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, St. Casimir, and a but a comparab 100 ft. or more g or at least of forms of timber nbent weight to t.

n, where walls or ir superstructures nem, of homogeno inequality of ekle and separate ith dressed stone re numerous and of brick masonry ne fallen front at (g) The numerous failures of Dam Walls where the dam has been moved bodily forward as at Bouzey in France, at Austin United States, at Chambly in Canada, point unmistakeably to the fact that they were not heavy enough to resist the thrust of water from behind, and to the necessity of carrying out the writer's z theory of " weight of dam equal to twice the weight, due to height or depth of the water impounded, including possible height or depth of overflow; the friction of stone on stone being but 0.5 of the weight thereof.

## The land Slide at St. Valier.

67. - Some 20 years ago there occurred at St. Valier de Bellechasse, Q. a land slide illustrative of how such local phenomena are brought about and suggestive of like occurrences elsewhere. It happened along the border of a river whose banks at the site of the accident were some 15 ft. in height. The area of land moved was wooded with spruce trees of long standing which were carried bodily forward into the bed of the stream or river of which it of course brought about change in direction. The area thrust forward with the trees still standing or in an upright position was only a few hundred ft, in extent along the river and may-be a hundred ft. or so in breadth or depth, while the thickness of the soil was some 5 to 6 ft. in the rear and 15 ft. at its front edge .-- The cause was that the land so displaced was a mere mass of sandy detritus or alluvium through which the rains of years percolating to the inclined or sloped upper surface of the underlying clay of a stiff and impenetrable nature, and thence along said impenetrable flooring to the adjoining stream, had in course of years honey-combed the under surface of the superincumbent stratum of sand until it slid down the inclined surface as if on rollers, the sand and water acting as a lubricant; as when a vessel is made to slide into the sea by the introduction of a soapy medium between the ways and vessel. The trees as said before remained standing and are there to this day though of course at a level so much lower than the original elevation as due to the descent along the incline.

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