

# On Her Majesty's Service

WASC 1780



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## CHARGE UNDER THE EXPLOSIVES ACT.

At Grays (Essex) Petty Sessions, yesterday, Messrs. Kynoch (Limited), of Birmingham, were summoned for failing to observe the terms of a licence granted them on November 8, 1900, under the Explosives Act, 1875, in respect of Magazine No. 88, at Hole Haven, Corringham, by keeping an explosive unauthorized by term 7 in schedule 3 and 4—viz., blasting gelatine No. 1, with the addition thereto of mercury.

Mr. R. F. Graham Campbell prosecuted for the Director of Public Prosecutions; Mr. Horace Avory, K.C., and Mr. Kearly defended.

Mr. Graham Campbell said Kynochs (Limited) were occupiers of a factory at Hole Haven, Corringham, and it was alleged that on December 12, 1906, they committed an offence against sections 9 and 39 of the Explosives Act, 1875, by their failure to observe the terms of a licence granted to them with respect to the factory at Corringham. The case for the prosecution was that they kept in magazine No. 88 certain explosives, blasting gelatine No. 1, to which had been added an unauthorized ingredient—mercury. The case was one of considerable importance in the interests of public safety. Section 9 of the Act of 1875 referred to gunpowder, and by section 39 the provisions relating to gunpowder were made to apply to other explosives. In the event of any breach or default of the terms of the licence, all or any part of the explosives, or the ingredients thereof, with respect to which licence is granted, may be forfeited, and under subsection B the occupier is made liable to a penalty, for the first offence, of not exceeding £50. By section 96, paragraph 3, the receptacle containing any such explosive may be forfeited. In November, 1900, the then Home Secretary granted Messrs. Kynoch an amending licence with respect to the factory, by which the whole of the terms of the licence then in force were repealed, and others substituted, and it was under this licence that the present proceedings were taken. By that licence the magazines 83 to 90 (No. 88 being the one with which they had more particularly to deal) were licensed to contain explosives of classes 1 to 4. The character of these explosives was defined, but in this definition there was no mention of mercury either in blasting gelatine or in the substances of which it was composed. Mercury, or salts of mercury, had no legitimate use in the manufacture of any blasting explosives, and he should call evidence to prove that it should not be present in any building where the manufacture of explosives was carried on. The presence of mercury or salts of mercury made the Abel heat test for ascertaining the stability and purity of nitro-glycerine useless. By masking the heat test the manufacturer was able to save the cost of a great deal of purification. But, apart altogether from the heat test, the addition of mercury or mercury salts diminished the stability of the explosive to which it had been added. The evolution of nitrous gases from explosives which contained mercury was very rapid, and on February 26, 1906, there was an explosion in South Wales of some gelanite from Messrs. Kynoch's.

Mr. Avory objected to counsel referring to anything that happened in February, 1906. The explosion happened whilst a man was warming the explosive in a warming pan, or something of the kind.

Mr. Campbell urged that he should be allowed to go into the circumstances leading up to the present case. The complaint was that there was mercury in this explosive, and he was entitled to show that there was mercury in other explosives of Messrs. Kynoch's.

The Bench ruled that the matter should be left till the evidence was called.

Mr. Campbell, proceeding, said on December 12, 1906, Captain Desborough, one of his Majesty's inspectors, visited the works at Corringham, and in magazine No. 88 he found 650lb. of blasting gelatine and 21,205lb. of cordite, which was seized. On December 13 a sample of the blasting gelatine was taken to the laboratory of Dr. Dupré; and upon December 18, Captain Thompson, his Majesty's Chief Inspector of Explosives, wrote to the company with regard to the seizures, stating "we have good cause for believing that it contains unauthorized ingredients." On December 19, Messrs. Kynoch wrote to Captain Thompson, "There is no unauthorized ingredient in any of the explosives that you have seized. They are, without exception, of the highest and purest quality." It remained to be seen whether that statement was correct. The Messrs. Dupré would state that their experiments established beyond all doubt that there was mercury present in the explosive. Sir William Ramsay had carried out independent experiments, and he would also say that it was clear that there was mercury in the substance.

Captain Thompson, his Majesty's Chief Inspector of Explosives, in the course of his evidence, said other explosives had been seized at factories other than those at Corringham, and they were still under seizure.

Cross-examined by Mr. Avory, the witness said the company wrote to him asking that proceedings should be taken at once.

Mr. Avory.—Is the suggestion that, for the purpose of saving the cost of purification, Messrs. Kynoch introduced mercury?—I will not go so far as that. The method is not quite perfect.

Do you suggest that they introduced mercury to save the cost of purification?—The reason was, I understand, that they failed to produce an explosive that would stand the test. A large quantity of cordite was rejected by the War Office. The witness added that, indirectly, the licence gave statutory sanction to the heat test. There was no sanction in the Act itself.

Mr. Avory.—Are you prepared, from your observations, to say that this explosive was not absolutely pure in the sense of being free from acids?—That we have no means of knowing, because it was masked.

Witness further stated that nitro-cotton was imported from Germany containing mercury, but he knew of one firm which had returned the cotton and terminated the contract on the ground of fraud. He had given warning that such cotton would not be allowed to come into the country.

Captain Desborough, one of his Majesty's Inspectors of Explosives, and Mr. F. H. Dupré, chemist, also gave evidence. The latter said that, in conjunction with his brother, and under the supervision of his father, he analysed the blasting gelatine in dispute and found evidences of mercury.

Dr. Dupré, chemical adviser to the Home Office, said there was not a shadow of a doubt about mercury being in the gelatine. Cross-examined, witness said the heat test was a subject of controversy, and some foreign Governments used the Gootmann test. The advantage of that test was that it was not masked or defeated by the presence of mercury. He had never known gun-cotton to get mildewed, but some other scientific men differed from him on this point. To be of any use as a preservative perchloride of mercury would have to be present in the proportion of one in 5,000.

Sir William Ramsay said he had no doubt whatever about the presence of the mercury in the sample of blasting gelatine which he examined. He examined about a dozen samples and found mercury in all of them.

Captain Lloyd, an inspector of explosives, Mr. P. V. Dupré, and Dr. Farmer, chemist in the Research Laboratory, Woolwich Arsenal, also gave evidence. The last-named said he had once found gun-cotton mildewed, caused by micro-organisms. Mercuric chloride would kill such organisms, and to that extent would add to the stability of the explosive.

Mr. J. M. Thompson, of the Waltham Abbey works, said he had never known of mercury being used in explosives, but he had read of its being used as an antiseptic to prevent mildew in gun-cotton.

The Court adjourned until the 12th.

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