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Contents.

(Illustrated articles are marked with an asterisk.)

Acetylene gas exhibition 39
American and Spanish warships, analysis of 35, 38
Antarctic exploration 39
Ball bearing* 36
Bourgeois, loss of the 34
"Brooklyn" cruiser* 41
Camera, magazine land* 36
Cervera's fleet, destruction of 34
Commerce, our foreign 35
Cruiser Brooklyn 40
Hospital ship "Relief" 35
Inventions recently patented 44
Lightning explodes mines 29
Locomotives, geared* 33, 39

TABLE OF CONTENTS OF Scientific American Supplement No. 1176.

For the Week Ending July 16, 1898.

Price 10 cents. For sale by all newsdealers.

I. BOTANY AND HORTICULTURE.—Sinningia Concinna (Stenogastera Concinna).—1 illustration..... 18891
II. CIVIL ENGINEERING.—A Proposed Mountain Railroad for the Tyrol.—3 illustrations..... 18854
III. COMMERCE.—Trade and Industries in the Philippine Islands..... 18862
IV. ECONOMICS.—The Right to Property in an Idea..... 18854
V. FORESTRY.—Historical and Mythological Trees..... 18860
VI. MARINE ENGINEERING.—The Spanish Battleship "Pelayo."—8 illustrations..... 18847
The Transport "Alphonse XII."—1 illustration..... 18850
The Loss of the French Steamer "Bourgoigne."—1 illustration..... 18851
VII. MEDICINE AND SURGERY.—Military Medical Services in Cuba..... 18852
The Causes of the Explosive Effect of Small Caliber Bullets.—3 illustrations..... 18858
Variations in the Form of the Heart.—7 illustrations..... 18858
VIII. MICROSCOPY.—Notes on Microscopical Technique..... 18853
IX. MISCELLANEOUS.—Engineering Notes..... 18857
Miscellaneous Notes..... 18857
Selected Formulae..... 18857
X. PHOTOGRAPHY.—Animated Pictures..... 18862
XI. PHYSICS.—The Bolometer.—By Dr. S. P. LANGLEY..... 18853
XII. TECHNOLOGY.—Colors Used in the Manufacture of Soap..... 18851

CONTENTS

Of the July Number of the SCIENTIFIC AMERICAN, BUILDING EDITION.

(Illustrated articles are marked with an asterisk.)

Advice to young architects 3
Architectural carvings, novel design for* 18
Arts Club, the 2
Boilers, "Kewaunee" 18
Builders' transit* 17
City colonial architecture* 17
Cleaning varnished and antique furniture 3
Cottage at Woodmont-on-the-Sound, Conn.* 4, 15
Deadlock over the Public Library 2
Dwelling, modern, at Scranton, Pa.* 15
Dwelling, modern, at Derby, Conn.* 14, 15
Dwelling, modern, at Bokota, N. J.* 5, 16
Electric mail delivery 18
Expansion bolt* 18
Hygiene of the stable 2
Heaters, "Little Giant" 18
Incline elevator at Park Hill, N. Y.* 8, 9, 16
"Mineral wool" for houses* 18
Money in waste lands 17
Pipe laying without excavation 16
Prize for a design for artisans' homes 2
Registration of architects in Illinois 16
Residence at Lawrence Park, Bronxville, N. Y.* 15
Residence at Bath Beach, L. I.* 10, 16
"Rock Villas," a double residence at Park Hill-on-the-Hudson, N. Y.* 12, 15
Roman monoliths 17
Row of six modern dwellings at Bensonhurst, L. I.* 13, 16
School for animal painting and sculpture in the New York Zoological Park 17
Staining bricks 17
Steam heater, the "Royal Torrid" 17
Strength of white pine, bricks and stone 17
Treatment of oak parquet floors 17
Water lift, new* 18
Work of sculptors abroad 16

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THE DESTRUCTION OF CERVERA'S FLEET.

Before the opening of the present war the world was asking whether the destructiveness of our weapons of naval warfare was as great as theoretically it could be proved to be. The question has already been answered in two hemispheres. At Manila a fleet of nine cruisers, fighting beneath the shelter of friendly fortifications, was annihilated in the course of a single morning; at Santiago de Cuba as fine a squadron as ever sailed the seas, comprising four swift armored cruisers and two of the largest and most powerful torpedo boat destroyers in the world, was wiped out of existence in less than sixty minutes.

It is remarkable that in both cases the beaten fleet was overwhelmed by the same element of a ship's offensive powers—the gun. In neither case was there any call for the services of the ram or the torpedo.

The war between China and Japan gave us an inkling of the importance of the gun in modern naval warfare. Manila and Santiago have established it as par excellence the deciding factor (always supposing, of course, that it is well handled) of the sea fight of the future. Had it not been for the accuracy, heavy caliber and great carrying power of our guns, the speedy ships of Admiral Cervera's fleet would now be anchored in Havana Harbor, and our whole plan of campaign, both naval and military, would have been upset. As it is, thanks to the splendid marksmanship of our men, we were able to "wing" the flying cruisers, close in with them, and complete their inevitable destruction.

Just why Cervera elected to run the gauntlet of our fleet is a matter of speculation. Either he foresaw the speedy fall of Santiago and feared to be caught between the guns of army and navy, or, as is reported, he acted under the instructions of General Blanco to make a dash for Havana Harbor. There was much to be gained by such a move if it could be successfully carried out. Once out of Santiago, Cervera's fleet would have constituted a serious menace to our communications, and its escape would have removed the ostensible object for which the army was landed, namely, the capture of the fleet. The center of operations would have been transferred to Havana, where the strength of the Spanish army is gathered, and the system of defense is by this time enormously strong.

Whatever the cause, the fact remains that, after taking on as full supplies as were obtainable, the fleet moved at full speed out of the harbor, and attempted to break through the blockading fleet by steaming along the coast to the westward. Its chances of escape were good, all things considered. The four cruisers, "Christobal Colon," "Teresa," "Oquendo," and "Viscaya," were all of 20 knots speed, the last, indeed, having made 21 knots on her trial, and the destroyers, "Furor" and "Pluton," were supposed to be good for 28 and 30 knots. Against them were the "Iowa," 17-1 knots; "Oregon," 16-8 knots; "Texas," 17-8 knots; and the "Brooklyn," 21-9 knots, together with a couple of converted yachts of 16 or 17 knots speed. Our ships were lying some 2½ miles from the entrance, and, as the Spanish ships turned sharply to the west and hugged the coast, their escape from all but the "Brooklyn" was assured, unless they could be brought down by some well-placed shells. Moreover, judged by the canons of modern warfare, the possession by the Spaniards of powerful and numerous rapid-fire batteries gave them a decided advantage in a running fight, for, by concentrating their fire on the unarmored ends of our ships, they should have been able to retard their speed to such an extent as to make their own escape certain.

They came out of the harbor with every gun shotted and opened a heavy fire as they steamed past, the attack being concentrated on the "Iowa," as being the most formidable ship of the fleet. The plan of battle was to disable the "Iowa" and draw after them the swifter "Brooklyn," hoping to close in and cripple her when they had drawn away beyond range of the heavy guns of the battleships.

The plan, so far as the ships were concerned, was feasible. Had the conditions been reversed, and the Spanish fleet been in American hands and vice versa, it would undoubtedly have been successful. As it was, American gunnery won the day, and won it in very short order. In less than twenty five minutes from the moment that the bow of the "Christobal Colon" first showed at the mouth of the harbor two of the Spanish ships had been driven on the beach; in less than three-quarters of an hour another had surrendered, and in fifty-six minutes, according to one of the officers on the "Iowa," the whole fleet of six ships had been driven in a sinking condition upon the coast.

The Santiago fight has served to blast the reputation of the torpedo boat destroyer, which had already been shaken by the repulse of the "Terror" a few days before at San Juan by the ocean liner "St. Paul." The converted yacht "Corsair," now the "Gloucester," engaged these two vessels with such success that one of them, at least, appears to have been sunk by her fire. It is true the destroyers were designed for attacking torpedo boats, and their opportunities for offensive operations against larger craft are supposed to be con-

finied to foggy weather and dark nights. Yet we cannot but feel that with their great speed something might have been done, even on this bright Sunday morning. As it is they have proved the easiest kind of prey for ships which have only recently and hastily been converted from uses of pleasure and commerce to those of war.

We spoke last week of the undying value of the personal equation in modern warfare. Santiago adds its eloquent testimony to the truth that to-day, as of old, it is the "man behind the gun" that wins the fight.

OUR ARMY AT SANTIAGO.

The rank and file of the American army has again demonstrated its ability to fight its way to success through and in spite of difficulties that might well have dismayed a veteran army. In estimating the work done by our men in the fighting of Friday and Saturday, July 1 and 2, we must remember that they were not only attacking seasoned troops entrenched in strongly fortified positions, but the attack was made under a tropical sun and in a climate which is known to be one of the most trying in the world. The difficult nature of the country prevented the bringing up of supplies fast enough to provide the troops with full rations, and the execrable condition of the roads rendered it impossible to bring to the front sufficient artillery to cover the advance of our attacking columns.

In view of the frightful cost in killed and wounded at which the heights were stormed and taken, much of it due to the shrapnel which was used with deadly effect by the Spanish artillery, it will be asked why the attack was not deferred until we had time to bring up an adequate number of guns to silence the enemy's batteries and properly cover the advance of our men. It is probable that the deadly nature of the climate, and the desire to attack before our ranks had been thinned by sickness, had much to do with the precipitancy with which our troops were rushed against the Spanish entrenchments.

But without entering into criticisms which must at best be based upon partial information, the country may feel a just pride in the splendid fighting qualities displayed alike by our regular and volunteer regiments. The taking of El Caney and the storming of San Juan heights have shown that the combined dash and steadiness which were conspicuous on both sides in the great Civil War may still be counted on to win the country's battles when we are called on reluctantly to take up the sword.

It was a soldier's fight, in which the gallant leadership of the officers met a noble response from the men; and the heroism of those two days is witnessed by the endless stream of dead and wounded that moved slowly to the rear during the long hours of that memorable struggle.

THE LOSS OF THE "BOURGOGNE"

Our readers are already familiar with the harrowing details of the loss of the "Bourgoigne," with 560 lives, in the North Atlantic. We have no intention of entering into a discussion of her general features of the disaster further than to observe that, as contrasted with the detestable cowardice and villainy of the crew, it is a mournful gratification to know that the officers did their duty to the last and to a man perished with the ship.

The awful suddenness with which the ship went down as the result of the complete failure of her watertight compartments will shake the confidence of the public, already rudely strained, in the system of watertight bulkheads as a means of keeping an injured vessel afloat. The "Oregon," the "Elbe," and now the "Bourgoigne" testify that, however perfect it may be in theory, the subdivision of a modern liner is not a sure guarantee against foundering.

We wish to draw attention to one feature of the wreck which is very suggestive, and indicates that there is a faulty element in the arrangement of the bulkheads which may have been answerable for their failure to keep the vessel afloat. We refer to the fact that the ship commenced to heel heavily from the moment she was struck, and that the decks before she went down were inclined at an angle of 45°. This heel was due to the fact that the longitudinal bulkhead which divides a ship from stem to stern into two equal halves prevented the inrushing water from passing clear across the vessel, and threw her out of trim. As the heel increased, the water must have risen above the lower and possibly the upper row of gangways and portholes, and finding its way in through these it must have hastened the end.

It was the longitudinal bulkhead that caused the British battleship "Victoria" to capsize after she was accidentally rammed by the "Camperdown." Had the water been free to flow clear across the vessel, she might have sunk until her bow was almost awash, but it is probable that she would have kept afloat long enough to be towed into harbor or run ashore. As it was, the starboard compartments being filled, while those to port were empty, the ship was thrown over to starboard until the water, rushing in through the gunports, completed the capsize.

It is a question well worth considering whether th