

RUNNING DOWN WHALES.

BY CHARLES FREDERICK HOLDEK.

The coast of Southern California is protected, to a certain extent, by the islands off shore. The group begins at Santa Barbara with San Miguel; then come Santa Rosa, Santa Cruz, Anacapa, and farther out to sea, thirty miles, San Nicolas. The next following south are Santa Barbara, Santa Catalina, San Clement, and then with a break of seventy miles the Coronadoes. These islands are almost parallel to the coast range and constitute virtually an out-to-sea coast range of mountains which, in all probability, were thrust up at the time the coast was formed, leaving a deep depression between them and the mainland.

This region of extremely deep water is a famous roadway for whales, several kinds being found here feeding upon the vast schools of jelly fishes which are nearly always present. The whale most common is the California gray, which goes every year to the shallows of the Gulf of California to give birth to its young, then moving north along the California coast in what is virtually a great procession. At this time the channel is the sporting ground for the huge animals, and nearly every steamer that crosses sights a school, the scene forming one of the attractions of the trip, as the whales, far from being wild or timid, sometimes evince a playful mood, or, incited by curiosity, come near the steamer, affording the passengers a near view of the largest of living animals.

This sociable disposition has resulted in several encounters between the whales and vessels in which the former have always come off second best. Some years ago a steamer on the trip from San Pedro to San Francisco struck some body, supposed at first to be a log. Several of the men were thrown to the deck; the wheel turned over so violently that the helmsman was also thrown down, and the steamer for the moment came to a standstill. All hands were called, the pumps sounded, and as the mate ran aft he saw a large whale lashing the water astern. The vessel had struck it directly back of the right paddle and evidently crushed it down, rising over it. This whale drifted into Santa Catalina some days later and was towed into one of the little bays of the coast where it was cut up by the fishermen.

During the summer of 1900 the steamer "Hermosa" killed a whale off San Pedro, which was at least eighty feet in length. The steamer was plowing along at a rate of twelve miles an hour when suddenly a large whale rose to spout directly in front of her, placing itself inadvertently across her bows, so that the blow was struck fairly. The shock created a sensation on board and the blow was so violent that several people were thrown from their feet. It was supposed that the vessel had struck a sunken rock; she stopped for a few seconds, trembled, then rose about three feet, heeling slightly, then resumed her course, passing through a mass of blood which colored the water, showing that she had plunged into some large animal. A dead whale was sighted two days later and for several days, on account of its size, it drifted up and down the coast with the tide, defying the efforts of speculative fishermen to secure it. Finally a heavy sea tossed it on the coast at the resort of Redondo, where it was hauled in at high tide, and when the latter went out

left a marvelous spectacle of the remains of one of the largest of living animals. Hundreds of people visited the spot before it was dismembered. A long wound told the story of its contact with the steamer that was wholly uninjured.

Doubtless if the records of shipping disasters were examined many instances would be found where vessels had crashed into whales with results fatal to the animal and more or less injurious to the vessel. In this connection a curious incident may be related regarding the actions of a school of whales at the island of Santa Rosa, Cal. The channel between this island is narrow and often extremely rough, and during a storm it was believed by those on the island that the whales became demoralized, as they deliberately



CALIFORNIA GRAY WHALE KILLED BY A STEAMER.

ran ashore, and the remarkable sight of five or six large whales was observed helpless on the sands. Their bones remained for a long time on what became known as the whales' graveyard.

A GLIMPSE OF THE NAVAL BATTLE OF SANTIAGO.

To those of our readers who take a lively interest in the history of the United States navy, the engraving which we present of one of the most important phases of the battle of Santiago will possess special attraction. In proportion to its size there is no navy, surely, to whose credit stands such a long list of successful encounters, and in the absolute completeness of the victory gained, even after every allowance has been made for the numbers and power of our ships and the superior discipline of the crews, this battle off the south coast of Cuba will always stand pre-eminent.

Santiago was a triumph both of material and men; a victory the winning of which commenced long before the war-cloud arose and the first gun was heard. The swift destruction of the flower of the enemy's fleet was merely the culmination of a work for whose im-

ception we must go back to the time when our ships first took form on the designer's draughting board, and our ordnance experts drew the diagrams of gun and gun mount, or the engineers converted their allotted share of the displacement into engines, boilers and fuel.

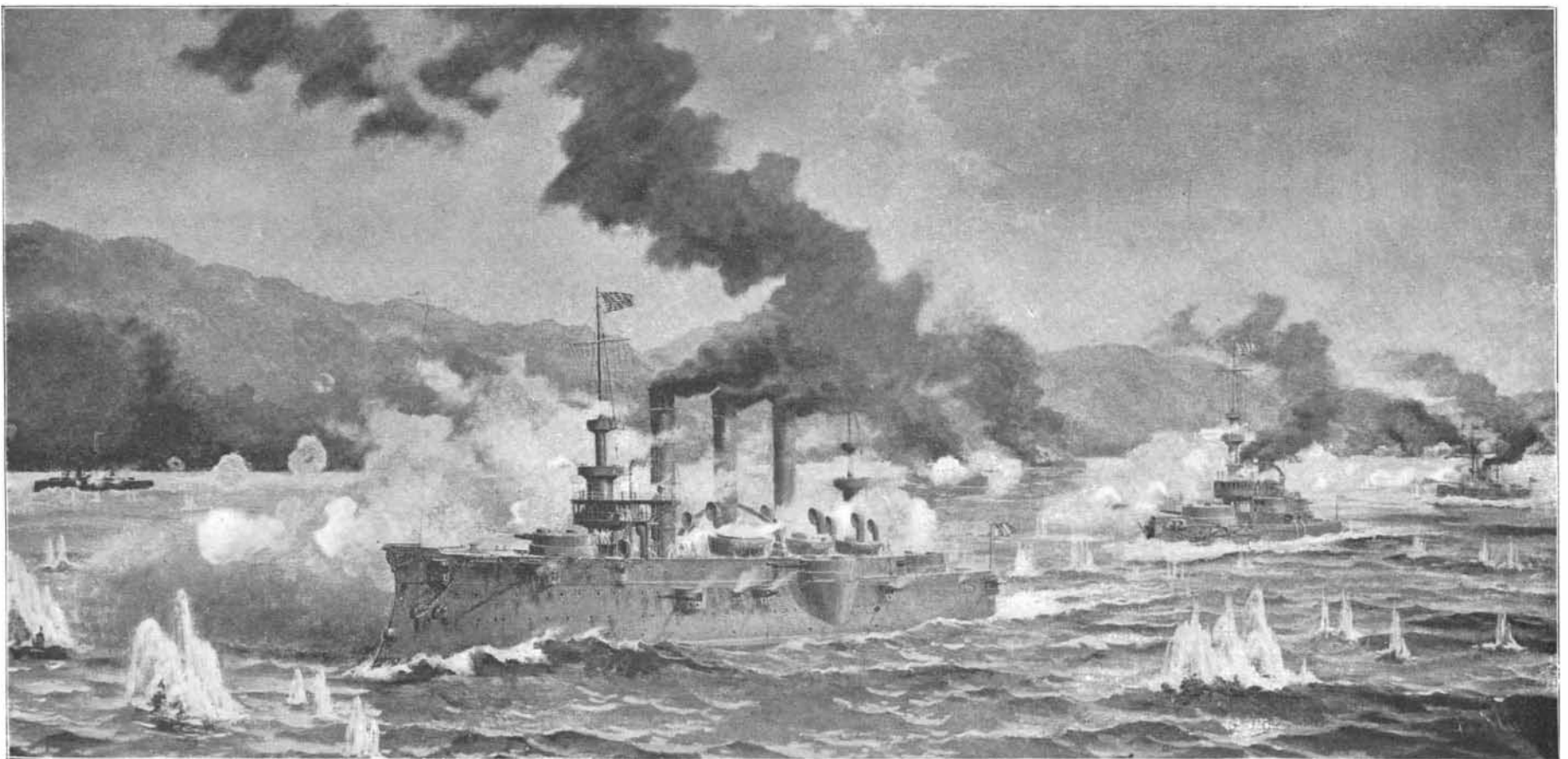
Our engraving of the famous battle was made from one of a series of historical paintings which the retiring Chief Naval Constructor, Rear-Admiral Hichborn, has had painted to represent the development of naval architecture in America. These paintings, which are hung in the office of the Chief of the Bureau, commence with the caravels of Columbus, 1492, and end with the "Pennsylvania" class of battleships of 1901. In addition to this series, and as a climax to the story of naval progress, a large painting of the battle of Santiago de Cuba, the latest engagement which reflected credit alike on the design, the material, and the men of the United States navy, has been added. As almost all the vessels engaged in this action were from designs of which the retiring Chief Constructor has had supervision, there was something peculiarly fitting in placing a painting of this engagement among those of the vessels that engaged in it.

It will be remembered that between 9:35 and 10 o'clock on the morning of Sunday, July 3, 1898, when the Spanish vessels attempted to escape from Santiago de Cuba, the United States' blockading fleet consisted of the "Brooklyn," "Texas," "Oregon," "Iowa," "Indiana" and the auxiliaries "Gloucester" and "Vixen," arranged in a semicircle about the harbor entrance, about 2½ to 4 miles from shore, that being the limit of the day blockading distance. Two other vessels of the fleet, the "Massachusetts" and the "New York," were unavoidably absent, the former having left at 4 o'clock A. M. for Guantanamo to coal, and the latter to convey Rear Admiral Sampson to Siboney for a conference with General Shafter.

When the Spanish fleet cleared the harbor's entrance, it became at once apparent that a running fight was planned instead of an attack upon the American fleet. This method of escape attempted by the Spanish fleet, all steering in the same direction and in single formation, made the scheme of battle very easy for the American squadron.

The first rush of the Spaniards to the westward carried them past a number of the vessels of the blockading squadron, whose crews were at Sunday "Quarters for inspection," but when the warning, "Enemy's ships escaping," was reported from the lookout and "General quarters" sounded, the men dropped clean clothes and polished accouterments and with a cheer sprang to man the guns. The thorough training they had received in the service quickly demonstrated to the enemy that they had encountered no ordinary opponent, for in less than three-quarters of an hour from the time the last Spanish vessel had left the harbor, four of the six vessels comprising the fleet had been set on fire and beached.

The time selected for the painting was about 10:20 o'clock A. M. at a point off Cabrera Point looking eastward. The Spanish ships are seen close in shore, the "Viscaya" leading and the "Colon" following, the "Maria Teresa" and "Oquendo" on fire turning to run

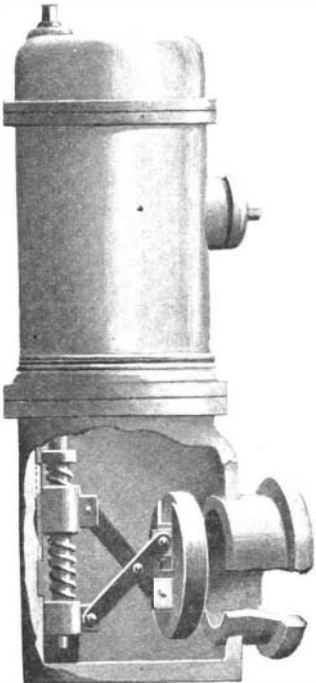


THE NAVAL BATTLE OF SANTIAGO, AS SEEN OFF CABRERA POINT.

in shore, and the torpedo boats "Furor" and "Pluton" practically destroyed. The American fleet is shown in the foreground with the "Brooklyn" in the lead, followed by the "Oregon" and "Texas," while in the distance are seen the "Iowa," "Indiana" and the auxiliary yacht "Gloucester." The engagement at this time and in this position was probably the most exciting and picturesque of any during the battle, and its portrayal by the artist is very realistic and inspiring.

THREE RECENTLY PATENTED NOVELTIES.

In certain forms of fire-hydrants, the face of the valve is moved across the seat, whereby not only the valve, but also the seat, is injured. To overcome this objection Robert Hughes, of Waterford, N. Y., employs a novel arrangement of levers by means of which the valve is made to move parallel to a desired plane.

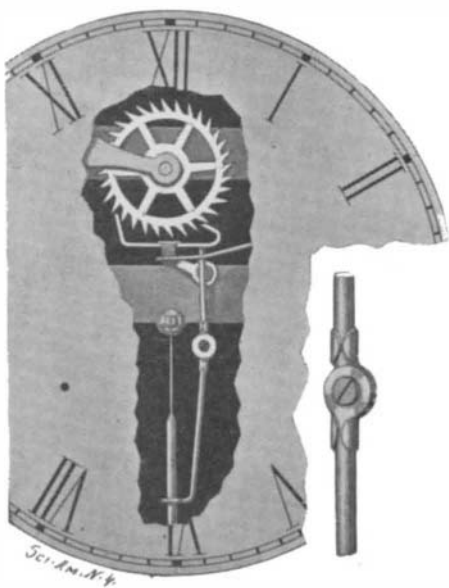


A SIMPLE VALVE MECHANISM FOR FIRE-HYDRANTS.

The valve is provided with two blocks, one fixed and the other capable of sliding in a slot. To each block one end of a lever is pivoted, the other end of one lever being pivoted to a support loosely receiving the end of a screw stem, and the other end of the second lever being pivoted to a nut threaded on the stem. The levers are pivoted together. When the screw-stem is turned in one direction the nut is carried up and the valve drawn from its seat. The sliding block as it works in its seat reduces the downward travel of the valve to a minimum. When the levers are pivoted together at their middle points there is no downward travel of the valve.

A self-marking try-square is an invention patented by Isaac W. Stephens, of Sardis, Tenn., which is distinctly novel in form and operation. The handle of the try-square is hollowed to receive a spring-actuated push-pin joined by a pin and slot connection with one end of a lever fulcrumed near its middle. The other end of the lever is loosely received by a recess in a scoring-plate having reciprocating movement in the channeled blade of the try-square. The edge of the scoring-plate is provided with elastic spring tongues formed with prongs bent in opposite directions. By pressing upon the push-pin the scoring-plate is moved in one direction. When the push-pin is released the spring moves the scoring-plate in the other direction.

A very simple and ingenious pendulum adjuster has



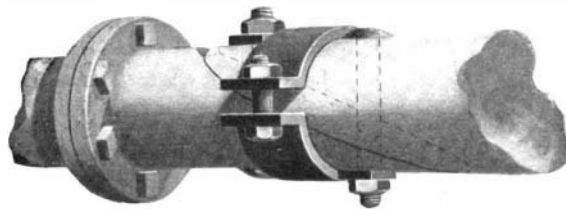
THE DIVIDED PALLET-ROD FOR ADJUSTING THE BEAT OF A PENDULUM.

been devised by Simon B. Parker, of Springfield, Mass. The novel feature of the invention consists in employing a divided pallet-rod, the two sections of which are connected by means of separable metal disks held together by a clamping-screw. Proper friction can be given to the disks by the adjustment of the clamping screw. By simply starting the pendulum to bank the pallet on the escape-wheel, the pendulum swings within its normal arc by reason of the adjustment of the disks. The arrangement can easily be applied to old clocks by cutting the pallet-rod in two and securing the disks in place.

REPAIRING A BROKEN SHAFT AT SEA.

On the 12th of December last, at three o'clock in the afternoon, the Danish steamer "Louisiana" was in the Gulf of Mexico, about sixty miles from the mouth of the Mississippi River, loaded with a full cargo for Aarhus, Denmark, when suddenly the first intermediate shaft broke completely through and the engines commenced to race violently. On stopping the engines it was found that the accident had happened within the shaft tunnel, a diagonal fracture 28 inches in length having occurred in the first intermediate shaft. The gland-bush in the watertight partition, and the foremost bearing, were found to have been demolished, as well as the head of the second bearing. On examining the shaft, which measured 11 1/4 inches in diameter, it was found that only one-quarter of its length was intact.

Repairs were started at four o'clock, one hour after the accident, the first work to be done consisting in boring two 1 1/2-inch holes through the fracture, one near each end, the engine-room force being also set to work at the same time forging the special tools required for the repairs. To hold the broken ends together two band-rings were taken from the hoisting gear and clamped around the shaft, and in order to get rid of the vibration from the propeller the tail-end shaft was disconnected. It took 39 hours altogether to complete the boring of the two 1 1/2-inch holes. During the boring a band was taken from the foremast of the steamer and forged into a collar 1 1/2 inches thick by 6 inches in width, and of the diameter of the shaft. As soon as the holes had been bored to 1 1/2 inches, work was started on enlarging them to a diameter of 2 1/4 inches, and two bolts were taken from the main bearing, cut down to length and bolted through the shafts, as shown in the drawing. The forged collar was then fitted on and Babbitt-metal was poured into the joint. The first bearing box was replaced by a wooden one, and the tail-end shaft and the repaired intermediate shaft were then connected up. The repairs were completed at one P. M. on the 17th, the chief engineer and his assistants having worked continuously day and night for nearly five days. At three



THE SHAFT REPAIRED.

P. M. the vessel started at slow speed and reached the lightship at the South Pass of the Mississippi six hours later, where she anchored until she was picked up by a tug and taken into the river. The greatest credit is due to Capt. Jensen and the engineer staff for the pluck and resourcefulness shown in the carrying out of such a repair job at sea.

The Charleston Exposition.

The new Exposition at Charleston will open December, 1901, and will remain open until June, 1902. It is intended to advertise to the world the progress of South Carolina and the neighboring Southern cities, and the advantage Charleston enjoys as a natural seaport for the trade between the West Indies and the United States. There will be a large number of exhibits from the West Indies, and from Florida, and the whole exposition will be characteristic of the tropics. The grounds cover about 250 acres of land, and are situated on the Ashley River, 4 1/2 miles above Charleston. As the river is navigable for large ships up to that point two or more naval vessels will be stationed there. An artificial lake will be constructed near the middle of the grounds extending over an area of 30 acres. In the middle of the lake will be an electrical island. Two old colonial houses situated on the exposition grounds will be retained. The plaza will be 1,200 by 900, and there will be an auditorium capable of holding 6,000 persons. On it will also be situated the Cotton Palace and the buildings of Commerce and Agriculture. The style of architecture will be Spanish-Renaissance. The materials used will be pine and staff.

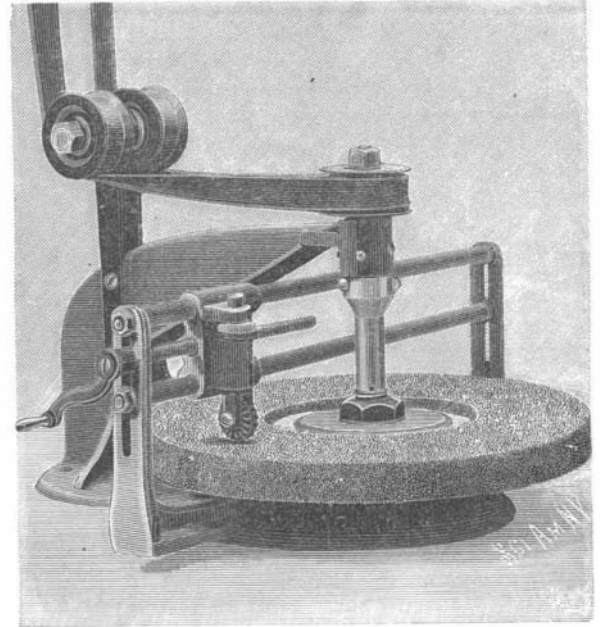
Harvesting Extraordinary.

The bulk of the flax grown in Kittson County, Minn., was harvested under very remarkable conditions. The fall was unusually wet, and it was found impossible to get on the fields. Freezing weather came almost immediately thereafter, and an extremely heavy fall of snow. The old methods had to be abandoned, and mowers brought into use. The sickle bar was entirely under the snow, and after the flax was cut it still stood as erect as ever, but the hay-rake following had no trouble in gathering it, as it was so thick and so entwined that the rake caught it all.

A SIMPLE AND EFFICIENT CLIPPER GRINDER AND SURFACE GRINDER.

The subject of the accompanying illustration is a novel grinding device for sharpening the blades of clippers. The inventor of the machine is William Taber, and its manufacturer J. Van Benschoten, 14 to 20 Catherine Street, Poughkeepsie, N. Y.

As our illustration shows, the machine comprises essentially a frame having a horizontal arm and a base. Between the horizontal arm and the base a vertical shaft, carrying a 14-inch emery wheel, turns on a cone bearing. Power is transmitted by belt and pulley. In its upper face the stone is provided with a circular depression four inches in diameter.



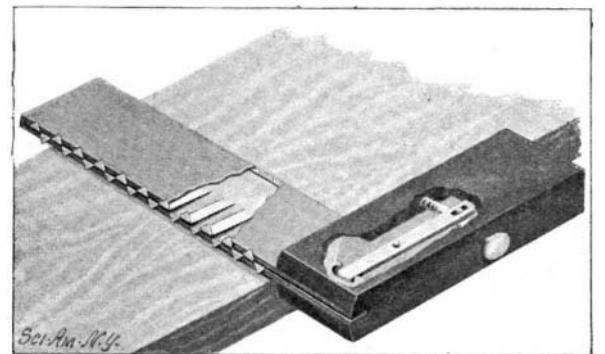
THE VAN BENSCHOTEN CLIPPER GRINDER.

On the five inches of flat grinding surface thus furnished clippers are held parallel and moved laterally over the two edges, whereby the surface of the stone is maintained both flat and true. In order that the stone can be trued without removing the vertical shaft from its bearing, a special truing attachment has been devised consisting of two half-inch rods, fitted in proper supports on which a star-wheel emery-dresser is moved gradually across the surface by means of a small crank and a screw. The dresser is also adjustable, so that any cut desired can be made. Thus not only can the stone be trued absolutely, but all glaze is removed as well.

Owing to the accuracy with which the surface of the stone can be ground, this device can be used on any light surface, such as the blades of sausage cutters, meat choppers, dies, cutter knives, and the like.

The Current Supplement.

The current SUPPLEMENT, No. 1312, has many interesting articles. "The Ancient History of Water Engineering" is by James Mansergh. "Observations on Crookes Tubes" is by H. Westbury. "The Optics of Tri-Chromatic Photography" is by F. E. Ives. "Mammals and Reptiles; or, What Was the Ice Age?" by



TRY-SQUARE WITH SELF-ADJUSTING SCORING DEVICE.

Joshua Rutland, is a most interesting paper. "The Mosquito as Transmitter of Microorganisms" is by Dr. R. Menger. "The Galileo Museum at Florence" is the subject of an interesting engraving. The usual Consular matter and Trade Notes and Receipts are given.

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