

A HARBOR AT THE SOUTH END OF LAKE MICHIGAN.

BY J. L. CAMPBELL.

The northern boundary intended for Indiana by the act of Congress, July 13, 1787, and also the boundary designated in the act introduced December 27, 1815, by Mr. Jennings, the territorial delegate for the admission of Indiana as a State, was an east and west line through the southern extreme of Lake Michigan.

But an amendment to the original bill was adopted removing this boundary line ten miles to the north, and in this form the act was passed April 19, 1816.

This ten-mile line was marked on the early maps of the State, and has been the subject of curious inquiry by many who are ignorant of this item of State history.

By this amendment there was added to the territory of the State nearly one-half of the present counties of Steuben, Lagrange, Elkhart, St. Joseph and Laporte.

By the original line the State would have been cut off entirely from the great northern chain of lakes, and Michigan and Illinois would have cornered at the extreme southern limit of the lake.

The ten-mile strip gives to the State a lake front of forty miles between Michigan and Illinois, and makes Lake, Porter and Laporte counties parts of the border of our great inland sea.

I do not know who deserves the honor of securing the ten-mile strip, but I would be glad to erect two monuments to his memory, one where our shore line touches Illinois and the other to mark the line between this State and Michigan.

From the period of the admission of the State in 1816 until the present our wisest statesmen and best engineers have manifested great interest in the improvement of our lake front.

Michigan City was laid out in 1831, and in 1836 Congress made an appropriation of \$20,000 for the beginning of a harbor at that place.

The site is a good one—the growth of the city has been satisfactory, a fair degree of liberality has been shown by the general government for the harbor, and the results prove that the expenditures have been wise.

It merits and should continue to receive the most generous support. But the new conditions around the head of Lake Michigan require im-

provements and advantages on a much greater scale than the continued support of a single harbor.

The village of 1830 at the mouth of Chicago River has become the second city of importance in the United States.

Its traffic by rail and water has become so great that relief and enlargement are most pressing, and these must be provided along the Indiana lake front.

The shore line along the lake is made up of loam and sand, which, although not the best material for harbor building, are of comparatively easy manipulation.

With other sites for a new harbor I ask attention anew to the mouth of the Calumet River, and particularly to the feasibility of using the strip of low land or lakelet east of the river and extending possibly into Porter County.

Between the sand hills or ridges, which are shown on the government survey, and the nearest railway line there is a strip of marsh land called, on the old maps, Long Lake.

If on examination it should be found practicable to dredge out this lake to the proper depth and connect it with the mouth of the Calumet the desired harbor would be easily constructed.

This site is specially commended on account of the protection afforded by the sand ridges on the north, thereby making it a haven as well as a harbor, and because it would interfere least with the railways along the lake shore.

The commercial advantages to the State are of the greatest importance.

All the railways running southeast and east from Chicago would use this new port for transfers between rail and water—and possibly also between railways west and north of Chicago on account of less expensive terminal facilities—so that the co-operation and support of the great railway interests would be secured.

Here would be the point of minimum cost between the Lake Superior iron ores and the block coal of central Indiana and the greatest stimulus offered to the development of all kinds of manufacturing industries.

The cheapening of transportation for oolitic limestone would be no small factor in favor of this new outlet.

Hammond and other flourishing cities in the northwest part of the State would experience the most direct benefits by the increase of business and manufacturing facilities and consequent increase in population.

The proposition is worth at least a passing thought and is commended to the State and general governments for further consideration.

SOME PROPERTIES OF THE SYMMEDIAN POINT.

BY ROBERT J. ALEY.

Monsieur Emile Lemoine, at the Lyons meeting of the French Association for the advancement of the Sciences in 1873, called attention to a particular point within the triangle, which he called the center of antiparallel medians. Since that time a number of mathematicians have studied the point and have discovered many of its properties. The point is such an interesting one that a brief collection of its more striking properties may be of some value. No claim is made to completeness.

DEFINITIONS OF THE POINT.

1. The point of concurrency of the bisectors of all lines antiparallel to the sides of the triangle.
2. The point of concurrency of the lines isogonal conjugate to the medians of the triangle; that is, the point of concurrency of the symmedians of the triangle.
3. The point within the triangle, the sum of the squares of whose distances from the three sides is the least possible.
4. The point within the triangle, whose distances from the sides is directly proportional to the sides.

NAMES OF THE POINT.

1. Center of antiparallel medians, proposed by Monsieur Emile Lemoine.
2. Symmedian point (symédiane, from *symétrique de la médiane*), proposed by Monsieur Maurice d'Ocagne. The English form "symmedian" was suggested by Mr. R. Tucker in 1884.