

increased rather than diminished in size since that day through the jettied channel. As incidentally of interest, it may be stated that the United States Government is about to connect the navigable waters of the Illinois River with those of the Mississippi River by a canal across the country from Hennepin on the Illinois River to Rock Island on the Mississippi River. This is not to be a ship canal but a boat and barge canal. The depth on the miter sills of the locks is to be 7 feet, the width at surface of the water 80 feet, and the locks are to be 170 feet by 30 feet. There will be 37 of these locks. The height to be surmounted from Hennepin going westward to the summit in a distance of 20 miles is 208 feet. The difference in level between this summit and the Mississippi River at Rock Island is 102 feet, the length of the canal will be 77 miles. The entire distance between Chicago on Lake Michigan and Rock Island on the Mississippi River, by way of the Illinois River and the Illinois and Mississippi canal, will be $193\frac{1}{4}$ miles. The plans are made for the work, and construction is expected to begin soon.

One question in relation to the proposed drainage and water-way channel between Chicago and the Mississippi River is, what effect, if any, will the abstraction of so large a volume of water from Lake Michigan have upon the level of that lake and of Lake Huron and upon the volume flowing through the Detroit River into Lake Erie? This is an international question, and should be briefly considered in connection with the general subject which we are discussing.

On September 8, 1888, a paper by Mr. George Y. Wisner, civil engineer, was read before the Western Society of Engineers, entitled: "Levels of the Lakes as affected by the proposed Lake Michigan and Mississippi Water-way." Mr. Wisner had had at that time about 20 years' experience on the rivers, harbours and lakes of the Northwest, and was connected with the Great Lakes surveys. The facts which he gave and his discussion of the subject were reviewed by several hydraulic engineers of the country. This discussion in printed form accompanies the present paper for the purpose of information. It is not intended here to do more than to state the general opinion on the subject as given by those who took part in the discussion. The opinion as stated by Mr. Wisner was that "probably the low water level of the lake would never be affected to exceed $2\frac{1}{2}$ in. by withdrawing 10,000 cubic feet per second from Lake Michigan for the proposed water-way. The lowest stage occurs in Winter when navigation is closed." "The annual rise of the lake usually covers a period of about four months, and consequently the variation in the yearly fluctuation of the