

THE "TERROR" IS A FIGHTER

She's Only a Monitor, but Believed by Many to Be as Effective as a Huge First-Class Battleship.

The United States double-turreted monitor, *Terror*, which has been assigned to duty in connection with the defense of New York harbor, is one of the most powerful fighting ships in the world.

There is nothing just like her in any foreign navy. She is essentially an American product, and as such is a development of the original Monitor of the civil war. The *Terror* embraces all that modern skill and ingenuity can devise. While the original monitor carried a couple of old style muzzle-loading, smooth-bore cannon, the *Terror* is provided with four formidable great guns, each one weighing 25 tons.

These rifles throw projectiles weighing 450 pounds, and which are supposed to be capable of piercing, at point blank range, the thickest armor carried by any ship afloat. The shells from the original Monitor, although weighing about 150 pounds each, and having a diameter of nearly 15 inches, were unable to pierce the four-inch armor carried by the Merrimac. At the same time, it should be remembered, the shells of the Merrimac were unable to pierce the armor of the Monitor. The Merrimac's armor consisted of railroad iron laid on in a diagonal fashion. The armor of the Monitor consisted of 12 one-inch iron plates bolted through and through.

The armor of the *Terror* consists of 11 1/2-inch steel plates, created by the Harvey process. The thickness of armor is found on the turrets. The side, or belt armor which protects that portion of the hull showing above the water line is seven inches thick.

Steel armor is the most formidable resisting medium known to-day to artillery, and notwithstanding the results obtained on the proving grounds, ordnance men are generally of the opinion that in time of action the armor will be proved to bear test of the gun. This was conclusively shown in the action of the Yalu between the Chinese and Japanese fleets. The armor of the Chinese battleship, *Chen Tuen*, was struck by shells from the heavy Japanese rifles which, under all conditions of proving-ground rules, should easily have pierced the metal. As a matter of fact, the Japanese shells only entered the armor to a depth of from three to four inches.

The trouble is, artillerymen say, that the powder used in service is not always up to the high standard grade of that used in armor tests, and that it is very seldom in action that a shot is able to make a direct hit, such as is possible in armor trials.

It is perfectly safe to say that under the ordinary conditions of battle, the armor on the *Terror* will be able to keep out all but the very heaviest projectiles fired at her. Like all fighting ships, the *Terror* cannot hope to escape hard knocks when she enters battle. The most she may hope to do is to cause greater injury to her opponent than the latter can inflict.

The principal dimensions of the *Terror* are: Length, 249 feet 4 inches; beam, 55 feet 9 inches; and draft of water, 14 feet three inches. The latter figure is based on the assumption that all stores, coal and munitions of war are on board. When in fighting trim the *Terror* displaces 3,815 tons. The measure of displacement is the weight of water displaced by the ship. All vessels-of-war are measured after this manner. Merchant ships are rated according to the interior capacity for carrying cargo.

The *Terror* is provided with two engines, working twin screws. The collective horse power of the engines is put down at 1,600. This is not much horse power for a vessel of the *Terror's* size, and in point of fact the machinery is the weak feature of the ship. Instead of being able to move about at a speed of at least 15 knots per hour, the *Terror* is doing well when she makes 11 knots.

Her engines are of the old horizontal-compound type. They were fitted into the vessel early in the '70s, at a time when steam engineering was in a very backward state in this country. Doubtless if the *Terror* were to be built over again, she would be provided with high-powered triple-expansion engines, but the cost to rebuild and re-engine her would be very great and for that reason the authorities have never asked for an appropriation.

The *Terror*, in common with the Puritan, Amphitrite and Miantonomoh, all monitors, was commenced early in the '70s at the yards of John Roach on the Delaware. For a long time money was all work ceased after the hull and engines were finished. In 1884, when it was decided to rehabilitate the navy, money was obtained to continue the construction on these monitors. The money was mostly expended in providing armor and heavy guns for the vessels, with the result that despite their slow speed the double-turreted monitors are to-day

as formidable vessels-of-war as the United States possesses.

The destructive powers of the *Terror* center in the four great guns carried in the turrets. There are two of these guns to a turret, and in naval parlance they are referred to as "turret-mates." The *Terror* guns have a caliber of 10 inches, and a length of 35 calibers. By

the velocity of travel at the time of striking.

A rule of thumb familiar to all ordnance men is a mile range for every inch of caliber. According to this rule the guns of the *Terror* should have a range of 10 miles. As a matter of fact the rule underestimates if anything the firing powers of a modern high-powered rifle. A gun of 9 1/2-inch caliber has attained a range of 12 miles, but it doing so it was mounted on a specially constructed carriage.

It is doubtful if the guns of the *Terror* could throw a projectile, mounted as they are, to a distance of more than five miles. The necessary angle of elevation can not be obtained before the guns are turned to bear against the upper edges of the gun ports. It is a mistake to imagine that guns on board ship can fire to great distances. In the first place the decks will not permit of high-angle fire of any great extent.

Besides her heavy 10-inch guns, the *Terror* is provided with four six-pounder rapid-fire pieces, and several Gatling guns; and also with two one-pounder turrets into action is to invite a flood of water down in the hold of the ship.

On her 10-foot draft the *Terror* can move about among the New York channels and go into spots where heavy draft vessels would not dare to follow. From shallow water positions she can bring her powerful battery to bear on an attacking force and thus add materially to the fire of the fort guns.

Should by any chance a ship of the enemy succeed in forcing a passage in and by Sandy Hook, the *Terror* will be found ready to plant herself squarely across the path of the invader and, at close range, try conclusions with him in heavy gun fire. Slow as the *Terror* may be in getting about, she will have the advantage of moving in the inside of the line of communications, and that feature may be equivalent to some three or four knots additional speed.

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the ship. The powder division officer must see to it that no gun is lacking in ammunition, and that when a demand is made for a particular kind of shells the proper sort is passed along.

A blunder or delay in delivery during action may imperil the result of the fight, and the consequences of defeat may be of a nature too great even to contemplate.

On every officer and man in the ship devolves a share of responsibility, and the manner in which his duty will be performed is best made sure of by constant and rigorous drills. Now that the *Terror* has been commissioned in view of a possible contingency with Spain, those who know by experience what constitutes naval drill declare that it will be night and day work on the monitor getting her crew shaken down and all ready for a fight.

G. L. CARDEN.
Lieutenant United States Navy.

Horse and Man.

In Russia the wages of a horse, as it were, are higher than those of a man.

to whether or not they have ever been used. Every pipe is peddled with the fumes of American tobacco. Some of these pipes are beautifully carved on the sides with more or less artistic figures and hieroglyphics.

The "hunting score" is another interesting curiosity. It strongly reminds one of the scarabs which were so common in Egypt. On these scarabs Egyptians of prominence recorded in hieroglyphics the leading events of their lives. Only in hunting scores, which are made of ivory, the Eskimo record in illustrative hieroglyphics their successes in hunting and fishing.

Perhaps the greatest popular interest will center in that part of the collection which at once proves that mantraders are by no means confined to those peculiar parts of the earth known as North Clark and South State streets. The museum has a rare collection of masks just as outlandish as any that ever popped in and out of the turner halls, proving beyond doubt that the Eskimo get a little spirited once in a while and cavort around on the ice as we feel when we dash around in costumes through the slush of Chicago.

Captain Bruce, who made the collection, also brought with him on his return to the states a band of Eskimo. The entire party is now in Minneapolis, and from there it will come to Chicago. In the band there are men, women and children, and all of them assist in giving an entertainment in which all the phases of Eskimo life are illustrated. Young and old take part in giving the native dances and songs, which are done in costume exactly as in the home country. The music is made by one of the dancers. He keeps time on a queer sort of drum, which

looks like a small hoop with a sheep-skin stretched over it. This is all of the music that is required by the dancers, the simple beating on the drumhead being all that they are accustomed to. When the band arrives in Chicago plaster casts will be made out at the museum of all the members of the party for the purpose of reproducing them in models for an Eskimo group which is to embellish the museum at no distant day.

PALMED HIS CONTRIBUTION.

Slight of Hand at a Church Collection Fools the Deacon.

From the Pacific Commercial Advertiser.

Many years ago, when Joseph Marsden lived in Hawaii, he attended church on Sunday morning in Hilo. Mr. Marsden was then noted for his skill in legerdemain. When Dr. — passed around the contribution at a Sunday service Mr. Marsden held up a \$9 gold piece between his thumb and forefinger so that Dr. — could plainly see it. He then placed his hand over the bag, palmed the gold piece and dropped in a silver quarter. Dr. — returned to the table with his collection. After the service he emptied the bag on a table, but could not find the \$9 gold piece. He shook the bag repeatedly, turned over the small pile of contributions, got down on the floor and looked under the table, walked down the aisle, looking closely at the cracks in the floor, felt in his own pockets, fearing that he had made some mistake, and then went home wondering at the strange loss of the gold piece. Some time afterward the deceiver quietly sent the gold piece to the church.

RELICS OF THE ESKIMO PEOPLE.

Daily Life of Little Folk Shown by Their Quaint Utensils.

From the Chicago Chronicle.

The Field museum will make a bid for only a small part of the large collection of Eskimo utensils and curiosities which recently arrived from Alaska. Most of the articles were but duplicates of things already in the possession of the institution, and consequently they will not be purchased. The few articles which were better than any in the Eskimo exhibit or are slightly different from them may be purchased if terms can be agreed upon between the owner and the museum.

The collection was made in Alaska by Capt. Miner W. Bruce, who was formerly connected with the government reindian station in an official capacity. The captain made a collection of over 15,000 specimens of the various things connected with the daily life of the natives of the far North. In the collection, which is now stored at the museum, are sledges, clothing, bows and arrows, game traps, bird snares, boats, lamps, dishes, pipes, toys and trinkets of all kinds, hunting scores, games, all kinds of utensils made out of bone or ivory, with metal blades in crude form, some of which are of the shape of a spoon, and hundreds of other interesting articles used and made by the little people of the North.

Among the most interesting things which the museum will probably take from the collection are the pipes and hunting scores. The pipes are made from the teeth and tusks of the walrus. These teeth are long and curved so almost all of the pipes are about the shape of the crescent moon. A good sized hole is made through the tooth for the passage of the smoke. The small end of the tooth is, of course, used for the mouthpiece. Near the large end a bowl much like that seen on opium pipes is attached. From this bowl the interesting deduction is made that the Eskimo get this important part of their pipes from Asia through some connection more or less in touch with China. The pipes have not been secured from their owners, long enough to throw anyone in doubt as

to whether or not they have ever been used. Every pipe is peddled with the fumes of American tobacco. Some of these pipes are beautifully carved on the sides with more or less artistic figures and hieroglyphics.

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THIS KITE IS A KING

It Is 25 Feet High and Said to Be the Largest in Existence.

IT WILL LIFT UP A MAN

Covered With Drilling and Held by Thick Rope Center-Bands—W. H. Markle of South Bethlehem, Pa., Is Its Designer.

The largest kite in the world has just been successfully flown by its designer and builder, W. H. Markle, of South Bethlehem, Pa. This king of kites represents the result of the thought and study of years. Its dimensions are 25x25 feet.

Of the Eddy pattern, that famous fashion of kite with which wonders have been accomplished within the last few years, it catches the breezes as easily as the sails of a racing yacht, rising gracefully and maintaining an almost motionless position in the air. Practical results were what Mr. Markle hoped to attain when he commenced to plan the kite, and so it is far from being a plaything. It was, in fact, intended for the purpose of taking photographs and temperatures at different heights, in this way carrying out the idea of Mr. Eddy regarding photographs and the plan of Prof. Willis Moore, chief signal officer, as to weather observations.

The sticks used in the manufacture of the kite are of white pine, 5x2 inches at the cross, tapering to two inches at the base. At each corner of the kite are two-inch screw eyes, made especially for the purpose to which they are devoted. To these screw eyes are secured the four corners of the cloth which covers the skeleton of the huge kite, for naturally it would not be possible to follow the old-fashioned method and use paper in making a kite of this sort.

The covering or sail of the kite is of the material known as drilling, both stout and strong, and when put to such use as this, makes a very easy matter. With the assistance of a few men the sticks and canvas are put together and the flying