

MINE RESCUE TELEPHONE

MR. R. C. WOODS, of the Ericsson Telephones, Ltd., London, communicates a description of a mine rescue telephone to the *Ericsson Review* of 1939 (No. 2). The Coal Mines Regulations require owners of mines, to which the regulations apply, to make definite provision for rescue work in mines after an explosion, fire or other accident. Telephone communication between the rescue brigade and its base is of great importance. Ericsson Telephones, Ltd., in collaboration with the Mines Department Testing Station, have constructed a mine rescue telephone which was officially tested last year, after which the production was immediately undertaken.

When a rescue corps is called to a mine, a base is immediately established in fresh air but as near as possible to the zone where the air is so foul as to be unbreathable. As the team of from eight to five men will be wearing breathing apparatus, speech is impracticable and communication has to be established by other means. Uniform codes of signals are prescribed, one for use between members of a brigade, for which each man carries a bulb hooter, and one for electric signalling. While the existing mine telephone system may provide for the telephone communication between the rescue corps and the base, it cannot be depended on and it would rarely prove convenient, speech not being practicable owing to the breathing apparatus, both of which are vital factors in such an apparatus, which only comes into use in severe conditions.

The mine rescue apparatus constructed by Ericsson's consists of two units, a base station and an advance station, connected continuously by a light but tough cable. In the constructional features of the design, particular attention has been paid to strength and low weight.

Signals in both directions are effected by a buzzer, using a special code. The note is distinct and penetrating, the high frequency avoiding any chance of confusion with other noises. In addition, the base party can speak to the advance party, both speech and signals being received on the loud-speaker at the advance station unit. After much consideration it was decided to limit to key signals only communications from the advanced party. If both-way speech were provided, the additional equipment would appreciably reduce the mobility of the advance party.

The base station unit is about 24 cm. square with a depth of 16 cm. On the front of it there is fitted a sensitive transmitter, a small loud-speaking receiver and a high-frequency buzzer. When the keys are in their normal position, the loud-speaking receiver is connected directly to the trailing cable and hence to the advance station unit. Any signal sent out by the advance party is thus immediately reproduced by this receiver. The batteries are of the ordinary cycle lamp type so that replacements are readily obtainable. Battery voltages are 6 and 3 volts respectively for the use of the base and advance party units.

Safe operation in dangerous atmospheres is a feature of this system. If during rescue operations it is desired to extend beyond the first cable length, a further advance party instrument can be connected by a simple plug and the circuit transferred from the first to the second unit.

SEVENTY YEARS AGO

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The Royal Commission on Science

"THE Council of the British Association for the Advancement of Science was received on Friday last by Earl de Grey, Lord President of the Council, as a deputation to urge on the Government the issuing of a Royal Commission to inquire into the state of Science in England.

"The main points for a Royal Commission to throw light upon are these. First, is it right that science should be aided by the State? Secondly, is the aid now given exactly what is needed—neither too much nor too little? Thirdly, the degree and direction in which science should become a State business having been settled, what will be the best organisation for the purpose? Not one of these points has ever yet been thoroughly considered in England."

Microscopical Investigation of Meteorites

PROF. N. S. MASKELYNE, of the British Museum, provided a full abstract of his recent paper on this subject presented to the Royal Society. Transparent sections of small fragments cut from meteorites were studied under the microscope. They showed that "a meteorite has passed through changes and that it has had a history of which some of the facts are written in legible characters on the meteorite itself and, one finds, that it is not difficult roughly to classify meteorites according to the variety of their structure. One also recognises constantly recurring minerals; but the method affords no means of determining what these are". The chief use of the microscope was as a means of sorting out the various minerals from "the bruised débris of a part of the meteorite", investigating each by the goniometer and by analysis, "and finally returning to the section to identify the actual minerals present".

The Work of the Sea

IN an article by C. W. Whitaker, M. Quenault is quoted as concluding, with regard to the depression of the land: "One gathers from all these evidences, that the movement, since the eighth century, has been about two metres a century. If it continues at the same rate for ten centuries more, the peninsula of Cotentin will be an island and all the ports of La Manche will be destroyed. Some centuries later and Paris will be a seaport, waiting only to be submerged in a score of centuries. Thus in a period, less than half as long as that during which the pyramids of Egypt have braved the ravages of time, Paris itself—if it is not burned down during one of the revolutions of its inhabitants, as amiable and *spiritual* as they are inconsistent—Paris will probably be engulfed in the Atlantic, a master before whom the intractable Parisian must haul down his flag. Let him take warning!"

WITH reference to the "situation" at the Paris Observatory [see NATURE of February 3, 1939, p. 198], the action "of the French Government has been of the promptest and M. Le Verrier is no longer Director. This step indicates very clearly—too clearly we fear—the strength of the case put before the Minister of Public Instruction. . . . The document was signed by Villarceau, Marié-Davy, Wolf and Loewy. . . .