

HOW WARSHIPS ARE TESTED.

Miniature Basin in Which the Models Are Practiced.

For over fifteen years Admiral Hichborn, chief of the construction bureau of the navy, has been endeavoring to secure the building of an experimental naval basin. He was sent abroad by Secretary Chandler as far back as 1884, to see what improvements had been devised in ship building by other countries, and came back with the idea for this in his brain. But it was not until towards the close of the fifty-fourth congress that he was able to secure an appropriation of the necessary \$150,000 to put his plans into operation. The need of such tanks has been recognized for a still longer time, but the governments have hesitated to go into it sufficiently to attain the best results. Mr. William Denny, the most progressive of the Scotch builders, and the owner of the only private basin in the world, said recently in discussing the question: "Of all the problems about a steamship the only ones incapable of being solved at the present moment by a private method are those relating to speed and power. No ability and no training will enable even the most skillful architect to overcome the want of an experimental tank in coping with these two questions." It is to find out this ideal hull—the one that will attain the maximum result of speed, of carrying power, or of whatever other quality that may be desired—that the United States has erected, after many years of solicitation on the part of the bureau of construction and repair, this enormous basin. The basin was authorized by congress two years ago, and already partial experiments have been begun to determine the best shapes for the hulls of the new warships authorized last March. The tank has a length of 500 feet and along each of its long sides is laid a railway on which runs a "towing carriage,"

which extends like a bridge over the tank from side to side. When the great weight of the vehicle, twenty-five tons, is taken into consideration, as well as the rapidity with which it moves and the perfect control under which it operates at all times, it will be easily understood that the whole process of operation is little short of marvelous. In fact the motor carriage of the model basin is a mechanical wonder and a thing almost entirely unique. On it is a complicated piece of machinery, worked by the Ward-Leonard system of electrical control, capable of driving the carriage along at twenty-five miles an hour, within 200 feet of the starting place. Hung by means of a dynamometer, will be the various models which it is designed to test, each loaded so as to float the exact proportionate depth designed for the ship. As the carriage sweeps along towing the model, the dynamometer will register the resistance of the water to that particular form of bow at each speed from one knot an hour up to thirty. If it is found that the resistance is greater than it should be, the model will be taken back to the carpentering establishment and trimmed down or built out, as may be thought best, and then tried again and again until the very best shape for the purpose intended is resolved upon.

When one is finally adopted, the resistance of the water to its progress at various speeds will be carefully noted, and from this it will be very simple to calculate the exact power of the engines required to give the ship, when built, the greatest speed. Hereafter there will be no danger that the engines will be found too weak, thus losing speed, or too heavy and strong, thus losing weight, that might be better devoted to some other part of the vessel.

There is one special advantage in the high speed which can be attained in the tank which a layman will necessarily overlook. It results from the tendency of a ship to bore downwards in the water. The faster she goes the deeper she will bore, the more of her will be submerged and large will be the displacement. For instance the coast defense vessel Monterey, when running at full speed, plunges her entire body under water, thus offering a much greater surface to the water and increasing the resistance to her passage. It is evident that portions of the bow which are well out of the water at ten knots—the maximum speed attainable in any of the European tanks—will be submerged entirely at twenty knots, and that as much care should be taken to design so as to offer the least resistance of the upper portion to the water as is taken with the lower portions, which are always submerged. Yet never in the history of the world has it been possible to

ascertain the best shape for them in advance of actual test after the ship has been completed, when, of course, it is too late for alteration. Objections may be made that the tank offers, after all, only smooth water facilities, and will not give evidence as to work in a sea way. At one end of the tank is to be placed a powerful propeller, which will send waves to meet the model quite as strongly proportionately to the size as are likely to be encountered by the ship in the open sea. Further, in one corner of the building which incloses the entire tank will be placed a powerful electric fan, which can get up a very good imitation of a gale of wind.

All these points were worked out very carefully by Naval Constructor David W. Taylor before the building of the plant was begun, and there was theoretically no doubt that all would work correctly. Still, careful tests were determined upon to show that these calculations were accurate. In other words, to make everything perfectly safe, the "sum" had to be "proved."

For this purpose, models have been or are being constructed of the Iowa, the Brooklyn, the Raleigh, and other vessels at present in existence. Abundant records, of course, exist as to the speed of these actual vessels in all sorts of weather and under all conditions. If, when their models are tested in the tank, they should give results which, when worked out, should agree with the results in actual practice, it would be proof that other ships built on models obtained in the tank would also give the expected results. If, on the other hand, it were found that the results were somewhat different, they would give a basis for calculating the amount by which the final ship should be made to differ from the tank model.

NIPPONISM IN JAPAN.

It is a Drawing Book Into the National Shell.

A Japanese boy, a middle-school student, came into my study the other day and said he did not believe in using any foreign language in speaking to foreigners, says the Kobe Herald. He believes all Japanese ought to use their own language, and make foreign-

ers learn to speak in Japanese. This was so unique and refreshing, coming from a student, that I was in a quandary for a moment, not knowing how to take it. But he informed me that he was a Nippon Shugi man, and that was the way to preserve national institutions. There is a growing dread among a large class of Japanese that the national institutions are in danger of being swallowed up in the hurried Europeanizing of things; hence the spread of Nipponism, the drawing back into a national shell. The national spirit will be lost if too much leaning toward foreign things is allowed, hence the absence of any English on the recent issue of postage stamps. The May number of the Taiyo has not one word of English in it—not even the Sun on the title page. No more English contents, no English names under the pictures. Nipponism has gone mad.

DEWEY'S SHIRT SYSTEM.

Scheme to Give Each Garment the Same Amount of Wear.

There resides in Washington at the present time a man who has known Admiral Dewey for the past thirty years, during which time their acquaintance has been marked by the most friendly and social intercourse. In speaking of the true character of the famous naval hero this friend said: "There is little difference between the Dewey of today and the Dewey of 25 years ago. Dewey was as popular an officer as could be found in the navy, and during our cruises he was always a desired guest at banquets. He was a splendid messmate, full of many sentiments, and ever ready to lend the melody of his sweet tenor voice in a chorus. One trait that always attracted the attention of the acquaintance of Admiral Dewey was his extremely neat appearance. He dressed in the morning with a strict regard for the demands of a professional man, and when he left his apartments for the club in the evening his outfit could be used as a model for a society man. His figure is rather below medium height, but trim and well knit. From the conservatively shaped hat to the round-toed shoes he wore, everything bore the earmarks of gentility and refinement. He was fastidious about every feature of his dress, and always had his shoes made on the same-shaped last. The care he observed in his dress was followed in the arrangement of his wardrobe. Everything had its place, and he knew exactly where to find a handkerchief, a shirt or collar. In fact, he might be called a crank on the subject, having invented an odd custom for keeping his shirts so that one could not be worn oftener than another. They are all numbered, ranging from 1 to 21. He had a chiffonier containing an equal number of draw-

THEY WILL RIDE FREE

Nebraska's First Will Come Home at State Expense.

THE MONEY HAS BEEN PROVIDED.

Gov. Poynter Gives the Burlington Road the Job of Hauling the Soldiers—Will Leave San Francisco on the 26th—Congressman Stark and Adjutant General Barry Leave for the West.

LINCOLN, Neb., Aug. 22.—Governor Poynter last night issued the following statement:

"Citizens of Nebraska—I am glad to announce to the patriotic citizens of Nebraska that the money for special train to bring home our gallant First Nebraska regiment has all been sent in. Nebraska will bring her boys home in a manner befitting her high appreciation of their worth and the honor they have conferred upon their state. Arrangements will be made for special trains to leave San Francisco next Saturday morning. Each company will be returned direct to their home station. I have sent Adjutant General Barry and Hon. W. L. Stark to San Francisco to attend to the business interests of the state in the contract with the transportation companies.

"I desire to thank and congratulate the citizens of Nebraska for their prompt action and the splendid manner in which they have upheld the good name of the state. I wish to return in this public manner my sincere thanks to Hon. D. E. Thompson of Lincoln, who came to the rescue when the cause had become hopeless, and showed his splendid faith in Nebraska and her people by a pledge of \$20,000. I would be glad to thank and congratulate each one of the long list of donors whose pledges range from \$1 to \$3,000, but the list is too long. Suffice it to say the demonstration is complete and Nebraska shows she is proud of her splendid regiment.

"W. A. POYNTER, Governor."

Governor Poynter awarded the contract for transporting the troops to the Burlington railroad. In deciding between the roads he was influenced by the fact that that road can carry all but two of the twelve companies to their original camp headquarters. The Madison and Pullerton companies will be taken to Columbus, only twenty-five miles from their home station.

By 9 o'clock last evening the money received amounted to \$36,756. This includes all contributions received up to that time. There are still many subscriptions that have not been paid in and it is thought that the total amount will reach nearly \$40,000.

D. E. Thompson was asked by Governor Poynter to accompany Colonel Stark and Adjutant General Barry to the coast to meet the regiment, but he decided that the public might misconstrue his motives if he accepted the invitation.

A message was sent to General Shafter asking that the regiment be mustered out Friday so that the soldiers can start Saturday morning. The different railroads over which they will travel have also been notified to have the necessary cars at San Francisco by that time.

Governor Poynter and the entire clerical force of the executive office were kept busy receiving subscriptions and money from all sections of the state and telegrams kept pouring in since Sunday morning announcing other subscriptions which would follow. The appeal of the governor has met with a noble and patriotic response from all sections and if all the money that is already subscribed is sent in to the governor's office the amount will exceed the necessary cost of transportation by several thousand dollars.

Numerous subscriptions, ranging in amount from \$100 to over \$1,000, have been received from mayors over the state and banks almost without number have notified the governor to draw on them for stated amounts, some of these being their own contributions and others for individual depositors.

It had been hoped by Governor Poynter and others interested in the project to bring the boys home, that the railroads might be induced to offer a reduced rate. In this respect all attempts resulted unsuccessfully, as the three Nebraska lines connecting with the Rio Grande at Denver combined and offer a similar rate.

A NEBRASKA CATTLEMEN KILLED

Quarrel Over Pasture Right Result in Cold-Blooded Murder.

CHADRON, Neb., Aug. 22.—Thomas Ryan, a prominent cattleman, was shot and instantly killed by Frank Coll a young sheepman, fifteen miles southeast of this city.

This disastrous affair is the direct result of a feud that has always existed between the cattlemen, who claim priority of right on pasturage lands, and the sheepmen, who have insisted that they were equally entitled to the general use of the land for the grazing of their sheep.

From reports coming in from the scene of the murder, it is learned that Ryan was the aggressor and insisted that young Coll, who is but 21 years old, should move his sheep from where they were then grazing. This Coll refused to do. Hot words were exchanged, when suddenly, without a word of warning, young Coll whipped out a revolver and taking deliberate aim, shot Ryan, killing him almost instantly. Friends of Ryan soon notified the coroner, but up to a late hour he had not returned from the scene of the tragedy.

Coll immediately came to this city and gave himself up. When questioned he seemed greatly excited and nothing authentic could be learned from him. The cold-blooded murder of Eckman, who was shot down by cattlemen several months ago, is still fresh in the minds of every one. In view of the intense feeling prevailing between the two factions, the outcome of the murder of Ryan will be watched with unusual interest.

The prediction is made that more blood is likely to flow, unless some more definite agreement can be satisfactorily agreed on to govern the rights of the cattle and sheepmen, who are constantly warring with each other over pasturage lands.

GERMAN MINISTRY RESIGNS.

Defeat of the Kaiser's Pet Measure in Diet May Change Government.

BERLIN, Aug. 22.—During the afternoon a cabinet meeting was held at the residence of Prince Hohenlohe, the imperial chancellor and the whole cabinet agreed to resign. The acceptance of the ministers' resignations is uncertain.

The newspapers of this city recognize the fact that the rejection by the Diet of the canal bill marks an epoch in political history of the country and point out that the conservatives, for the first time since the formation of the empire, have openly defied a mandate of their sovereign.

The question of the dissolution of the Diet as a result of the defeat of the canal bill is much talked about, but such a step is not likely until the upper house has approved the new civil code. Opinion is much divided as to what Emperor William may do in the matter. Many persons believing that the ministry's resignation will be accepted. In any case, it is asserted, the government will have to encounter in the next elections a great moral force, the conservative junkers having hitherto been invariably on its side.

DEAD BODIES FOUND AT PONCE.

Twenty-Five Hundred Lives Lost in West Indian Hurricane.

PONCE, P. R., Aug. 22.—It is now estimated that 2,500 bodies of the victims of the recent hurricane have been buried, that over 1,600 were injured in the storm, and that 2,000 are missing.

There are opportunities here for investors. There is the greatest lack of money for repairing damage, replacing and replenishing stocks. The alcaldes appointed committees for the distribution of relief stores, etc., but the military authorities objected to it.

Ponce is beautiful, though bodies continue to be found in the fields. The authorities have decided to burn the ruins of Yabuco.

TROOPS FOR FORT CROOK.

WASHINGTON, Aug. 22.—Adjutant General Corbin called General Brooke the substance of an order recalling four companies of the Tenth Infantry from Cuba and sending them to Fort Crook, Neb. What companies General Brooke will select for transportation to the United States is problematical, the officials at the war department contenting themselves with the assertion that it will be the battalion having seen the most service in Matanzas or Cardenas.

Company D of the Seventh Infantry, now at Fort Crook, will in all probability remain at that post for some time, although it is on the cards to send the Seventh Infantry to the Philippines some time during the fall.

DIRECTORS OF CUBAN CENSUS.

WASHINGTON, Aug. 22.—Secretary Root has signed the order for the Cuban census. The order appoints Lieutenant Colonel Joseph B. Sanger director of the census, and Victor H. Olmsted assistant director. It was at first intended that Mr. Olmsted should be director and Colonel Sanger superintendent for the war department. The change places the direction of the census more emphatically under the control of the war department. The census is to be completed by or before November 30.

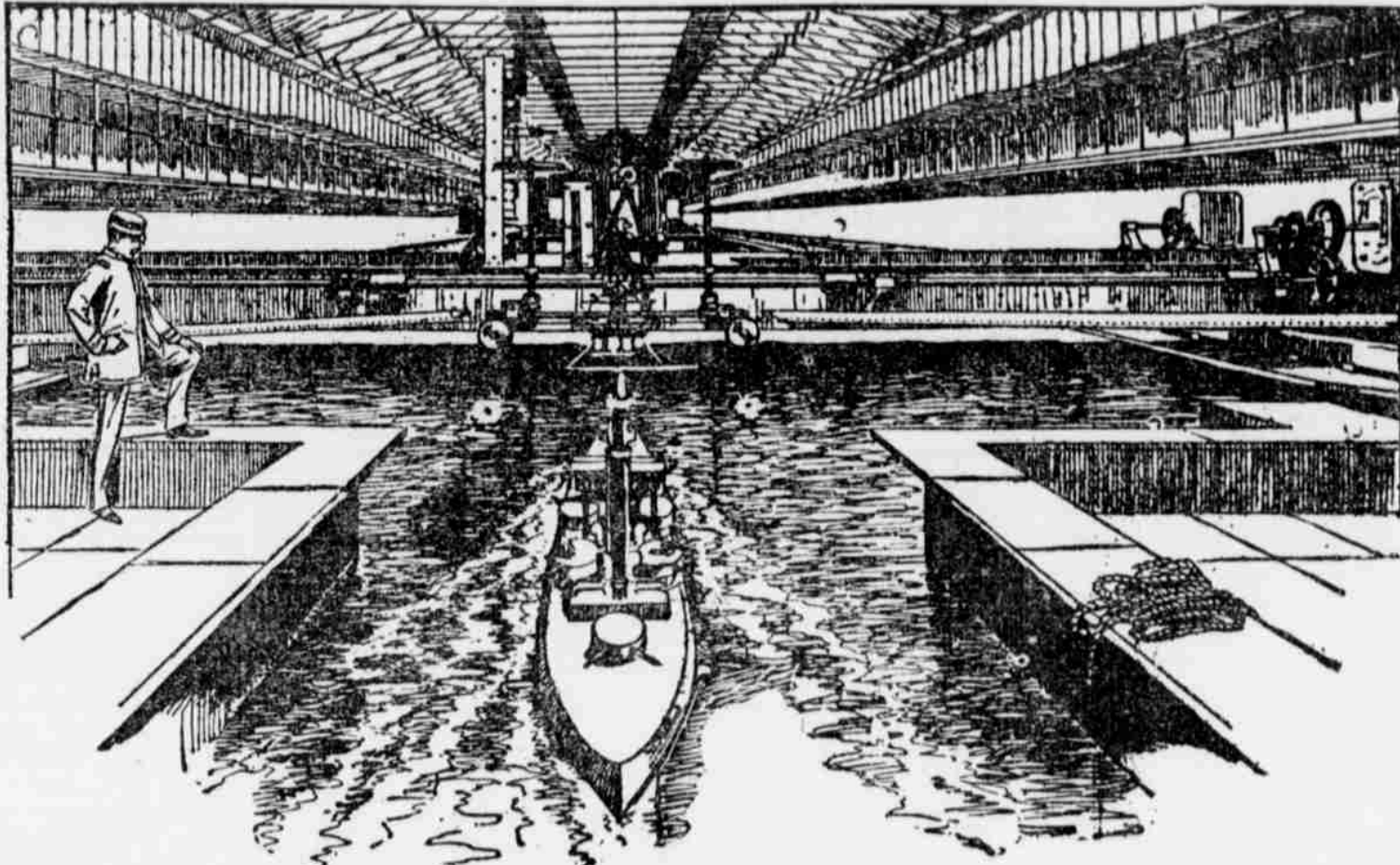
ATTACK AMERICAN SAILORS.

LONDON, Aug. 22.—A special dispatch received here today from Leghorn, Italy, says five men have been arrested there on the charge of attacking and wounding some sailors who had come ashore from the United States cruiser Olympia.

UTTERLY WIPED OUT BY FIRE.

CRIPPLE CREEK, Colo., Aug. 22.—Fire has utterly destroyed the business portion of the city of Victor, causing a loss estimated at \$2,000,000. Beginning shortly after noon, the fire raged until evening, consuming everything in its way.

It had its origin, it is thought in the Merchants' cafe, adjoining the Bank of Victor, on the corner of Third street and Victor avenue. A strong wind from the south fanned the flames and in a few minutes all the surrounding houses were afire.



Naturally, Mr. Taylor felt more or less anxiety in regard to the first experiment. This was made with a twenty-foot wooden model of the Iowa, double the length of any model used abroad. So far, this has been tested at various speeds up to twelve knots, and the results have been practically identical with those shown by the Iowa's log books. In a few days experiments will be made at greater speeds. At present the machinery is so new that it is not thought prudent to use too great velocity. As the various parts get adjusted to each other, and the machinery, so to speak, "finds" itself, the speeds will be increased till they reach the maximum. At present everything is rough and discordant, and makes a great deal of noise. This, the men in charge say, will soon wear off.

HALF A CENTURY AGO.

Why People Didn't Need Vacations in Those Days.

George S. Boutwell, ex-governor and ex-senator, writes to the Boston Globe: "There is very good reason why people need more vacation now than in the past. Today the hours of labor for the average mechanic may be very much less than formerly, but the kind of labor that he performs is greatly more exacting and wearing than the work of a mechanic was 50 years ago. A man laboring in a shop or a factory or on the farm today must do everything with great care and skill. If he works only eight hours a day the work is steady and uninterrupted and it demands an expenditure of considerable intellectual effort. When I was a boy, a farm hand, for example, went about his tasks leisurely, stopping to talk and to rest frequently during the day, and insisted on an occasional draft of rum. His hours of labor may have been from sun up to sun down, but his actual time of labor was much less than that of a farm hand today. Fifty years ago it was the same in every other kind of occupation. A mechanic went about his work without any sense of hurry. Nobody seemed to hurry in those days. The business man had fewer cares and lighter

ers learn to speak in Japanese. This was so unique and refreshing, coming from a student, that I was in a quandary for a moment, not knowing how to take it. But he informed me that he was a Nippon Shugi man, and that was the way to preserve national institutions. There is a growing dread among a large class of Japanese that the national institutions are in danger of being swallowed up in the hurried Europeanizing of things; hence the spread of Nipponism, the drawing back into a national shell. The national spirit will be lost if too much leaning toward foreign things is allowed, hence the absence of any English on the recent issue of postage stamps. The May number of the Taiyo has not one word of English in it—not even the Sun on the title page. No more English contents, no English names under the pictures. Nipponism has gone mad.

SILENCING AN AUDIENCE.

A clever bit of campaign repartee is accredited to Lee Fairchild, the California orator who leaped into national repute in 1869. He was sent into a Southern state to advocate the gold standard. At a certain place he was informed by the committee that the "rally" would begin and end about the same time, and that not since 1883 had any republican speaker been permitted to finish a speech there. Upon learning that the speakers as a rule had been able to get out of the town and fill their next appointments, Fairchild determined to make the attempt as billed. He advised the chairman to have no music and to introduce him by saying to the audience: "You are the people and here is the speaker." The chairman followed instructions a little too literally. He simply pointed at the audience and then at the speaker and disappeared behind the scenes. Fairchild began his speech at once with one of his famous stories. The audience was separated, and colored folk all being in the gallery, and only white people below. In about five minutes the speaker made a pointed thrust at the opponent party, when an organized body of young men in

ers, just wide enough to receive a shirt. He begins at the top and wears the shirt in drawer No. 1, then the garment in drawer No. 2, and so on down the line. He is just as particular about other parts of his wardrobe, also."—Brooklyn Eagle.

NAPOLEON'S DEATH MASK.

On March 4, 1821, the day after the great Napoleon died, Automarchi, his physician, took a plaster cast of his face, and for this death mask he was soon afterward offered £6,000 by a wealthy London collector of curiosities. He refused the offer and retained the mask in his possession until he had secured a perfect copy of it in bronze. The original cast was then offered for sale in London, the price asked being first £6,000, and afterwards £5,000. No purchaser, however, appeared, and the same was the case in Brussels, where the price asked was 100,000 francs. The bronze mask had meanwhile become the property of the society entitled the Sons of Glory, all of whom were at one time officers of the grand army. Whenever a member of the society died the mask was placed on his coffin during the funeral services. After the death of the last member the mask passed into the possession of Miss Forty, an English lady. She has just died, and at the sale of her effects the once famous mask fetched a comparatively small sum—ridiculously small, indeed, when compared with the sum which was once offered to Automarchi.

ANOTHER BLUE GROTTA.

The famous Blue Grotto of Capri has now a rival in the state of Minnesota. It occurs in a lake on the shores of which there is a cavern of white limestone flooded with water. A swimmer enters the cave, and, turning to look upward, sees the most beautiful shades of green and blue in the water and a silvery sheen over his submerged limbs.

IRON HOLDER.

Tops of worn-out boots or shoes make excellent iron holders.