

From practical experience of breathing-apparatus in the United Kingdom it has been found that the wearers of such apparatus have on fourteen occasions lost their own lives, and it has been proved that the utmost care both in the training and management of a brigade as well as in the condition of the apparatus is necessary. There has been a tendency to abuse the use of breathing-apparatus, and for teams to use them before they were absolutely certain that they were necessary. One of the highest authorities—Colonel Blackett, President of the (British) Institution of Mining Engineers, and inventor of the "Aerophor" liquid-air apparatus—has publicly stated that his experience of rescue work had been that 99 per cent. of the work could be done quite efficiently without the use of breathing-apparatus, and that when it was necessary to wear them they should be used in a sensible way, and only by men who had had the opportunity of a long training.*

(h.) ELECTRICITY AT COLLIERIES.

[Regulation 160.]

During 1919 there has been but small increase in the number or capacity of electrical installations. The following is a summary of the annual returns, in accordance with Regulation 160 (c), regarding electrical apparatus at collieries:—

Number of collieries at which electrical apparatus is installed	...	11
Number of continuous-current installations	9
Number of alternating-current installations	2
Number of collieries electrically lighted	13
Number of collieries using electrical ventilating-machines	6
Number of collieries using electrical pumping plants	5
Number of collieries using electrical haulage plants	5
Number of collieries using electrical screening plants	2
Number of collieries using electrical miscellaneous plants	4
Number of collieries using electrical locomotives	1
Total horse-power employed from motors on surface	2,051
Total horse-power employed from motors underground	611

SECTION V.—LEGISLATION AFFECTING COAL-MINING.

The Coal-mines Amendment Act, 1919, which was passed during the year, contains the following provisions:—

Section 2 extends the definition of "coal-mine" so as to include the mining of fireclay. Section 3 provides for the survey of lands applied for on lease or license. Section 4, in the case of an applicant for a colliery-manager's certificate already holding a metal-mine manager's certificate, reduces the qualifying period of underground experience from the usual five years to three years. Section 5 prohibits the storage in a mine of explosive in excess of the requirements of one shift. Section 6 provides that coupling-chains on cages shall be annealed at intervals not exceeding six months; that cages shall be tested in the presence of an Inspector and approved by him prior to their use; that safety catches on cages, also winding-brakes, shall be tested once a week, also that the detaching-hooks shall be tested by an overwind once at least every three months; that there shall be 10 ft. clearance between the detaching-hook (when the cage is at its uppermost landing) and the point of detachment; that approved gates and a rigid hand-bar shall be attached to all cages. Section 7 prohibits the use of winding-ropes unless authorized by the Inspector. Such ropes shall be recapped at intervals of not more than six months, and shall not be in use for more than three years and a half. Winding-ropes used for raising or lowering persons shall not be spliced. Section 8 provides for the examination of the working-places by firemen-deputies within two hours of the commencement of work.

The remaining twelve sections pertain to—Sick and Accident Fund; the compulsory acquisition by the Government of private lands for State coal-mines, also power to let such acquired land to other persons; the compulsory working of coal-bearing land by its owner, if deemed advisable; a prospecting license being held by the Minister of Mines or his appointee; prospecting on privately owned land; acquisition of vessels for carrying coal from State coal-mines; compulsory accommodation for employees by mine-owners; the suspension of the qualifications regarding age and experience necessary for a miner in charge of a place in the event of the Minister of Mines, acting upon the recommendation of a Commission, deeming such suspension necessary in the public interest; prohibition of tobacco in any form in any mine where safety-lamps are required to be used.

Under the Mining Amendment Act, 1919, section 16, provision was made for Government loans for carrying on coal-mining operations and all matters incidental to such operations.

During the current year, by Order in Council, additional regulations under the Coal-mines Acts have been made. Such regulations provide for—

26. An increase from 2½ to 5 per cent. in the amount of the allowance which may be made to a miners' association towards the expense of management of the Sick and Accident Fund.

83. (a.) In all working-places exceeding in height 10 ft. there shall be kept a pole, having a steel pricker attached at one end and a steel ferrule at the other end, for sounding and, if necessary, removing roof. (b.) In all working-places exceeding 12 ft. a ladder shall be kept.

134. The explosive "Ligdynite" is placed in the Second (A) Schedule, and is permitted only in mines in which fire-damp has not been reported for three years.

154A. When and where the Inspector deems necessary, mechanical ventilating appliance shall be installed.

Form 14 provides for a shot-firer's daily record.

I have, &c.,

FRANK REED.

Inspecting Engineer of Mines and Chief Inspector of Coal-mines.

* Report on a Conference by the North Midland Coal-owners Rescue Station Company (Limited), published by the Colliery Guardian for 27th January, 1920, page 589.