

is farthest away. In the next machine, therefore, the movement will be arranged to be in the opposite direction.

As distinct from many single-seater fighters, the petrol tank is placed, in the "Starling," inside the fuselage, and the present installation is slightly complicated by the fact that a greater capacity has been asked for, requiring the addition of an auxiliary tank. The next machine will have the whole fuel supply contained in a single tank.

A very neat tail trimming gear is provided. In order to facilitate the work of trimming the tail it is necessary to have a low "gearing" between the operating wheel and the tail plane spar. But if the wheel has to be turned through more than one revolution for the complete range of tail settings, the difficulty arises that the pilot is uncertain as to the exact angle at which the tail is placed. To overcome this difficulty the designers of the "Starling" have produced a tail trimming wheel incorporating an epicyclic gear arrangement, so that although the wheel is turned through several revolutions, the pointer moves through a few degrees only.



Report on "Ethyl" Petrol

THE Interim Report of the Departmental Committee, which enquired into the possible dangers to health resulting from the use of motor spirit containing lead tetra-ethyl, has now been published (H.M. Stationery Office, price 4d. net). We are unable here to deal at length with the contents of this report, and can only mention that, after setting forth the terms of reference, the constitution of the Committee, etc., and describing the observations and experiments made by the U.S. Government Committee, the report concludes with the following statement:—

"Having very carefully considered the experimental work which has been done in the United States in regard to the use of Ethyl Petrol, and the evidence which we ourselves have taken, and having had the advantage of discussing the matter with Surgeon-General Cumming and Dr. Leake of the United States Public Health Service, we have come to the conclusion that the findings of the United States Government Committee were justified. In our opinion the further experience since that Committee reported has supported their

The Armstrong-Siddeley "Jaguar" fitted in the "Starling" is of the supercharged type for work at great altitudes, and is, needless to say, provided with the usual interrupter gear for the machine guns. A rather neat spinner has been produced, which takes the form of a truncated cone of plywood surrounding the airscrew boss. To the front of this is secured the small metal spinner which just leaves the claws for the Hucks starter free. It has been found that the plywood spinner stands up remarkably well, and its use avoids the annoying cracking which is, unfortunately, only too common with metal spinners.

We regret that the makers of the "Starling" do not wish any detailed weights to be published, nor actual performance figures. It may, however, be stated that the machine carries full service equipment in addition to over 50 gallons of petrol and 5 gallons of oil, and that with full load it is capable of a speed of 150 m.p.h. at 15,000 ft., while the ceiling is approximately 30,000 ft. The landing speed is in the neighbourhood of 50 m.p.h.

conclusion that there were no reasons for prohibiting the use of Ethyl Petrol.

"Although there is no evidence to show that the use of Ethyl Petrol as a motor fuel involves more dangers to health than the use of ordinary petrol, we think, for the time being, the precautions indicated in the Regulations suggested by the United States Committee are desirable. In particular we wish to emphasise the warning that Ethyl Petrol should be used only as a motor fuel and not for such purposes as cooking or cleaning."

"Eagle" Aircraft Cameras for the Argentine

WE are glad to learn that the Williamson Manufacturing Co., Ltd., of Litchfield Gardens, Willesden, have—in the face of international competition—secured a contract from the Argentine Naval Commission for their "Eagle" aircraft cameras and dark room equipment, including the new Williamson Auto-focussing enlarger. The cameras, we understand, will be employed in Fairey III machines and Supermarine "Southampton" flying-boats.



AFRICAN AIR ROUTES

ONE result of Sir Alan Cobham's recent survey flight round Africa is that at the request of the Air Ministry, and on behalf of the Cobham-Blackburn Airlines Ltd., he is at present preparing an estimate for an air line from Alexandria to Kisumu, Kenya Colony, and an estimate for an extension of this line later to Bulawayo, Southern Rhodesia. Details of this air service are not, at the moment, available, but we understand that as far as the financial side of the undertaking is concerned, the various East African dependencies concerned, together with the Colonial Office, have promised to give their support, provided the Imperial Government is prepared to subsidise the route during the early stages of its operation. Apart from this important consideration there is every reason to hope that the scheme will be a success, for not only has all the necessary data for operational purposes been secured, as a result of Sir Alan's personal survey of the route, but he also received offers of valuable assistance, should the service materialise, from various commercial interests.

As at present planned it is to be a weekly service operated with the latest type of three-engined flying-boats—estimates for which have already been presented to British aircraft constructors—capable of a maximum speed of 120 m.p.h., a ceiling of 14,000 ft., and a normal range of 300 miles or an endurance of 4½ miles. For the extension from Kisumu to Bulawayo, land planes will be employed.

Provisionally the fares will be about £95 for the full trip of 3,325 miles (Alexandria-Kisumu) and £50 to Khartoum, while it is expected that the time occupied for the journey will be four days, although later it is possible that this may be lessened.

It is sincerely to be hoped that this scheme will get going without delay, in the interests of Empire Air Routes, otherwise it is possible that Great Britain will find herself entirely "out of the flying" so far as African air routes are concerned. The Aeronautical Correspondent of the *Times* makes the position clear, in a recent issue of that journal when he says:—

"It is not generally realised at home that it is imperative that prompt action should be taken to initiate a purely British route, for there is a danger, if procrastination is permitted much longer, of foreign interests establishing themselves first, and in the end short-circuiting the All-Red route. The Belgians, Sir Alan Cobham stated, have already made proposals to undertake the organisation of an air line from Lake Albert along their frontier down to Elisabethville, near the southern frontier of the Belgian Congo, and from there to fly on to Bulawayo, with the definite intention of attracting all the South African traffic by such a line through their well-established Congo route from Elisabethville to Boma, in the Belgian Congo. This is at present a dead end so far as Europe is concerned, but it must be remembered that the French already fly to Dakar, in Senegal, and have two schemes in mind by which to link up with the Belgian Congo line.

"The more ambitious scheme is to fly straight across the Sahara from the North African coast to the northern border of the Belgian Congo, where the Belgians have in operation a branch line from Leopoldville to Coquilhatville, near the French Middle Congo. If this came into being before British interests had established the first section of the All-Red route to Kisumu it might be very difficult for South Africa to resist joining up with this line at Elisabethville, or for Northern Rhodesia, to refuse her co-operation in such a scheme."

While on the subject of African air routes, we have been asked to state that, in connection with the failure of "African Airways, Ltd.," previously reported in *FLIGHT*, Alan Cobham Aviation Ltd., had an opportunity to tender for the proposed service between Durban and Johannesburg early last year, but the scheme then submitted was not considered to offer any prospect of success. Further, that while Sir Alan Cobham was consulted, during his recent flight, by various officials and directors of African Airways, Ltd., he did not become associated with the scheme.