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THE ALASKAN GOLD FIELDS.

The announcement of the return of two steamers from the Alaskan gold fields last month, with a small party of miners on board who carried about a million and a half in gold between them, has gone through the world like an electric shock and bids fair to end in a "gold fever" comparable only to the wild excitement of the California discoveries in 1849. Already the "rush" has begun, and in spite of the warnings of the miners who have just come out of the country, and the detailed account by the press of the inhospitable and inaccessible nature of the placer districts, the symptoms of that wild scramble incident to a gold excitement are more or less manifest throughout the continent.

As compared with the California discoveries of half a century ago, those in Alaska will differ greatly in the nature of the climate under which the work of the miner must be carried out, the one being as rigorous and trying as the other was mild and favorable.

This is a fact that should be carefully considered by every inexperienced but adventurous spirit that may be contemplating a trip to this remote corner of the earth. The fact that in 1849 clerks were able to leave the desk and counter, and business men the snug comforts of home and office, and plunge without hurt to themselves into the hardships of California camp life is no proof that a similar venture may be made in these mining camps of the far North, where the thermometer has a range of one hundred and sixty degrees in the year, and sixty degrees below is a common experience in the winter. Of all the incidents related by returning prospectors, nothing is more significant of the peculiar difficulties of Alaskan mining than the fact that the gravel beds have to be thawed out by building wood fires above them before the material is ready for the miner's pan and the sluice-box.

The Klondike River, in which the rich gravel beds lie, is a minor tributary of the great Yukon River. Although the gold fields are, and probably will be, popularly known as Alaskan, they lie to the east of the boundary line and are therefore in the Canadian Northwest Territory. At present there are two routes by which the district can be reached from Seattle, the nearest American port. The longer and less trying journey is made by ocean steamer to St. Michael at the mouth of the Yukon, and thence by river steamer to Dawson City at the confluence of the Klondike and the Yukon. This route is estimated to be about 4,700 miles long. The cheaper and shorter route, and that taken by most of the miners, is by steamer from Seattle to Juneau, and overland from this point to Circle City. Although this route is less than half the distance of the former, it involves an overland journey of nearly nine hundred miles, in which traveling is difficult and in some places attended with considerable hardship.

As to the placer deposits themselves, they are undoubtedly of extraordinary richness. The fact that miners should come out after a few months' work with from twenty thousand to two hundred thousand in gold proves this beyond a doubt; but just what the extent of the gold field is, and how many other tributaries of the Yukon will show a similar prospect, time alone will tell. This much however is certain: the outside world will only hear of the larger fortunes, and little will be said about the host of unsuccessful adventurers who form the background upon which the alluring bags of gold dust and jars of nuggets of a mining excitement are displayed. Except to the few thousands who locate the richest claims in the first rush of prospectors, the average chances of digging up and washing out a speedy fortune are very slim. It is easy to estimate that of the thousands who will probably go to the Klondike in the spring, but very few will find claims that have not already been staked out. There are probably at this writing some four or five thousand miners on the Yukon, and they will flock, as is the miners' wont, to the new El Dorado. The length of the permissible claim along a stream is five hundred feet, and a simple calculation shows that these men alone could cover five hundred miles of the best claims before the arrival of next season's crowd of adventurers.

Next to those fortunes which are made in the placer mines the most speedy and largest fortunes will be realized by the prospectors who discover the rich quartz deposits from which nature has broken out and washed down the present gravel beds. As yet nothing has been done apparently in the way of quartz prospecting, although it is likely that rich veins exist somewhere within the watershed of these various tributaries of the Yukon. At best placer mining is but introductory to the more extended and enduring quartz mining, and when the latter has once been put fairly under way, we may look for the systematic development of this remote but extremely interesting country.

The present discoveries of gold come as a further vindication of the wisdom which dictated the purchase of Alaska from the Russian government just thirty years ago. Its purchase price was $7,200,000, and it is estimated that the royalties from the fur sealing company, the rich returns of the salmon industry, not to mention the annual output of the great Treadwell gold mine on Douglass Island, the largest mill of its kind in the world, have together paid back the purchase price many times over to the United States. It is stated that there are indications of the existence of coal and the various leading minerals; but at present there is no evidence that the country is capable of producing the necessaries of life, though more than one explorer has given it as his opinion that certain crops could be raised in the summer months. Undoubtedly the great and enduring drawback to Alaska will be the dark and bitterly cold winter, in the depth of which there are twenty hours of darkness and but four of daylight, and the thermometer goes down, as it did last winter, to 70 degrees below.

Apart from the benefit conferred by the placing of additional gold in circulation—a benefit which in its total effect, however rich the mines may turn out to be, will be considerably less appreciable than is commonly supposed—these gold discoveries give an indirect impulse to trade and quicken the pulse of the industrial world. In this respect the Klondike excitement has already produced a marked improvement on the Pacific coast, and this greatly depressed country seems to be in a fair way to recover some of its old time prosperity.

STEEL WAGON TRACKS ON COUNTRY ROADS.

It is the narrow tires of heavy farm and freight wagons that do the most serious damage to country roads, especially during or after heavy rains, or when the frost is coming out of the ground in the spring. A single wagon track, but slightly depressed below the general surface, forms a channel in which the water will stand on the level and down which it will run on the hills, softening or cutting out the material of the roadway, and preparing the way for the traffic to grind out a couple of deep and unsightly ruts. These results are seen at their worst in a country where the soil is alluvial or clayey; but in any country and on any road except a first-class macadam the destruction of the surface by formation of ruts is only a question of time. The adoption of broad tires on all wagons, and care in filling the ruts, would mitigate the evil; but as things go to-day in most country districts, these remedies are conspicuous by their absence.

The United States Department of Agriculture is carrying out experiments with a view to saving country roads from this quick deterioration. The device consists in laying down in the center of the road two flat steel tracks to the gage of the average farm wagon. The steel rails, for they are nothing less, are to be $\frac{7}{16}$ inch thick and of an inverted trough shape. They will be bedded in gravel laid in trenches, and they will be tied together at the joints and in the middle. On all hills the rails will be slightly corrugated or roughened to enable horses to take a good foothold. In addition to the durability of a road made on these lines, it is claimed that such a road would reduce the tractive resistance from forty pounds per ton on a macadam surface to eight pounds per ton on the trough rails.

It is estimated that the cost of the rails and fittings for a short stretch of road will be at the rate of about $3,500 per mile; though a line several miles in length could be built for about $2,000 per mile. This estimate is for a track which would weigh about 100 tons per mile; a track for lighter traffic, weighing about fifty tons per mile, could be built for half the above named sum. These figures represent the cost of material only, the grading and track laying not being included.

As regards the value of such a road, there may be some districts where its construction and maintenance would be more economical than that of a first-class macadam, but we doubt whether it would prove to be so in cases where the materials of macadam construction are within easy reach. As regards the increased hauling capacity of the steel-tracked road, there is no doubt that it would be greatly increased, though scarcely, we imagine, to the extent—five hundred per cent—claimed by the advocates of the system.

PROPOSED COMPLETION OF THE HUDSON RIVER TUNNEL.

It is gratifying to learn that there is prospect of the early completion of the tunnel under the Hudson River, which was begun in the year 1874, and upon which work was suspended in 1892, when about four-fifths of the work had been completed. It is stated by the legal representative of the English bondholders that steps are to be taken to foreclose the mortgage of $2,750,000, reorganize the company, issue new bonds, and push the work to completion. The tunnel starts from a shaft on the New Jersey side of the river, which is located at Fifteenth Street, Jersey City, and it is to terminate in a shaft on the New York side at the foot of Morton Street. The total distance will be 5,400 feet, and of this, as we have said, about four-fifths have been completed. It was originally intended that the terminus on the New York side should be at Washington Square, but under the new scheme it is probable that it will be placed nearer Broadway. The cost of the undertaking has reached about $4,000,000, and it is estimated that