## Storage of Explosives.

I have not had the opportunity of visiting many magazines. In most instances the distances maintained from other buildings were imadequate, owing to the large quantities stored. I ennuot help thinking that it would be wiser to erect a greater number of buildings and to store in each smaller quantities of from 25 to 50 tons.

In some instances I found packages of damaged explosive which had been returned by the users. Damaged explosive should be destroyed, as, if left in a magazine, it is liable to be overlooked and if of the nitro-compound class may ignite spontaneously.

## Transportation of Explosives.

My attention was drawn to two instances of the transportation of explosives by water, which I think are deserving of comment. In one case, after over 100 tons of dynamite had been loaded into a vessel, a number of cans of gasoline were placed on top of the explosive. Highly inflammable and volatile liquids, such as gasoline, should not be transported with explosive. In another instance, eargoes of explosive were habitually conveyed in a gasoline launch. I do not think it can be claimed that gasoline launches have reached such a state of perfection that the possibility of fire ean even be regarded as remote. If such a launch caught fire in a crowded harbour, the results would be disastrons.

## Use of Explosives.

In the course of conversation with the users of explosives 1 have frequently been told that the quality of the explosives manufactured in the Dominion leaves much to be desired. It was asserted that no two charges fired in similar circumstances would do the same amount of work. Except so far as shot firing in coal mines is concerned. I do not think this unevenness of explosive can b esnid to be a positive danger, apart from the production of an unnecessarily large volume of deleterious gases from an overcharged shot. In the case of eoal mines, where there is risk of igniting gas or dust, the danger is very appreciable. A miner will always gauge the weight of his charge by the weakest shot he has fired and the tendency will always be to overcharge. The gases produced from the surplus of explosive not having any work to do will not eool down rapidly, and should they come in contact with fire-damp or coal dust in suspension would probably cause an ignition. It is imperative, therefore, that steps should be taken to ensure an even quality of explosive for use in coal mines.

A thin film of explosive on the exterior of a cartridge, a state of affairs which I frequently noticed in the buildings in which cartridges were being packed into boxes, can hardly be conducive to safety in ramming. In the absence of specific information as to the accidents which occur from the use of explosives. I do not feel that it is possible for me to offer any further comments.

It will not be out of place, however, to give a word of warning as to the misleading effects of demonstrations of the safety of explosives. These experiments generally consist in burning a cartridge in the open or throwing a small quantity on to a fire. Such experiments can generally be performed with blasting explosives without risk. The behaviour of the explosive when confined in a bore hole or when ignited in bulk so that a certain amount of pressure is generated would be a much more reasonable test, but such experiments would not suit the demonstrator as they would be much monium nitrate explosives, which are very difficult to ignite in the open, and when thrown on a red hot sheet of iron merely melt, but which in the confinement of a shot hole have been found, under certain conditions, to burn fairly readily until sufficient pressure is set up to cause the unburnt portion to explode.