A Problem in Geometry.

J. A. Cragwall.

TO CONSTRUCT A SQUARE THAT SHALL BE $\frac{M}{N}$ OF A GIVEN SQUARE.

The method given below can not be new, nor does it involve any new processes or discoveries; but in all the textbooks examined by the writer no mention has been made of such method.

It is here given because of its simplicity and directness, in the hope that some teacher will consent to lighten the work of the pupil in geometry to that extent. The construction is as follows:

Let ABCD be the given square. Lay off on one side of the square, as AD a distance DE equal to $\frac{M}{N}$ of AD. Then, CDEF is a rectangle with base equal to a side of the square and altitude $\frac{M}{N}$ of it. Then CDEF is $\frac{M}{N}$ of the square Now construct a square equivalent to this rectangle and we have a square that is $\frac{M}{N}$ of the given square.

Some Investigations in the Electro-Deposition of Platinum.

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When the work for this paper was begun, it was with no intention of making any study of the deposition of platinum, but to obtain a foil that could be used to separate an electrolyte into two compartments and at the same time to set up no barriers to the passage of a current of electricity; it was thought that in this way some new light might be thrown on the subject of the migration of ions. Not being able to secure platinum leaf thin enough for the purpose, an effort was made to make it by depositing platinum electrolytically on some metal that could afterwards be dissolved and leave the platinum intact. The work proved of greater proportions than was anticipated, so that the limited amount of time would only permit a partial investigation into the action of the electrolyte and the character of deposit. The available literature on the subject was