Heating of Steam Boilers.

262. All gas used for boiler-heating shall be dry or free from oil.

263. Gas-pipes shall be maintained in good repair and provided with valves or cocks, placed both within and without the boiler-house, in proximity to the gasometer.

264. There shall be placed in each pipe-line from the gasometers two safety wire gauzes having at least 784 apertures to 1 square inch, at each side of which there shall be valves for shutting off the supply of gas. All gauzes shall be cleaned periodically.

265. The conveyance of gas direct from any well to a boiler is prohibited, unless a suitable gas-regulator is fixed on the pipe-line leading from the well to the boiler.

266. After every stoppage, previous to turning on gas for steam-production in a boiler-house, a fire shall be made in the fire-box to prevent the forming of an inflammable mixture of gas and air. The cock of the gas-pipe line shall be opened gradually.

267. The spraying system only shall be permitted when oil is used for heating boilers.

268. A boiler fuel-tank shall be erected at least 11 yards from the boiler-house. In the construction of such tank the following specification shall be observed :—

(*a.*) There shall be attached to the bottom of the tank a sludge-pipe, which may be opened for cleaning purposes.

(*b.*) The tank shall be so arranged that the ground in the vicinity shall be kept free of oil, and that the sprayer will receive nothing but pure oil.

(*c.*) The pipe through which the oil flows to the sprayer from the tank shall be kept at a suitable height above the bottom of the tank, and shall have its inlet, in the interior of the tank, protected with a wire gauze. Outside of the tank, but in proximity to it, this pipe shall be provided with a valve.

(*d.*) The pipes which convey the oil and steam to the sprayer shall both be placed on the same side of the boiler. For regulating the flow of oil and steam such pipes shall be provided with valves which may be safely manipulated.

(*e.*) The arrangements and connections of all oil-pipes shall permit them to be blown out with steam.

(*f.*) All pipes and fittings shall be tightly joined.

(*g.*) All openings in the firebox and its door, with the exception of the door of the ashbox, shall be provided with gauze safely protectors containing at least 784 apertures per square inch.

(*h.*) Unless the wall of the boiler-house opposite the door of the firebox is made of fireproof material it shall be covered with sheet iron.

(*i.*) For covering spilled or burning oil there shall be kept in the boiler-house, or in proximity thereto, an adequate supply of dry sand.

Shutting-off of Water.

269. In every well subterranean water shall be effectively shut off by means of casing of adequate strength in order to prevent it from penetrating into the gas or oil stratum.

270. The shutting-off of the subterranean water shall be done in a manner approved by and to the satisfaction of the Inspector.

271. The Inspector may at his discretion and by written notification order the well-operator to make a test for the purpose of ascertaining whether or not subterranean water has been effectively shut off, and the well-operator shall comply with such order and carry out the test in a manner satisfactory to the Inspector. The Inspector shall be present at the test, and shall, in writing, notify the well-operator of the result of the test.

272. It shall be the duty of the owner or manager of every well, after water has been shut off, to notify the Inspector of the steps taken to effect the shut-off.

Log of Well.

273. It shall be the duty of every owner or operator of an oil-well to keep a careful and accurate log of the drilling of such well, which shall show the character and depth of the formations or strata passed through or encountered in such well, the thickness, depth, and character of water-, gas-, or oil-bearing strata, the depths at which such strata are sealed off, and the methods adopted to effect the shut-off of water, gas, or oil, as the case may be; also the lengths, kinds, and sizes of casing used in the well, and the methods of seating each separate casing string.

The log shall be kept in such form as is approved by the Minister, and a copy of same shall be forwarded to the Under-Secretary of Mines at the end of every calendar month.

274. (*a.*) The well-operator, when he purposes to abandon any well, and before removing the rig or other operating-plant therefrom, shall send a written notice of his intention to the Inspector, and the work of plugging the whole or pulling the casing shall not proceed until the Inspector shall be present to see that the said plugging is done as prescribed by these regulations, except as hereinafter provided.

(*b.*) In case the Inspector fails to be present within ten days from receipt of notice, then the work may proceed, provided that two men who have had at least three years' experience in the plugging of wells are present and make statutory declarations in duplicate that the work was done in accordance with the provisions of these regulations. Such statutory declarations shall be filed with the Inspector, and put on record in his office.

(*c.*) If the well was drilled prior to these regulations coming into operation, the well-operator shall send to the Inspector with the notice of abandonment a description. together with a plan and section, showing the position of the well.

(*d.*) Every well upon abandonment shall be plugged and filled tightly as follows : The whole shall be filled with rock-sediment, mud, clay, or other suitable material from the bottom of the well to a hard and firm stratum below the last string of casing set in above the producing oil or gas sands.

(*e.*) In the firm, hard stratum three seasoned wood plugs of a diameter equal to the diameter of the hole, and each of a length of at least 3 ft., shall be driven into place. Above the third plug 10 ft. of clay shall be placed and thoroughly tamped down so as to prevent the passage of oil, gas, or water.

(*f.*) Immediately below the seat of each and every string of casing there shall be driven a seasoned wood plug as described, and all spaces between wood plugs shall be filled solidly and tightly with rock-sediment, clay, sand, or other suitable material as the casing is withdrawn length by length. All plugs shall be driven in place with proper drilling-tools.

(*g.*) The locations of the plugs herein prescribed are designated with reference to the relative positions of the gas and oil sands, for the purpose of preventing the passage of water into the oil and gas sands; and if any well presents a variation in such relative positions of the said strata such additional wood plugs as the Inspector may deem necessary shall be driven into place by the well-operator.

(*h.*) When the work of plugging and filling from bottom to top shall have been completed the well-manager shall make a report in duplicate to the Inspector, on forms to be furnished by the Inspector, showing the date of completion of the well, the names of and the depths to all productive oil or gas measures, the total depth of the well, and the location and kind of all plugs and filling used, and the method followed in placing the same.

(*i.*) If the Inspector was not present at the aforesaid plugging and filling operations, the report thereon shall also be certified to by two men who have had at least three years' experience in the plugging of wells.

275. Upon the abandonment of any well the owner or manager thereof shall furnish to the Under-Secretary of Mines, upon a form to be supplied for the purpose, a complete log or record of the well and a full description of the plugging.

Installation and Use of Electricity.

276. The installation and use of electric light or power plants in the proclaimed petroleum district shall be in conformity with the Regulations for the Installation of Electricity under the Mining Act applicable to well operations. In addition to which the following regulations shall, unless written exemption is first given by the Inspector, also be observed, but should the first-named regulations conflict with them the following regulations shall supersede :—

(*a.*) All apparatus and conductors shall be of sufficient size and power for the work for which they may be required, so conducted, installed, protected, used, and maintained as to prevent danger as far as is reasonably practicable.

(*b.*) All conductors and contract areas shall be of ample current-carrying capacity, and all parts shall be so protected as to prevent open sparking.

(*c.*) All signalling-wires and signalling-instruments shall be constructed, protected, and worked so that in the normal use thereof there shall be no risk of open sparking.

(*d.*) Adequate appliances, suitably placed, shall be provided for cutting off all pressure from every part of the system, as may be necessary to prevent danger.

(*e.*) Adequate provision shall be made for cutting off all pressure automatically from the part or parts of the system affected in the event of a fault or leakage of current.

(*f.*) All insulating-material shall be chosen with special regard to the circumstances of its proposed use. It shall be of adequate strength for its purpose, and, so far as is practicable, it shall be of such a character or so protected as fully to maintain its insulating properties when used in inflammable gas, high temperature, and excessive moisture.