



["FLIGHT" Photographs

NEW VICKERS NAVIGATION LAMPS AND GENERATING EQUIPMENT : On the left a group of 5, including front, port, starboard, tail, and upward identification light. On the right, the accumulator, generator, switches, voltmeter and combined voltage control regulator and cut-out.

as already mentioned. The glass dome has burned into it during manufacture some substance which renders it opaque except for the actual opening required for the angle in question. As this substance is burned into the glass and not painted on the outside, it is unaffected by weather and cannot be scraped off, so that except for actual accidental breakage of the dome, no attention is required.

The generating equipment has also been re-designed, with

the result that a total saving in weight of 4½ lb. has been effected. This equipment gives an output of 150 to 200 watts at 12 to 14 volts, and special high-output types are also available.

The weights of the individual items are : Airscrew, 8 oz. ; generator and mounting, 11 lb. 6½ oz. ; combined voltage control regulator and cut-out, 3 lb. ½ oz. ; voltmeter, 9 oz. ; special 40-amp. accumulator, 40 lb. empty.

AIR SURVEY IN CHITTAGONG

HITHERTO most contracts for aerial surveys have been undertaken for the purpose of locating minerals, including oil. One exception was that carried out by the Air Survey Co., Ltd., to the order of the Government of Sarawak in Borneo. But, though Raja Brooke is an Englishman, Sarawak is a feudatory, not a colony or Dominion, of the British Empire. An order by a British Government for an aerial survey for revenue purposes, therefore, marks a step in advance in the progress of aircraft as a servant of mankind.

Such a contract has been granted by the Government of Bengal to the Air Survey Co., Ltd., and Mr. Ronald Kemp has just sailed from England for India to supervise the work. The chairman of the company, Col. C. H. D. Ryder, lately Surveyor-General in India, had preceded him, while the photographing party, consisting of Mr. J. Durward (photographer) and Mr. Neville Vincent (pilot) started the field work at the beginning of January, and should have all the ground covered by the end of February. The aeroplane in use is a D.H.9 with floats, and a modified L.B. camera is employed. This camera uses plates, which are essential when stereoscopic photographs are needed, as in the present case. For this reason a 60 per cent. overlap is being allowed for. The base is at the seaport town of Chittagong, on the eastern shore of the Bay of Bengal, with an advanced base at Cox's Bazaar, further south. A second D.H.9 is held in reserve at Rangoon.

The word "revenue," perhaps, does not tell its own story, except to people who have been in India. There revenue means for all practical purposes the fruits of the earth. The vast level plains of India are the chief producers of revenue for the Indian Government, and wherever cultivation is possible the highly efficient Survey of India has made extremely accurate maps. The hilly districts have not always been so thoroughly surveyed.

The district of Chittagong consists of the most important port in the north-east of the Bay of Bengal, and a hinterland. In the latter lie hilly districts, with cultivated plains beyond

them on either side. The ridges are steep, but there are few points of more than 1,000 ft. Between the ridges are level tracts, which are cultivated, and, of course, have been thoroughly mapped. Much of the hill country is covered with jungle, which is being gradually cleared, and it is now desired to obtain revenue from the hills by encouraging the cultivation of suitable crops. A species of grass grows on them which is useful for making paper, etc., and it is hoped that this industry can be extended. Paper making is an industry which has been growing in India for some years past, and forest officers have been required to examine and report on the various grasses and bamboos in the Government forests which are suitable for the paper mills.

These hills have not been thoroughly mapped, and it would be a long and costly business to undertake the work by means of ground parties. As time, as well as economy, is of importance when the development of an industry is contemplated, the Government of Bengal naturally turned to the firm which was so successful in surveying from the air the delta of the Irawaddi, and which, moreover, was already on the spot. At least 800 square miles in different parts of the hills are to be photographed on a fairly large scale. When the field work, i.e., the actual photography, has been completed, the Survey of India will probably plot out a map in Calcutta, while Mr. Kemp will bring the results back to the London offices of the company in order to correct inaccuracies and produce a final set of mosaics.

This contract is a comparatively small one so far as square mileage is concerned, but it is extremely interesting, and one might say significant. If the Government of India and the various provincial Governments, which are always keen on surveys and maps, once get really bitten with the idea of aerial photography, it seems likely that Mr. Kemp and Mr. Raynham will be kept quite sufficiently busy for a number of years to come.

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