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Aluminum in Iowa

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BRICK AND OTHER CLAYS OF DES MOINES.

BY CHARLES R. KEYES.

(ABSTRACT.)

In the absence of extensive exposures of good building stone, in the immediate vicinity of many of the larger cities of the State, architectural materials must be derived in large part always from other sources. Fortunately, in and about these towns there are exhaustless supplies of good clays from which may be manufactured easily the ordinary structural and ornamental materials. These clays, however, as is well known, have diverse properties, certain ones being better adapted for particular purposes than others, while some may be used more advantageously in different ways. Hence the indiscriminate working of the deposits is not attended by the highest economic results, and often ends disastrously. This does not apply to one locality, but to the entire State. Clay is constantly being put to a multitude of uses which were undreamed of a decade ago. Everywhere this material is becoming more and more important, economically, in draining farm lands, in sewerage, in paving, in all kinds of building. And there are still countless other ways in which it might be used with great profit. Manufactured clay is daily replacing other building material, such as granite and similar rocks, on account of its cheapness, its practically equal durability, and its great range of artistic effect with a requirement of much less labor than is possible in the case of the natural rock.

ALUMINUM IN IOWA.

BY CHARLES R. KEYES.

(ABSTRACT.)

Attention is called to the birth of an industry in Iowa that promises to be one of the greatest industries of the State in the near future. It is the establishment of a plant for the production of aluminum. As is well known, this metal is soon to be *the* metal of the world—replacing largely iron, steel and other metallic substances used in the arts. The properties of aluminum need not be dwelt upon here. The cost of producing the metal has hitherto been the great drawback to its general usage. A few years ago the price was \$15.00 or more a pound. Now

it is about 50 cents. And improved methods have just been announced by which it may be extracted at a cost of less than 20 cents per pound.

A few months ago a plant was established at Hampton, Iowa, which is working a clay yielding three ounces more of aluminum to the bushel than in any other known locality in the west, and, perhaps, in the United States. The suggestion is important. Iowa has within her borders inexhaustible supplies of good clays admirably adapted for this purpose. But they require careful investigation that they may not be worked indiscriminately and thereby lead to complete failure in many cases. When the industry shall have become thoroughly established the gold fields of California, of Australia, of indeed the whole world will sink into insignificance as compared with the wealth coming from this source.

ON A QUATERNARY SECTION EIGHT MILES SOUTH-EAST OF DES MOINES, IOWA.

BY CHARLES R. KEYES AND R. ELLSWORTH CALL.

The section is located on the line of the Wabash railway about two miles below the little station of Hastie. It forms a continuous exposure of nearly three-fourths of a mile in length; and in some places has almost a vertical face of from 125 to 150 feet. It is capped by twenty feet of loess, carrying characteristic fossils such as *Succinea avara* Say; *Succinea obliqua* Say; *Helicina occulta* Say; *Pupa muscorum* Linne; *Vallonia pulchella* Muller; *Zonites arboreus*, Say; *Patula strigosa*, Gould; and a large *Helix*, probably *Mesodon thyroides*, Say. Below the loess to the track level the section is made up of blue clays and straticulate sands and gravels with occasional large boulders. In the gravel several large fragments of carboniferous limestone with fossils were found. The lower sands rest directly upon the coal measure shales probably since these are well shown in the river bed 10 feet below the track.

The section is of special interest, inasmuch as it is near the terminal moraine of the Des Moines lobe of the great glacier usually referred to the second epoch of the North American Ice Age.

NOTE ON THE DIFFERENCES BETWEEN ACERVULARIA PROFUNDA HALL, AND ACERVULARIA DAVIDSONI EDWARDS AND HAINE.

BY S. CALVIN.

The original description of *Acervularia profunda* Hall, is found in Hall's Report on the Geological Survey of Iowa, published in 1858. The specimens on which the species was founded came from near Independence, in Buchanan county,