FIRST ANNUAL REPORT

Although the Saskatchewan is subject to extreme freshets, yet piers for bridges have been built in the river at many places and have withstood for years the force of its floods. It is, therefore, reasonable to expect that a dam consisting of high piers upon a heavy floor of concrete extending across the bettom of the river, would be economically built. Between these piers, steel curtains, forming the actual dam, could be raised vertically during freshets, permitting the flood water to pass unimpeded. As the flood decreases the curtain would be gradually lowered into the water so as to keep the upper level at a fixed height, while the natural flow of the river passed between the lower edge of the curtains and the concrete floor. Such constructions would regulate the river into convenient steps, or reaches, each of which would form a conservation reservoir that would save for summer use the valuable water supply of the prairies that is now dissipated in spring floods. Water held at a high and constant level is always a most valuable asset to any community.

POWER---At present the prairie rivers furnish very little power, although their tributaries in the mountains are already being exploited for use at Calgary and other points. Coal is cheap and abundant in the western section, but further east, with increasing population, cheap power will be in demand, and the moveable dams above described may yet be tried. Lake Winnipeg is an enormous reservoir 700 feet above Hudson bay. It flows out through the Nelson river, which tumbles over many rocky ridges, giving exceptional opportunities for water-power.

A great rock outcrop along the west side of lake Winnipeg separates it from lake Winnipegosis and Dauphin lake, which are 100 feet higher. This outcrop also crosses the mouth of the Saskatchewan, creating the Grand rapids, with a fall of 71 feet, 250 miles north of Winnipeg.

There is, however, a third great tributary of lake Winnipeg, the Winnipeg river, which has a drainage area the same size as the Ottawa, 55,000 square miles, or the size of England and Wales. It also runs through a similar gneissic rock territory. Its upward extension is Rainy river, forming the boundary between Canada and the United States, and emptying into the lake of the Woods. The Winnipeg river flows out of this lake over two s, giving exceptional opportunities for power. Near Kenora 5,0 ..., P. is generated and used for flour milling and for municipal purposes. The head is 18 feet, and a remarkable dam of loose rock thrown into the bed of the river maintains the elevation of the lake; the river flow, 15,000 e.f.s., is passed through stop-

11