

EXPLOSIVES INDUSTRY

OTTAWA, October, 1, 1910.

To Dr. EUGENE HAASEL,
Director of Mines, Ottawa.

SIR,—I have the honour to submit the following report on my investigation of the explosives industry in the Dominion of Canada.

Before offering any criticisms or recommendations, I propose to state briefly the more important principles upon which the British regulations are based; these general principles being, in many cases, equally applicable to the regulation of the industry in the Dominion.

(1) *Authorization of Explosives.*—No explosive may be manufactured in or imported into the United Kingdom for sale until it has been subjected to examination by the chemical advisers of the Explosives Department. It is the duty of these gentlemen to satisfy themselves that the explosive is not unduly sensitive to friction or percussion, and that it also possesses a reasonable degree of chemical stability. Explosives which are found to be of the requisite standard are included in the list of authorized explosives as soon as a license is obtained to allow of their being manufactured or imported.

(2) *Manufacture of Explosives.*—No explosives may be manufactured except in an authorized place. A person, therefore, who wishes to manufacture explosives has to obtain a license. By the terms of his license he is only permitted to erect buildings of a specified construction, on the sites shown on a plan attached to his license. The maximum number of work-persons, and the maximum quantity of explosives allowed to be present in each building are specified, as is also the nature of the operations proposed to be carried on in the buildings. The factory buildings are required to be at certain distances from one another, and certain distances must also be observed from buildings and works outside the factory. The distances are determined by the quantity of explosives allowed to be present in the building. A table showing quantities of explosives and distances was drawn up some years ago from data obtained by noting the damage caused by explosions of known quantities of explosive; suitable interpolations were made to render the application of the table practical. Since the adoption of this system of distances, no member of the general public has been killed, and no dwelling house has sustained any serious structural damage by an explosion in any factory. From recent explosions it appears that the distances are hardly adequate where the explosive involved consists of nitro-glycerine unmixed with other ingredients.

Generally speaking, the buildings in which operations of manufacture are carried out are required to be of light construction, having close joined wooden floors and being lined with wood or other suitable material. I will refer to magazine construction under the head of storage.

No responsibility is taken by the Explosives Department regarding the machinery employed, but in the event of any particular type of machine proving to be dangerous, the question of its discontinuance is taken up with the occupier of the factory.

The maximum number of work people allowed to be present in a building is determined by the nature of the operations carried out in the particular building, and, as a rule, varies from two to six. This number is exclusive of the men employed to