

and he advanced a little, still all of a grin. "If ye could crack a joke as they cracked your crown," he says, "it wouldna' be a bad joke."

"See you here, man," I said in a confidential tone, "I know whence this springs, and I blame you not. All is fair in the courts of love," I says, "and I have been a lover myself, and I know. But ye make a mistake, a grievous one."

"Aye?" says he, listening.

"I want not your wench," I says. "I am here to-day and gone to-morrow. Moreover, I have a wife. But, damme!" I says, "you cannot blame me if I admire your sweetheart's pretty face."

"Aye, she's braw," he said shortly, and appeared to be considering me.

"Tis a compliment, I take it, to have your wife the butt of admiring eyes," I said, "so long as they remain at a respectful distance. And, damme! if I was not wed myself I should envy you your favor."

"Favor?" says he, staring.

"Why, yes," I said. "Twas but last night Mrs. Battle told me you were to wed. Is't not so? Anyway I made her my compliments, and I would ha' bussed her if she would ha' let me. But, rip me! she fetched me a clout of the head that stung."

I laughed. He stared; and then in a cautious voice said he:

"I will be thinking I have been wronging you, my lad."

"Wronging!" I said bitterly. "Aye, you may say that. You have been a Judas to me that

wished you only well. And there was a little matter of a wedding gift," I went on. "Tis not much I can afford; but I had destined a jewel worth ten guineas for the lady's finger in happier circumstances."

His face changed, and he came nearer. "Man, I was mistaken," he said earnestly. "But ye'll admit 'twas suspicious. Ten guineas! Aye, it takes a deal of earning." He looked towards the advancing villagers. "Maybe I could alter it yet," he said meditatively.

"Come, say you were mistook," I urged him, and I played with the jeweled ring on my finger.

"Maybe," he said, and then without a word more he strode off slowly in the direction of the crowd. I watched him eagerly, as you may think, and saw he held parley with them; and after that they broke up, and I spied the justice and the constable in talk with him; and next they disappeared, and left me to the gaze of some women and children and a laborer or two that had more curiosity than vice in them.

It was a little after, and the sun was beginning to shine with a good grace and warmth, that the constable made an appearance with two of his watchmen, who set about unlocking the stocks forthwith.

"Well, Master Duck," says I, quizzing him, "it seems 'tis you have trespassed on the King's peace."

He opened his mouth, and gaped like a fish out of water. "It has been proven to us," said he sol-

emly, "that ye are not the villain that ye are, and so we bid you go free."

"Softly, man," said I, seeing how matters stood, and willing to be even with the party of addlepates. "You cannot thus lightly affront the law without any rebound upon you. Who is it that gives orders for my release?"

"Tis Squire Pearce," says he, "*custos rotularum*—"

"Oh, stay that gab!" said I. "If he be Lord Chancellor, 'tis all one to me. 'Tis how he holds himself and what his behavior is, that is in question. What hath become of the charge against me?"

He looked sheepish for the first time. "'Twas an error," he said. "'Twas the size of your nose misled 'un."

"Size of my nose!" I roared. "Damme! I'll teach you to thrust at my nose! And what is more, I'll have the law of you all. My Lord's nephew, that has influence at court, will not easily sit down under this affront, sin! me! no. Let 'em come on their knees to me," I says, "or, damme! I'll stay here all day and all night too."

At that Master Duck looked very much like an owl, and whispered to his watchmen, and they argued together, while I watched them with amusement, but a stern face. And then one of the youths that was looking on ventured an egg at me, the which, being misdirected, took old Duck in the face and broke all over him in a stream, so that

Continued on page 19

# THE HIGHEST OBSERVATORY ON EARTH

By JEROME STANFIELD

NO one need be reminded that the mere ascent of Mont Blanc is a serious physical feat for a strong man in prime condition, with steady head, and provided with trustworthy ropes and first class guides and porters. The tremendous crest is swept by fierce blizzards even in midsummer; and no man has yet fathomed the eternal ice and snow on that bald dome. More over, the mountain has cost hundreds of climbers their lives. I mention these points to emphasize the astonishing feat of carrying up all the necessary building material for a fully equipped astronomical and meteorological observatory, and then erecting this on the summit, nearly sixteen thousand feet above sea level. Surely here is a romance of enthusiastic science!

The idea was due to Dr. J. Janssen of Paris, director of the observatory at Meudon and president of the French Academy of Sciences. He made many ascents to carry on spectroscopic observations, and many times nearly lost his life on the way. On one occasion an immense ice mass fell from a towering serac, missed the old scientist by a foot, and then went crashing into a fathomless crevasse in the glacier.

Crawling over steep ice slopes, suffering severely from mountain sickness, Janssen and his guides would climb painfully to the summit of the dome. Here the doctor, half frozen in mid August, and barely able to stand erect in the furious icy gale, looked down on a panorama that enchanted him and made him resolve at all costs to establish an observatory on so novel a point. He seemed above and beyond the world altogether. Below him were dotted the snowy summits of immense mountains, far stretching glaciers of blue and green ice, with the torn and splintered aiguilles of Chamonix; and in the distance the immense plains of France, the Italian Alps, and even the far off range of the Apennine. Dr. Janssen was much struck with the advantages to science that might be expected from astronomical and meteorological work in so pure an atmosphere. On his return to Paris he communicated his views to the Academy of Sciences.

"I think," he said, "it will be of the first importance for astronomy, physics, and meteorology that an observatory should be erected on the summit of Mont Blanc. I know it is a difficult undertaking, but I think our engineers can solve the problem whenever we wish."

### Financiers Were Willing

FUNDS were soon forthcoming. Prince Roland Bonaparte, Baron Adolphe de Rothschild, and the President of France himself supported Janssen. A preliminary survey, however, showed no visible rock on the storm swept dome; whereupon it was calmly proposed to build upon the snow. This idea was received with almost universal incredulity. Those best acquainted with the glaciers of the mighty peak thought it altogether impossible to establish a building on the summit, since the immense thickness of the snowy crust would prevent foundations from ever being obtained on solid rock.

But soon the great engineer Eiffel, of Tower fame, came on the scene and said he was ready to construct an observatory on the very apex of Mont Blanc, provided a rock foundation could be found



not more than fifty feet below the snow's surface. Eiffel further said that he would pay for all the preliminary operations. Now it happens that rocks do outcrop on three different sides of the summit, no great distance below it. Eiffel instructed M. X. Imfeld, a well known Swiss surveyor; and the latter soon had a horizontal gallery driven into the snow forty-nine feet below the summit, and on the French side. Imfeld also employed as director of the workmen Frédéric Payot, one of the ablest and most experienced of all the Chamonix guides (he had then made over a hundred ascents).

A wooden hut that could be taken to pieces and transported easily was made below in the famous climbing village, and this was to form the entrance to the tunnel, as well as a protection for the men. It was erected, all its sections numbered, then taken down again, weighed, and divided into loads. These were distributed among the most skilful and robust of all the mountain porters—men not likely to suffer from giddiness or mountain sickness.

### An Interesting Diary

IMFELD kept an interesting diary of the strange ascent of that house. On August 15 the last section reached the summit. A position for the tunnel's mouth was determined, and the workmen began to clear away the snow and blast the ice to erect the hut. All had a pretty bad time, however. The men struck for thirty francs a day, chiefly because they suffered badly from frost bite. The tunnel advanced only five or six yards a day. Sometimes the furious winds blew the workmen over ice precipices, and they would have been dashed to pieces had they not been carefully roped together. Five days later while they were resting on the Petit Plateau, an ice avalanche fell from the Dôme du Goûter and killed three men. The rest gradually deserted through mountain sickness, or because no resident doctor was maintained. Later on Dr. Jacottet of Chamonix volunteered his services gratuitously. This unfortunate man suddenly became ill and died in delirium at the summit. The transport of his body down into the valley is

as dramatic a tale as one may find, even in all the annals of Mont Blanc.

Finally, after the gallery had been driven ninety six feet without finding anything more rocky than a prune stone, Eiffel retired from the undertaking. Dr. Janssen, however, had the gallery carried on by Payot another seventy-five feet, and then he too abandoned the quest, and decided after all to build on snow.

But the question was, Would the observatory in such case sink or swim? An interesting experiment to answer this was carried out at Meudon. A column of lead weighing seven hundred and ninety-two pounds, but only one foot in diameter, was placed on piled up snow brought to the density of that on Mont Blanc's crest. The lead sank less than one inch, and thereupon Dr. Janssen decided to go ahead.

The little building that acted as a pioneer was six feet high, and to the doctor's bewilderment it showed signs of subsidence after two seasons. He was not dismayed, however, and the construction of the observatory proper, partly of iron and partly of wood, went forward at Meudon, near Paris. The following year it

was constructed, and then taken to pieces and forwarded to Chamonix. Here a big caravan was fitted out under the trusty Frédéric Payot, and by the end of the season one-quarter of the material had been advanced to a little patch of rock, the Petits Rochers Rouges, seven hundred and fifty feet below the summit. The early part of the following season was occupied in digging out the most advanced camp, then buried under thirty-five feet of snow. At last, however, the material was hauled to the summit dome by little windlasses, and was swiftly erected by men who had thoroughly rehearsed the work down in the valley.

A couple of days of hard work inside rendered the little building habitable, and then Doctor Janssen himself ascended with an energy, courage, and tenacity altogether amazing considering he was a man of seventy and so badly lame that he could walk only with difficulty even on level ground. On three separate occasions the dauntless scientist was hauled to the summit in a sledge. And in places he was put carefully in a sling and hauled up terrific rock walls and ice pinnacles by means of the windlasses.

### A Peculiar Instrument

THE principal instrument used in the Janssen observatory is called a meteorograph, which was constructed by Richard of Paris at a cost of thirty-seven hundred and fifty dollars. It registers barometric pressure, maximum and minimum temperatures, the direction and force of the wind, and so on. It is most ingeniously put in movement by a weight of two hundred pounds, which descends about twenty feet and is calculated to keep everything going for eight months—the length of time which it is contemplated it may sometimes be left to itself.

Until this establishment was completed, the lowest winter temperature of Mont Blanc was unknown. It was found, however, that the mercury descended to forty-five degrees below zero at least. A big telescope was sent up a few seasons ago; and now very valuable work is being done for France, Switzerland, and Italy, all of which nations are directly interested in the maintenance of the world's highest observatory.