MEMORANDUM.

Magazine Cr.struction Committee.

The Committee should consist of a member of the Mines Department, a representative of the Militia Department, a representative of the Public Works Department, and two members of the explosives trade.

The object of the Committee would be to test different natures of construction by exploding from a half to one ton of explosive inside each building, and noting the distance to which the debris is projected.

The Committee should satisfy themselves that each building is reasonably secure against unlawful entry.

I would suggest that the explosive be invariably stacked at one end of the building, so as to leave as great an air space as possible from the other end. This point is especially important where the construction is of concrete.

The types of construction which might be experimented with are as follows :--

1. Expanded metal and cement plaster.

- 2. German special re-enforced concrete.
- 3. Log magazine.
- 4. Any type which the Committee suggest.

I think the attention of the Committee might be directed to the possibility of the expanded metal being carried above the roof, and also being grounded to form an economical system of protecting from lightning.

Transportation of Liquid Nitro-glycerine by Road.

Mr. Lowry, at the recent conference, raised this point with regard to the use of liquid nitro-glycerine in opening oil wells.

When nitro-glycerine was first used on a commercial scale, it was invariably transported in the liquid state. In consequence of the large number of accidents which occurred, the practice was prohibited in all European countries. Alfred Nobel then absorbed the liquid in an infusorial earth, solely with the view of rendering its transportation reasonably safe, and with the intention of extracting the nitro-glycerine by a process of displacement by water when it had been transported to the place at which it was required to be used. He found, however, that for ordinary blasting purposes it was not necessary to use the nitro-glycerine us a liquid, and he cailed the plastic explosive dynamite. I have been told that it is essential to use liquid nitroglycerine in opening oil wells, but 1 do not know if this practice is universal. If it is absolutely necessary to do so. I think that at any rate the nitro-glycerine should not be transported as a liquid but as dynamite. In Great Britain dynamite No. 1 is defined as a mixture of not more than 75 parts of nitro-glycerine absorbed in kicselgur.

A factory license could then be granted to allow of the nitro-glycerine being displaced in the immediate neighbourhood of where it was intended to be used; the operation to be effected in a definite building and to be under proper control and supervision.

Testing Station and Chemical Laboratory.

I attach to this paper a rough specification of the testing gallery which is being erected in England. The sketch drawings mentioned in the specification have been omitted, as there was not time to have copies made before 1 left England.