

THE CONNING TOWER OF THE GUNBOAT "HELENA."

The "Helena," recently ordered to Key West, is a light draught unarmored steel gunboat, one of two sister ships, contracts for which were placed with the Newport News Shipbuilding and Dry Dock Company. The ship was especially adapted for service on the rivers of China, and was originally intended for the Asiatic station, whither she was proceeding by the Mediterranean route when directed to remain at Lisbon until further orders. There were at that port also the "San Francisco" and the "Baneroff," the three vessels composing our European squadron, when, on March 12, the Secretary of the Navy ordered the "Helena" and the cruiser "Baneroff" to Key West. The "Helena" left Lisbon on the 14th of March and reached Funchal, Madeira, on the 16th. Especial interest has been attracted to the movements of these vessels from the fact that the Spanish torpedo boat flotilla sailed from Cadiz on March 13, for Porto Rico and Cuba.

The "Helena" is 250 feet 9 inches long on the load water line, with an extreme breadth of 40 feet $\frac{1}{4}$ inch, and draws 9 feet of water. She is driven by twin screws, actuated by vertical triple expansion engines, which give her a speed of 16 8 knots. Her complement of men is 10 officers and 165 men. Her main battery comprises eight 4-inch rapid firing guns. Her secondary battery comprises four 6-inch and four 1-inch rapid firing guns, 2 Colts and 1 field gun. She carries a fighting mast of very peculiar type, as it carries a conning tower some 40 feet above the water line.

The ship was always designed to be available on the rivers of China. While she was being planned a Japanese officer happened to see the plans and he suggested the utility of a conning tower of sufficient elevation to overlook the banks of the Yellow River of China, the Yang-tse-Kiang. These banks are so high that they exclude the view of the country from those on an ordinary ship's deck. The Navy Department acted on the hint and our cut shows the result.

The fighting mast is composed of an outer and inner tube. The outer tube is 6 feet, the inner tube is 2 feet in diameter. A spiral staircase winds around the inner tube and gives access to the conning tower. Immediately below the lower top and partly supporting it is the tower.

This is carried on a sort of spouson on the mast. It contains a steering wheel and all appliances for communication with the different parts of the ship. The windows have hinged shutters with small openings. The metal of the conning tower is but $\frac{3}{8}$ inch thick. In it, from a height of nearly 50 feet, the commanding officer can overlook the obstacle presented by the high banks of the river, and can observe the enemy's actions to great advantage, should an inclination be shown to attack the ship.

The inner mast tube rests upon the berth deck, its lower open end projecting a few inches below the same. Thence it runs to the upper top. It contains an ammunition hoist. Seven and a half feet above the berth deck is the main deck, and on this the outer 6-foot mast tube is carried. Above the upper deck the mast passes through the chart house and pilot house and above all this comes the conning tower. The after portion of this is coincident with the 6-foot mast tube. The tower has an extreme width of 6 feet. Its length fore and aft is 10 feet.

Upon its top is the lower fighting top, in plan a circle of 14 feet diameter. Its weight is partly carried by the conning tower. Access to this top is had by foot rounds attached, ladder fashion, to the outside of the 2-foot mast tube. The spiral stairs stop when they reach the floor of the conning tower. The 2-foot tube, still rising, carries the electric light top, and above this a fighting top, a 6-foot circle, with a 10-foot ring bracketed above the top and concentric with it. From the center of the upper top the signal pole rises nearly 28 feet further.

COLUMBIA UNIVERSITY.

Morningside Heights, whose lofty plateau is crowned by the stately buildings of Columbia University, is undoubtedly the noblest site that could have been chosen for the future home of this historic seat of learning. Nature and art have conspired to render the spot at once commanding and picturesque, and history has enriched it with memories which will forever appeal to the hearts and stimulate the patriotism of the alumni who throughout successive generations will frequent the halls of New York's famous University.

The new buildings of the University will form the central and dominant group of a collection of noble edifices, academic, ecclesiastic and commemorative, which will render the Heights, architecturally speaking, the Acropolis of New York. The imposing pile which forms the home of the college library looks down upon the great metropolis of the New World with something surely of the same pride with which the Parthenon of old surveyed the ancient Athenian city.

We have spoken of the historic associations of the site. It is scarcely necessary to remind the reader that the buildings stand upon the ground where the battle of Harlem was fought on September 16, 1776, as record-

enced many of the vicissitudes of the revolution, and did duty as both a barracks and a hospital. On May 1, 1784, the State Legislature passed "an act for granting certain privileges to the college heretofore called King's College, for altering the name and charter thereof and erecting an university within the State." The college now took the name "Columbia." In 1857 the college moved to the buildings purchased from the Institution for the Instruction of the Deaf and Dumb, situated on Madison Avenue, between Forty-ninth and Fiftieth Streets. These premises were enlarged and improved from time to time during the next forty years, until the year 1897, when the University removed to the present commodious site on Morningside Heights.

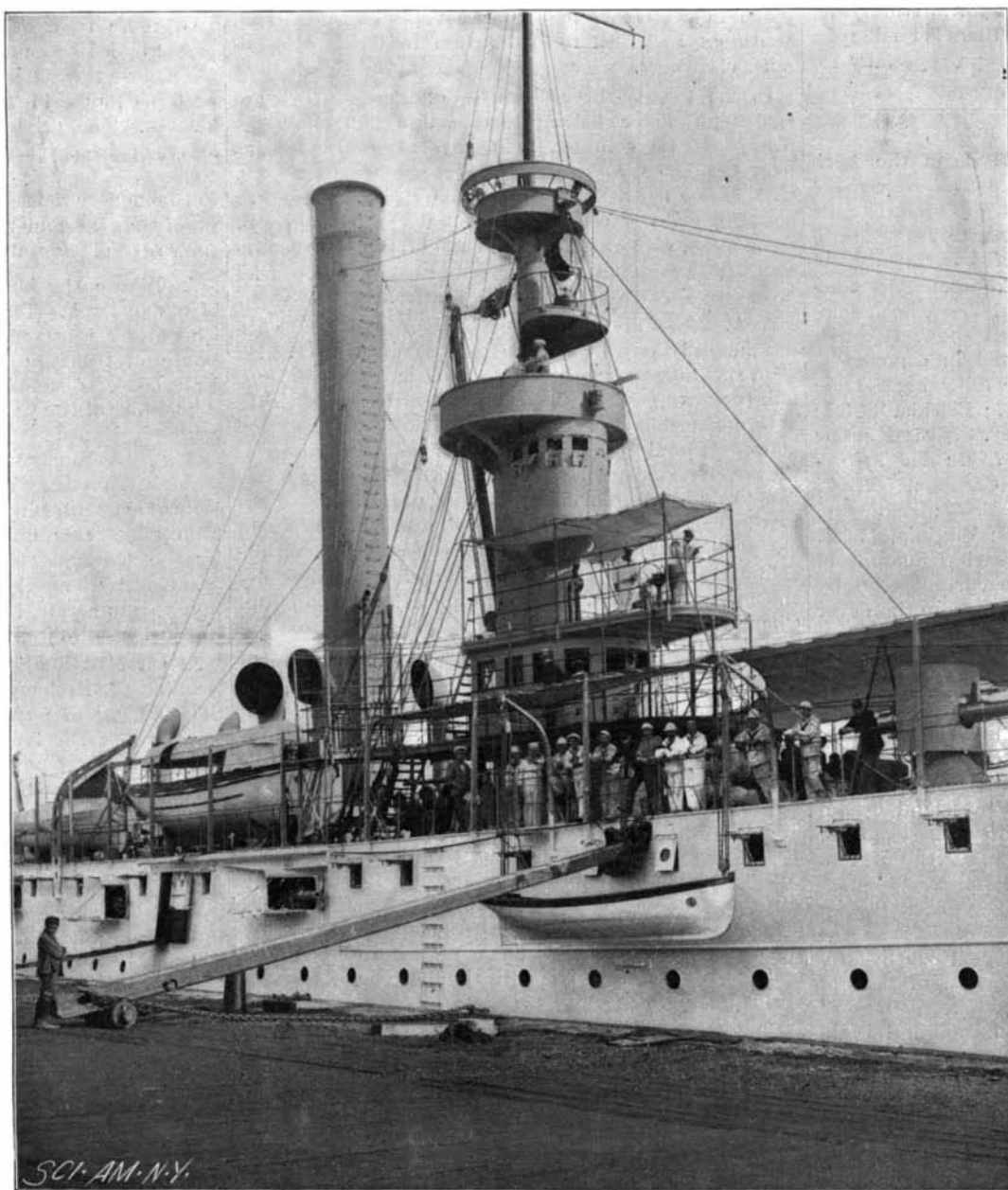
The University grounds are bounded by One Hundred and Twentieth Street and One Hundred and Sixteenth Street on the north and south, by the Boulevard on the west and Amsterdam Avenue on the east, and they comprise some seventeen acres of land. The southerly ten acres of the ground are level, standing about 150 feet above the Hudson River, and it is here that the buildings of the University are located. The central and most imposing building of the group is the Library. It is approached from the south by a vast court 375

feet in width and 200 feet deep. From the court two flights of steps lead to the general level of the central and side courts of the buildings, and from this a noble flight of 22 steps carries the eye up to the great portico of the Library building. This superb structure, which is the gift of the president in memory of his father, Abiel Abbot Low, was erected at a cost of \$1,250,000. It is built in the form of a Greek cross and the style is pure classic. The extreme width of the building is 192 feet and the height to the summit of the dome is 135 feet. The basement is built of Milford granite and the building above this is of Indiana limestone.

Entrance is had through a lofty portico supported by ten massive but symmetrical Ionic columns, whose largest diameter is 4 feet and their clear height 35 feet to the top of the caps. In the frieze of the cornice is inscribed "The Library of Columbia University," and the dates 1754 and 1897, and in the large panel above are inscribed the leading historical facts which we have already mentioned in this article. On entering the vestibule one gets the first glimpse of the great rotunda of the reading room, beyond the massive pair of Connemara marble columns which are seen to the left in our picture of the hallway or corridor. These two columns alone cost \$10,000, and they are built of the largest blocks ever turned out at Connemara, the weight of each column being 25 tons. Indeed, it was only the unavoidable delay in furnishing the marble that

prevented the use of this material for the sixteen columns which support the galleries in the rotunda. The main reading room beneath the dome is octagonal in plan, the short diameter being 75 feet and the longer diameter 85 feet. The four shorter sides form the piers for four great semicircular arches of 50 feet span which assist in carrying the dome. In the arches are large semicircular clerestory windows which serve to light the interior. Below the springing of the arches are the galleries, whose inner support consists of sixteen extremely handsome dark green marble columns. These columns, as well as those in the vestibule, are surmounted by capitals of solid bronze, each of which weighs nearly half a ton and is heavily plated with gold. The lower half of a set of these columns is shown in the bird's eye view of the reading room. The railing of each gallery is provided with four pedestals for the reception of classic statuary. A statue of Demosthenes is already in place, and in the same bay will be others of Pericles, Cicero and Julius Cæsar.

The dome is a meritorious piece of constructive work. It consists of an outer dome of brick and limestone and an inner false dome of steel framing and plaster. The outer dome is struck on a 52 foot radius. It is 4 feet thick at the springing and tapers in thickness to 9 inches at the crown. The thrust of the dome is taken



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ed in a dispatch from General Clinton to the New York Convention, announcing the success of the American troops. The facts are recorded on a tablet which has been placed on the walls of one of the college buildings.

The foundation of Columbia College dates back to the year 1754, and one of the most treasured relics in the Library building is the original college charter. This is preserved in a glass case let into the wall of the trustees' room, at the left of the fireplace, just below the portrait of William Samuel Johnson, who was president of the college from 1787 to 1800. The panel in which it is contained will be noticed in our illustration of the trustees' room. The portrait above the fireplace is that of Samuel Johnson, the first president, who controlled the destinies of the college from 1754 to 1763. The larger portrait to the right of the mantel is that of Dr. Barnard, who occupied the presidential chair before the present incumbent, Mr. Seth Low. The first building occupied by the college was located on what was known as King's Farm, and King's College, as it was called, was erected on that portion of the farm lying on the west side of Broadway between Barclay and Murray Streets, the grounds reaching to the Hudson River. It was described at the time as being "in the skirts of the city."

The new college, which was occupied in 1760, experi-