

THE LOW WATER OF THE LAKES.

[illegible]

most public anxiety. Perhaps it may be possible to relieve this anxiety without the act of Congress by better educating the public mind in regard to certain facts which are well known.

That the direct cause of low water in our lakes and rivers is deficiency of supply from rainfall is, or should be, a fact established, in spite of other and mysterious causes hinted at by theorists and philosophers.

We have had a succession of several dry seasons, that is, of years in which the rainfall on our lake plateau has been very light, and the common conclusion is that the country is becoming permanently drier. It is true that the rainfall has been given rise to a prevailing notion that our climate is becoming colder and vice versa. All such conclusions are based upon very little knowledge, while a more extended observation would show that these changes are in accordance with the laws of nature's actions are uniform.

Let us exemplify this from the records of the past half century. During the first twenty-five years of this period the mean annual temperature has been 46°; the minimum has fallen to 42°, while during the last twenty-five years the maximum has thrice reached as high as 51° and has fallen as low as 45°. Yet the mean annual temperature has been 46°; the minimum has fallen the same, viz. 42°. So the records of the rain. During the first quarter of the half century the largest yearly maximum was forty-three inches and the lowest twenty-four inches. During the last quarter the maximum rose to forty-six inches and the minimum fell to twenty-two inches. Yet the mean annual precipitation for Detroit thirty-two inches will be found to be nearly the same.

serviced, if the observations extend over sufficiently long periods. The changes from one year to the next are not so regular as to come from a fixed number of cycles, which find their period in a few years, and then the pendulum swings back to the opposite extreme.

There has been any correspondence between the phenomena and the stage of water in the great lakes and in Detroit River? Indeed there has. Since the lakes when Lakes Erie and Michigan were at a higher level than has been before or since, the river has been at a lower level, and vice versa, during periods of comparatively high water, and vice versa, during the present one.

I do not now propose to discuss the relation of these bear to the curves of temperature, and the relation of these to the fact that they do bear a manifest relation to nature, extent and causes of this relation. I may undertake to treat in another communication, supposing the subject to be of sufficient importance, the relation of these to the fact that they do bear a manifest relation to nature, extent and causes of this relation.

It must be understood that I do not refer to those changes of level which are brought about by the winds, by temporary floods, or by the frosts of winter, but to those changes of level which are more in amount. But these are diurnal or seasonal only, while the "decadal" changes to which I refer extend over periods of several years and recur with regularity.

Changes in the levels of the lakes corresponding to the curves of rainfall, are slow to follow and require from two to three and even four years to follow the rainfall. The changes in the levels of the lakes are slow to follow those of the latter have been high, and the former have been low.

The greatest range from reach to water since 1838 has usually exceeded two feet, but it does not usually exceed two feet. The lowest level of 1882 was five feet below the level of 1883, which time it stood within a foot of the high water of 1838, and it has risen since nearly one foot. Detroit River has experienced a greater range than any other Michigan seems to have fallen since 1838 until 1891. I have no doubt

of either lake for the present year. The rainfall, which was at a low from 1886 to and including 1889, has been slightly on the increase, and it is sumable that its influence to depress levels of the lakes has by this times been expended. It is probable that the lakes have been reached and a rise may be looked for. What has been said is not sufficient to prove that the present stage of water is by no means an unusual phenomenon, or dependent upon unknown causes, or any thing that is more than transitory.

November 18. B. HUBBAH

Alfred A. Taylor, of Maragaree River says:—One tooth MINARD'S BENT caused a swelling of the joint and saved a horse worth \$140.

Thomas W. Payne, of Bathurst, the life of a valuable horse that the 'ARD'S LINIMENT' cured, a few bottles of

mwf

While sitting on the Plaza de Armas the City of Mexico, an American minivalueable field glass from his coat pocket was stolen. The American and the policemen stepped up with a prisoner the glass and requested the owner company them to the court and against the thief. In less than fifteen minutes after entering the court room he had been sentenced to serve a term of years as a soldier in the Mexican army and the glass restored to the owner.

The yesterday two masked men entered the city by express car, the Misouls & Ceour d'Alene Railroad at the point of guns made a Messenger Case open the safe and got all the money it contained, \$3,020. The robbery occurred in a wild and most quiet part of Montana.

Судебная медицина