

rubber must be warmed up to about 30° C., so Dr HAUDE used to carry the balloon in his pocket for a while before filling. It sometimes happened that during the filling the balloon did not take on a perfectly spherical shape. HAUDE then pressed and squeezed it in his hands until it was quite round. This was important, for an irregularly shaped balloon is more liable to burst than one that is quite round. Moreover, the formulae that are used in the calculations do not hold good for irregularly shaped balloons.

The balloons were supplied by the German firm Continental, in Hanover, and they proved satisfactory. While in Tientsin HAUDE had had the balloon-cases soldered into small tin boxes to protect them from the effects of the dry desert atmosphere. This device had, however, the drawback that it did not allow the entrance of cooler air.

The cylinders of hydrogen-gas cost nearly 4000 Mexican dollars. Our gas-cylinders were of two kinds: the larger ones held six cubic meters, the smaller ones four cubic meters.

Of course we took all possible precautions to ensure that the cylinders should not explode in the heat of the desert. Every cylinder was sewn up in thick felt and screwed fast in a wooden frame which in its turn was wrapped in a bast-mat. The whole load, when on the camel's back, was covered with a firmly roped bast-mat, so that the cylinder should not be exposed to the direct rays of the sun. When later on they were unloaded on sandy ground, the surface sand was shovelled away, so that the cylinders should not come into contact with heated ground. They were placed, moreover, always several hundred meters distant from the tents, and on the march the hydrogen-gas column proceeded at a slight remove from the rest of the caravan. Everybody referred to the cylinders, characteristically enough, as »the bombs».

One camel bore two of the larger bombs, amounting to a load of 220 kilograms. The smaller ones weighed two thirds of this and thus formed a light camel load. Nineteen camels were required for the hydrogen-gas alone.

With each balloon that was sent up was a little slip of paper to inform the finder, if any, that he would be paid \$10 if he sent the slip to our Chinese committee in Peking, saying where he had found it.

From the moment of its release each balloon was observed on its airy journey with the aid of two telescopes whose vertical and lateral angles were read and noted at regular intervals.

As a rule, each flight took thirty-five minutes, the balloon rising at a speed of about 200 meters a minute. The preliminaries took from twenty minutes to half an hour, while the calculation of the results took several hours. The course of each balloon was mapped on a diagram.

Dr HAUDE requested to be allowed to register the meteorological elements for the whole month of July at Khujirtu-gol, and as this could be done without any