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ATTENTION is being turned to the navigation of the Mississippi in good earnest, and various schemes are suggested for the improvement which it so much needs. The last system proposed, the commencement of which, we believe, has already received support from Congress in the shape of an appropriation, is no less than a return to the old system of reservoirs by which the Babylonians collected the overflowings of the spring to serve them during the drought of summer. To apply such a scheme to the main-

tenance of a water way is entirely new, and represents a most gigantic undertaking, which however does not serve at all to dismay modern engineers. The total capacity of the reservoirs proposed to be formed will be equal to a vast sea of 400 square miles of surface and a uniform depth of eight feet. The water will be collected by the agency of forty-one dams, to be constructed, seven on the upper Mississippi, fourteen on the St. Croix, twelve on the Chippewa, and eight on the Wisconsin. The construction is to commence at Lake Winnebagoishish, where a dam sixteen feet high is to be commenced at once. This will be a part of the first system which is to guard the outlets of Lakes Winnebagoishish, Leech, Mud, and Vermillion, and include dams at Pokegama Falls, Gull Lake and Pine River. It is expected that the vast quantity of water thus held in reserve, and skilfully operated with the assistance of telegraphic communication, will furnish a stream which can be maintained at a uniform depth of four feet on the upper Mississippi from July to November. The advantages which will accrue to the navigation of that region by the successful issue of this undertaking are immense, and the cost is estimated not to exceed a million and a half of dollars, a sum upon which it should not be difficult to pay interest immediately upon the successful completion of the undertaking.

THE subject of the drainage of Ottawa has been ventilated to an extent which should lead to a better ventilation of the sewers themselves. The drainage of the city is itself good, so far as the laying of the pipes and the arrangement of the main sewers is concerned, but the ventilation is abominable, and with an insufficient system of ventilation, the best system of sewers in the world becomes nothing more or less than a mine of death to the inhabitants. Close trapped in the drains and unable to obtain a proper exit, the foul gases produced force their way into the houses themselves, and are the cause of a multitude of evils. Nor is Ottawa the only city in the Dominion which might take a lesson, and see to the reduction of its death rate in time.

THE applicability of the electric light to photographic purposes has been known for some years, and made occasional use of for the photographing of objects where sunlight was not procurable, as in subterranean chambers, or in the night time. It is a new thing however to find electricity in direct competition with the sun, as the source of light for portrait photography. Mr. J. von Ronzelen has recently arranged his studio in Berlin expressly with a view to the accomplishment of this object, and has succeeded beyond expectation. The time of exposure is scarcely longer than that required in ordinary daylight (from 7 to 9 seconds) and the portraits are said to be actually superior in sharpness of outline and distinctness of feature, no less than in the delicacy of their shading. The motive power which supplies the electricity is a 4-horse power electro-dynamic machine situated in the cellar of the house, and the studio is placed on the first floor, in itself no small convenience to those who are accustomed to climb up sky-high to the operating room. It has been found that the direct impact of the light casts too deep and sharply defined shadows, and to obviate this, the light itself is enclosed in a parabolic mirror which throws its beams upon a metallic reflector of about 1½ meters diameter, fastened to the ceiling, thus distributing the light over the whole surroundings of the sitter. By this means the original light power, equivalent to 3000 candles, is reduced 30 per cent. The reflector is arranged for easy adjustment, and the light can be directed at the pleasure of the operator. The advantage of the new system in a