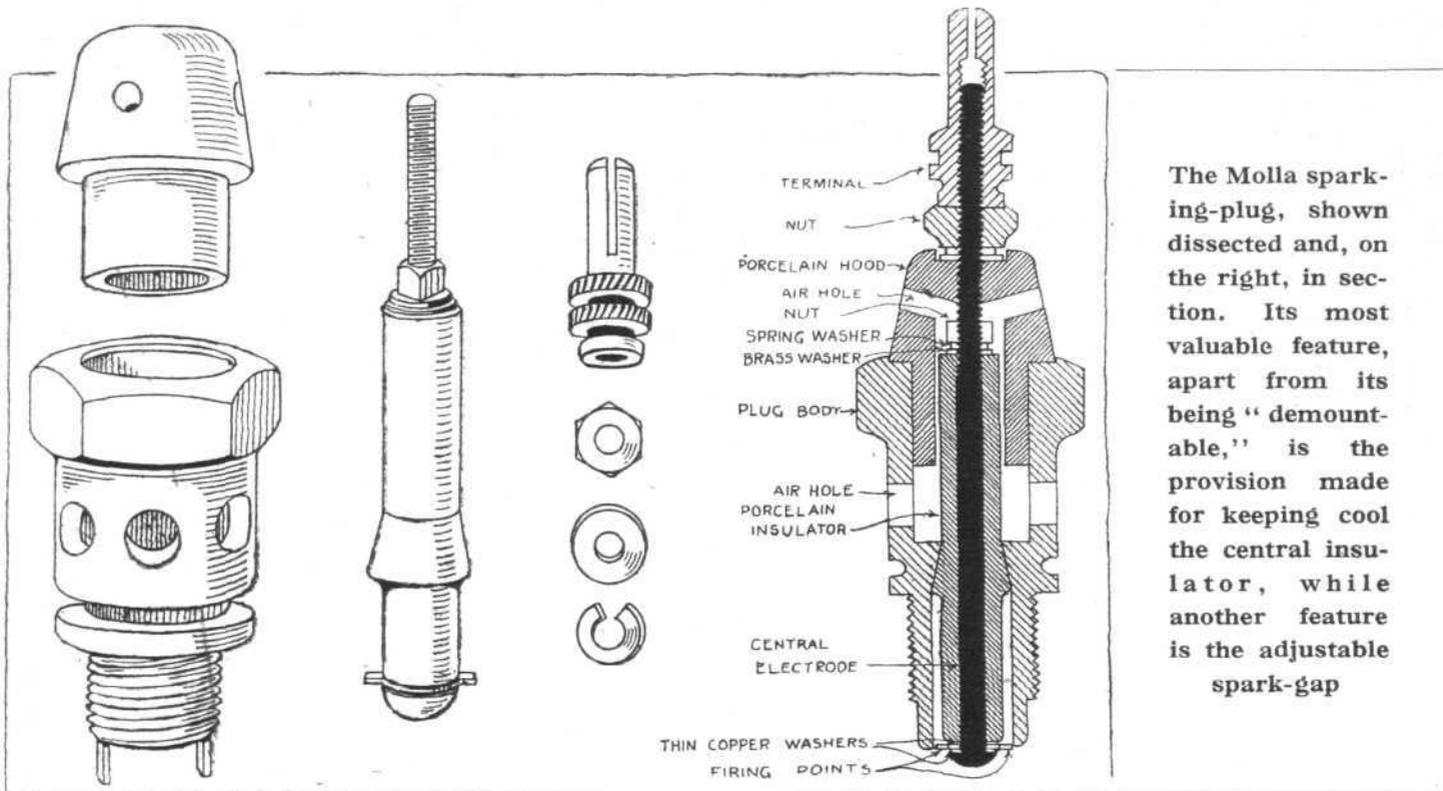


AN AIR-COOLED SPARK PLUG: THE MOLLA

At least three sound points are incorporated in the Bougie Molla, which was exhibited at the recent Paris Aero Show by the Société des Etablissements Henry Molla, of 5, Rue Jean Daudin, Paris. First, the provision for air-cooling of the central insulator; secondly, the ease with which it may be taken apart for cleaning and the replacement of any single part; and, thirdly, the means afforded for conveniently regulating the width of the spark gap.

In the Molla plug there are three main parts: (a) the body; (b) the central electrode with its insulator, and (c) the outer porcelain hood. As will be seen from the sketch, the body, of brass, is pierced by a series of holes around its walls which

and its insulator is readily dismembered. It consists of a mushroom-headed steel stem, a nickel electrode proper, and a porcelain sleeve. Between the mushroom head and the electrode proper (which is a disc with two large excrescences forming the firing points, at opposite ends of its diameter, and with a hole in its centre to allow the stem to pass through) are a few extremely thin and soft copper washers, with others again between the electrode disc and the base of the insulating sleeve. At the other end of the sleeve is a brass washer, spring washer and nut, by which, when screwed tight on the stem, the separate parts are clamped to form a unit and to seal the possible path of gas-escape between sleeve and elec-



The Molla sparking-plug, shown dissected and, on the right, in section. Its most valuable feature, apart from its being "dismountable," is the provision made for keeping cool the central insulator, while another feature is the adjustable spark-gap

lead to a deep and wide annular space surrounding the central insulator. Cold air, entering the holes facing forward, either by the action of the propeller or by the travel of the machine, passes around the insulator, abstracting the heat in its passage, and leaves by the rearward holes. A further series of holes around the outer porcelain hood allow cold air to reach the upper part of the inner insulator, and particularly the junction between this and the stem of the electrode, at which point there is a comparatively large mass of metal where heat would be apt to collect. Two elongated portions of the threaded part of the body form the "earthed" electrodes.

Like the plug itself, the unit comprising the central electrode

trode. By partly rotating this inner unit in the body of the plug, the electrode points are brought nearer to or farther away from the "earth" electrodes on the body of the plug.

To prevent leakage of gas between the insulating sleeve and the plug body, the latter is made with a conical portion of its length which fits in a correspondingly shaped seat in the body, a smear of grease being recommended on the coned faces whenever the plug is about to be reassembled. With the outer porcelain hood in place over the top of the central threaded stem, the three main component parts of the plug are unified in a similar manner to that employed for the inner unit.

Pilots Landing at Cranwell

THE Air Ministry announces that the following Notice to Airmen (No. 17) has been issued:—

"Machines landing at Cranwell should do so on the southern aerodrome, as part of the north aerodrome is not now available, owing to certain obstructions due to the fact that the aerodrome is now being used as a sports ground."

Office of Inspector-General, R.A.F.

THE Air Ministry announces that the post of Inspector-General, R.A.F., held by Air-Marshal Sir G. M. Payne, K.C.B., M.V.O., will be abolished from April 1, and the headquarters office of the Inspector-General at Winchester will be taken over by the Air Officer, commanding Southern Area, R.A.F., from March 1.

Air Navigation School for R.A.F. Officers

THE Air Ministry makes the following announcement:— Arrangements have been made to open a school for the instruction of air navigation at Calshot in April. The course, which will be of 12 months' duration, will be in the following subjects:—Meteorology (advanced), mathematics, general navigation, nautical astronomy, wireless telegraphy, maps and charts, projections, etc.

Each officer successfully qualifying at the end of the

course will be granted a certificate stating that he is a qualified air navigator, and will be granted a notation such as A.N. (Air Navigator), which will be decided later, according to the class in which he graduates.

An entrance examination will be held in March, 1920, at which all candidates must qualify for admission to the school. It will cover the following subjects:—

(i) Arithmetic, etc.—Simple arithmetic rules, simple algebraic equations, use of logarithms, elementary graphs, solution of plane triangles in trigonometry, parallelogram of forces, laws of motion, relative motion and gravity.

(ii) General Knowledge.—Simple weather rules from common observation, causes of winds and tides. Causes and dispositions of principal ocean currents and prevalent winds. Movements of celestial bodies. Solar systems. Causes of day and night, seasons, etc.

(iii) D.R. Navigation.—The magnetic compass, its principle and errors. D.R. navigation, including laying off courses and allowing for wind. Map or chart reading.

(iv) Elementary electricity.—Electrical units, simple circuits, primary and secondary batteries. Elementary knowledge of electrical generators.

Candidates for the course must hold permanent commissions.