

The Commercial

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IRRIGATION.

In the United States the question of irrigation is of such vast importance, that it is considered a national question. The question has been considered from time to time by departments of the federal and different state governments. The federal department of agriculture is now making investigations with a view to discovering the value of artesian wells for purposes of irrigation. There is a vast extent of territory in the United States where recourse to irrigation is necessary to render agricultural pursuits profitable. In some large sections, ordinary supplies of water for irrigation have been exhausted, by individual farmers or companies. This is officially stated to be the case in the states of Arizona and New Mexico, and yet a large area of arid land remains, which could be rendered fruitful if means of irrigation were at hand.

The great central plain country, extending from the Canadian boundary to the republic of Mexico, is subject to aridity. This comprises portions of the states and territories of North Dakota, South Dakota, Nebraska, Kansas, Texas, Wyoming, Colorado, Indian Territory and New Mexico. Throughout this region, investigations are being made regarding the supply and usefulness of artesian well water for irrigation. The average annual rainfall of the territory under consideration ranges from 10 to 23 inches. The rivers of the great plains are comparatively few and shallow.

In Canada we are not so greatly interested in irrigation as in the States, as the proportion of territory requiring artificial moisture is not so great. Still, the question is of interest to us. We have a considerable territory in the southwest which would be greatly increased in value if it could be successfully irrigated. The artesian well investigation in the States will therefore be watched with interest here. From the reports of the engineering and geological officers who are engaged in the investigation it appears that the following conclusions have already been reached:

1. Over the greater part of the region under survey the rainfall, if it could be distributed when most needed, is almost, if not quite, sufficient for ordinary agriculture.

2. The period of serious deficiency in the year is confined each year, as a rule, to a few weeks in the summer.

3. The conditions affecting the drainage of the great plains region are even now sufficiently well known to warrant the statement that their waters may be readily recovered, and, in connection with the storage, distribution and use of surface streams, will afford a reasonably sufficient supply for not less than two-thirds of the area.

Bradstreet's journal, in discussing the question, says:

Some 1,300 artesian wells are already flowing between the 97th and 105th meridians. In northern and central Colorado it is held to be established beyond dispute that the waters

which disappear from the irrigating ditches through seepage or percolation reappear in the channels below, following, apparently, the gravel strata just beneath the alluvium. The Dakotas are believed to have an abundant supply of water in a loose sand stratum of great thickness and subjected to great pressure. Within the central divisions of the plains, embracing a large part of western Nebraska, Kansas and eastern Colorado, with the adjoining districts of Wyoming, the Indian Territory, Texas and New Mexico, great deposits of drainage water have been found at a moderate depth below the surface. Similar underflow has been discovered beneath the table land of western Texas known as the "Staked Plains," and the Panhandle region is expected to reveal the same condition of things. The further investigations which are now in progress will add largely to the store of knowledge upon this subject.

Great economic importance obviously attaches to this inquiry. Observations have established the fact beyond a doubt that cultivation generally, or, at all events, cultivation with irrigation, tends to bring to the surface water not previously visible. In eastern Kansas, for example, since the settlement of the country springs have broken out where in the days of early immigration trains none existed. New works of irrigation, whether from natural streams or artesian wells, may be confidently expected to promote agriculture still further. The San Joaquin valley of California, great tracts of which have been transformed from cattle pastures into productive orchards and vineyards through the use of water, affords a most valuable object lesson. In the states and territories where the government investigations are in progress local interest in the matter is naturally great, and it is within the range of possibility that the greater part of the hundreds of thousands of square miles lying next east of the Rocky Mountains, which were formerly thought entirely waste, may be made as productive as the Mississippi basin.

THE PUBLIC DOMAIN.

A great evil has been done western Canada by allowing large areas of the public domain to fall into the hands of speculators. Much has been written on this point, and it has been supposed, that in official, as well as in private circles, the evil was generally recognized, and that it would not be permitted in the future. This appears to have been a mistake. Opportunities still exist for speculators to acquire blocks of the public domain, to the injury of the settlement of the country by settlers of the soil. The following advertisement, which has appeared in a number of papers, will show how lands are still open to be gobbled up by speculators:—

Public notice is hereby given that the Papaschase Indian Reserve, comprising some 40 sections, in township 51 and 52, range 23 and 24 west of the 4th Initial Meridian, will be offered for sale by public auction at the Alberta Hotel, Calgary, Alberta, on the second day of July, 1891, at 10 o'clock a. m. This reserve, which is situated about 5 miles to the south of the flourishing town of Edmonton, contains some fine agricultural land; the soil throughout is rich in herbage, and in a greater portion of it there is a plentiful supply of wood and water. It has been subdivided into sections, to accord with the system under which adjoining lands have been surveyed, and each section has been carefully inspected and reported upon by a competent surveyor. Copies of these reports, with accompanying plans, can be had at any of the Dominion lands offices in Manitoba or the Territories, or from the Indian commissioner, Regina. The reserve is traversed by the Calgary and Edmonton railway, now about completed, and a station on that line will probably be located at some point within or near to its boundaries. This sale will afford an oppor-

tunity for those in quest of land to purchase good farms at reasonable figures, or to acquire a block of land in a district where land is almost certain to increase in value. These lands will be sold in quarter sections under the following terms and conditions: Each parcel will be offered at an upset price according to its valuation, which will be made known by the auctioneer at the time of sale.

This is evidently a piece of land which is certain to become valuable. It is just the class of land speculators are after. Being an Indian reserve, it is certain to be choice land, as these reserves as a rule are usually the pick of the country. Sold in this way, however, the land will never fall into the hands of actual settlers. Speculators are on the lookout for these things, and will learn of the sale. Settlers go out to hunt land from time to time, as they arrive in the country, and these public sales are not a help to them. The result of the sale will be that the land will simply pass into the hands of non-residents, who will hold it from settlement until it has become very valuable, and they can make a large profit upon it.

If the land must be sold by public auction, it should be sold upon conditions of actual settlement only. It may be that the land is being sold for the benefit of some Indian band. Settlement conditions, however, would not make any difference in this case, as the upset prices could still be placed upon it. If the land cannot be sold off rapidly under conditions of settlement, it would not be any loss to either the Indians or the government, for this would be met by the increasing value of the land. If it will pay speculators to buy and hold it, it would pay the present owners to hold it. As for the government—that is, the people—it will be a dead loss to allow the land to pass into the hands of speculators, for it simply deprives the people of the advantages of having this land open for settlement, and the longer it is locked up the greater the disadvantage, from the loss of having a choice section of country held in a non-productive state.

The best way, however, to dispose of such lands, would be to hold them for sale to actual settlers, as applied for. The auction sale plan is not suitable to the requirements of persons in search of land for settlement thereon. This 40 section, which is now to be thrown into the hands of speculators, would provide homes for 160 families, giving each family the large farm of 160 acres.

Editorial Notes.

Second homesteading has been up for discussion again in Parliament, at Ottawa. It is to be hoped the Minister of the Interior will stand firm, as he has promised, in this matter, and not permit the re-adoption of the principle of second homesteading. That privilege in the old homesteading regulations, was the most objectionable feature in the act. It has been the cause of endless trouble. All over the country settlers can be found whose greatest regret is that they ever took advantage of this provision. In the older settled districts of the country, second homesteading is generally regarded as the greatest drawback which the country has had to contend with. In view of the experience of the past, it is surprising that a western member can be found to advocate the principle.

Bradstreet's attributes the depression in hides