the palm tree, including the royal palm (transplanted), wine palm, ivory nut palm, and fan palm.

Pearl fishing has been carried on for years in the Pearl Island archipelago, situated in Panama Bay, about 45 miles from Panama City. It is conducted under concession from the Panama Government. Balboa makes mention of finding many pearls of size there, and some have been disclosed in recent times to the value of $1,200. Native divers are usually employed, although the diving bell has been used. Most of the fishing is carried on in the rainy season, as the divers do not like to descend in the dry season, when an ocean current cools the temperature of the water. Some pearls are also found along the coast of Los Santos province.

Other native products are rubber, cocoa, plantains, corn, indigo, sarsaparilla, ipecac, sugar cane, and tobacco. The raising of sugar cane is destined to become one of the future permanent sources of wealth of the country. The Isthmian cane contains a high percentage of saccharine and grows readily. At the present time only one refinery is in operation, the sap being mainly used in the production of molasses and native rum.

It is to be feared that Nature has been too lavish to the simple husbandman of the Isthmus. It furnishes the cane to build the walls of his little hut; the palm leaves are easily gathered to thatch it; the neighboring trees supply the material out of which he fashions his mortar and pestle for pulverizing his corn or hulling his rice; the calabash tree found growing in every yard furnishes the
Among the several tribes of Indians in the Republic of Panama, the San Blas or Cuna-Cunas, who inhabit the hundreds of islands and islets that fringe the Caribbean coast, are the most conspicuous. They are a small-statured people, fond of ornaments and bright-hued raiment. They subsist on vegetables and fish, and, until recently, it has been a tribal law that no stranger should be permitted to remain after nightfall.
Primitive methods are still used in making molasses in the interior of Panama and the produce is principally used in the manufacture of native rum. Pineapple growing is quite an industry and some of the most luscious pineapples in the world are grown on Taboga Island. A sample of the straw used in the manufacture of Panama hats is shown in one of the above pictures. A family group is also shown preparing the evening meal by hulling rice with mortar and pestle, after the native method. The household utensils of the people of the interior of Panama are crude affairs.
minor household utensils; his orange and papaya trees and banana stalks gives him all the fruit he wants; he goes a short distance away and collects the wild plantain, which makes an excellent substitute for potatoes; he pokes a stick in the ground near the house and inserts the seed of a yucca or yam, giving it no

The usual type of house of the average interior Panamanian. They are constructed of bamboo, tied by means of withes and have a thatch roof.

further attention; his wife collects the firewood that the wind has shook from the trees, and he lacks what? Nothing, but a little coffee, sugar, salt, and candles.

THE PEOPLE

The native population of the Isthmus is composed of descendants of the early Spanish conquistadores, and of various later mixtures. Prior to the introduction of the negro slaves, the people could be divided into three general classes, the pure-blooded Spaniards, the native Indians, and the mestizos, a cross between the Spaniard and the Indian. With the advent of the negroes, mulattos became numerous, and these mixing with the Indian produced another type called zambos. During the French canal days, many of the French employees intermarried with the Panamenas, resulting in a creole type. Since then, other mixtures have come into existence, such as the Chinese with the negro, and the Chinese with native women of the lower class. Thus may be seen many children, moreno, or brown in color, with Mongolian features.

The mestizo, according to the national census of 1911, is largely in the majority, outnumbering the whites three to one, and the negroes two to one. Comparatively few negroes are seen in the back country; they generally live near the coast, or in the cities of Panama, Colon, and Bocas del Toro. The Canal work has been responsible for the introduction of the greater part of the present day negroes, with the exception of the province of Bocas del Toro, where
The children of the tropical zone love to play as ardently as do those in the cooler climes; they have the same childish joys and sorrows and look forward with some desire to the time when they are "Grown Up." One of their games peculiar to the Isthmus resembles "shooting craps," and is played with the seeds of the maranon, a native fruit.
A wash day scene. Wash-boards are not in favor with the native laundry women. A flat stone and a wooden beater are effective in removing the dirt, but as a "button buster" they are hard to beat.

Laundry is delivered and produce carried to market on the heads of the natives. A farmer living near Panama City makes a business of renting space to the washerwomen, on which to erect lines for drying their clothes.

the United Fruit Company has imported them in large numbers to work its banana plantations. Practically all of the negroes came from the islands of the Antilles; many of them become naturalized, acquire property, and, in time, adopt the language and customs of the country and intermix with the native inhabitants.

The full-blooded negro immigrant has no social standing whatever with the Panamanians as long as he remains a West Indian in character and associations. He is termed a "chumbo" by them, equivalent of the shortening of the word "negro" as practiced in the United States. The color line, however, is
Rosario de la Rosa in her native holiday costume.

One of the belles of Panama, or a Panamanian "Queen of Hearts."

The Martiniquan women are the most picturesque of the varied types attracted to Panama by the Canal work. Their dress tends wholly to gay colors.

A Panamanian family. Girls of the higher class Panamanian families are not allowed on the street after nightfall, without being accompanied by some member of their family.
not drawn so strictly as it is in the South, nor with the laxity of the North. He is not admitted to the best hotels, cafes, or barber shops, but he is permitted to mingle freely in places of public amusement. He can sit in the first-class coaches of a Panama railroad passenger train, provided he pays first-class fare for the privilege, which only a few avail themselves of, and there are no “Jim Crow” street cars. He is not, however, admitted to the homes of the better class of Panamanians, except in the capacity of menials. On the other hand if a person is of mixed Panamanian and negro stock, was born in the country, and is a citizen, the bars are lowered, and there are many of this type who have risen to public eminence through superior intelligence.

The Panamanian is either fairly well-to-do or very poor. The middle class seen in Mexico, and some other Latin-American countries, is a negligible factor in Panama. In the provinces, outside of the towns, the poorer class predominates. The people are either squatters settling on a piece of government land, or are employees of some landed proprietor, or cattle owner. The mestizo makes an excellent vaquero and cowboy, because of his liking for the work. The average interior farmhand, however, is utterly undependable as a laborer, and, as a rule, can be counted on to work only when he must have money. He has an almost total lack of ambition, and, therefore, is measurably free from worry. So long as he has a roof over his head, even if only of thatch, a hammock to sleep in, and an amount of rice, meat, and rum sufficient to stay the immediate cravings of his appetite, he cares not a jot for the morrow. He revels in fiestas or religious holidays, and it is then that the interior native is seen at his best. The head of the family will don a boiled shirt and black trousers; some times he will put on a pair of alpargatas, or rope-soled slippers, but generally he will go barefoot. The wife and daughter will assume all the
Interior of the church at Arraijan. The parishioners are poor as evidenced by the crude attempt at adornment.

The village church at San Miguel, Pearl Islands. These islands are located in Panama Bay and are noted for their pearl beds.

... their simple abode possesses. This, on feast days, usually consists of the pollera, popularly called the national costume, which is worn with a grace and freedom of movement, which no woman not native born has been able to imitate. The hair is bedecked with varicolored butterfly and flower ornaments, and native made bright colored slippers adorn the feet. No hose are worn. A gold chain and a filmy scarf generally completes the attire. The pollera is not confined to the poorer classes, but is much affected on religious festivals by the wives and daughters of the rich. The costume is very carefully made frequently costing from $40 to $50.

Panama is essentially a Catholic country, and while all of its civilized inhabitants observe the forms of religion, there is surprisingly small interest in church attendance. The rites of baptism and christening, however, are never
overlooked. Many of the old houses contain niches for the burning of candles, a practice indulged in by every good Catholic family on the near approach of ill fortune or sickness. Wayside shrines are found along the roads on which some small offering may be seen. On all important religious anniversaries and saint days, processions are formed and march through the streets. The carnival or "Mardi Gras" has come to be the one great event in Panama, and is carried out on a larger scale with each succeeding year. It is preceded by the election of a king and queen, the proceeds from the sale of votes being used to defray the expense of the affair. The carnival continues for three or four days, and during this period the "lid is off." It is estimated that in the 1913 celebration about 50 tons of confetti were used.

The Panamanian of the better class represents the material progress of the country along all lines. His sons and daughters are educated abroad, and dress in as correct style as in New York or Paris. With the broadening of ideas, there has been an abandonment of some of the ancient customs which have hemmed in the life of the boy and girl. It is not as popular now as it was once for a gallant to stand for hours on the sidewalk gazing steadily up at the fair form of his inamorada, without indulging in a word of conversation, but the heads of some families still persist in inquiring the intentions of admirers of their daughters when they call more than once, and show them the door if the answer is not satisfactory. In Panama, these customs have given way to a large extent the past ten years, and, in time, will probably be a thing of the past.

THE INDIANS OF PANAMA

Indians, and persons of Indian descent, are found in every part of the Isthmus, but those who have preserved their tribal state may be grouped under
Carnival scenes, Panama City. The Annual "Carnival" or Mardi Gras, is the biggest event of the year in Panama. The upper picture shows the Queen of the Carnival riding in her royal chariot during the height of the festivities. Tons of confetti are thrown and everybody takes a week's holiday.
the four following classes: The Guaymies, who dwell in the mountains of Chiriqui and Veraguas provinces; the San Blas, or Cuna-Cunas, who people the islands and some parts of the mainland along the Caribbean coast, east of Colon; the Chucunaques, or Darien tribe, who live in the mountains of eastern Panama, and the Chocos, who are found in the Sambu River valley in southeastern Darien, and whose territory laps over into Colombia. The national census of 1911 did not include a count of the Indians living in tribal state, but estimated their number at 36,178, since shown to be entirely too low. Seventy-five thousand will approximate their number more nearly.

Mr. Henry Pittier, who has given these tribes, with the exception of the Chucunaques, some personal study, contributed an excellent article on the Indians of Panama in the July, 1912, number of the National Geographic Magazine. He, however, classes the Chucunaques and the upper Bayano River Indians as a part of the Cuna-Cuna stock, which is open to question, as the two present distinct physical types. The San Blas are semi-dwarfs, with abnormally developed heads, man-size bodies, and puny legs; the most of the men are bow-legged. Albinos are common among them. The Chucunaque Indian is of normal proportions, fleet of foot, and will compare to advantage in some respects with the North American Indian. The Cuna-Cuna is a fisher-
man; the Chucunaque, a hunter, and between the two there is usually deadly enmity. The Chucunaques are typical savages, while the San Blas, although fearful of the coming of the white man, does not detest him, and has adopted many of the white man’s comforts.

The territories of the Cuna-Cuna and the Chucunaque have long been nearly a sealed book to the outsider, and until recently it has been a tribal law with the San Blas that no stranger should be permitted to remain after nightfall, due, it is said, out of fear for their women. The San Blas inhabit the hundreds of islands and islets that fringe the Caribbean coast, and subsist on vegetables and fish; fresh meat is rarely seen in their villages. Before Panama separated from Colombia, the San Blas were ruled by one chieftain named Inanaquina. The latter died of fever while on a mission to Bogota, the capital of Colombia, and was succeeded by his nephew, Inapaquina. Owing to the new chief’s slowness in recognizing the change in governments, Panama transferred authority over the San Blas to another Indian, whose English name is Charley Robinson. Some of the San Blas refused to accept Robinson, and a split followed, so today the tribe is divided. Robinson, who spent several years in the United States, is a progressive, while Inapaquina has no desire to cultivate the white man’s acquaintance. The capital of the former is at San Jose de Nargana, near the mouth of the Rio Diablo, and there, early in 1913, Miss Annie Coope, a woman missionary succeeded in establishing a mission school. Miss Coope made an attempt to enter the country several years before, but at that time was not permitted to land. She persisted in her efforts, and through the influence of Chief Robinson, she was successful; now the Indians are glad she came. Few of the San Blas are able to count above 10,
and when one of the San Blas boys of Miss Coope's school counted to 100 he was the wonder of the village. It has been the custom of this division of the tribe to permit the boys to come to Panama and Colon, and to even send them abroad, to procure a rudimentary education, with the expectation that they would return to their homes later; some have gone back, but most of them become enamored of the life of the cities and sever tribal relations. The girls, however, are rarely allowed to leave the Indian villages.

With the development of Panama, there has been an increasingly insistent demand that the valuable territory occupied by the Indian tribes be opened for settlement. The Indians have opposed this, but at the session of the Panama National Assembly in 1913, a bill was passed, which permits peaceful exploitation of the region, and already a number of trading companies have entered, or are preparing to enter the field. The San Blas coast yields some of the finest cacao nuts in the world, and as yet the production is only in its infancy. Trading is also done in tortoise shell, out of which combs and other hair ornaments are made, balata, the gum of the nispero tree, a kind of rubber that commands a better price than the Para article, and ivory nuts, from which the vegetable ivory of commerce is produced. The mountain streams show evidences of gold, and both the coast and mountain Indians are well provided with gold ornaments, broad cuffs for the wrists, worn by the men, and earrings and nose rings much affected by the women.

The San Blas are not at all warlike, and there are no proved instances of ill-treatment of visitors within recent years. The stranger is politely, but firmly warned away, and no one has been rash enough to incur their animosity.
Tug comes to a stop alongside the center wall in the lower lock chamber.

Gate is closed preparatory to filling the lock for the lift to the middle chamber.
Tugs, dredges and barges entering the lower lock from the sea channel.

Closing the lower lock operating gate.
Assembling the various craft inside the middle lock. Colonel Goethals on the lock wall to the right with his back turned.

Tug Empire, with tow, passing out into Gatun Lake. Dark spots on the surface of the lake are floating islands, masses of swamp vegetation loosened by the lake rise, and blown across the lake by the wind.
Waiting for the Lock to fill. The pipe on the barges was part of the outfit of dredge No. 85, for use at Cucaracha slide.

The Lock filled. Ready to pass out into the Culebra Cut channel.
Close view of Cucaracha slide. The lagoon in the foreground was formed by another part of the slide blocking the Canal about where the picture ends. In the distance may be seen two points projecting into the Canal. These were the toes of the slides on the east and west banks at Culebra, which moved some distance after water was admitted to the Cut.

Closer view of trenching operations at the slide. Workmen engaged in trying to keep a trench open in the sporgy mass to let the water from filled section through. This proved to be a most discouraging task, for the material moved about as fast as dug out. Two workmen were drowned while these operations were in progress.
THE MONUMENTAL TASK COMPLETED

ONE hundred million citizens of the United States of America are justified in their display of pride over the consummation of the greatest engineering task ever assigned to man—the construction of the Panama Canal. Not alone have the people of our country manifold reasons for rejoicing at the achievement so conspicuously won, but the inhabitants of the world likewise have a living interest in the accomplishment of an undertaking which has united into a commercial pathway the Atlantic and Pacific Oceans.

Mankind's dream of the ages has now become a reality, and the grateful homage of appreciation resounds with praises in recognition of the wonderful results which our skilled artisans achieved and which our generous resources made possible. No one can be indifferent to this universal cause for satisfaction, since the success obtained on the Isthmus is something which will benefit the entire human race.

Such wars as have engaged the activities of American citizens, from colonial days to the present, have been waged for principle, but the warfare of our yeomanry on the Isthmus was primarily waged against disease, in order that the test of endurance might be more even-handed; secondarily the forces and impediments of nature were combated, and a victory was won in both particulars that has astonished the thoughtful everywhere. In these features there can be no controversy concerning the fact that in the completion of the undertaking there is glory enough for all.

In an effort of such transcendent and far-reaching consequence to the commerce of the world as is the construction of the Panama Canal, it is appropriate that we should in every way recognize the essential elements and factors that have contributed to the success leading to the final chapter. In a sentence these have been embraced in the resourcefulness of our citizenship—one hundred million people of a Republic, who willingly taxed themselves that the oceans which bounded their nation might be made one. This has now been done, and the willing co-operation and intelligent display of statesmanship by both houses of Congress, as well as the efforts of our high-minded Executives, who have been enthusiastic supporters of the gigantic work, these should not for a moment be allowed to fade from view, but should become signposts in that harmony of rejoicing which will animate our compatriots and stimulate effort to overcome obstacles while time endures. Briefly this is one of the inviting texts associated with the proposition which cannot be too highly extolled, nor a feature in which the superlative of language is not needed to fittingly outline the great deed now finished.

The American people owe to the courageous craftsmen engaged on the Isthmus, those who rendered such splendid service to our country, a debt that is inextinguishable, and to the peerless genius, Colonel George W. Goethals, there will always be reserved a niche in the Hall of Fame in which will be treasured lofty appreciation of his masterfulness as an engineer and his attractive personality as a man altogether too modest to boast of his accomplishments, he allowing the herculean effort to acclaim the tribute of that greatness
which is his just due. His splendid capability, always in evidence, as time proceeds will grow brighter, while the cordial commendation of his countrymen will be his rich reward during life.

It seems beyond the realm of doubt that a nation which displayed the marvelous resources and manifested the almost illimitable power which for years were in evidence in the construction of the Panama Canal will be shortsighted either in enterprise or lacking in initiative or invention in utilizing the pathway between the oceans, which now has been so adequately provided. Thus we may be permitted at the closing stage of our volume to hazard the prediction that American enterprise and American ambition will fulfill every responsibility and meet every expectation in utilizing the opportunity which the future may present in availing ourselves of the advantages at hand.

In order to be able to grasp the possibilities of the trade which in the near future will be carried through the Panama Canal, there should be no subject more entertaining nor one more profitable that can engage the attention of the business associations of the country than to obtain a knowledge of the topic that is actively stirring the energies of other nations. Monuments of ruins of old systems and ancient methods may be observed on every hand on the Isthmus, but when the magic wand of American courage was waved over the scene the artisans of our country were equal to every call; obstacles disappeared and victory came into view to permanently reside as a sentinel proclaiming their glory. Our people will surely not be slow to seize the fruits of the victory now so completely won.

In connection with the many gratifying words inseparably associated with the construction of the Panama Canal it is especially fitting to note the complete absence of suspicion and freedom from both scandal and graft from which those prosecuting the work from the beginning to the completion of the absorbing task were relieved. In addition there has been but little to discourage or dishearten, from the standpoint of adverse criticism, the workmen who finally achieved the unexampled success, since the frankest manner was observed in everything pertaining to the enterprise, and this policy has been kept prominently before the public. Daylight has been a factor in the accomplishment of the greatest deeds in all history and candor and honest motives have always been within the gaze and was revealed to any who sought information concerning the construction work in hand. In this particular the Panama Canal will long be a worthy example of sincerity and open-mindedness.

The monumental task is over, and the enterprise of the American people will doubtless be searching for new fields to conquer, new obstacles to overcome, but the eloquent theme of the construction of the Panama Canal will forever stand out in the chronicles of the world as a marvelous undertaking, executed in a manner to excite emulation and compel the admiration of those capable of appreciating the great things of this world.

No work of consequence is ever brought to completion without effort, nor is anything of value secured without labor and sacrifice. The tremendous undertaking on the Isthmus was colossal in many ways, involving danger, disease, anxiety and uncertainty, as well as millions upon millions in expenditure. These problems have been encountered and have all been mastered by superb skill, indomitable persistence and heroic courage. In a word, nothing more can be said, and, in this connection, as a final leave-taking to the reader, nothing more is necessary to say.
The first six months of commercial operation of the Panama Canal were completed at the close of business on February 14, 1915, the canal having been opened to commercial traffic on August 15, 1914.

Four hundred and ninety-six vessels, other than canal vessels and launches, etc., which are not counted, passed through the canal during the period. They carried a total of 2,367,244 tons of cargo. Their distribution over the most important routes followed by vessels using the canal during this time is summarized herewith:

<table>
<thead>
<tr>
<th>Route</th>
<th>No. vessels</th>
<th>Cargo tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>U. S. coastwise, eastbound</td>
<td>97</td>
<td>499,439</td>
</tr>
<tr>
<td>U. S. coastwise, westbound</td>
<td>109</td>
<td>493,372</td>
</tr>
<tr>
<td>U. S. Pacific coast to Europe</td>
<td>66</td>
<td>444,556</td>
</tr>
<tr>
<td>Europe to U. S. Pacific coast</td>
<td>16</td>
<td>59,516</td>
</tr>
<tr>
<td>South America to U. S. and Europe</td>
<td>69</td>
<td>378,386</td>
</tr>
<tr>
<td>U. S. and Europe to South America</td>
<td>31</td>
<td>128,932</td>
</tr>
<tr>
<td>U. S. Atlantic coast to Far East</td>
<td>48</td>
<td>287,782</td>
</tr>
<tr>
<td>Far East to U. S. Atlantic coast</td>
<td>2</td>
<td>14,500</td>
</tr>
<tr>
<td>Miscellaneous routings</td>
<td>13</td>
<td>69,572</td>
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<tr>
<td>Vessels without cargo</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>496</strong></td>
<td><strong>2,367,244</strong></td>
</tr>
</tbody>
</table>

When on August 14, 1915, the first year of commercial operation of the Panama Canal was completed the records showed that 1,317 ocean going vessels of 4,596,644 net tonnage had passed through the great waterway. The tolls thus earned were $5,216,149, including $114,085 levied on United States Government vessels but not actually collected.

Exact figures of the cost of operating the canal during the year are expected to conform closely to the original estimates, which placed the annual expense of operation and maintenance of the canal and sanitation and government of the Canal Zone at $4,000,000. One may say, therefore, that during its first year the revenues of the canal exceeded the operating cost by more than $1,000,000. These net earnings represent only a small part of the interest charge on account of the canal, which—at 3 per cent on $375,000,000—amount to $11,250,000 a year.

It is to be presumed that traffic through the Panama Canal will be much heavier after the war.

The United States War Department Steamship Ancon was the first steamship to make the passage through the Panama Canal—on August 15, 1914. Shown here in a filled lock on a level with Miraflores lake.