THE LARGEST OF OUR NEW WAR SHIPS.

Larger by about fifteen hundred tons than any vessel ever before launched from a United States shipyard, the new cruiser New York, named in honor of the Empire State, smoothly slipped from her ways at the Cramp shipyards into the waters of the Delaware, on Wednesday, December 2. The launch as an interesting spectacle, and one invoking a degree of patriotic ardor, was in every way a splendid success. It was viewed by scores of thousands, and there were numerous representatives present from the highest official circles. The shipyard where the launch took place has acres of shops amply provided with lathes, forges, furnaces, derricks, etc., and three other formidable ships for the new navy now being built there, on which the work is well advanced, contributed not a little to the feeling of unalloyed satisfaction which the occasion brought out.

The new ship is said to have been the especial pride of the Navy Department, having great offensive and defensive qualities, a high rate of speed, and great coal endurance, and it was remarked, as she lay on the ways, that her sharp, graceful lines suggested the speedy transatlantic liner rather than a ship of war. Three firms bid for the construction of this vessel, as follows: Class 1. Hull and machinery, including engines, boilers and appurtenances, complete in all respects in accordance with the plans and specifications provided by the Navy Department—William Cramp & Sons, of Philadelphia, $3,150,000; Union Iron Works, of San Francisco, $3,100,000; Risdon Iron and Locomotive Works, San Francisco, $3,450,000. Class 2. Hull and machinery, including engines, boilers and appurtenances, complete in all respects in accordance with the plans and specifications provided by the bidder, guaranteeing strength of materials, displacement, speed, etc.—Union Iron Works, of San Francisco, $3,000,000; William Cramp & Sons, of Philadelphia, $2,985,000. The proposal of William Cramp & Sons to build the vessel, under the second classification, for $2,985,000, being the lowest received was accepted, and a contract was entered into on August 28, 1890. The modifications included a rearrangement of the boilers, so that additional longitudinal and transverse bulkheads could be fitted in the engine and boiler spaces, thereby affording greater protection to the machinery and making the boilers less vulnerable to attack from rams and torpedoes. The keel was laid on September 30, 1890, and the contract requires that the vessel shall be finished and ready for delivery to the United States on or before January 1, 1893.

The length of the New York is 380 feet and 6½ inches; breadth of beam, 64 feet; mean draught, 23 feet and 3½ inches; displacement, 8,150 tons. Her highest speed is to be 20 knots an hour, and the sustained sea speed 18·5 knots. With 1,500 tons of coal in her bunkers and stored on deck, she will be able to steam 13,000 miles at the rate of 10 knots per hour. She has the ram bows and high freeboard of the large cruisers, but her stern is lighter, indicating the effort to produce a speedy model. Having a high freeboard, her guns may be worked in a seaway, the 8 inch rifles being 25 feet above water. In the absence of sail power, the entire dependence must be on her twin screws. The two masts are for fighting and signaling purposes, and are to be provided with protected tops. She has four decks, including the protective deck and a flying deck, or bridge, for boats.

The materials used in the construction are of the best quality. The outer steel plating amidships is 23 pounds to the square foot from keel plate to shear strake, which is 46 pounds. Toward the extremities the outer plating is lighter. Between the protective and berth decks the plating is doubled in the wake of the thin armor. The keel plate is 15 pounds to the square foot, and the plates of the main bulkheads have the same weight. The protective deck at the sides is 4 feet and 9 inches below the water amidships and 1 foot above the water when the vessel is at the mean draught. It is covered with two courses of plating, 3 inches in thickness amidships and 2½ inches fore and aft. The slopes amidships have an additional thickness of 3 inches, making a total thickness of 6 inches. In the wake of the machinery is a belt of thin armor between the protective and berth decks, the total thicknesses of armor on the sides being 6 inches. A coffer dam, 3 feet and 6 inches in depth, between the protective and berth decks, and extending the entire length of the vessel, is to be filled with a water-excluding material.

In her armament the main battery is to consist of more but lighter rifles than the Maine's. She is to have six eight inch breech loading rifles and twelve four inch rapid fire guns. In the secondary battery are to be eight rapid fire six pounders, four rapid fire one pounders and four Gatling guns. Of the six torpedo tubes, one is to be in the bows, one in the stern, and two are to be on each broadside.

Two of the eight inch rifles are to be mounted in a barbette forward on the upper deck, two in a similar barbette aft, and two are to be carried in broadside amidship on the upper deck. The men working the rifles in the barbettes are to be protected by ten inches of steel armor, and the revolving conical shields of steel are to be seven inches in thickness. The big rifles amidships are to be protected by partial barbettes two inches in thickness. The four inch guns on the spar deck are to have sponsons four inches in thickness and are to be protected by shields. The men at the six pounders are to be protected by eight inches of armor. The sloping armor beneath the barbettes is to be five inches in thickness, and the ammunition tubes below are to be five inches also.

Her motive power will be twin screws, driven by four vertical direct-acting triple expansion engines located in four water tight compartments. The diameters of the cylinders of each engine are 32, 46, and 70 inches respectively, and the stroke is to be 42 inches. For the great speed expected the screws must make 129 revolutions a minute. It is estimated that the collective indicated horse power of propelling, air pump and circulating pumps will be 16,000. The steam for the engines is to be supplied by six double ended main boilers arranged two abreast in three water tight compartments, with six athwartship fire rooms. Each is to be fifteen feet six inches in diameter and twenty-one feet three inches in length. They are to be worked under forced draught on the air tight fire room system. The lighting is to be by electricity, and the search lights are to have the latest improvements. She is to be fitted as a flagship, and a large and valuable library is to be given the ship by a New York merchant, while a large sum has been raised to present her with a handsome service of plate.

THE CHACMA.

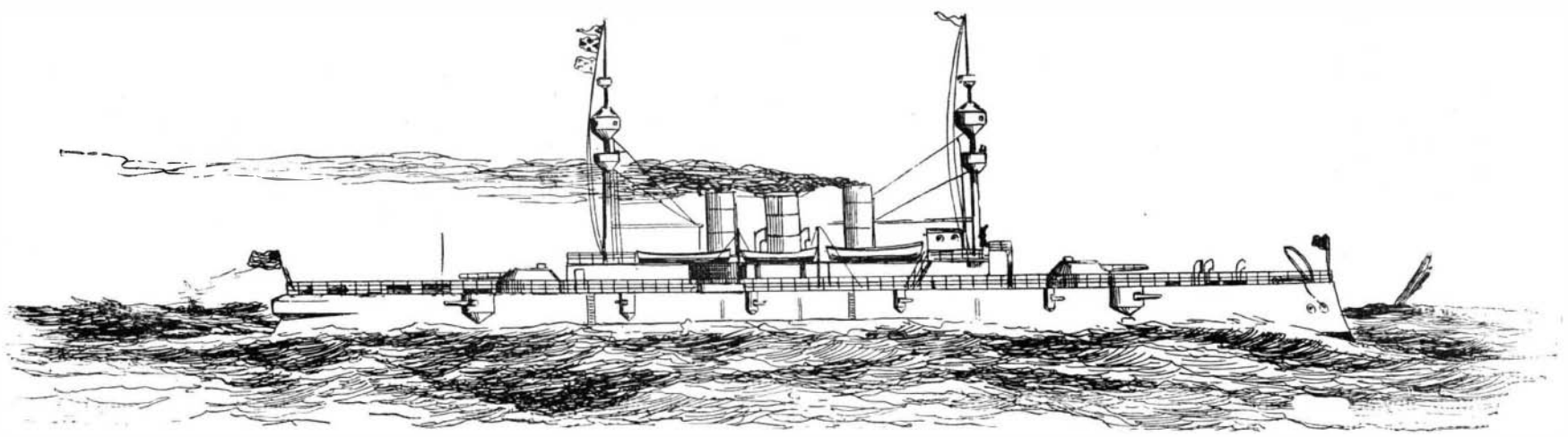
THE CHACMA OR SOUTH AFRICAN BABOON.

BY NICOLAS PIKE.

Africa is especially the native country of baboons. Of all the quadrumani they are about the ugliest, chiefly those of the genus *Cynocephalus*. A curious fact is that out of over fifty species of apes, monkeys, and baboons inhabiting Africa, there are said to be only one or two known instances of an African species occurring in Asia or an Asiatic one in Africa. The one I am about to write of is the *chacma*, or *C. porcarius*. This animal is met with in most of the southern ranges of mountains from the tropic of Cancer to those of the Cape colony. Even in the great Sneeuwberg range, where snow rests on some of the peaks the year round, troops of baboons are met with quite as numerous as those of the lower forest lands. Table Mountain, so conspicuous a feature rising above Cape Town, and grandly visible as you approach it from the sea, used to swarm with large and formidable troops of these creatures, whence they swooped down on the lands of the poor farmers, doing irreparable damage to their crops. As the country round Cape Town has become settled and many of the baboons been killed, they, like so many other animals, have receded before civilization.

In the kloofs or rocky passes of the mountains, where there is not much traffic, fifty or sixty may be seen stretched out, basking in the sun. At the slightest noise or disturbance they are on the alert and their howlings and screams of defiance resound along the hills. They inhabit the dense forests, also where there are ledges of rock, for their habits and structure prevent their easily climbing trees. They prefer steep overhanging cliffs, and if surprised at their base, readily mount them by clinging to the giant *lianes* that form a network over them. Hand over hand they go up, and many species of these plants go by the name of "bavians touw," or baboon's ropes, from the use they make of them. When half way up and they think they are out of danger, they have an ugly habit of rolling down stones or pieces of rock on the intruder, rendering it no easy matter to escape, if not forewarned.

The local name chacma is taken from an old Hot-



THE NEW ARMORED CRUISER NEW YORK, LAUNCHED DECEMBER 2.

tentot word *Tchackamma*, given with a peculiar *click* of the tongue, unpronounceable by white men except in rare instances by those brought up in the colony. This click runs through the whole Hottentot language and that of many of the Kafir tribes. It is not often heard now from the Hottentots, as the old small race is fast dying out. Curious to say, the constant admixture of white blood has developed a large and good-looking race, and these "bastard Hottentots," as they are called, use a medley of low Dutch and English, or the latter entirely.

The ordinary food of the chacma consists of bulbous roots, which they dig up and peel adroitly, berries, wild grapes, and even grass when pressed by hunger. They eat greedily of all kinds of insects; especially are they fond of locusts, of which so many species abound in the Cape, and they are also credited with sucking birds' eggs, and destroying the young. Unfortunately they do not confine themselves to such food as nature provides, but will travel long distances to raid the farm lands wherever melies or Indian corn, millet, oats or pumpkins are planted.

The generic name of *Cynocephalus* was given to the chacma by Cuvier; from two Greek words signifying dog and head, the prolonged truncated muzzle resembling that of a dog, and having the nostrils at the extremity. Their small, deep set eyes, with white upper eyelids and projecting brows, give them an indescribable look of ferocity and cunning. The males are large and robust, and when angry display their great canine teeth, which gives them so fierce an aspect, and the old ones would be most formidable foes to tackle, as they could tear a man to pieces like a tiger. When young they can be easily tamed and are quite playful. They are said to guard a house even better than a dog, giving instant notice of the approach of a stranger. They are seven or eight years old before they are full grown, when with few exceptions the old ferocity begins to develop itself and they are most uncertain of temper. When adult they are far too dangerous to have loose around, as they rarely attach themselves to more than one person, and even with him, on the slightest provocation, they pass from caresses to the most violet expression of rage. The females are rather more gentle than the males, and smaller, but when in troops are terribly quarrelsome with each other, particularly when they have young ones. These are tended with the greatest affection by the mothers, but the males inculcate pretty strict obedience by a good sound cuffing once in a while. Their teeth greatly resemble those of a human being, also their internal organization, and the fingers of their hands are free. Their walk is rather slow, but their usual gait is a trot or short gallop. They can stand erect with the greatest ease, but usually go on all fours. There is a great number of edible bulbs or ground nuts in the Cape, some good and very wholesome, but others poisonous. The senses of taste and smell in the chacmas are so keen that they readily reject the bad ones. When Le Vaillant was traveling in South Africa, he had a tame chacma with him, and when he found strange fruits on roots, his men would not touch them till they had been offered to the baboon. If he ate of them they were glad to do so too, and equally refused them when he did. Le Vaillant tells a curious story of how his chacma unearthed the roots it was so fond of. It seized the tuft of leaves with its teeth, dug about and loosened the root with its fingers, and then by drawing the head gently backward generally managed to extract it without breaking. When this course failed, he seized the tuft as before, as close to the root as possible, then suddenly throwing himself head over heels, the root rarely failed to follow. The cheek pouches are large, and when the animal found a good supply it was stowed in them for future use.

When I was at Simon's Bay, about twelve miles from Cape Town, I set off for a long tramp near the coast, but was warned to look out for baboons and keep out of their way. As I was going alone, I carried a double barreled gun, a pistol and a knife. Strange to say, unless attacked, baboons will avoid any one carrying a gun. On my way I fell in with a Scotch missionary, who was in charge of a small mission station in a very lonely part of the road. He was surprised to see me alone, and told me I might encounter danger from baboons or snakes. He and a Hottentot boy accompanied me for some distance and they told me numerous tales of the maraudings of the former.

Later on, I came to the house of an old pilot, and he showed me the wreck of his garden, that only a short time before had rejoiced his heart with the prospect of a fine harvest of pumpkins and melies. Half of them had been carried away, which was bad enough, but the greater part of the rest was destroyed. They will go any distance to a field of pumpkins, for the sake of the seeds, of which they are passionately fond. They tear them open to get at the seeds, and often one baboon will destroy a dozen in order to fill his pouches. A trap is sometimes set for them in the eastern districts, when their greediness brings their speedy destruction. A large pumpkin has a hole made in it just large enough for a hand to enter when open. Fresh shelled corn is mixed with the seeds, which is also a great temptation to the thief. A chacma comes along, and seeing a fine pumpkin and smelling the coveted bait, inserts his hand, which slips in easily. So he clutches a handful of seeds and corn, but it will not come out again. So reluctant is he to give up the favorite food that he will not relax his hold, but tries to escape with the pumpkin. This so embarrasses him and retards his flight that he falls an easy prey to the gun of the owner in ambush. Ordinarily the chacma would tear it to pieces, but loses his head under the, to him, strange conditions.

When going on their burglarious exploits, the chacmas display a great amount of intelligence and cunning. Arrived at the field of their operations, sentinels are posted on any eminence while the rest of the marauders collect their provision with the greatest expedition, filling their cheek pouches and tucking the green ears of corn under their arms. This is done silently, and at the slightest warning note, a low, peculiar cry of danger from the sentinels, away they rush yelling and screaming, very rarely being caught. Should any of their number come to grief, it is said that they drag away the unlucky sentinel who has failed in his duty to warn them of danger in time, and beat him to death. How true it may be, I know not, but it is so believed all over the colony.

Many people refuse to shoot them, for if not killed outright it is so terrible to see their death agonies. The wounded animal gives forth such mournful, pitiful cries, with so human a voice, as if asking for help, that few white people can be induced to shoot a second. Most of the quadrumani do the same. A little gray monkey I saw accidentally shot made so painful a scene before it died, its appealing looks, actions and cries were so exactly those of a badly hurt child, that I vowed never to shoot a monkey, and I never did, though I had several chances.

I had often heard that baboons can appreciate fire, though they cannot make it. A party had been picnicking in some woods, and in one part was a steep descent crossed by bold ledges of rock that made a series of steps down to a spring below. This place was fixed on as a capital one to dine in, and a large fire was lit on one of the ledges for cooking purposes. During the afternoon the party was broken up, and all dispersed, but considerable fire was left, as some of the logs used were very thick. Later it was discovered that one of the ladies had left her shawl or some other article on one of the ledges, and several of the gentlemen returned for it. On arriving at the spot they were startled to find the ledge where the fire was left, with a new set of occupants. A number of baboons had seated themselves near the fire, and some were engaged pushing the ends of the smaller sticks into it, while the others devoured the pieces of bread, rice and varied scraps left from the dinner. Luckily, the missing article had been dropped on the upper ledge, and the spectators did not linger long in such dangerous vicinity to these uninvited guests. Some farm hands who went there late in the evening found the baboons still chattering round the burning embers. Dogs are of very little use as guardians against these ferocious depredators. They pay no heed to them, unless the dog has the temerity to go for the chacma, when he gets handled so severely it is rarely he will attack a second time. Native guardians are little better, for the chacmas, with their patience and cunning in watching their opportunity, outwit the men, and gain their ends in the long run, in spite of them. The screechings and yellings they make when disturbed in their haunts are enough to frighten any one within hearing, and when you find great pieces of rock pelting down dangerously near your head, you are apt to take to your heels, happy if the screeching monsters do not overtake you.

During my residence in the East, I had a fine young chacma given me about three years old. He grew rapidly, and in about a year he was a large and dangerous animal to strangers, though very tame with me. He would sit beside me, playing like a child, but let any one come into the room, man or boy, and he raised himself fully erect, every hair on his head and neck standing out, made hideous faces and showed his powerful teeth, enough to intimidate any one, but a few gentle words from me calmed him. Fearing some accident, I had a large iron chain attached to a thick ring and placed round his body, and this was fastened by a strong bolt driven into a tree. Mr. Jean Louis, as he was called, took it all quietly, but on the first chance he got alone he broke a link in the chain with a stone in the same manner as a human being would do it, yet the links were as thick as the little finger of a man. On my return with a friend I found him up in a large bread fruit tree. The sight of a stranger so excited him he began pelting us with the heavy fruit, pretty dangerous missiles, when sent with so accurate an aim that we had to seek shelter to avoid them. My friend retreated precipitately, but when I was alone I soon had Jean Louis down under control. He was always accustomed to watch for my return, when at once he set to work with the impatience of a child to examine my pockets, as I always brought him a banana, guava or other fruit.

His curiosity was great, also his imitative faculties. Once he watched me attentively make a hole with a gimlet and insert a screw with a screwdriver, and he did the same fairly well. He could drive a nail as well as I could, draw a cork from a bottle and drink wine from a glass, and I believe I could have taught him almost anything save speech. I was the only male he would allow to approach him, but he never showed the same disposition to a female. His ferocious looks, however, were enough to deter any woman from going near him. It was my intention to bring him with me to America, but circumstances prevented it. A few days before I set sail, Jean Louis got loose and made for the cathedral and began tearing off the clapboards. Seeing the door open, he walked in and went to the pulpit, to the horror of the sexton who then caught sight of him. He seized and tore the velvet cushions, and when an attempt was made to dislodge him, he flung the Bible and prayer book at him and fairly drove him from the building. The police were called, and two men with loaded carbines shot my pet while standing erect defying them, but if I had been called I could have got him away quietly. When brought to the house and laid on the veranda he had almost a human look about him. Jean Louis now occupies a prominent place in the Museum of the Royal Society of Arts and Sciences at Port Louis, Mauritius.

The Keweenaw Copper Deposits.

A peninsula called Keweenaw Point, jutting into Lake Superior from the southern shore toward the northeast, is famous as the center of a vast copper mining industry. Last year the mines produced no less than 105,586,000 pounds of refined copper, and it is estimated that during next year production will be increased by at least 20 per cent. Mr. E. B. Hinsdale, who contributes to the latest bulletin of the American Geographical Society an article on the subject, has much that is interesting to say about the numerous prehistoric mines which have been found in this region. These ancient mines, judging from their extent, must have been worked for centuries. Who the workers were, no one can tell. They seem to have known nothing of the smelting of copper, for there are no traces of molten copper. What they sought were pieces that could be fashioned by cold hammering into useful articles and ornaments. They understood the use of fire in softening the rocks to enable them to break away the rock from the masses of copper. They could not drill, but used the stone hammer freely. More than ten cart loads of stone hammers were found in the neighborhood of the Minnesota mine. In one place the excavation was about 50 feet deep, and at the bottom were found timbers forming a scaffolding, and a large sheet of copper was discovered there. In another place, in one of the old pits, was found a mass of copper weighing 46 tons. At another point the excavation was 26 feet deep.

In another opening, at the depth of 18 feet, a mass of copper weighing over 6 tons was found, raised about 5 feet from its native bed by the ancients, and secured on oaken props. Every projecting point had been taken off, so that the exposed surface was smooth. Whoever the workers may have been, many centuries must have passed since their mines were abandoned. Their trenches and openings have been filled up, or nearly so. Monstrous trees have grown over their work and fallen to decay, other generations of trees springing up. When the mines were rediscovered, decayed trunks of large trees were lying over the works, while a heavy growth of live timber stood on the ground.

World's Fair Notes.

The great dome of the administration building, which will be the most conspicuous architectural feature of the exposition, and the four smaller domes, will be covered with aluminum bronze, a newly discovered amalgam, which is said to glisten brighter than gold. The contract for gilding the domes has been let for $54,000.

The party which, under the direction of Chief Putnam, of the Department of Ethnology, of the exposition, has been making excavations of the mounds in Ohio for three months or more, met with rare success on Nov. 14 near Chillicothe, in making one of the richest finds of the century in the way of prehistoric remains. While at work on a mound 500 feet long, 200 feet wide and 28 feet high, the excavators found near the center of the mound, at a depth of 14 feet, the massive skeleton of a man incased in copper armor. The head was covered by an oval-shaped copper cap; the jaws had copper mouldings; the arms were dressed in copper, while copper plates covered the chest and stomach, and on each side of the head, on protruding sticks, were wooden antlers ornamented with copper. The mouth was stuffed with genuine pearls of immense size, but much decayed. Around the neck was a necklace of bear's teeth, set with pearls. At the side of this skeleton was a female skeleton, the two being supposed to be those of man and wife. It is estimated that the bodies were buried fully 600 years ago. The excavators believe they have at last found the king of the mound builders.