going faster than the other, and thus wedging the caisson fast on the ways. This was obviated by the V shaped groove of the groundway, and placing the ribbands on the inside of the outer ways. In order to gain an accelerating speed, the ways were laid crowning to the extent of eighteen inches. The launchingways also extended ten feet back of the caisson and were provided with shores resting against its sides. It was desirable that the rear edge of the caisson should leave the ends of the groundways simultaneously, and not stick fast on one, a thing likely to occur, unless prevented by the above arrangement.

On the 19th of March, 1870, the haunch took place. It was a success in every respect; as soon as the last block was split out the caisson began to move. The impetus it had acquired in the first part of its course proved sufficient to overcome the immense resistance offered by the water. The air caught inside of the air-chamber, assisted materially in buoying up during the launch. Neither the battering rams provided to start her, nor the checks to hold her back, were needed. The deck was not submerged, neither was the wave of translation in front very large.

An air-pump and boiler had been set up on deck before launching. These were at once put in motion, and in a few hours the water was all displaced from the air-chamber, the air blowing out at one corner, thus proving a satisfactory state of tightness.

When the air was afterwards allowed to escape entirely, the top of the caisson settled down within seventeen inches of the water, which happened to agree with previous calculation. When inflated, the caisson remained quite level, owing to the balancing power of the heavy timber sides of the air-chamber.

The whole of the launching arrangements, as well as the responsibility of the entire launch, rested with the builders, Messrs. Webb & Bell, who deserve the greatest praise for the successful manner in which they carried out so novel a work. They accomplished the result by simple common sense arrangements; no money was wasted upon elaborate precautions or fancied contingencies.