

RAILWAY PROJECTS

They include Kuskokwim Valley and Seward Peninsula. By Frank G. Carpenter.



Iditarod, Reached by the Kuskokwim Extension. This Region Has Yielded \$10,000,000 in Gold.

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NOME, Alaska.—The railroad now building from Seward to Fairbanks is only the beginning of a system that will eventually cover a great part of Alaska. Congress has proposed the expenditure of \$25,000,000, and of this only \$25,000,000 is to be spent on the railroad now being constructed. The Government engineers have made a large number of other surveys. They have secured full information concerning the country between here and the Copper River. The route which was built by the Guggenheims at a cost of about \$20,000,000, and they have surveyed a connection between that road and the new Government line. The latter begins at Chitina and runs through Copper Center to the Matanuska coal fields, crossing the main line at Matanuska Junction. In addition the Copper River road may be extended to Fairbanks and further extension will probably be made from there to a country north of the Yukon.

A very important survey is that which has been made by the Government line with Fort McGrath at the head of navigation on the Kuskokwim River. This line will have branches to the Iditarod and Innoko gold fields, and also a possible continuation across the Yukon and about Norton Sound to Nome on the Seward Peninsula. There are some who prophesy that the Nome branch may some day be extended to Cape Prince of Wales, and thence across Bering Strait to Asia, and form part of a great trunk line connecting Europe and North America by means of the railroads of Siberia.

Most of these extensions are a matter of the distant future, when Alaska, having developed along the lines of Finland, Norway and Denmark, will have a population of one-fourth as many millions as it now has thousands. The enthusiasts here claim that the territory will easily support 20,000,000 or 25,000,000 people, and they look forward to it as the great stock-breeding, agricultural and industrial empire of the North.

A railroad across Bering Strait would seem to be the wild dream of a fantastic imagination, but it is not an impossibility in the days of the great bridges. Bering Strait, between Cape Prince of Wales, Alaska, and East Cape, Siberia, is only 60 miles wide, and there are three narrow places between one coast to the other. These are Fairway Rock, a flat-top pinnacle with an area of seven acres, which is 20 miles from Cape Prince of Wales. Beyond that, 10 miles distant, is Little Diomedes Island, and still further over is, Big Diomedes Island, which is about 20 miles from East Cape, Siberia. Bering Strait is so shallow that if the Washington monument were placed in the middle of the strait, it would be two-thirds of the way above the water. The bottom of the channel is solid rock covered with sand and silt, and a tunnel might be made running from North America to Asia, connecting with the two Diomedes and Fairway Rock. The tunnel would have to be in four sections. The first would be 20 miles long, the second about 10 miles long, the third, between the two Diomedes Islands, would be 10 miles long, and the fourth, ending in Asia, would be only a little longer than the first. The first two tunnels would be on

American territory. Fairway Rock and Little Diomedes belong to the United States. The third would unite us with Russia, to which nation Big Diomedes belongs, and the fourth also would belong to the Russians.

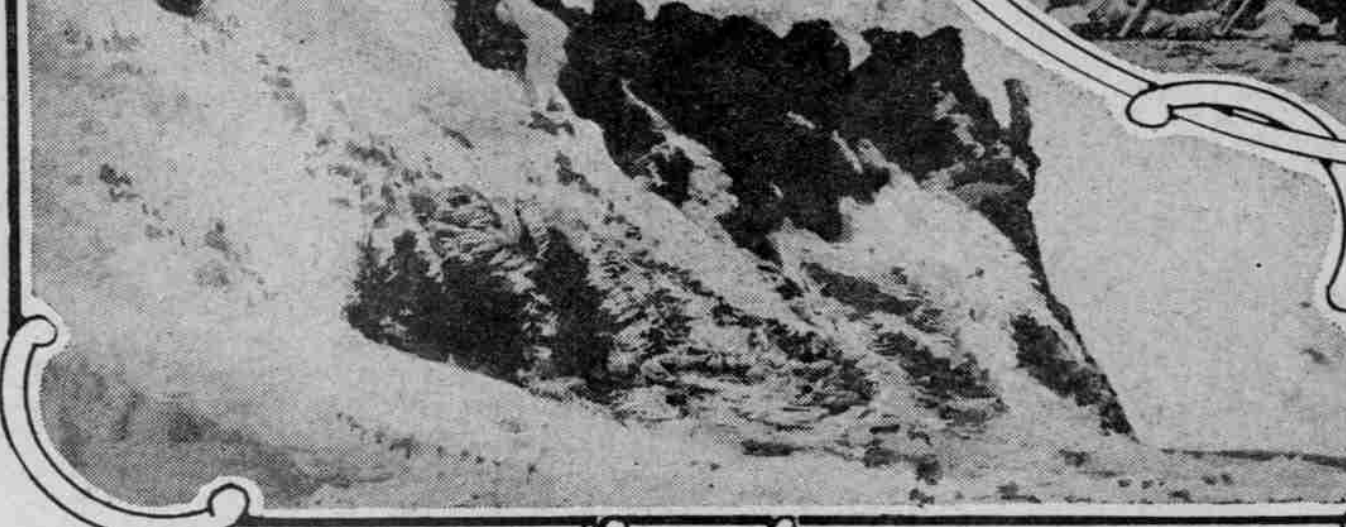
There have been those who have tried to build a bridge across the strait, or a floating ferry across from continent to continent. It is claimed that there are many places in the channel where the water is not over 10 feet deep, and pillars could be erected to support the bridges which might be so made that they would swing to allow the floating icebergs to pass through. This seems ridiculous to any one who understands the great ice floes of the Arctic Ocean, and there is a strong probability that the strait, but across the bridges could be made on account of the depth of the strait, and they would certainly be destroyed by the ice.

Today about the only ships that go through the strait are a small steamer and a few whalers. The whalers go to the Arctic Ocean to catch the right whale, a single one of which will often net as much as \$10,000. Some of our revenue cutters also go through, and there are regular steamers from Seattle each Summer which carry supplies to Kotzebue Sound and the northern ports of the Seward Peninsula.

Moreover, it is questionable whether bridges could be built from shore to shore on account of the difficulty of connecting the mainland and the islands. Cape Prince of Wales and East Cape, Siberia, are with bold and rocky headlands connected with the mainland by a low neck of rolling tundra. Cape Prince of Wales has on one side walls about a thousand feet high, and these rise into uplands a half mile above the level of the sea. The water here is clear, and from this cape almost anywhere inside the strait, the Diomedes Islands have steep shores which rise to flat-top summits that occupy nearly the entire strait, and Fairway rock looks like a mighty haystack rising out of the water.

There is one other thing to be considered, and that is the fact that the strait is usually foggy and Deshnev did not see North America. About 60 years later another Russian, Prince de Wale, brought back rumors of a continent to the eastward. This was Popof, a Cossack, who was sent by the Emperor of Russia to the eastern Siberia to make the Yermolov route. Popof described the Diomedes Islands, and must have seen North America, for he said that he saw a mountain visible from them. When the news came back to Peter the Great, who was then Czar, he wanted to know

twist and withdraw the feather, endeavoring to dislodge the worms. Worms Found in the Testicles. There are two kinds of worms commonly found in the intestines, and they have been found in 80 per cent of the birds examined in this laboratory. These are round worms, or tapeworms, and tapeworms. Some people think that a tapeworm consumes food, but, with the microscope we find that they have no mouth, and they do not eat. If we examine a tapeworm under a microscope we find that they have no mouth, and they do not eat. If we examine a tapeworm under a microscope we find that they have no mouth, and they do not eat.

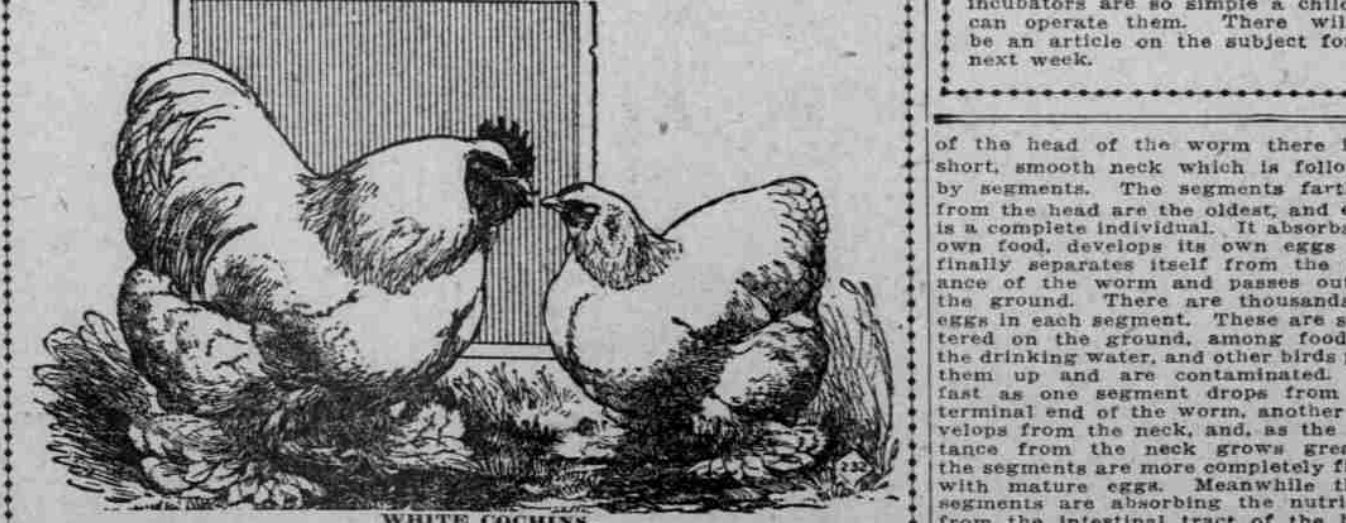


Siberian Eskimos Near Bering Strait.

so the Kuskokwim region has been practically inaccessible, but the coast and geodetic survey has recently explored the channels at the mouth of the river and found a route up which large ships can go to Fort McGrath and beyond.

The work of the survey was done by Captain E. L. Lukens, who had the steamer Yukon and a party of 16 men. He charted a new channel through the mouth of the river and extended his survey inland to Bethel, a Moravian mission settlement 75 miles inland. The steamer now goes in to Bethel and on up to Fort McGrath, which is almost 500 miles from the mouth. Smaller steamers can go still farther inland.

The Kuskokwim Valley covers a country as large as the state of New York. A great part of it is flat, but the upper portion is rolling, and much of it is covered with timber. The valley is the most bloodthirsty and numerous of any in Alaska, and Alaska has the worst mosquitoes in the world. They are highly about the water, and they drive white men crazy. The prospectors go through the region wear headnets and long gloves, which they change frequently. The Eskimos, who expose their bare eyes or face soon lose their natural appearance. His eyes are closed, and his face becomes a mass of lumps and fiery pimples. This information comes from Ivan Petroff, one of the census takers who has been in the region for a long time.



of the head of the worm there is a short, smooth neck which is followed by segments. The segments farthest from the head are the oldest, and each is a complete individual. It absorbs its own food, develops its own eggs and finally separates itself from the balance of the worm and passes out to the ground. There are thousands of eggs in each segment. These are scattered on the ground, among food, in the drinking water, and other birds pick them up and are contaminated. As fast as one segment drops from the worm, the latter adds to the worms which are absorbing the nutrients from the intestinal tract of the host. The presence of worms adds to the discomfort of the birds; they cease to lay, become poor in flesh, young birds do not make proper development and many cause death.

be built from both ends. The supplies for the eastern end could come from Seward, or Anchorage, up the main line, and those for the western end to the mouth of the Kuskokwim and up that river to Fort McGrath. The building of the main line would entail an expenditure not much larger than the amount left from the \$25,000,000 fund at the start, but when they reached Fort McGrath there were only seven left that could carry freight. The road was so heavy and marshy the horses could not travel more than three hours a day, and some of the country offered great difficulties in the way of surveys. Mr. McPherson says that the railway can be built at a cost of less than \$12,000,000, and that, with the extensions to the gold mines of the Innoko-Iditarod gold regions, the cost will be under \$18,000,000. This includes track to the extent of two miles and that an estimated cost of about \$41,000 a mile.

The main line of this road will cross the Susitna Valley and go for some distance along the Skwentna River. It will wind its way up the Happy River valley, and will cross the mountains over Houston Pass, in a great bend running to the south, then west and then north, before starting toward the northeast and Fort McGrath. Much of the region through which it goes is covered with spruce, ranging from eight inches to two feet in diameter, and there will be no lack of timber for ties and pling.

Mr. McPherson says that the route offers no great engineering difficulties. Houston Pass is only about a half mile above the sea, and the slopes are such that it is easy to approach. It is the lowest and best of the three passes across the mountains. There will be no lack of timber for ties and pling. Mr. McPherson says that the route offers no great engineering difficulties. Houston Pass is only about a half mile above the sea, and the slopes are such that it is easy to approach. It is the lowest and best of the three passes across the mountains.

are poor and emaciated. This absorption is accomplished by the worm in much the same manner as the absorption by the intestines. The tapeworm attaches itself to the lining of the intestines by means of an eight inch long, and four suckers, and a cluster of hooks, arranged in a double circle between the suckers. With the aid of a lens we find that back of the hooks are four small, wheel-like structures. Incubators have played such an important part in the development of the poultry industry that it is almost superfluous to enumerate their advantages. To the incubator, the most important is the egg, which is an intricate apparatus, requiring special skill and practice before one can hope for best results. This is not so, reliable incubators are so simple a child can operate them. There will be an article on the subject for next week.

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It has been found that one kind of tapeworm has for its intermediate host the common house fly. The fly eats the eggs of the worm, in this way the tapeworm enters the body of the fly and passes through one stage of their development into a tiny cyst. The fly is then eaten by the chicks, and the tapeworm enters the body of the chick. The tapeworm larva matures, and the new worms attach themselves to the wall of the intestine of the new host. What to Do for Worms. It is a good plan to open the intestines of birds killed for table use, and

Modern Poultry Culture

Agricultural experts estimate that almost \$10,000,000 is lost annually by diseases of poultry, and of this, the most serious are those which are harbored in the intestinal tract and other vital organs. The writer of this article has, for many years, been studying the subject, and has experimented with drugs and means of ridding fowls of these pests. Some of the results of his investigations follow:

BY DR. E. F. KAUFF, Poultry Investigator and Pathologist for United States Department of Agriculture. The tube which extends from the throat to the lungs is commonly called the windpipe. Its scientific term is the trachea. As the result of worms in the trachea, a condition may develop which is called gapes, so called because the bird in its later stages gasps for air by extending its head high into the air with mouth open.

There are many causes for gapes, such as pieces of cracked corn or other particles of food being sucked down the tracheal opening in the throat during the process of swallowing. Examining the throat of a bird in which there is a long slit open and shut at the upper end of the larynx, or box at the upper end of the windpipe. There is no opening in this structure, as in mammals, hence it is not so well protected when the food passes over it to the gullet or esophagus. Consequently, if the bird chokes or gasps a small particle of food may find its way into the upper part of the windpipe, and thus obstruct the free passage of air. We once found a whole grain of corn lodged in the upper part of the windpipe of a fowl. When the windpipe becomes obstructed it is difficult for the air to pass and the bird gasps. Obviously, this is not due to worms. And since the condition due to worms is called gapes, we call this other gasping—false gapes.

which find their way into the windpipe and cause true gapes. These two worms, which are in turn eaten by a Y-shaped looking worm, but which, as just stated, is really two distinct individuals. Many of these worms may finally become attached to the trachea, and a single trachea can cause serious trouble.

How the Worms Spread. When filled with mature eggs the female worm is coughed out of the trachea, or the chick dies and the worms then decay, and finally the eggs or minute worms are freed upon the ground. These are devoured by earthworms, which in turn enter the soil, and the bird is affected by gapeworms. Old birds appear proof against them. At any rate they do not produce serious results.

Earthworms taken into the stomach of the chick are digested, and the minute worms (Syngamus trachealis) are finally become attached to the trachea. They attach themselves in clusters to the wall of the trachea. Their heads are provided with suction apparatus, and by means of these they have to ill effects upon them. The liberated worms now bore their way through the wall of the stomach, and finally become attached to the trachea. They attach themselves in clusters to the wall of the trachea. Their heads are provided with suction apparatus, and by means of these they have to ill effects upon them. The liberated worms now bore their way through the wall of the stomach, and finally become attached to the trachea.

waistline is a short bolero of the salmon-pink soiree silk, the front and center back seams up higher than the sides to show the shirring and belt. The bolero has shoulder-straps of crystal beads and is quite sleeveless. Palsley silk evening coats promise to be much the vogue for warm evenings. The silk is shirred at the neck, a long loop hanging in front of the waistline at the back. This loop is edged with black velvet which brings out the rich colors in the Palsley pattern, and is weighted with a large black tassel.

Long, Draped Veil Is Smart on High Turbans. Pretty Little Bolero Jackets Worn With Dancing Skirts of Spanialed Net. WITH the small, high-crowned staves and silk turbans of Spring, the long, draped veil is exceedingly smart. These veils come in fine mesh patterns with all the decoration on the border, which is often deep and quite elaborate. Soutache embroidered borders are most striking. In these veils are draped around the small turban, pinned at the back and allowed to float around the shoulders and in long ends at the back. Black is the favored color in Spring veils of this character, though taupes, grays, browns and even plums are noted in these veils. The latter are drawn in neatly beneath the chin, giving hat and hair a neat, trim effect. Some veils have patterns so arranged that the design comes over the front of the hat instead of over the face portion on the veil.

Eight Wins Her \$300 Rise. DENVER, Feb. 2.—The controversy over the appointment of Clara Ruth Mozzer as Fourth Assistant Attorney General has led to the abolition of the office by the Legislature and to her selection by the Assistant Attorney-General, with an advance of \$300 yearly in salary. It was announced that the Utah Assistant Attorney-General resigned to accept another office and Miss Mozzer will be named for his place. Women's organizations joined in the fight to prevent the dismissal of Miss Mozzer by abolition of her office.

CONKEY'S POULTRY TONIC. Helps your hens lay more eggs. It doesn't force it; tones the system, strengthens the egg organs, and so starts her singing and laying. Conkey's Poultry Tonic is good tonic, not cheap filler. No cayenne pepper, molasses or any other in it. In packages of 25c, 50c, 75c, 1.00. At Your Dealer.