

ADDITIONS TO OUR NAVY

HOW SPANISH WAR VESSELS WILL BE RAISED

PHILIP HICHBORN'S IDEAS

Some Are Too Badly Damaged, but Others Will Make Fine Additions to Our Navy

The naval authorities are now confronted with a most important problem, namely, how to raise the ships sunk at Manila harbor by the guns of Dewey's fleet so that they can be added to the force of fighting ships of the United States.

Some are so badly damaged that they will be useless as warships and may as well be left where they lie, but if the United States can raise those that are not too badly damaged to float again it will be well worth the effort. To build new ships is a long as well as a costly undertaking. To raise them from the bottom of Manila bay, and patch them up ready for service is comparatively quick as well as economical. The problem takes on additional importance from the fact that Admiral Cervera's vessels may soon be resting on the bottom of the harbor at Santiago, and these too will make valuable additions to our navy. But how is the work to be done? Chief Constructor Philip Hichborn of the United States navy has come to the front in this emergency. Below the well known naval expert will give his ideas on the subject, as well as some highly important and interesting facts. Chief Constructor Hichborn will go to Manila and survey the wrecks of Spanish ships now lying beneath the waters there. On his re-

When asked to state something regarding his life history, Constructor Hichborn modestly asked to be spared from public notice, but was prevailed upon to give the following brief outline of his career:

"I was born at Charlestown, Mass., in 1833. My ancestors contributed to the independence of the United States—Deborah Hichborn being the mother of Paul Revere. At 21, having graduated from the Boston high school, and, by direction of the navy department received a course of special instruction in ship construction, calculation and design, supplementary to five years' tuition as shipwright's apprentice at the Boston navy yard, I sailed from Boston for California in 1850, and that tempestuous voyage of 150 days gave me an insight into the needs of nautical life which has been of inestimable value ever since.

"Two years' service at the navy yard, Mare Island, carried me from a humble position in the construction department of that station to master shipwright at the age of 23, in which capacity I was often called upon to assume the control of the department in the absence of the naval constructor.

"In 1859 I entered the navy as an assistant naval constructor, and six years later, after a competitive examination, became full constructor.

"From that time until today my life has been one of uninterrupted activity in the immediate concerns of our naval vessels—broken once only by a tour of European dockyards. I became chief constructor on July 13, 1863, and was reappointed for a second term on September 7, 1867."

Through Chief Constructor Hichborn and from other sources it is learned that methods of raising sunken ships must vary largely, according to existing circumstances, but they may be said broadly to depend upon three factors: First, the depth of water; second, the size and weight of the ship, and, third, the nature and extent of the injuries by which the ship was sunken.



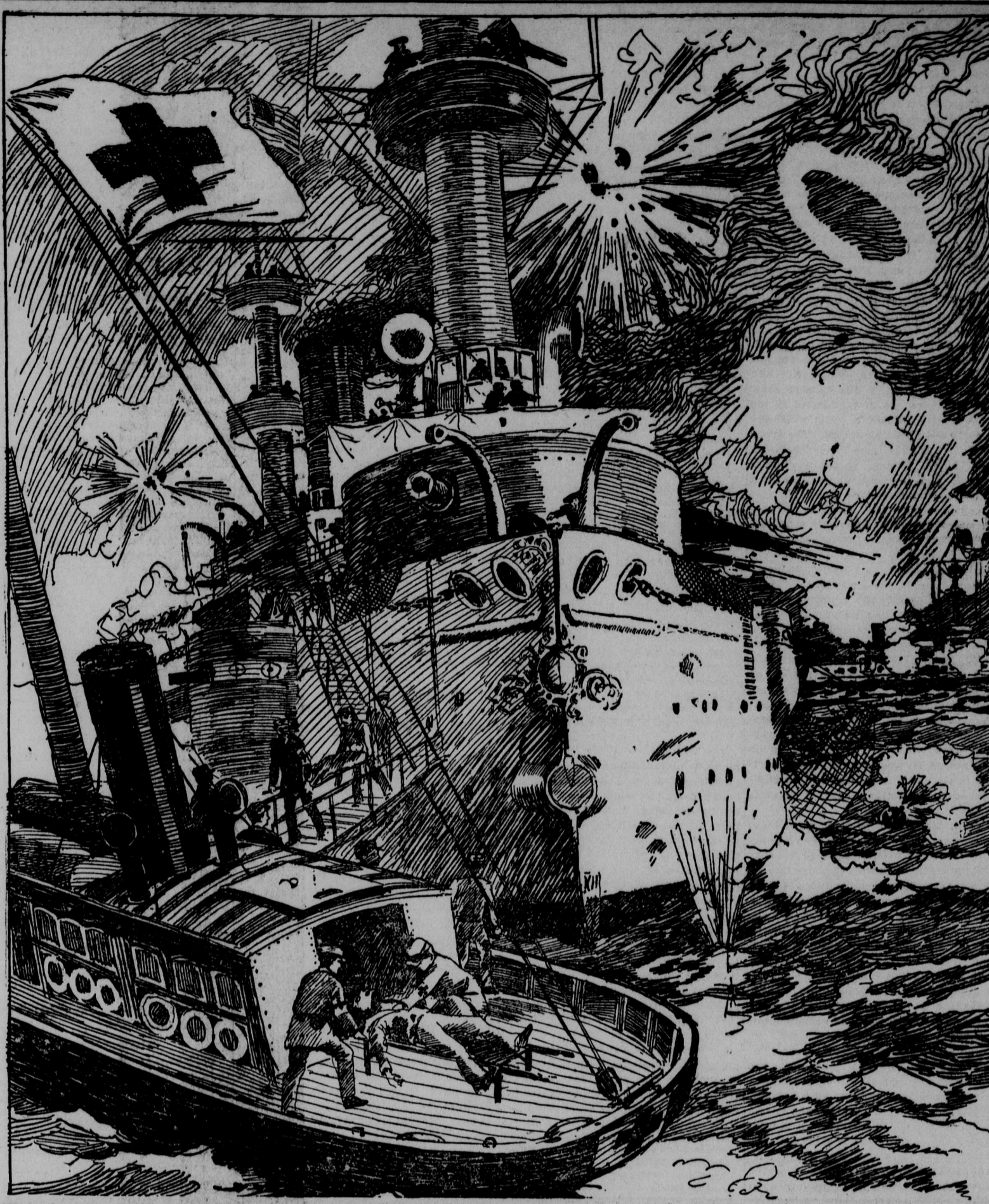
CHIEF NAVAL CONSTRUCTOR PHILIP HICHBORN

port will depend the solution of the problem of how to raise the sunken warships.

WASHINGTON, June 6.—(Special Correspondence to The Herald.) Besides resulting in the possession of the Philippine islands, the victory of Admiral Dewey at Manila is likely to effect a valuable increase to the United States navy. Chief Constructor Hichborn of the naval department is of the opinion that the sunken Spanish ships that went down before the fierce broadsides of the American fleet can be made to float again, and, fitted with American guns, and manned by American sailors, add their strength to the fighting forces that sail under the stars and stripes. If Chief Constructor Hichborn says this can be done, it is a foregone conclusion that it is possible of accomplishment, for the chief constructor is a man who speaks with the confidence born of a thorough practical acquaintance with the work before him.

It is as well to begin the story of the attempt to raise the sunken Spanish ships with something of the man who will investigate the difficulties in the way and make report accordingly.

In the case of the Spanish ships sunk in Manila bay on May 1st, the first and third of these factors are unknown quantities to us up to the present, and without knowledge on these points no plan for raising them could be formulated. One of the vessels, the Castilla, was a wooden ship and was reported to have been burned. In that case nothing can be done. The Spanish flagship, Reina Christina, is a ship of about 3000 tons and is reported to have been extensively damaged by the explosion of her magazine. If that report be true it will probably be found impracticable to make any attempt to raise her. Of the remaining ships in the fleet, the two most valuable are the Isla de Cuba and the Isla de Luzon. They are sister ships and modern vessels, built in Elswick in 1888 and rated as third-class protected cruisers, though in our service they would be classed as gunboats. They are 200 feet long, 30 feet beam, 1030 tons displacement. These boats, if not extensively injured, as seems probable, can be raised and restored, provided that they lie in not more than ten to fifteen fathoms of water. Two other vessels of the fleet, also sister ships,



Midst bursting shells and the bloody carnage of battle the men of the United States ambulance ship will with indifference to personal danger carry out the noble work. A tug is shown above transferring the wounded from a battleship to the ambulance ship Solace

are the Don Antonio de Ulloa and the Don Juan de Austria, rated as third-class unprotected cruisers, 210 feet long, 32 feet beam, and of 1130 tons displacement. They are of an earlier type, built at Carraca and Cartagena, from '83 to '87, but would probably pay to raise if not too extensively injured.

"It will be some time before information regarding the condition of these Spanish ships is available," said the chief constructor, "so that it is impossible to speak definitely as to the probability of raising them."

Several methods might be employed for raising these vessels depending upon the unknown quantities heretofore noted. The first operation, in any case, would be to send down divers to make an examination and report their condition. In case the injuries should not be extensive, screws would be moored on each side of the wreck, as it lies, with lifting apparatus of sufficient power to raise the immersed weight. The

injuries to the exterior hull could then be temporarily closed by divers, and chains passed around under the vessel. She could then be raised until the top of the hatch coamings was above water and the vessel pumped out. Another method more likely to be used in case of extensive injury, would be to sink pontoons or casks, provided with means for attachment to the sunken craft. A sufficient volume of these must be provided and judiciously located, to supply sufficient buoyancy to float the vessel to the surface, or as nearly as possible on an even keel. The wreck can then be towed into shallow water and operations for completing the salvage carried on to advantage.

Some of the smaller ships of the fleet would hardly pay to raise, as for instance the Marquis del Duero, a small iron gunboat of 500 tons displacement and 23 years old.

A complete list of the Spanish fleet at Manila is here appended:

Displacement,	Speed,	Battery.
tons.	knots.	
1-Reina Christina.....	8,520	12.5
.....	.....	6-6.2-inch breech loading rifles.
.....	.....	2-2.7-inch breech loading rifles.
.....	.....	3-2.2-inch rapid fire guns.
.....	.....	2-1.5-inch rapid fire guns.
.....	.....	3-3-pounder rapid fire guns.
.....	.....	5-torpedo tubes.
2-Castilla.....	3,342	14.0
.....	.....	4-5.9-inch breech loading rifles.
.....	.....	2-4.7-inch breech loading rifles.
.....	.....	2-3.3-inch breech loading rifles.
.....	.....	4-2.6-inch rapid fire guns.
.....	.....	8-rapid fire guns.
.....	.....	2-torpedo tubes.
3-Velasco.....	1,152	14.3
.....	.....	3-5.4-inch guns.
.....	.....	2-rapid fire guns.
.....	.....	2-machine guns.
4-Don Antonio de Ulloa.....	1,130	14.0
.....	.....	4-4.7-inch guns.
.....	.....	2-2.7-inch guns.
.....	.....	2-rapid fire guns.
.....	.....	2-machine guns.
5-Don Juan de Austria.....	1,180	14.0
.....	.....	2-torpedo tubes.
.....	.....	2-2.7-inch guns.
.....	.....	2-rapid fire guns.
.....	.....	5-machine guns.
6-El Cano.....	524	11.0
.....	.....	2-torpedo tubes.
.....	.....	3-4.7-inch breech loading rifles.
.....	.....	2-rapid fire guns.
.....	.....	2-machine guns.
7-Marquis del Duero.....	500	16.0
.....	.....	1-torpedo tube.
.....	.....	1-6.2-inch muzzle loader.
.....	.....	2-4.5-inch smoothbores.
8-Isla de Cuba.....	1,030	16.0
.....	.....	4-4.7-inch rapid fire guns.
.....	.....	4-6-pounder rapid fire guns.
.....	.....	2-3-pounder rapid fire guns.
.....	.....	3-torpedo tubes.
9-Isla de Luzon.....	1,030	16.0
.....	.....	4-4.7-inch rapid fire guns.
.....	.....	4-6-pounder rapid fire guns.
.....	.....	2-3-pounder rapid fire guns.
.....	.....	2-machine guns.
10-General Lezo.....	524	11.0
.....	.....	2-torpedo tubes.
.....	.....	2-4.7-inch rapid fire guns.
.....	.....	1-3.5-inch rapid fire; 2 rapid fire guns.
.....	.....	1-machine; 2 torpedo tubes.
Total.....	13,832	.....

ENVY OF CIVILIAN
Pretty Girls at Ft. Monroe Have Eyes Only for Soldiers

"I spent a couple of weeks down at Fort Monroe last week," said a war department official, "and, on the whole, there were moments when I felt rather sorry that I didn't accept a commission in the regular army that was offered to me after the war. I divided my evening between the two big hotels at Old Point, and it certainly was enough to make a mere civilian envious to see the tremendous fun and to-do the girls were making over the artillery officers of Fort Monroe, young and old. The hotel drawing rooms and supper rooms were swarming with the young fellows with the

red stripes down their trousers' legs, and I venture to say there were five pretty girls for every one of 'em. The older officers were also around the hotels in numbers, and they were the calm recipients of the adulation of the maid-mons. The young officers, though had the civilians completely fazed, so far as their complete capture of the swell girls were concerned. The civilians could only hover around on the outskirts and look chagrined. I observed that the young army officers have got a new pose with the women. They don't assume the swash-buckler, cat-my-weight-in-Gutting-guns attitude any more. Instead, they act scared if the girls happen to mention war.

"Now, what would you do if we should be bombarded by the Spanish ships right

now? I heard one of the girls ask a young lieutenant.

"I'd swim underneath Mill creek, back of the post, for the Chesapeake and Ohio yards, on the other side, and take the first freight for the west," the young chap answered readily.

"Then, of course, the girl told him that he was too brave, of course, to do anything like that, and the young man got the credit in the minds of the girls around for being modest and self-deprecative, as well as courageous."—Washington Post.

HAIR NETS ARE IN AGAIN

Necessary To Keep the Athletic Girl's Locks From Coming Loose

Some thirty-five years or so ago milady's hair was so arranged that a net for confining it was necessary. When the fashion changed the net disappeared, and no one ever expected to see a revival. But the up-to-date athletic girl moves her head violently, as well as her body, and an hour of exercise is more than likely to shake her tresses loose. Therefore the hair net has been revived for the purpose of keeping the Psyche knot in shape. Thus, after nearly half a century of disuse, and though thought to be permanently out of fashion, the hair net is coming in again. In merely masculine eyes, this may not seem important, and many men have probably never noticed the nets that are now being worn. But to womanhood it is a matter of great interest, for the new fashion has arisen suddenly, and it is quite radical. It comes over from Paris, and is really a part and portion of the feminine athletic tendency of these times. Perhaps it may even mean the death of the present elaborate back-hair pins. In any event, it will follow that fewer of these hair pins are to be used, for the coming of the net signifies that the hair pin of today, as applied to the back hair of the modern girl, has been a good deal of a failure and can no longer be depended upon. It was all very well when girls walked and moved quietly. Then hair pins could do their work. But now the athletic girl has constant fear that her hair is "coming undone," and hence the hair net.—Chicago Chronicle.

SHE WON A FORTUNE

Mrs. Neill Saved Her Husband From Ruin

At the head of one of the largest manufacturing plants in Orange, N. J., is a woman. Few people, aside from those who have business dealings at the factory, know of the fact.

In the heart of the manufacturing district in that city is Neill's extensive moulding and planing mill. The plant covers nearly an acre of ground and the building is a three-story frame and brick. The employees at this mill know of no dull times. The spikes are always well filed with orders and the big saws are kept busy grinding out builders' fixings the year around. All this is due to the energy and executive ability of Mrs. Rachel Neill, the owner of the business. Up to six years ago her husband, James Neill, conducted the business, but a fire partly destroyed the works and almost financially disabled Mr. Neill.

Mrs. Neill came to her husband's aid and insisted on conducting the business personally as long as she was going to be responsible for the debts. Mr. Neill willingly agreed to step out of the financial posi-

tion and make way to his wife, and since that time, from 7 a. m. to 6 p. m. this little Scotch woman can be found at her desk. Although worth in her own name upward of \$40,000, Mrs. Neill finds no work too hard for her to undertake. She hires all help, buys the lumber and other stock, figures out plans, gives estimates on the most difficult building contracts, exclusively

DUCKING FOR CRYING BABIES

Alaskan babies are rubbed with oil, tightly rolled in a skin or blanket padded with grass, and bound with deerskin thongs, which are undone but once a day, when the grass is freshened. If the baby cries he is held under the water until he is still.

A KANSAS CITY SPORTS YOUNG MAN WHO IS IN KEY WEST IS UNDER SUSPICION FOR BLOWING THE TOP OFF A SCHOONER

conducts the bookkeeping, signs all checks, attends to the general progress of the business. For the last day she makes a tour of the dusty mill, among the humming saws and noisy machinery, to see if all the models are being turned out on time. Mr. and Mrs. Neill live in a spacious house on the mill property. She rises early in the morning, gets breakfast ready, after which she repairs to her daily toil, leaving the balance of the household to her young 16-year-old daughter. Mr. Neill is contented with working at the lathe and seldom visits the office. Mrs. Neill was born in Scotland in 1833, of hard-working parents. Twenty years ago, soon after her marriage, she moved to this country and settled in Orange. Since that time she has been accumulating the fortune she now enjoys.—New York Journal.

DEWEY'S BOYHOOD

Mrs. Helen Redfield Lord of 6446 Cornell avenue was a schoolmate of Admiral Dewey and her brother, the late William Redfield, was one of his most intimate friends. Mrs. Lord, now that the friend of their childhood has become world famous, recalls with pleasure many of the earlier incidents of his life. The Dewey homestead at Montpelier, Vt., was not far from that of the Redfields, and Dr. Dewey, father of the admiral, was for many years their family physician.

"The Dewey homestead has recently been sold and moved," said Mrs. Lord. "On the site of the old home now stands a handsome modern brick residence, erected and occupied by Edward Dewey. Dr. Dewey was married three times, but the four children, George, the admiral, was the youngest. He was a bright boy, full of fun and lively as any of them, but kind-hearted and liked by every one. I remember once his getting a whipping at school, but that was not an unusual thing in those days, and he was no exception to the rest of the class. He learned, it appears, how to fight and how to command, but I remember that it was not the easiest thing for him to learn to spell. I went above him in the class one day by spelling 'baker' after he had mislead.

"George Dewey left Montpelier when he was very young, and I have not seen him for twenty years, but the pictures published of him show that he has changed very little. He was never much of a boy for sports or athletics, nor was my brother, but they used to go hunting together often. He was not strong as a boy, and is the smallest of the family."—Chicago Inter Ocean.

DOGS FOR ARMY SERVICE

An officer of the German army says each company therein has a collie, or dog of similar breed, trained to find wounded soldiers on the field and convey intelligence of their whereabouts to the hospital corps. The dog carries a metallic case attached to his neck, containing a pad and pencil, brandy and other restoratives. If the soldier be not too severely wounded he writes his name on the paper, which is returned to the case. Perhaps he slips the brandy—or bolts it! The dog hastens for help, and he who might have been lost to his comrades forever is rescued.

ERIC CANAL TRAFFIC

The Erie canal, on account of its situation and length, of course, transports the greatest amount of freight. On this canal, which is owned and kept up by New York state, the boats, which are worth from \$2000 to \$3000 each, are owned entirely by the canalmen. The cabins of some of the boats on this canal are comfortably, almost luxuriously furnished. One canalman, who is known to be worth over \$100,000, lives with his family on one of his boats, the cabin of which is furnished with taste, and has every convenience and comfort which money can purchase.

IDOL FOR THE LADIES, BUT MEAT FOR OUR CAVALRY



Very truly yours,
Philip Hichborn.

Facsimile of the First and Only Signed Statement From a High Official on Raising Montijo's Ships