With Mr. Hille's suggestion that the "pond like places or rounded depressions are the collars and vents of craters, vents of geysers, or fumaroles" I have no sympathy. The pond at the Helen mine is undoubtedly due to solution (see paper by Coleman in Geol. Soc. Am.). At Goudreau Lake numerous examples are found of hollows from a few feet in diameter to several hundred. That they are due to solution has been admitted by all who have seen them.

Apparently Mr. Hille believes that the iron pyrites beds of Ontario are due to expiring vulcanism. If so, will he please explain why all these volcanic deposits happen to be associated with the Keewatin iron sediments? The Michipicoten pyrites for instance, he associates with post-Animikie greenstone. Why did these eruptions all occur for 60 miles along a narrow band of Keewatin iron sediments at most under 1,200 feet wide, and never in the Keewatin schists, or in the lower Huronian conglomerates and slates, or in the Laurentian granites which border this strip? How does he account for the microscopical character of these pyritous cherts which seem to all observers to be chemical sediments? Has he any evidence to offer that the pyrites was deposits in the siliceous and sideritic beds subsequently to their deposition as sediments? Criticism of this character would be valuable.

Yours truly,

A. B. WILLMOTT.

INDUSTRIAL SECTION.

The Manufacture of Grinding Wheels and Other Abrasive Products.—Before the invention of the electric furnace artificial abrasives suitable for grinding wheels were unknown. Wheel manufacturers necessarily depended upon natural products, chiefly corundum and emery. As emery occurs in considerable quantities in various parts of the world, it came to be recognized and used as the chief raw material for grinding wheels and other products employed in grinding metals. On this account the modern grinding wheel made of any abrasive is popularly known as the "emery wheel."

The Norton Company has during the past few years been operating an electric furnace plant at Niagara Falls, in which has been developed and brought out an abrasive known as alundum, which possesses the characteristics of sharpness, uniformity and right temper.

The introduction of alundum in the field of grinding has been remarkably successful and rapid. The requisites sought for and attained in this abrasive are extreme hardness and sharpness, combined with uniformity and proper temper. These qualities in alundum have had much to do with its successful development.

The process of making alundum consists in taking the purest amorphous oxide of aluminium found in nature, bauxite, purifying and melting it in immense electric furnaces, the power for which is furnished by the Falls of Niagara. Upon cooling, this molten mass solidifies in solid ingots of alundum. Beautiful crystals are found in the centre of these masses, showing nearly all the variety of colors found in the ruby and sapphire, of which alundum is one variety. The rarer col-

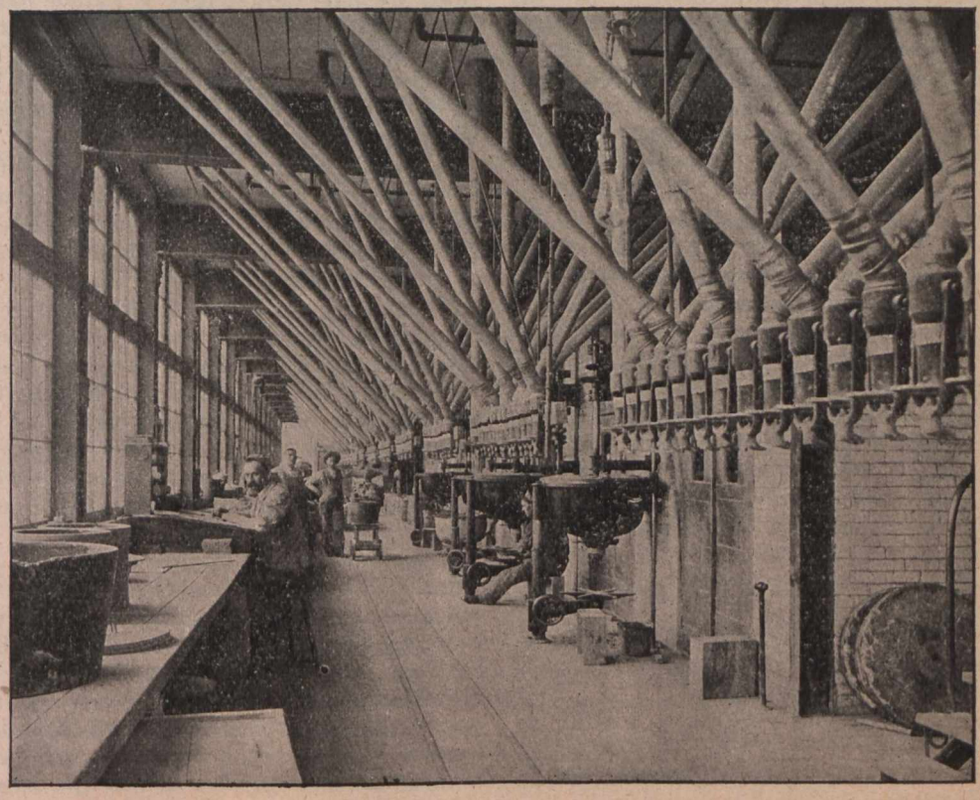

FIG. 3