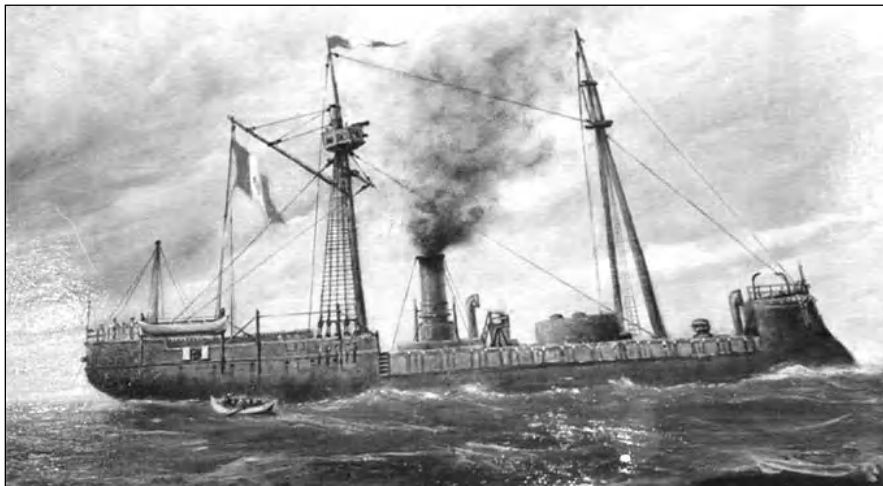


The HUASCAR, SCHORPIOEN and BUFFEL

three surviving ram ships of the Civil War era

By Daniel Frankignoul

The HUASCAR of the Peruvian Navy (1865)



The "Huascar", somewhere off the coast of Chile in the late 1870's (painting by Peruvian artist Saldivar)

The *Huascar* is a two-mast square-rigged brick, measuring 67 m long between perpendiculars and 11 m wide at the master-beam. She displaces 1,130 tons¹ and had a crew of 200 sailors and officers.

The battleship was constructed in 1865 at the *Laird & Sons shipyard* in Birkenhead (Liverpool) and included a turret designed according to the plans of Commander Cowper P. Coles of the British Royal Navy. She was ordered by Peru and was built under the supervision of one of its navy officers. She was baptized *Huascar* in memory of the brother of the Inca emperor Atahualpa.

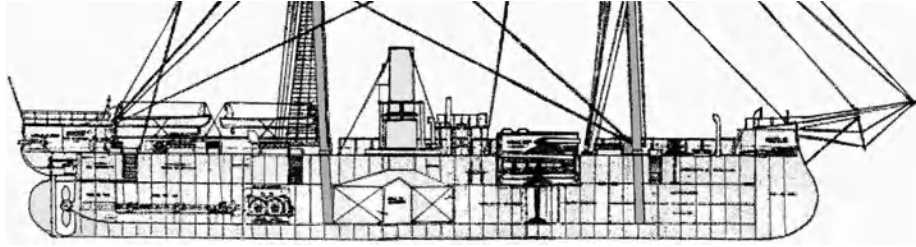
The ship has two steam-powered horizontal engines developing a true power of 1,500 HP with only one propeller providing a maximum speed estimated at 11 knots. She could turn 180° in two minutes. Her coalbunkers have a capacity of 300 tons.

The hull is covered by 35 cm thick teak planks on which are fixed 11.4 cm thick iron plates in the middle of the ship, this thickness being progressively reduced to 6.35 cm at the two extremities. The turret is protected by 14 cm thick iron plates and was operated manually. It took close to 15 minutes to maneuver a full 360° revolution of this turret. A heavy ram made of cast iron passing through the bow prolongs the ship.

After her capture by the Chilean Navy in 1879, the turret was equipped with a steam-powered machinery allowing it to operate more quickly and two 10-inch (or 300-pounder) muzzle loading Armstrong guns replaced the original ones. The firepower of the ship was increased by the addition of two pivoting 40-pounder guns mounted on the port and starboard sides of the ship, and by a 12-pounder gun on the rear forecastle. The

¹ Tons in this article are metric tons. One metric ton = 1.102 long ton.

battleship was later provided with a .44 cal. Gatling machinegun mounted on the front forecastle.



Original design drawing of the "Huascar" by Cowper Coles

Armed in 1865 for the Peruvian navy, the *Huascar* significantly reinforced the country's naval forces at the time of the war of independence against Spain. The destiny of the *Huascar* was truly exceptional, the ship becoming the jewel of Peru's defenses. In 1866, she captured several Spanish merchant ships. In 1867, she successively fought off two cruisers of the British naval squadron of South America.

It was in 1879 during the "War of the Pacific" between Chile and Peru/Bolivia that the *Huascar* really became of fame. Facing on her own the entire Chilean fleet during more than 6 months, she truly contributed in preventing the invasion of Peru by Chile. She fought against onshore batteries, against merchant ships, sometimes against two armored vessels at the same time, her most famous action being the sinking of the Chilean *Esmeralda* at the battle of Iquique on May 21, 1879. In total she captured 17 hostile ships and ran the enemy's blockade of Peru's coasts on numerous occasions.

Six battleships of the Chilean navy finally managed to catch up with the Peruvian ram and surrounded her during a clever maneuver. Attacked by two cruisers and a heavily armed schooner during the battle of Angamos on October 10, 1879, the *Huascar* was hit several times and badly damaged, but she nevertheless continued to fight until the very end, her crew displaying exceptional bravery. Eighty men lost their lives during this ultimate encounter, including admiral Miguel Grau, the ram's commander who became a national hero, and his two principal officers. Completely refitted, the *Huascar* was then incorporated in the Chilean navy

Located today in Talcahuano, a pleasant harbor on the Pacific coast of Chile, some 700 km south of Santiago, the *Huascar* has been carefully preserved by the Chilean government. The responsible archeological association received the "World Ship Trust" and the "Maritime Inheritance Award" in 1995 for its remarkable restoration work. Incredibly, Peru is still claiming this remarkable ship from the Chilean government !



The "Huascar" is badly damaged at the battle of Angamos in 1879

The *SCHORPIOEN* of the Dutch Navy (1867)



The "Schorpioen" at Den Helder, Holland

On Saturday June 9, 2001, Martine and Daniel Frankignoul, accompanied by CHAB members Jeanine Lambert and Jo Nobels, drove to Makkum in Friseland, Holland. The purpose of their trip was to prepare the forthcoming exhibition on Dutch ceramic tiles to be displayed at the Woluwe Saint Lambert communal museum in Brussels

On their way, they stopped in Den Helder, a small town near the dike closing the IJsselmeer, in northern Holland. The *Marine Museum* of Den Helder has been set up in a military harbor built in 1781. The naval arsenal has been superbly restored in 1993 with the oldest dry docks in Europe, dating back to 1823. The maritime museum houses a rich collection of ship models, period documents and engravings, weapons, uniforms and dioramas that recount the history of 500 years of the Dutch navy.

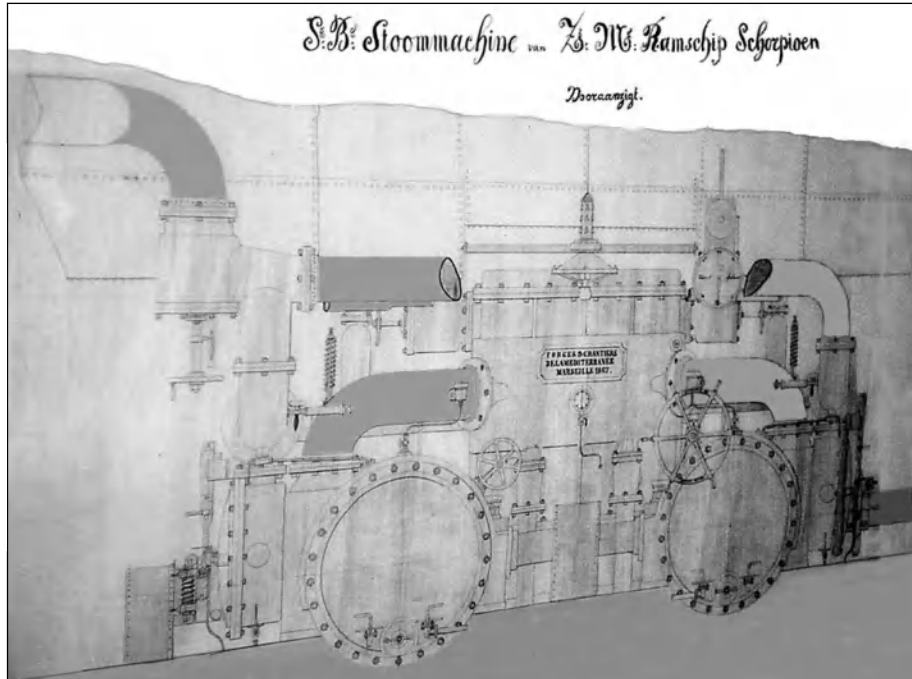
Besides the exhibition buildings, the tourist can visit the submarine *Tonijn* (in service from 1966 till 1991), the minesweeper *Abraham Crijnsen* (dating from 1936) and the ram ship *Schorpioen* on which we focused our attention since this ship displays many similarities with the famous *CSS Stonewall* built during the Civil War for the Confederate Navy by the *Chantiers de l'Océan* of Lucien Arman in Bordeaux.

The construction of the *Scorpion*² began in August 1867 by the *Compagnie des Forges et Chantiers de la Méditerranée* located at La Seyne-sur-Mer in the south of France. It is there that lived our previous honorary president Victor de Polignac and where his nephew, count Yves Michel de Pierredon still resides. The ship was launched on 18 January 1868, commissioned on May 17 and officially handed over to the Dutch navy on September 22. She finally laid anchor at Hellevoetsluis, the Netherlands, on December 1, 1868.

The Dutch armored ram is a two-mast square-rigged brick that has an overall length of 62.64 m and a 11.62 m width at the master-beam. The initial 4.20 m draught has been reduced to 2.54 m. Displacing 2,147 tons, the *Scorpion* is propelled by two pairs of single expansion steam engines operating at 30 psi and developing a nominal power

² "Scorpion" is the translation of "Schorpioen"

of 800 HP, thus a true total power of 2,269 HP allowing for a maximum speed of 12.8 knots. Her coalbunkers have a capacity of 217 tons and the fuel consumption per watch (4 hours) is 7,690 kg. The hull is covered with a 30 cm (one foot) thick layer of teak planks on which are fixed iron plates, 7.6 cm thick at the bow and 11.4 cm at the stern. The armored turret contains two 23 cm (9 inch or 300-pounder) muzzle loading Armstrong guns (replicas since the originals have not been preserved) that were purchased and installed in Great Britain.



Original drawing of the steam engine of the "Schorpioen kept in the Maritime Museum

In 1870, the *Scorpion* collided with the barge *Adriana Maria* but sustained little damage. She was then transferred to the Flessingue squadron where one of her major activities consisted in repatriating the bodies of the Dutch soldiers killed during the siege of Antwerp in 1832. On August 9, 1886, she was accidentally rammed and sunk by the paddle tug *Hercules*. She was however salvaged and re-fitted before finally taken out of active service in 1904.

Luckily the ram was not sent to the scrap yard but was instead converted into an accommodation ship in 1908. To achieve this, the turret was removed, and a second deck was added to increase the lodging capacity. The hotel ship was then anchored successively in the harbors of Hellevoetsluis, Flessingue, Gorinchem, Amsterdam, Hamburg (Germany) and finally Den Helder. Until 1982, she housed members of the torpedo service, the submarine service, the Ministry of shipping and the Navy's Women Division.

The *Scorpion* was finally bought in June 1982 by the *Ramship Schorpioen Foundation* that has spared no efforts to restore the ship to her original condition and appearance. She was made accessible to the public in July 1989.

We have been truly impressed by the Maritime Museum at Den Helder and highly recommend a visit of the *Scorpion* to all those who are interested in maritime history. Den Helder is only 280 km from Brussels, the Dutch highways are impeccable, and a very warm welcome can be expected from the inhabitants of the north of Holland.

The *BUFFEL* of the Dutch Navy (1868)



The "Buffel" docked at the Maritime Museum in Rotterdam, Holland

After having been informed in Den Helder that a second ram ship existed in the Netherlands, Daniel and Jonathan Frankignoul, accompanied by Jeannine Lambert and Jo Nobels, went to Rotterdam on October 14 to investigate. Blessed by the beautiful weather of the last weekend of fall, they were also able to take some good photographs. The *Maritiem Museum* of Rotterdam was somewhat a disappointment but the visit of the *Buffel*³ was well worth the detour ! The stern of the battleship has been restored to its 1868 appearance while the bow part has remained as it was in 1896. As can be seen on the pictures, the captain's cabin and officers' quarters are truly exceptional !

The *Buffalo* is a two-mast battleship that was the first in naval history not rigged with sails. Robert Napier delivered her to the Dutch navy on July 23, 1868. She is 59.68 m long between perpendiculars, her width at the master-beam is 12.25 m and her draught is 4.72 m. She displaces 1,198 tons. The crew consisted of between 100 and 150 sailors and officers.

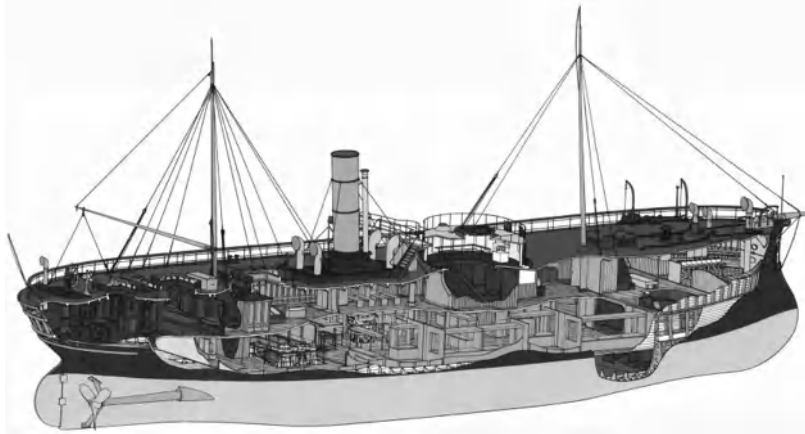
Two steam-powered engines propelled the ship, each comprising two horizontal cylinders developing together a true power of 2,200 HP. Her maximum speed is estimated at 12.82 knots. Her coalbunkers have a capacity of 200 tons that gave the ship an autonomy of 1,150 nautical miles (2,100 km) at an average speed of 6 knots.

The metal hull is covered with a layer of teak planks on which are fixed iron plates, 15 cm thick in the middle of the ship, this thickness being progressively reduced to 7 cm at the two extremities. This armor belt is provided 61 cm above the waterline and 91 cm below it. The hull consists of a double shell, and this particularity allows the ship to use it as ballast, thus increasing or decreasing her draught at will. The turret is protected by 20 to 28 cm thick iron plates and is operated by a steam-powered machinery ; it can however be, if necessary, manually cranked by the crew.

The turret houses two 23 cm (or 300-pounder) Armstrong muzzle loading guns. The ship's armament included two 30-pounder guns located at the port and starboard sides. The ship is prolonged by an enormous iron ram.

³ Buffalo in English.

The two 30-pounder guns were removed in 1880 and the Armstrong guns were replaced in 1887 by larger 28 cm caliber guns. One year later, the bridge was provided with four 3.7 cm guns, two 7.5 cm guns and two 3.7 cm revolving cannons.



Longitudinal section view of the "Buffel" built by Napier & Sons

On June 3, 1864, the Netherlands appointed a commission assigned to procure armored ships for the young nation. It took three years before a decision was made and finally the Netherlands ordered a battleship in France and two in Great Britain. The *Compagnie des Forges et Chantiers de la Méditerranée* located at La Seyne-sur-Mer in the south of France would build the *Scorpion*, the shipyard of Laird & Sons in Birkenhead (close to Liverpool in England) would construct the *Stier*, and Napier & Sons in Govan on the Clyde (close to Glasgow in Scotland) would build the *Buffel*.

The latter was delivered to the Dutch navy on July 23, 1868, and on August 3, she sailed from Glasgow to the harbor of Nieuwe Diep in Den Helder, the Netherlands. The destiny of the *Buffel* was far from glorious. After a first journey in the Atlantic Ocean in September 1868, it was decided to keep her close to the coasts since the ship showed evidence of excessive rolling and embarked too much water. Her only true mission came in August 1871 when she was ordered, together with the *Scorpion*, to repatriate the bodies of the Dutch soldiers fallen during the siege of Antwerp in 1832.

In 1896 the *Buffel* participated in joined maneuvers between the navy and the army. She then returned to Hellevoetsluis and was removed from active service in the same year. After considerable modifications, she served as a hotel ship until 1973. She was purchased by the city of Rotterdam in 1974 and then entirely restored as a museum ship by the *Vrienden van het Maritiem Museum Rotterdam*.



Aerial view of the "Buffel" in Rotterdam harbor