliff with his eye, and calculating about where lines drawn convergingly from each would intersect; but at length he was about to speak, when Rod came running toward him.

"See here, Mr. Barton," he said, "what is this?" and he held out a small object which he had found. A closer examination showed it to be a part of a metal spear much like those in use on the mountain plateau.

"I guess we have struck the right place fast enough," the lad remarked, as they finished their scrutiny. "I found it lying partly buried down yonder where the rains have gullied out the hill for a rod or more."

"It certainly would seem so," the aeronaut replied, "and Admaxla on his return journey will have no trouble in identifying the locality. But we must go into camp at once, for it will soon be too dark to do so. This is as good a place to pass the night as I have seen, only we must provide some sort of a shelter."

The little squad were soon busily at work preparing for the coming darkness. A rude hut was constructed along the side of the cliff by leaning some poles against it and covering them with brush. The material for this was found in a thicket, a short distance off; and from the same source a supply of fuel for a fire was gathered. As Rod kindled the latter with one of the few matches they possessed, he suddenly called out:

"What are we going to do for water, professor? We didn't think to bring any from the brook in the gorge. I wonder if there is any nearer?"

A diligent search was made for some distance around, but no stream or spring could be found; and at length it was given up, the aeronaut saying:

"This explains why the Peruvian fugitives could not remain here for more than a few hours. There was no water for themselves or their animals, and so during the night they fled to the gorge a half mile away. It is a movement we shall have to repeat at dawn, or suffer from thirst."

His companions agreed with him before they had finished their dry and unsatisfactory lunch. Nothing but the heavy darkness which had already settled down over the hills and plains prevented them from attempting to reach the brook that night. As it was they decided, tho at considerable discomfort, to remain where they were; and soon all had laid themselves down in the rude shelter to sleep except Professor Barton, who, at his own request, was to take the first watch of two hours.

(To Be Continued.)