

- (iii.) No shot shall be fired unless a shot-firer has examined the floor, roof, and sides of the contiguous places within a radius of 5 yards of the place where the shot is to be fired, for coaldust, and has taken efficient steps by stone-dusting or watering to render any dust within that area harmless.
- (b.) No shot shall be fired in coal unless the coal has been holed or sidecut to a depth greater than the depth of the shot-hole. This provision shall not apply to any anthracite-mine or to any mine or part of any mine which may be exempted by the Inspector on the ground that, by reason of the character of the coal or the inclination of the seam, holing would be impracticable or dangerous.
- (c.) No cartridge shall be used unless it is marked in the manner set forth in the Third Schedule to the British Home Office Explosives in Coal-mines Orders from time to time issued, in addition to any marks required by the First or Second Schedule thereof; and no detonator shall be used other than an electric detonator in which the explosive is contained in a copper capsule.
- (d.) Every shot shall be charged and stemmed by or under the supervision of a shot-firer. Before the hole is charged a shot-firer shall examine it for breaks running along or across, and if any such break is found the hole shall not be charged, except in stone drifts, if special permission has been given in writing by the manager or underviewer.
- (e.) (i.) Two or more shots shall not be fired in the same place simultaneously and the precautions prescribed by clause (a) of this regulation shall be taken separately for each shot and immediately before the firing of same.
(ii.) If two or more shot-holes have been bored in the same place the second hole shall not be charged till after the first has been fired, and the same with the second and third and following shots.
(iii.) The requirements of this clause shall not apply to stone drifts or sinking shafts, provided that the precautions prescribed by clause (a) of this regulation are taken before the firing of each round of shots, and provided also that in stone drifts the number of shots which may be fired simultaneously shall not exceed three, unless fired electrically in series.
- (f.) A shot-firer shall keep a daily record (in a book which shall be kept at the mine for the purpose) of the number of shots fired by him, the number of misfired shots (if any), and the number of cartridges in each shot. Such daily record shall be kept in the form set forth in Form 18 in the Schedule hereto.
- (g.) No shot shall be fired except by means of an efficient magneto-electrical apparatus so enclosed as to afford reasonable security against the ignition of inflammable gas.
- (h.) Each explosive shall be used in the manner and subject to the conditions prescribed in the Schedules to the British Home Office Explosives in Coal-mines Order from time to time issued.
235. In the main haulage-roads and main intake-airways, and any place immediately contiguous thereto, in any coal-mine which is not naturally wet throughout—
- (a.) No explosive shall be used other than a permitted explosive as hereinafter defined, and in accordance with the conditions prescribed by these regulations.
- (b.) No shot shall be fired without the special permission in writing of the manager or underviewer.
- (c.) No shot shall be fired unless the workmen have been removed from the seam in which the shot is to be fired and from all seams communicating with the shaft on the same level, except the men engaged in firing the shot and in addition such other persons, not exceeding ten, as are necessarily employed in attending to the ventilating-furnaces, steam boilers, engines, machinery, or ventilating-appliances, signals, or horses, or in inspecting the mine:
- Provided that in mines where mechanical power or gravity is used for the purpose of haulage from the face, and the movement of the strata renders it necessary to maintain the height of the roads by ripping, the foregoing provisions relating to the removal of workmen shall not apply to men who may remain in the mine for the purpose of carrying on the ripping within such distance of the face as may be fixed by the manager with the approval of the Inspector, or for the purpose of repairs.
236. In all regulations regarding explosives—
The term "permitted explosives" means the explosives in the Explosives in Coal-mines Orders from time to time issued and enforced by the British Home Office:
The term "road" includes all roads of any description extending from the shaft or outlet to within 10 yards of the coal-face.

Part III.—Supplemental.

237. The foregoing provisions shall apply in the case of sinking operations, with the following additions:—

- (a.) No explosive shall be taken or sent into the shaft until immediately before it is required for use.
- (b.) No shot shall be fired except by means of an efficient magneto-electrical apparatus.
- (c.) The firing-cable shall not be coupled up to the fuse or detonator wires until the kettle, kibble, tub, bowk, or hoppet is conveniently placed for the men in the shaft to enter, and the chargeman shall receive a signal from the surface that the engineman is ready to draw away on receipt of the signal to do so, and the cable shall not be coupled to the firing-apparatus until all persons are in a place of safety.
- (d.) After a shot has been fired the chargeman shall not allow any person to descend until he has descended, accompanied, if necessary, by not more than two other persons, and has examined the place and found it to be safe in all respects. If the place is one in which inflammable gas has been found or is likely to be found, the examination shall be made with an approved locked safety-lamp of a type which will indicate the presence of such gas.

PREVENTION OF THE INFLAMMATION OF COALDUST.

238. (1.) The floor, roof, and sides of every road, or part of a road, which is accessible shall be treated in one of the following ways, either—

- (a.) They shall be treated with incombustible dust in such manner, and at such intervals, as will ensure that the dust on the floor, roof, and sides respectively shall always consist throughout of a mixture containing not more than 50 per cent. of combustible matter; or
- (b.) They shall be treated with water in such manner, and at such intervals, as will ensure that the dust on the floor, roof, and sides respectively is always combined throughout with 30 per cent. by weight of water in intimate mixture:

Provided that the percentage of incombustible dust required under this regulation may be reduced by an amount equivalent to the percentage of water present in the mixture:

Provided also that, subject to such conditions as he may impose, the Minister may grant exemption from the provisions of this regulation to any mine, or part of a mine, in which the workings were driven prior to the year 1920, and in which the old workings are such as to render impracticable the stone-dusting of the mine or part thereof, or its isolation by means of stoppings.

(2.) The incombustible dust used for the purpose of the preceding subclause shall contain not less than 50 per cent. by weight of fine material capable, when dry, of passing a sieve with 200 meshes to the linear inch (40.000 to the square inch); provided that if a larger proportion of incombustible dust is used than is required under the preceding subclause the percentage of fine material aforesaid contained in the incombustible dust may be reduced proportionately, but shall not fall below 25 per cent.

(3.) For the purposes of testing the composition of the dust mixture in any part of a road the following procedure shall be adopted:—

- (a.) Representative samples of the dust shall be collected from the floor, roof, and sides over an area of road not less than 50 yards in length.
- (b.) The samples collected shall be well mixed, and a portion of the mixture shall be sieved through a piece of metallic gauze having a mesh of 20 to the linear inch.
- (c.) A weighed quantity of the dust which has passed through the sieve shall be dried at 212° F., and the weight lost shall be reckoned as moisture. The sample shall then be brought to a red heat in an open vessel until it no longer loses weight. The weight so lost by incineration shall be reckoned as combustible matter for the purposes of the test:
- (d.) For the purpose of testing the composition of samples of dust-mixture which contain such a high percentage of moisture that the mixture cannot be sieved in the manner prescribed in subclause (3) (b) hereof, the following procedure shall be adopted:—
- (i.) The samples collected shall be well mixed and a weighed quantity of the mixture shall be dried at 212° F. The weight lost shall be reckoned as moisture.
- (ii.) The dust so dried shall be treated in the manner prescribed in subclause (3) (b) hereof, and the percentage of combustible matter shall then be determined in the manner prescribed by subclause (3) (c).