

ALASKA'S NEW RAILWAY

ENORMOUS RESOURCES IN GOLD, COAL AND OTHER MINERALS TO BE OPENED THIS YEAR

BY FRANK G. CARPENTER.

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ANCHORAGE, Alaska.—I have just returned from a ride along the line of Uncle Sam's railway. The new construction begins here at the mouth of Ship Creek, where ocean steamers land their supplies in the summer and the roadbed has been graded for about 40 miles. Twenty miles of track have already been laid and everything is in preparation for rapid work as soon as Congress passes the bill supplying the money. The work has been so pushed that by last November the engineers had done what it was supposed would require the whole winter. They have made careful surveys of the route from here to Fairbanks and have covered the branch line which goes from Matanuska Junction to the Chitina coal fields. They have gone over the Alaska Northern Railway, which Uncle Sam bought last year at a cost of \$1,150,000, and have put 35 miles of that road in running condition. They have laid out the extension of the Alaska Northern to Anchorage, and, in short, have now planned the whole railway. They have made careful estimates of the cost of everything connected with it and have constructed contour maps showing the country on the scale of one inch to the mile. They know just what they have to expect and from now on the road can be pushed as rapidly as Congress will furnish the money.

The act providing for Government railroads in Alaska was passed March 12, 1914. It authorized the operation and building of railroads here to an extent not to exceed 1000 miles and at a cost of not more than \$55,000,000. It was on this authorization that the President bought the Alaska Northern Railway and decided to extend it to Fairbanks, a distance of 472 miles, at a cost of something like \$27,000,000. But Congress will have to appropriate the money as needed and the progress of the work is dependent upon the two houses at Washington. In 1914 the appropriations amounted to about \$1,000,000. Something like \$2,000,000 was appropriated last year and the engineers have asked for \$10,000,000 to be spent in 1915. If that is granted the road to the Matanuska coal fields can be completed and the lower portion of the extension to Fairbanks put into operation this year. The road can also be built from the Nenana coal fields to the Fairbanks gold mines, giving that rich territory the cheap fuel it so greatly needs.

The total length of the Government railway will be under 500 miles and the engineers tell me it can be constructed at an average cost of about \$50,000 per mile. In some places the cost will run to \$90,000 per mile, but in others it will be \$20,000 or under. The road will cost about the same as the western end of the Grand Trunk Pacific Railway and it will be more expensive than the Northern Pacific or the Puget Sound division of the Chicago, Milwaukee & St. Paul. The track is to be of the standard gauge, with rails of 70 pounds to the yard. It will be substantially built and of the most modern construction.

I like the way our Government engineers are handling their job. There is no red tape here at Anchorage and so far "fuss and feathers" are absent. The three engineer commissioners are as plain as pie. They talk to me about the men and go over the job on foot and on horseback. Nevertheless, William C. Edes, the chairman

of the commission, has built some of the great roads of the West. Lieutenant Frederick Mears was superintendent of the railway at Panama and Thomas Riggs, Jr., was at the time of his selection chief of the boundary survey. They are all men of practical experience and are especially fitted for life and work on the frontier.

I have already written of the headquarters of the engineer commission. The two-story house put up for them here at Anchorage would not rent for more than \$15 a month in the States. The most of the clerks are doing their work in tents or log cabins and the forestry department of the Government is a two-room shack with folding cots, on which the clerks sleep at night. The commissary building is of logs and the tables nearby, where from 50 to 100 horses are kept, are of canvas. The hotel or messroom for the men and Government employes is of logs and three meals there are given for \$1 a day. So far I have to meet an official who puts me through the motions of them going about with their pants in their boots and the clothes worn by the engineer commissioners would hardly bring the value of the wool in them at a second-hand store.

Everything is business. The work began 15 days after the President elected the route and it has gone on steadily as long as the money has lasted. Fifteen hundred men have been at work the past year and something less than 1000 are now on the job. W. C. Edes, the chief engineer, has had large experience in constructing railroads in our Rocky Mountain highlands and throughout the West and he is using the same methods of employment which have proved most economical and most efficient in Oregon, California, Washington and Canada.

The construction of the road is after a system known as station work. A certain section of the road, or station, is given out to a number of men called a gang, who contract to build it according to the specifications. They go in together as partners and have an equal share in the work. The cost is estimated by the cubic yard and the pay is on that basis. The Government sees that the men have fair treatment. It has timekeepers who go over the work and keep track of just what each man does, so that on the completion of the job the account shows the efficiency of every man on it. There is nothing of the penance system connected with these arrangements. There is no one who employs all the hands and gets a large profit. The Government sees that the arrangement is on a partnership basis and that each man gets his individual check for his share. The great advantage of this method is that it eliminates all questions as to hours and conditions of work. Uncle Sam pays for results only and that within a fixed time.

I have asked the officials as to the wages prevailing in the other branches of the construction. Mr. Edes tells me they are higher than those paid for similar work in the western parts of the United States, although they are much below those of interior Alaska. The men here are now getting from \$7 1/2 cents an hour upward. Some of the skilled laborers are paid 50 cents an hour, and some 75. This is without board, but the latter is furnished at the Government messhouse at 33-1/3 cents a meal. The time is eight hours where the men work by the day, and this makes the wages range from \$3 to \$6. The men have the right to buy their personal supplies and other



Laying the Tracks.



Railroad Ties Cut on the Kenai Peninsula.

things of the Government commissary, where goods are sold for their wholesale cost, plus a small percentage for handling the business. This gives them the goods at about 40 per cent under the ordinary prices and enables the poorest of them to clear as much as \$2 per day. Medical and hospital charges are free.

So far there has been plenty of labor. The United States has a large class of professional railroad builders who move about from job to job. There are also many who prefer to work on the rough work. They all want to be in now doing the greater part of the construction. The men are of all nationalities and the greater proportion are foreigners. In addition are a few men from Alaska. The engineers tell me it is difficult to get Americans to do the rough work. They all want to be foremen, bosses or timekeepers. They will work hard as prospectors and miners, but they will not continue for any length of time to handle the pick and the shovel at so much per day. The Alaskans are doing much of the clearing, and they have taken many contracts for ties. They object to the low wages of the Government, which are far under those which have prevailed throughout the interior, where \$5 a day and board is still paid.

I wish I could show you the roadbed and track so far constructed. The new railway looks as though it might form an exhibit in a national exposition. It runs through the woods, but the land on both sides has been cleared and ditches, drain away every bit of the water. A smooth bed of gravel, ten or more feet in height, has been made through the valley of Ship Creek, and this is of the requisite width for the track. I have never seen a better looking roadbed anywhere, and now at its beginning it compares favorably in appearance with that of the Pennsylvania or the New York Central. The engineers have the advantage

here of building along hills made of gravel. They are composed of pebbles ranging from the size of my fist to that of a pea, and all that has been necessary to get the material for the fills has been to drive cuts into the hills at the side of the track. These cuts are then roofed over and the cars are run into the bank and loaded by gravity. I understand that gravel can be easily gotten along the greater part of the route between here and Fairbanks, and that much of the track will be permanent and easily repaired.

My trip over the new roadbed was made in company with Mr. J. E. O'Reilly, the superintendent of the railway construction. Mr. O'Reilly has the management of the work and the men under the direction of Lieutenant Mears, one of the engineer commissioners. He is well fitted for the job. He has had a long experience in Alaska, where he has been engaged not only in mining, but as one of the builders of the Alaska Northern road, which forms a part of this Government line. He has also been connected with railroad construction in our Western States. He therefore, has a thorough understanding of the country and how to handle the workmen who are building the road.

We started at the harbor and crossed the railroad yards about which the terminals are to be built. These yards have an area of 100 or 200 acres and the ground is as flat as a floor. It was originally covered with forest, but the trees and stumps have been cleared away and now it looks like an Iowa corn field just plowed. A number of tracks have already been laid upon it here and there are other tracks building. Scattered about are railroad supplies of all kinds. There are locomotives and boilers from Panama; there are fireboxes and steel rails; and machines of all kinds. On one side of the yards are millions of feet of pine lumber from Puget Sound and on the other are great piles of ties that were cut in

the forests of the Kenai Peninsula and shipped here via Turnagain Arm. None of the large permanent buildings has yet been erected, but they will all be put up on this tract. There will probably be large offices for the officials and clerks. There will be machine shops for the roads and warehouses and depots for the Matanuska coal which will be sent here for export. There may also be smelters and factories of one kind or another.

During my stay at Anchorage I have learned about the country through which the railroad will go from Thomas Riggs, Jr., who has charge of much of the work throughout the interior, and who has personally gone again and again over every foot of the ground. He tells me that the most of the region has not yet been fully prospected. The land is covered with moss and other vegetation which so hides the rocks that it is hard to tell what there is. It is known, however, that the road will give easy access to many rich gold deposits and that mining camps will spring up here and there all along the way from Seward to Fairbanks. There is quartz gold near the line of the Alaska Northern and there are quartz and placer mines in other parts of the Kenai Peninsula. As much as \$450,000 in gold was taken out of the peninsula in 1914.

Going north of Anchorage at Mile 185 from Seward is Willow Creek. This is 40 miles north of Anchorage and it should be reached by the railroad this year. Willow Creek has three quartz mines, with a 10-stamp mill. It produced gold last summer to the amount of \$215,000. The mill is about 20 miles from the end of the tracks now being laid.

A little further north is the Talkestna River, where there is good farming land. That part of the country is open. It is made up of plains and valleys spotted with groves and covered with grass. A short distance to the west of it are the Yelka and Yelka mining districts, where many prospect-



One of the New Boilers Just in from Panama



Chief Engineer Edes and Lieut. Mears on new Tracks at Anchorage.

ors are working. They are taking out placer gold. Some of the men are grubstaking, the outsiders who furnish the money getting half of the findings.

One of the most promising mining districts along the new railroad is near Broad Pass, where a road crosses the mountains at an altitude of 2400 feet above the sea. The pass is about five miles in width and there are mountains on each side of it 8000 or 9000 feet high. Off to the west can be seen Mount McKinley, which is 65 miles away, and on the east are the Cathedral Mountains and Mount Hayes. The latter is almost as high as Sullyama or Pike's Peak. Mount McKinley is over 30,000 feet high; it is higher than any peak on the North American Continent, having its equal only in the Himalayas and the Andes.

To the west of Broad Pass discoveries of large low-grade quartz gold are reported. The gold is of a refractory character, running from \$1 to \$5 per ton. It will probably develop considerable traffic. Further over in the foothills of Mount McKinley is the Kantishna mining district, which has gold, antimony and other metals. There are 60-odd miners and trappers there now and some of them are doing quite well. One company has taken out 1000 tons of antimony, which will be sent out as soon as navigation is opened. The war has made that metal exceedingly valuable.

Another mineral which is now being mined in Alaska may be found in that same region. It is known to exist near Fairbanks, where they are mining it and shipping the concentrates by parcel post. This mineral is sheelite, a high-grade tungsten, used for making ammunition. The concentrates sell for \$3500 a ton.

Going further along the railroad you

reach the Nenana coal fields and then come to the Tolovana gold region, which lies not far from the route between Nenana and Fairbanks. This is a new district, where something like 500 men are now prospecting. They took out \$60,000 worth of gold last summer and the possibilities are promising.

But most important of all the mining regions so far discovered is that of Fairbanks itself. The whole country about that city carries gold. As much as \$50,000,000 worth has already been washed out of the creeks and valleys nearby and the production last year was \$3,500,000. The most of this comes from placers; quartz mining is a comparatively new industry and it has produced only about \$800,000.

The Alaska mining regions will profit exceedingly by the cheap fuel that will come from the railroads. Those of the Kenai Peninsula, the Matanuska Valley and all south of Broad Pass will have cheap coal from the Chitina coal fields, whereas those on the northern side of the pass and in the Tanana Valley will be supplied by the great coal deposits of the Nenana region. The Chitina coal is from the Matanuska field. It is said to be equal to the Pocahontas. The Government has mined and tested 800 tons of it on the vessels of the Navy and it is found to be excellent. It can be used for cooking and it will be the first Alaskan coal of commerce.

The Nenana fields are of vast extent. The railroad passes through them and it is down grade all the way from there to Fairbanks. The coal deposits run from the railroad eastward for a distance of perhaps 100 miles. The black strata can be seen standing out in the cliffs and in places, the veins are 40 feet thick. The coal is a high-grade lignite, suitable for all local commercial purposes. It has an ash which is 46 per cent fixed carbon and its heat value is equal to about 12,000 British thermal units. It is not good enough to bear exportation, but it will be of enormous value to the mining regions of the interior.

In order to appreciate what this coal means to the mining regions it must be remembered that most of the gold deposits are in frozen ground. The frost and ice go down to bedrock. The earth has been frozen for ages and it has to be thawed out by fire or steam. A single mine will often consume from 10 to 12 cords of wood a day and so far nothing but wood could be used. Something like 100,000 cords of wood are now annually sold in the region about Fairbanks. This wood costs from \$10 to \$15 a cord and the average in Fairbanks is between \$11 and \$12 a cord. At \$15 a cord a mine will use as much as \$150 worth of fuel a day and without the gravel or quartz is of comparatively high grade it will not pay to work it. Moreover, the wood here is soft and it has no great heating value.

The Nenana coal, when the railroad is complete, will probably be worth at the mines about \$5 per ton, and as one ton of coal is equal to two cords of wood, five tons will thaw out as much earth as 10 cords of wood. In other words, the difference in cost will be the difference between \$25 and \$150 a day in working the mines. This alone will mean a great profit and it will result in enormous areas of low-grade gold-bearing regions being worked. It means the opening of many new quartz properties and a great increase in the valleys and benches where the gravel can be washed over by dredging and hydraulic sluicing.



Out in the Fields

SOON it will be time to run out into the fields and pick daisies. Did you ever make a daisy chain? No! Then I will tell you how to make the kind of chain the May Queens wore when she sat on her flowery throne.

Gather up the daisies with long stems, and make a loop in the stem about an inch from the flower. Put the head of another daisy through it, and then tighten the loop so as to hold the daisy. You can make this chain as long as you want, and you can wear it either around your head, neck or waist.

Did you know that daisy means "day's eye"? The daisy opens with the rising of the sun and shuts up, or goes to sleep, when the sun sets—hence its name.

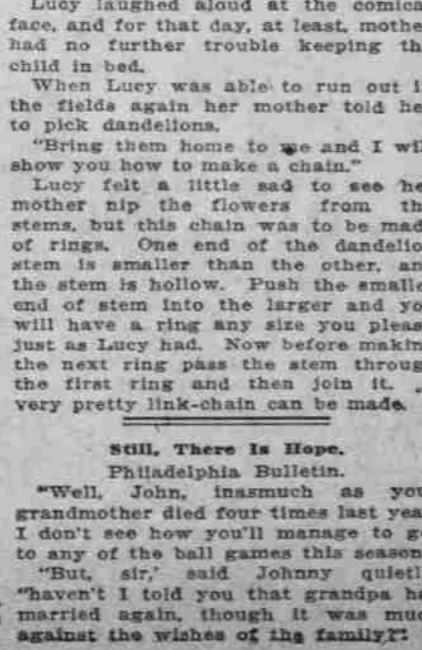


Now We Will Make the Little Girl's Face.

For the Young People

Shell-Fire and Birds

MANY people have been wondering over the behavior of the birds on the fighting line in France. The robins perch on the edge of the trenches and peer down as if they were generals on inspection; they are tempted into the very trenches themselves to have a share of the rations. "Come and perch on my bayonet, the little beggar did," as one of the soldiers said, "when I put it up out of the trench, just the same as a Christmas card." Sometimes in the course of a heavy cannonading, the sky-larks, high in the sky through which the shells are hurtling, go singing as if they were trying to drown



Shining as if They Were Trying to Drown With Their Song the Noise of the Bombardment.

Hans' Troubles

NOT long ago you were told about poor little Hans and the troubles he was having in school with the English language. Well, every day his perplexities seemed to increase, and the German youth wished himself back in his own country many a time, in spite of the troublesome times they were having over there.

Here is an instance of the other day's troubles. His teacher called on him and said:

"Now Hans, spell 'ONE' for me."

"O-N-E spells ONE."

"Very good. Now spell 'WONDER'."

"O-N-E-D-E-R, WONDER."

"Wrong," said Teacher, and she told him the correct way. Then she said: "Spell 'two.'"

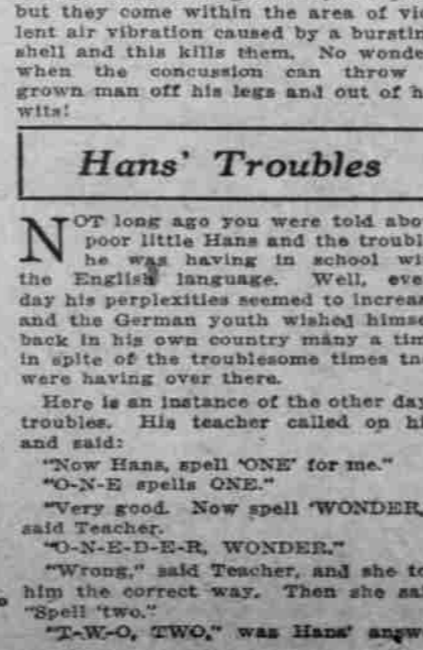
"T-W-O, TWO," was Hans' answer,



Shining as if They Were Trying to Drown With Their Song the Noise of the Bombardment.

Way of a Woman

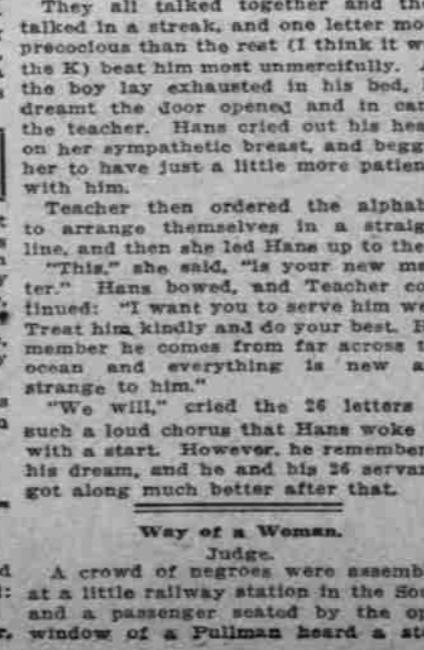
A crowd of negroes were assembled at a little railway station in the South and a passenger seated by the open window of a Pullman heard a stout



Shining as if They Were Trying to Drown With Their Song the Noise of the Bombardment.

BASEBALL PUZZLE

These boys want to organize a baseball nine. See if you can find three more players.



These boys want to organize a baseball nine. See if you can find three more players.

DELETIONS

1. Delete a letter from a machine e-a, i-t-l-p-u, p-r-t-o-o-e-l-b-l.

Answers:

Deletions: 1. Motor-moor; 2. Pearl-land; 3. Cream-cream; 4. Spray-spry.

Floral Mix-up: Violet, poppy, primrose, pansy, daisy, geranium, tulip, hellebore.



These boys want to organize a baseball nine. See if you can find three more players.

FLORAL MIX-UPS

One in center of picture between two boys, one at right of picture behind boy, and one between feet of boy in center.



These boys want to organize a baseball nine. See if you can find three more players.