

their forefathers from time out of mind. Clothing, whether for man or woman, is of the scantiest description imaginable except on gala occasions or a visit to the settlement, when the trousers and shirt of civilization are donned by the former, the children running about absolutely naked until several years old.

The Talamancan's hut, which is a masterpiece in the art of thatching, is a huge affair, and shelters his entire family and all his worldly possessions, including the domestic animals, that continually root around the interior during the day and retire with him at night. As he is a past master in the art of domesticating the wild deer, the peccary, the tapir, and even the tiger cat, numbers of these animals are present in every village, taking the place of the motley pack of mongrels that usually greet the visitor at such humble settlements. His bed consists of the trunk of a certain species of palm, cut into strips and supported three or four feet from the ground on a frame, and a few earthen pots with now and again an iron one complete the furnishing of his house.

While adept with the spear and deadly blowgun, in which various of the South American tribes employ poisoned darts, he is of the most peaceable nature, and his traditions contain no stirring tales of conquest, nor does his conversation boast of personal valor, for he knows not war. In short, the Talamancan is forever at peace with all the world, and only desires to pursue the even tenor of his way unmolested to the end of the chapter.

Dedication of the Germanic Museum at Harvard.

The Germanic Museum at Harvard University was dedicated November 10. Valuable gifts from Emperor William II. were presented formally and accepted by President Eliot on behalf of the University, by Prof. Francke for the Museum, and by Carl Schurz for the Germanic Museum Association. Baron von Bussche-Hadenhausen, First Secretary of the German Embassy, in presenting the gifts of Emperor William said:

"The Emperor sent to Harvard University a collection of reproductions of typical German sculptural monuments, from the eleventh to the eighteenth century, hoping that they will kindle and encourage the interest in the United States for the sculpture of our ancestors, who, to a great extent, are your ancestors as well.

"I am happy to couple with this formal presentation of the Emperor's gift the announcement of two other gifts which are about to be made to Harvard University. A year ago last April, after the friendly reception of his Royal Highness, Prince Henry of Prussia, by the people of the United States, there was formed in Berlin a committee of leading men of science, art, literature, and finance, with the view of supplementing the Emperor's donation by a gift from the German people. The committee decided upon a collection of galvano-plastic reproductions of representative works of German gold and silver work, from the fifteenth to the end of the eighteenth century. This collection, consisting of over thirty large and some twenty smaller pieces, all of them specimens of the best workmanship of three centuries, is now nearly completed, and I have been authorized on this day to state that by the end of the year this gift of the German people will be in the possession of Harvard University. It is most gratifying that still another side of German life is to be represented by a gift which comes from your own midst. I refer to the donation of ten thousand books on the history of Germany and of German civilization which Prof. Archibald Cary Coolidge is to make to Harvard College as a memorial of the visit of Prince Henry of Prussia to the University in 1902."

President Eliot responded in behalf of the University. He referred to "the generous and suggestive act of his Majesty, the German Emperor," and said: "That act was unique in the history of this university, and, indeed, in the history of education."

Panama and Its Commerce.

The commerce of Panama amounts to about 3 million dollars per annum, its population to about 300 thousand, and its area to 31,571 square miles, or nearly equal to that of the State of Indiana. These figures are supplied by the Department of Commerce and Labor through its Bureau of Statistics, and are the latest available data on commerce, population, and area. Those of commerce are from the reports of the United States consuls at Panama and Colon, which have just been received, and not yet published; those of population are based upon the latest official estimate, which shows the population in 1881, and was based upon the census of 1871; while the figures of area are from accepted geographical authorities and are those of the area of the "Department of Panama" of the Colombian Republic. The principal ports are Panama, on

the Pacific coast, and Colon, on the Atlantic side, and these ports are visited annually by more than one thousand vessels, which land over one million tons of merchandise and nearly 100,000 passengers, chiefly for transfer over the Panama Railway, 47 miles in length, connecting the Pacific port of Panama with the Atlantic port of Colon.

Colon, or Aspinwall, as it is sometimes called, has a population of about 3,000 persons. The city of Panama has a population of about 25,000. It was founded in 1519, burned in 1671, and rebuilt in 1673, while Colon is of much more recent date, having been founded in 1855.

The population, which, as already indicated, amounts in number to about 300,000, is composed of various elements—Spanish, Indian, negro, and a limited number of persons from European countries and the United States, especially those engaged in commerce and transportation and the operation of the Panama Railway. A considerable number of the population is composed of persons brought to the isthmus as laborers for the construction of the canal, and of their descendants. Since the abolition of slavery in Jamaica a considerable number of blacks and mulattoes have settled on the isthmus as small dealers and farmers, and in some villages on the Atlantic side they are said to be in the majority, and as a result the English language is much in use, especially on the Atlantic side. Some of the native population have retained their customs, speech, and physical type, especially those

many, France, Italy, and the United States, but gives no statistics of the imports.

Panama is connected with San Francisco by a weekly steamer schedule operated by the Pacific Mail Steamship Company, and with Valparaiso by a weekly steamer schedule operated by the Pacific Steam Navigation Company and South American Steamship Company. Two passenger and two freight trains leave Panama daily for Colon, and Colon daily for Panama. The time for passenger trains over the 47 miles of railway is three hours.

From Panama there is one cable line north to American ports, and one to the south. The actual time consumed in communicating with the United States and receiving an answer is stated by the consul to be usually about four hours. There also are cable lines from Colon to the United States and Europe.

The money of the country is silver, the rate of exchange having averaged during the past year about 150 per cent.

HYDRAULIC ELEVATORS FOR HOISTING PLACER TAILINGS.

BY DENNIS H. STOVALL.

The hydraulic elevator has become a necessity in many of the placer mines of the West, in order to make room for the mountains of bowlders, rock, and debris that are removed in the process of surface mining. After thirty or forty years of constant work, the diggings of many of the mines have narrowed down, and now confine themselves to the more remote slopes and gulches, which, a few years ago, could not have been worked by the methods then known. When the hydraulic giant was first introduced in the western placer fields, the mines that used them had to have efficient dumping grounds, or "dump," as the miners express it. This meant that there had to be a sheer drop of 30 or 50 feet at least from the end of the sluices, down into the gulch, cañon, or creek below, in order to give ample room for the tailings, or the rock and bowlders removed from the auriferous gravel banks.

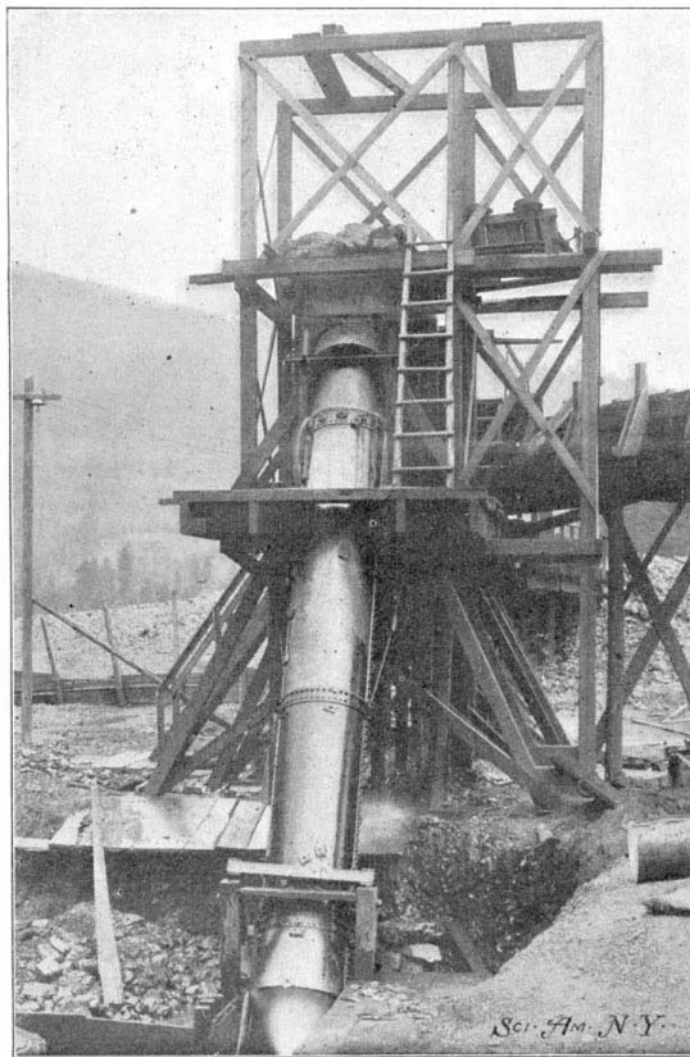
There were many acres of rich ground on nearly every old channel that lay idle for many years, and could not be worked hydraulically for the reason that they did not afford "dump" enough. If giants were set to work on them, they soon found themselves blocked by the great heap of tailings, which could but be piled up on the bedrock, as the fall or drop in the sluices was not sufficient to carry them away. Consequently, operations were suspended, and such ground, though rich, lay idle for a number of years. Then some ingenious American invented, or rather discovered, the hydraulic elevator, and the question of caring for tailings where the "dump" was poor was solved for all time.

The form of elevator shown in the accompanying picture is the one most used in the placer fields of northern California and southern Oregon, and is giving entire satisfaction everywhere it has been introduced. It is a simple affair, and can be erected by any mining engineer of ordinary ability or intelligence. This form of elevator is only practical, however, where there is an ample water supply, and where the gravity pressure is at least 275 feet, and under such conditions it is capable of lifting any bowlder of less than 800 pounds weight to a height of 35 or 40 feet, and send it hurling out through the sluices and over the dump.

This elevator consists simply of a 20 or 30-inch pipe set at an angle of 45 degrees over the end of the sluice or race that leads down from the bank being operated by the giants. The length of this pipe is the height to which the tailings can be raised. At the base of the pipe is a six-inch giant, planted in the ground in such a way as to throw its stream up through the pipe. Another giant is set midway of the pipe, and unites its stream with that of the one at the base. The rock and bowlders and dirt, together with the waste water that comes flowing down the bedrock sluice, are all caught by the giant's stream at the base of the pipe, and hurled up through and over the sluice-boxes at the top. In the upper sluice-boxes riffles are arranged, and here the gold settles and is caught, excepting the coarser pieces, which settle on the bedrock race before the elevator is reached.

The American Motorman of the 133-miles-an-hour Car.

A correspondent of ours informs us that the German car which recently made the record of 125 and 133 miles an hour was driven by an American, Charles A. Mudge, of Williamsport, Pa. Mr. Mudge is in the employ of one of the two large companies under whose direction the tests are being conducted.



AN HYDRAULIC PLACER ELEVATOR.

in the western part of the province, and claim to be descendants of the natives found there by the Spaniards when they discovered and conquered the country.

Of the commerce of Panama, the United States supplies a larger share than any other country. The importations at the port of Colon during the fiscal year ended June 30, 1903, as shown by the report of the United States consul, amounted to \$952,684, of which \$614,179 were from the United States, \$119,086 from France, \$118,322 from England, \$76,386 from Germany. The figures of the fiscal year 1903 show a considerable increase from those of 1902, in which the value of the imports at Colon was \$776,345. Of the \$614,179 imports from the United States at Colon in 1903, \$200,744 were dry goods, \$189,333 provisions, \$59,890 coal, \$38,642 lumber, \$32,900 kerosene, \$30,400 liquors, and \$31,940 hardware. The value of the importations from the United States in 1903 exceeded those of 1902 by about \$160,000. The exports to the United States from Colon in 1903 amounted to \$173,370, of which \$75,432 were bananas, \$54,960 coconuts, \$12,472 turtle shells, \$9,400 ivory nuts, \$6,460 hides, and \$5,924 coffee.

From the port of Panama the exports to the United States in the fiscal year 1903 amounted to \$193,342, of which \$56,767 were hides, \$49,974 India rubber, \$27,305 cocobolo nuts, \$16,598 ivory nuts, \$13,372 deerskins, and \$6,908 coffee. The consul at Panama states that the imported articles come mostly from England, Ger-