

Two Big Industries for Keokuk

ALUMINUM MAKING AND MANUFACTURE

Employs Thousands of Men with Millions of Capital Invested in Business

KEOKUK IS THE GEOGRAPHICAL CENTER

A Thousand Miles Nearer the Raw Material and Exactly at the Center of Distribution of the Manifold Products of the Mills.

One of the big things which economics will drive to Keokuk and the great water power here, about which Iowa people understand little, is the aluminum industry.

Today the metal aluminum is made at Niagara Falls, so far as America is concerned; the metal is manufactured into a thousand and one things chiefly at Pittsburg, not far from the Falls. The metal aluminum depends upon electricity for its making; and most of the handling of the metal in factories requires electricity—the electric furnace with its highest temperature in both cases.

Aluminum is made from clay. All clays are salts of aluminum. Some of them, like some silver ores, can be smelted into the metal only at a prohibitive cost. The clay which is the cheapest, and consequently the best, for the manufacture of the metal aluminum is called bauxite.

The industry is growing rapidly. Now, it supports several thousand employees. The indications are that in a few years it will be second to only the steel industry in size. Already, it is the largest user of electric current in America. It is centralized, the method of making the metal being covered by patents owned by the Aluminum company of America, and the monopoly protected by these patents is the usual reward given inventors—in this instance to a young man whose work failures and success make a commercial romance, and who has been crowned the highest honors in the chemistry profession, the Perkins medal.

Why Keokuk is Attractive.
The statement that the Aluminum company of America will have a plant at Keokuk is not based upon any verbal information—it has the sounder basis of economic necessity.

Bauxite, the blue clay from which the metal is made, is mined, or quar-

ried, or dug out, whatever the proper term, at a point in Arkansas, twenty-two miles west of Little Rock, on the Rock Island railroad. It is shipped by rail to East Saint Louis where it goes through a refining process by which all extraneous substances are removed, leaving only the pure clay—oxide of aluminum.

Then this purified clay is shipped by rail to Niagara Falls where the company has three plants corresponding to smelters in the case of other metals. Even these three big plants are

not sufficient in size, and smaller plants are at Messina, N. Y., and Schawinigan Falls, Canada.

At Niagara Falls, a thousand miles from the mine, the aluminum metal is made from the bauxite by a chemical process in electric furnaces. The metal is made into many products which

interest in her job has some aluminum cooking utensils in her kitchen today. Housekeepers, domestic scientists and government experts agree that the kitchen utensils of the future, from the coffee pot to the frying pan and the roaster, will all be made out of aluminum—it is economical, indestructible,

dies, big curing pans for rubber makers, steam kettles for cannery and manufacturing pharmacists, hospitals and hotels, pans for cooling paraffin by the Standard Oil company, covers for electric meters, utensils for making stearin, grape juice and soaps, tubes in various mechanical works, high ten-

are sold all over America. Much of it is shipped back westward to the Pacific coast.

The Compulsion of Economy.
Now, the novice knows that it is not economical to ship immense quantities of ore a thousand miles eastward, make a metal, and ship the manufactured metal product a thousand miles westward again. Hitherto, this has been a necessity, because only at Niagara Falls is there enough electricity to supply the smelter furnaces with current.

In a couple of years this will be changed. Here at Keokuk will be enough electric current even for the Aluminum company of America. The bauxite, purified at East Saint Louis, need be shipped only 170 miles to the smelters here and in barges at that. The product in most of its manufactured forms can be made here in the very center of the consuming Mississippi valley. All the consumption from the Allegheny mountains to the Pacific ocean can be supplied from Keokuk with a freight distance radius immensely shorter than from Pittsburg. Then there is the cheapening effect of the river upon freight rates as an added advantage for Keokuk.

If the commercial economist of the aluminum industry had taken a map and marked the ideal place for its factories, probably he would have stopped his pencil at Keokuk and wished there were electricity in large quantity there. The aluminum industry, will be forced to Keokuk by the compulsion of economics, just as the steel industry was located in coal bearing Pennsylvania.

Has an Unlimited Demand.
Every housewife who takes an in-



sanitary and beautiful to see and to use, so that once used it is used thereafter to the exclusion of iron, tin and granite ware.

One of the many outlets of the Aluminum company of America for the metal it makes is the manufacture of aluminum cooking utensils by a subsidiary company called the Aluminum Cooking Utensil company. This one branch of the business occupies acres of ground at New Kensington, a factory suburb of Pittsburg. The pictures on this page are photographs of some of its buildings—and this is only one part of the manufacturing industry owned by the aluminum metal producers.

Besides cooking utensils, made in the plant shown in the pictures of this article, aluminum is used in the manufacture of automobile hoods and bo-

dy electric wires for long distance transmission, sulphur retorts, varnish vats—both sulphur and varnish are discolored by copper—kodaks, condensers for stills, forms for modeling hosiery, trays of all kinds, railroad cars for the subway in New York, boats and yachts, portable houses used chiefly by Alaskan prospectors, airships, musical instruments, toilet articles, cream separator parts, stereoscopes, spectacle frames, paper mills, castings of all kinds as an alloy, as a welding medium, in the manufacture

middle of the country, in latitude, and of course in the middle of the Mississippi valley, here on the river.

It is true that Peary outfitted his trip to the north pole with cooking utensils made in the buildings pictured in this article; that Shackleton carried the same kind of cooking utensils to near the south pole; that Roosevelt used them on his trip into central Africa—but the most important fact is, that the millions of housewives who are using these aluminum cooking utensils as fast as they learn their ad-



of steel and iron for its chemical quality as a gas preventer, wall paper, substitute for lithographic stone, metal ceilings, fire proof paint, and a thousand and one other things too numerous to mention.

This Center of Distribution.
All the things mentioned above, except paraffin, steel and sulphur processes, are consumed throughout the United States and can, and probably will be, manufactured economically here at Keokuk with the cheap power from the big dam here.

The aluminum industry with its factories located here at Keokuk would be in the very center of its distribution of products—Keokuk is in the

vantages live around Keokuk; that Keokuk is in the very center of the great consumption of aluminum products.

These facts, plus the sufficiently large quantity of electricity available here at Keokuk, plus the nearness of Keokuk to the raw material, the blue clay of Arkansas, make a better answer to the question of the future location of the aluminum industry than any rumors, gossip or confidential information can do.

There are no figures obtainable as to the statistics of the business. But many millions are invested in it and it employs thousands of men. It is big enough to be very desirable as a part of the new Keokuk.

MAKING FERTILIZER FROM ATMOSPHERE

A Great Industry Dependent upon Large Quantity of Electrical Current.

CENTER OF DEMAND AREA IS HERE

Now Located in Northern Europe and Supplying Large Amount of the Product to the Farmers of Germany and Other Foreign Nations.

European farmers are buying and using large quantities of fertilizer made by electricity out of a raw material obtained free and which it is impossible to include in any tariff law.

Much of the United States is looking for a cheap fertilizer; the rest of the agricultural states are approaching the fertilizer stage of farming; the farmers are becoming scientific faster every year.

Keokuk is directly connected by transportation lines with all that part of the country needing and using fertilizers today east of the Alleghenies. The south, which takes most interest in the fertilizers, is reached by water routes from Keokuk. Ohio, Indiana and other older states are within a short railroad radius from Keokuk. The worn out farms of New England are reached from Keokuk by the cheap freight of the lakes from Chicago.

Albeit in the richest state of the

union which uses no fertilizer, practically—although farmers are seeing the dawn of the day when fertilizer will be necessary even in Iowa—Keokuk is the center of the fertilizer using section of the United States.

Keokuk Has All Factors.
The best fertilizer in the world today is made by electricity, and economic laws which are more powerful than congressional legislation will compel this best fertilizer to be made here at Keokuk in a few years with the electricity furnished by the greatest single electrical installation in the world.

The raw material is here in plenty—it is air, the atmosphere.

The Scandinavians are making the best fertilizer today out of the air with an electric current.

The product is so strong that it must be diluted before it may be put on the fields. It is mixed with many times its weight of some inert substance, like dry dirt or sand before being marketed.

Fixing Nitrogen for Plant Food.
Nitrogen is the essence of all plant food. Stable manure is valuable as a fertilizer exact in ratio to the nitrogen it contains—it is chiefly the nitrogen part of ammonia.

The atmosphere is four-fifths nitrogen. But while the nitrogen locked with other elementary atoms in ammonia is fixed and available, the nitrogen of the air is free and no more available than a mountain goat is for mohair. The trouble is to fix the nitrogen of the air long enough to sell it and convert it into plant growth.

This is now done with electricity in northern Europe. Thousands of tons of the new and best fertilizer are sold in Germany alone. But it can be made only where electricity is abundant and where the demand is reasonably large and constant. Under these proper conditions, it is made at a large profit to the manufacturer.

How Profits Will Pull.
When the dam in the Mississippi here at Keokuk is completed, both these factors of success in this industry will be present.

Electricity will be abundant and cheap. There is a constant and large demand for a good fertilizer in the country within seven hundred miles of Keokuk.

This will be a very profitable point at which to manufacture the best fertilizer, made out of the air with an electric current.

Profits are the controlling influence in the commercial world. The profits to be made here will bring here a plant of the fertilizer industry now operating chiefly in Scandinavia.

To Fill a Long Felt Want.
In the fertilizer factory, the electricity is used to cause the nitrogen of the air to combine with a cheap base to form a nitrate. All nitrates are intensely active fertilizers—stimulators of plant growth by virtue of containing much plant food.

There are large areas in the United States, easily reached from Keokuk, which would consume annually from 500 to 1,000 tons of fertilizer to the county, if they could get it. Hitherto, the fertilizer has been of low efficiency, or the cost has been too high.

With the remarkably efficient fertil-

izer made by this electric process, at the price obtained for it in Europe, there would be practically an unlimited amount sold out of a Keokuk factory.

The expenditure of any amount of money and energy will not bring to Keokuk an industry which will not make additional profits here. The big industries, like aluminum and fixed nitrogen fertilizer, can hardly be kept away from here—because Keokuk is the economic site for their plants, as Baltimore is for oyster canning and Pittsburg for steel making.

GUARANTY OF HIS SILENCE

Presence of Masterful Wife in Church Stopped Objectionable Noise Man Thought Was Singing.

Unexpectedly a city pastor who encouraged congregational singing gained a new parishioner. Keen though his delight in hearing his people sing, there was one member of the flock whose endeavors he never encouraged. But the man sang without encouragement, much to the discomfort of newholders anywhere near him, who claimed that his loud, unmusical voice threw them out of time and tune.

Repeated complaints convinced the minister that somebody would have to assume the responsibility of silencing the ambitious singer. He decided that the man's wife was best fitted for the job. Owing to a difference in religious views husband and wife attended different churches, but the minister knew her, so he called and explained his predicament. She was genuinely surprised.

"Do you mean to say he sings?" she said.

"Tries to," amended the pastor. She thought a minute. "I shall have to come there to church," she said.

"I shall be glad to see you," said the minister, "but what effect will that have on your husband's singing?"

The look she gave him was more significant than words, and they meant a good deal.

"John will never open his mouth when I am around," she said.

And John never has.

The Dawning of Brighter Days

Optimistic Prophecy Respecting Keokuk and Other Iowa Towns.

George B. Irving of Chicago, a professional "booster" and advisor as to city building, in an address recently delivered at Muscatine, made the prediction that within four years there were four towns on the Iowa banks of the Mississippi river that would enjoy much greater commercial prominence than they do now—Keokuk, Muscatine, Davenport and Dubuque. This prophecy will certainly be verified as respects Keokuk, whose industrial development seems to be more certain of realization in the near future than that of any city in Iowa.

The building of the great water power dam here will be the chief factor in this manufacturing and commercial renaissance that now seems so certain of coming to pass.

Iowa is logically the heart of the manufacturing section of the country, said Mr. Irving. The Missouri is the western border of the zone and the Mississippi is the center. The continued growth of the western states means that manufacturing will move westward, and with the center of population only a few hundred miles away, Muscatine and Keokuk were logical locations for factories of every sort. Many great industrial institutions will move from the east to Iowa within the next few years and Keokuk with her cheap hydro-electric power and other advantages will secure the greater number of them. In his address Mr. Irving said:

"He called attention to the fight which was now being waged in the Hawkeye state for honors on the field of industrial and commercial activity. He told of Des Moines marching on to 100,000 population, of Dubuque's new lease on life which enabled that town to land one of the greatest factories ever moved into Iowa, the Brunskill, Balke plant, which will occupy many acres of ground and employ almost 2,500 workers. He then called attention to Davenport, and told of that progressive business men's

LAKE BAIKAL A BIG PUZZLE

Varied and Peculiar Animal Life Found in Body of Water in Central Asia.

The riddle of Lake Baikal, in central Asia, is similar to that of Lake Tanganyika, in central Africa. In both cases a large body of fresh water remote from the ocean contains organisms apparently marine. Both lakes, again, contain a very large number of species not found elsewhere. Lake Baikal contains numerous salmon and seals, as well as three species of herring. It also contains a few mollusks of apparently marine forms.

One of the most remarkable features of the lake, perhaps, is that although it is frozen over for about five months in the year the animal life is extremely abundant and varied. This may be partly accounted for perhaps by the existence of hot springs.

One of the latest attempts to answer the riddle of Lake Baikal is that of the Russian investigator, M. Berg. Of the thirty-three species of fish found in the lake he finds that fourteen are peculiar to it, while nineteen have a wide distribution in Siberia and Europe. Many of these peculiar species are without near relations anywhere. Of the mollusks 90 per cent. are peculiar.

M. Berg does not think the facts demand the hypothesis that the lake was once marine. He believes that it has always been fresh and that the fauna peculiar to it has had a two fold origin. A part has originated in its existence, and the rest is a portion of the prehistoric fresh water fauna of Siberia which it has preserved. - Japan Advertiser.

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