THE SUNDAY OREGONIAN, PORTLAND, MARCH 19, 1905.

UNCLE SAM' COLOSAL WOPK AT STORE OF SCHOOL Frank G. Carpenter Writes of the Great Cut for the Canal at Culebra mountains which in South America vise more than four miles above the sea, and which drop down as they cross the isth-mus on their way north to join hands with our Rockies. In this country these mountains are on the average only about one-third of a mile high, and here at Culobra their highest peaks are just about 20 feet above the sea THE CULEBRA CUT. Isthmus of Panama, March 2.-(Special Curre-respondence of the Sunday Oregonian.) -I have come to Panama to tell you how Uncle Sam is digging his hig ditch • I have traveled from ocean to ocean. over the line of the canal from the Atlan-100 feet above the set. This height the French have cut down 150 feet, leaving us in round numbers 120 feet more to cut before we reach sea lavel, and about 200 feet before we get to the bottom of Uncis Sam's ditch, which tic to the Pacific, have talked with the ingineers of the various sections, and, in ompany with Chief Engineer Wallace and Governor Davis, have walked over the greater part of the Culobra cut. to the bottom of ting 40 feet below as level to accommodate the big ships of the day. In this statement 1 assume that we will have a sea-level canal. That is the gen-eral opinion here at Panama, although no I sit in the Culebra cut as I write, with thousands of men at work about me, with steam drills boring holes into the rocks for blasting, and with the new steam showels puffing away as they load the cars, each doing the work of hundreds of one is willing to make that statement for publication. This cutting at Culebra will be on the average eight or ten miles long for the upper levels, but it lengthens as it goes down, and it will be 55 miles long when it approaches the level of the sea. It is composed of rock and earth, which will have to be gouged out and carried away to let the oceans flow through. In other I am in the midst of the mountains. Ragged, rough and covered with a dense growth of vegetation, they rise high above the great rocky gorge in which the excavation is now going on. Below me the water hes in the bottom of the cui-and looking up and down the gorge I can see the work of the French engineers. have to be gouged out and carried away to let the oceans flow through. In other letters I shall describe the problems of the Chagres, the construction of the har-bors and the other engineering works now planned. They are all, however, subordinate to the big part of the job, which is the digging out and carrying away of this great mass in the center of which I all. see the work of the French engineers. They labored 30 years, and spent here and in Paris 325,000,000 in gold; but they worked in the dark; and with booding and bad business, accomplianed only one-tenth of this excavation. The French were fine angineers on paper, but they never ancertained the cost estimates of men, machinery and materials which are absolutely essential to any rational deduc-tion as to the time it will take to build the canal or the money needed for the 80 USING FRENCH STEAM DRULLS AT CULEBRA 1805 MPOVTER A Ditch Twice Around the World. I wish I could make you see it as if rises about me, the rock and earth exthe canal or the money needed for the tending in strata of various kinds up the purpose sides of the mountains, with car tracks What is Being Done at Panama. running along the levels, and the ma-chinery and men working away. Here the rock is hard, there it looks like cont, This is what the Canal Commissioners and the chief angineer are doing today. They are making the tests which will and farther on it seems as soft as clay. form the basis of all estimates and con-tracts for the work of the future. There are now gangs of men all along the line of the canal under the charge of skilled This map, made from one of the old French lithographic pres at Panama, shows the excuvation, or cut, that must be made for the canal from Colon to Panama. By the scale of miles, it will be seen that it is 47 miles long. The peak at Culebra is about 320 feet high, but here about 150 feet have been cut out. Only the black is earth. The shaded portious represent various kinds of rocks and minimer of earth and rock. The altitudes are given COLON PANAMA SEA LEVEL SEA 20 210 Por Porto THE NEW STEAR SHOULD 45 Miles

engineers looking into every cost element of the canal construction. Some parties are at the besidwaters of the Chagres, and others at various places along its course making boring for tunnels and dams. Others are preparing the way for the harbor excavations at the Atlantic and Pacific ends of the canal and others are testing every foot of the dredging to be made through the lowiands and on the place the Orthone are rises to the Culebra cut.

rises to the Culebra cut. Here at Culebra there is a small army at work, a part of it using the old French imachinery and others working the great steam showels, testing the different sec-tions of the pass and ascertaining to a

<text><text><text><text>

tions of the pass and accertaining to a cent and minute just which it will cost in time and moncy to get each kind of rock and earth out. This work is experiment-al, but at the same time practical. Every day takes out and carries away a mass of material which will not have to be han-died again, and this while the work is being organized and tested for the great un-dertaking of the future. In addition to this the sandtation proj-

ects are going rapidly on. The vegetation has been cut away from the score and has been cut away from the acore and more towns which lie on both ends of the Panams railroad, and drains made off into the bushes. The streets of Panams City are dug up for the new severs and supply of fresh water has been made in the mountains. The architects and carpentures for the men.

erywhere preparing quarters for the men. Hundreds of the old French buildings are being remodeled, and the sound of the hammer and saw can be heard from one end of the isthmus to the other. The old French materials have been chopped eld French materials have been chopped out of the bushes, and machine shops have been erected at Panama, Colon, Bas Matachin, Empire and at other places along the route. Indeed, the whole canal zone has begin to hum, and from now en it will be one of the industrial bee-hives of the world. The employes at work, Americans and natives, already number something like 5000 and this force will be steadily increased until it is three of four times as great. or four times as great.

Uncle Sam's Big Ditch.

Indeed, the work planned here is so vast that I can only describe it by simplifying the figures by homely comparisons. In the first place, let us take a bird's-eye view of the canal. It is to cross the Isthmus, about the middle of the Panama Republic, a country which is as long as from Washington City to Hoston, via New York, and which ranges in width from 20 to 380 miles. The canal is to go through oue of its narrowest parts, but it winds its way this way and that, and the distance from ocean to ocean will be about 45 miles, and with to occean will be about 45 miles, and with the dredging necessary at the entrance in the Atlantic and Pacific, just about 50 miles. Looking at the map the job seems a chore in comparison with the Bucg Ca-nal, which is 100 miles long; with Kisi, which is 30 miles, or with the Grand Ca-nal of China, which runs north and south for more than 1000 miles, crossing two mighty rivers, through a territory popu-lated by millions. azed by millio

This view of the canal changes when one This view of the canal changes when one stands on the ground. The job increases in size, and a trip over the route shows even the smateur that it is the most stu-pendous engineering construction ever undertaken by main. At the two ends of the route the canal rons through river valleys, the Chagres on the Atlantic, and the Ris wagon be when the last wagon even the size and a trip over the route shows of the route the canal rons through river valleys, the Chagres on the Atlantic, and the Ris Grande on the Pacific. Here the pendous chartmering construction ever undertaken by main. At the two ends of the route the canal runs through river valleys, the Chagres on the Atlantic, and the Rio Grande on the Pacific. Hare the ground is low and swampy and the ex-cavation will not be more difficult than that of Sues. A little farther inward the land begins to time but there is plen-ty of room to plie the excavated materials on the banks, and the work can be handled much like that of the Chicago drainage canal. Farther still you come to the mountains, and you are in the Chiefra pass, where hes the great problem of the work, which forms the chief subject of my letter today.

of my letter today. The Culebra pass is, in fact, one of the

Trake another comparison. It is only 540.00 miles from the earth to the moon. That ditch, if the space between were solid ground, could be dug one-fourth of the way there with the same labor; and, as the moon is only 200 miles around, such a ditch could girdle that great body 25 times and leave plenty over for side-tracks tracks.

What Handling the Dirt Means.

But there is another big element in the Culebra problem which makes it enormously greater than the construction of a ditch of that kind. In our ditch the rock and earth could be thrown on the "All," for there will no longer be any banks. Here it must not only be dug and distinction of good and evil, useing evil biasted out, but it must be carried an average distance of ten or 12 miles away, A thousand elevators could not lift it over the hills on each side of the cut. It be any longer a desire to eat from the over the hills on each side of the cut. It could not be stored on the slopes of the mountains. All the valleys about here could be filled up level with the dumping of a hundredth part of it. It must be carried on cars far off to other valleys or dumped into the Pacific Ocean, which is about 12 miles away. This means an enormous amount of hauling. Indeed, this whole mass would have to be carried about ten miles from where it now lies. Let us take a homely glance at that item. A cubic yard is roughly estimated Let us take a nonety gance at that item. A cubic ward is roughly estimated to weigh a ton. I am something of a farmer, and in the Virginia hills where I live a ton is a good load for two horses. Suppose this 1600.000 cubic yards, each yard a ton, loaded on two-horse wagons and give each wegon and feam a space in feet long on the roadway, making a 39 feet long on the roadway, making a chain of 300,000,000 wagons carrying this mass of earth. Let the chain start at Panams and move onward. Where would

These Include Extracts From Origin Referred Fragments From Earliest Christian Writings J to by Dean Robinson

AM of the opinion that the expression by which God is said to be "All' in each individual person. Now he will be "All" in each individual person. Now he will be "All" in each individual person. Now he will be "All" in each individual person. Now he will be "All" when all rational understanding, cleansot from the drags of every sort of vice, and with every cloud of wickedness swept away, and when all that can either feel or understand or think will be wholly God, and when it will no longer behold or re-tain anything eise than God, but when God will be the measure and standard of all its movements. Thus God will be "All." for there will no longer be any

ever. He changeth not, while everything else changes. No eye can see him, nor thought apprehend him, nor language describe him, and those who love him speak of him thus. Father and God of Truth. Art thou (a person) of liberal mind and familiar with the instate of Truth. Art thou (a person) of liberal mind, and familiar with the truth; if thou wilt properly consider these matters, commune with thise own self; and though they should clothe thee in the garb of a woman, remember that thou art a man. Believe in him sets is a walling Cod death, is said on this account to be de-stroyed, that there may not be anything left of a mournful kind when death does not exist, nor anything adverse, when there is no enemy, moreover, who is called death. The destruction of this hast enemy, in-

The destruction of this hast enemy, in-deed, is to be understood not as if its substance which was formed by God is to perish, but because its mind and hottle will, which comes not from God, but from tash, are to be destroyed. FRAGMENTE. Baptiam is an escape from matter: the Lord leading us out of disorder, illu-minating us by bringing us into the light which is shadowless and is material no longer. Malita to Antonius Czesar.

The first wagon be when the last wagon which is shadowiens and is maturial to be way as the length of our big ditch. The minis is shadowiens and is maturial to be way as the length of our big ditch. The minis is shadowiens and is maturial to be way as the length of our big ditch. The minis is shadowiens and is maturial to be way as the length of our big ditch. The most is index and the world is all one of the moore and the world is all to be way the more way the man who has a long into reach to the moore and the world reactive to be way one would reach exactly to the short space of eight miles have to be into the short space of eight miles there come the truth is acceptable to him. For just when the cloud breaks ever the man which can be employed at one time the short space of eight miles there come that the short space of eight miles there come the max the max when a big element in estimating the length of the job. Figured out by the first way the max turns toward God hims which can be employed at one time to the body entire the provide the dist the second of arear which deprived him former commission, it would require as may use the world use the world the world will be been to be the body of the stat these who come adder its in the body. Therefore, is it there there shifts a day will be the world use the world will be write in this body. Therefore, is it there the body entire the truth is the sumberser, and the world are the world will be write the truth the been to be the short will be been to be the plaured out by the base the world will be write the world will be been to be the world will be been to be the world will be write the world will be been to be the world will be write the world will be write the stat the sumberser, and the world will be been to be the world will be write the stat the sumberser, and the world will be write the write the world will be write the write the write the write the world will be write the write the w

<text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text><text>

writer in the second century, showing how the text has been altered since then: "Loosen every knot of iniguity: release oppression of every contract (which have no power); let the troubled go in peace, and break every unjust engagement."

1