

ground until after it has been sent to the surface and there properly repaired.

267. In any part of a mine in which inflammable gas, although not normally present, is likely to occur in quantity sufficient to be indicative of danger—

- (a.) All cables, apparatus, signalling-wires, and signalling-instruments shall be constructed, installed, protected, worked, and maintained so that in the normal working thereof there shall be no risk of open sparking.
- (b.) All motors shall be constructed so that when any part is live all rubbing-contacts (such as commutators and slip-rings) are so arranged or enclosed as to prevent open sparking.
- (c.) The pressure shall be switched off apparatus forthwith if open sparking occurs, and during the whole time that examination or adjustment disclosing parts liable to open sparking is being made. The pressure shall not be switched on again until the apparatus has been examined by the electrician or one of his duly appointed assistants and the defect (if any) has been remedied or the adjustment made.
- (d.) Every electric lamp shall be enclosed in an airtight fitting, and the lamp-globe itself shall be hermetically sealed.
- (e.) A safety-lamp shall be provided and used with each motor when working, and should any indication of fire-damp appear from such safety-lamp the person appointed to work the motor shall forthwith cut off the pressure therefrom, and report the matter to a fireman-deputy or other official.
- (f.) Haulage by electric locomotives on the trolley-wire system is prohibited.

268. With the consent in writing first obtained of the Minister in all cases, and subject to such conditions affecting safety as may be prescribed by him, haulage by electric locomotives on the trolley-wire system or by storage-battery locomotives may be used in mines in which inflammable gas does not occur in quantity sufficient to be indicative of danger.

269. (1.) Current from lighting or power circuits shall not be used for firing shots.

(2.) Shot-firing cables shall be covered and protected as provided by Regulation 265 (1) for flexible cables. Adequate precautions shall be taken to prevent them from touching other cables and apparatus.

270. (1.) Where electricity is used for signalling, the pressure in any one circuit shall not exceed 25 volts.

(2.) Contact-makers shall be so constructed as to prevent the accidental closing of the circuit.

(3.) Adequate precautions shall be taken to prevent signal and telephone wires from touching cables and apparatus.

271. Any of the requirements of this part of these regulations shall not apply in any case in which exemption is obtained from the Minister on the ground either of emergency or special circumstances, on such conditions as the Minister may prescribe.

ELECTRICITY ON SURFACE.

272. The preceding provisions pertaining to electricity shall apply to apparatus used above ground, subject to the following amendments:—

(1.) In Regulation 250 and Regulation 266 (3) the words "at the surface of the mine" shall be substituted in every case for the words "in the mine."

(2.) Regulations 253, 254, 255 (d), 173, 258 (2), 263 (1), 267, 263, and 270 (1) shall not apply.

(3.) The following regulation shall be substituted for Regulation 258 (1) thereof:—

"Where necessary to prevent danger or mechanical damage, apparatus shall be placed in a separate room, compartment, or box of fireproof construction. Inflammable or explosive material shall not be stored in any such room, compartment, or box."

(4.) Regulation 260 (2) is amended by adding thereto the words: "Except that in the case of a portable lamp or other portable apparatus of small current capacity, connected to the system by means of a flexible cable complying with Regulation 265 (1), the cross-sectional area of the earthing-conductor in the flexible cable shall not be required to be greater than the cross-sectional area of either of the live conductors in the same flexible cable."

(5.) The following regulation shall be substituted for Regulation 264 thereof:—

"Unless so placed or otherwise safeguarded as to prevent danger, all cables other than flexible cables for portable apparatus and signal and telephone wires shall comply with the following requirements:—

- (a.) They shall be covered with insulating-material (except that the outer conductor of a concentric

system may be bare). The lead sheath of lead-sheathed cables and the iron or steel armouring of armoured cables shall be of not less thickness respectively than is recommended by the British Engineering Standards Association.

"(b.) They shall be efficiently protected from mechanical damage and supported at sufficiently frequent intervals and in such a manner as adequately to prevent danger and damage to the cables.

"(c.) Concentric cables, or two-core or multi-core cables protected by a metallic covering, or single-core cables protected by a metallic covering which shall contain all the conductors of the circuit, shall be used (i) where the pressure exceeds low pressure and (ii) where there may be risk of igniting coal-dust or other inflammable material: Provided that if the medium-pressure direct-current system is used, two single-core cables protected by metallic coverings may be used for any circuit.

"(d.) Cables unprotected by a metallic covering shall be properly secured to efficient insulators.

"(e.) The metallic covering of every cable shall be (i) electrically continuous throughout; (ii) earthed, if it is required by Regulation 260 (1) to be earthed, by a connection to the earthing system of not less conductivity than the same length of the said metallic covering; (iii) efficiently protected against corrosion where necessary; (iv) of a conductivity at all parts and at all joints at least equal to 50 per cent. of the conductivity of the largest conductor enclosed by the said metallic covering; and (v) where there may be risk of igniting coal-dust or other inflammable material, so constructed as to prevent as far as is practicable any fault or leakage of current from the live conductors from causing open sparking.

"(f.) Cables and conductors where joined up to motors, transformers, switch-gear, and other apparatus shall be installed so that (i) they are mechanically protected by securely attaching the metallic covering (if any) to the apparatus, and (ii) the insulating material at each cable, and is efficiently sealed so as to prevent the diminution of its insulating properties. Where necessary to prevent abrasion there shall be properly constructed bushes."

(6.) Regulation 265 (3) is amended to read: "At every point where flexible cables for portable apparatus are joined to main cables a switch capable of entirely cutting off the pressure from the flexible cables shall be provided."

(7.) Regulation 266 (6) shall not apply.

(8.) The following regulation shall be substituted for Regulation 266 (8) thereof:—

"The person authorized to work an electrically driven portable machine shall not leave the machine while it is working, and shall, before leaving the machine, ensure that the pressure is cut off from the flexible trailing cable which supplies such portable machine. Trailing cables shall not be dragged along by the machine when working."

(9.) The last sentence of Regulation 266 (9) shall not apply.

(10.) In Regulation 270 (2) the words "used for signalling" shall be inserted after "contact-makers."

PENALTY.

273. The fine payable for a breach of any of the foregoing regulations shall, where no penalty is elsewhere provided, be for a first offence not exceeding £5, and for a second or subsequent offence not exceeding £10.

SCHEDULE.

FORM 1.

[Reg. 6.

The Coal-mines Act, 1908.

FIRST-CLASS MINE-MANAGER'S CERTIFICATE (BY EXAMINATION).

No. _____ Office of Board of Examiners,
Wellington, 19 .

THIS is to certify that [State the name in full, address, and occupation of person examined] has produced a certificate from his previous employers that he has been actually engaged in underground workings in a mine for the necessary period, and has passed a satisfactory written and oral examination as a first-class mine-manager of a coal-mine, as required by the Coal-mines Act, 1908, and the regulations made thereunder.

A. B.,
Chairman of Board of Examiners.

Entered, Vol. , folio .
C. D., Secretary.