BAD PRINT

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Our Presentation Plate of the Great Eastern.

With this number of the British Whig every subscriber is presented with a proof-impression of the steamship Great Eastern, printed from an excellent electrotype engraving. The mammoth vessel is represented as she lay in the Thames prior to her trial trip. The immense size of the vessel, the novelty of her construction, and the great changes in ship-building likely to take place, should she prove successful, coupled with the late melancholy disaster that has befallen her, have awakened an interest in the mere ship such as probably never attended any other creation approaching it in similarity. On this account, then, our present will be generally acceptable and appropriate.

Our readers have been kept posted as to the vessel's progress during her construction, launch, trial trip, and last, though not least, the disastrous explosion that occurred on board, together with all the commercial vicissitudes that she has undergone, and there is little new to tell respecting her. The following particulars are offered mainly as an accompaniment to the plate.

The Great Eastern was designed by Mr. Brunel, the eminent engineer, and was built at Millwall, on the Thames, by Scott, Russel & Co. She is the property of the 'Great Ship Company,' most of the shareholders being civil engineers and persons of comparatively limited means. Her hull is constructed wholly of iron, in sixteen water-tight compartments, and in such a manner as to give the greatest strength. The prudence and great safety of this method of construction was effectively demonstrated at the late explosion, the havoc of the disaster being almost altogether confined to the compartment in which it occurred. The whole length of the deck, which is flush from stem to stern, is 692 feet. From side to side, across the paddle-wheels, the distance is 118 feet, so that an ordinary ship could be laid across the deck without projecting on either side. Her burthen is estimated at 22,000 tons, and she is calculated to carry 800 first-class passengers, 2,000 second-class and 1,200 third-class passengers. In case of need, it is said, she can carry 10,000 troops, besides the crew of 500 men. Her masts, of which she has six, are of iron, and are backed by 74 inch wire rope; the mizzen mast is supported by hempen cordage.

The saloons and state-rooms of the Great Eastern are magnificent. The total length of the main saloon is 62 feet, by 36 feet wide; at one end of which is the ladies' saloon, which is 20 feet long. Around the two principal saloons the sleeping berths of the passengers are skilfully arranged, the amount of accommodation being regulated, of course, by the price paid for the passage. But it is hardly fair to call them mere berths, seeing that they are, generally speaking, rather suites of apartments, comprising sleeping, sitting and drawing-rooms, all self-contained, and offering to females as complete seclusion as if they were in their own homes. The smallest of these is larger than the best cabins in any other vessel; and they have the advantage of being at least double the height, and possessing the most ample and ready means of ventilation. A first-class state-room is eighteen feet long by seventeen and a half feet wide; the ceiling is seven feet six inches high, and is therefore quite a fair-sized room for a family. By an ingenious contrivance the berths collapse, and fold against the side of the cabin, leaving a space between them and the wall wide enough to contain the bedding; curtains suspended from the ceiling conceal the whole arrangement from view, and thus, while the voyagers are at breakfast, their sleeping-room is converted into a very neat drawing-room. Each room is provided with two rich crimson velvet settees; these are hollow, one of which serves for a coffer, and the other conceals a large bath. Every article of furniture is of the most excellent quality, and has been purchased without apparent regard to cost. A description of the grand saloon has appeared in these columns. Unfortunately, its glory has departed, and the brilliant gilding and luxurious decorations have been swept away by the late disaster. Doubtless in course of time, Mr. Crace's marvels will be restored, and then a description will be in place.

The means of propulsion possessed by the mammoth ship are in keeping with her exterior. Her two paddle-wheels are fifty-six feet in diameter, and are driven by four engines possessed of a nominal horse power of 1,000 horses each. Her screw propeller is twenty-four feet in diameter, and is moved by engines equal in power to 500 horses; the blades of this screw more resemble the large bones of an antediluvian monster than anything else that can be thought of. The following description of these unique engines is from the London Times, and will be read with interest:—

'It is quite impossible by mere verbal description to convey an adequate idea of the colossal proportions of both sets of engines—the former by Boulton and Watt, the latter by Mr. Scott Russell. The paddle engines consist of four oscillating cylinders, of 74 inches diameter and 14 feet stroke; each pair of cylinders, with its crank, condenser, and airpump, forms in itself a complete and separate engine, capable of easy disconnection from the other three, so that the whole is a combination of four engines. A friction clutch connecting the two cranks is the means by which the engines are connected or disconnected. All the sets of engines, screw, paddle, and auxiliary, are provided with governors, expansion and throttle valves. The paddle engines work up to an indicated power of 3,000 horses (? 3,500), but when working 11 strokes per minute with steam in the boiler at 15 lb. the expansion valve cutting off at one third of the stroke. All parts, however, are so constructed that they will work smoothly either at eight strokes per minute at 25 lb without expansion (beyond what is unavoidably effected in the slide-valve) or at sixteen strokes a minute with the expansion valve cutting off at one quarter of the stroke. Under the latter circumstances the paddle engines alone would give an indicated power of 5,000 horses. The boilers are in keeping, strong, and have been tested at double the pressure they are designed to bear. Their weight including double coaling, fresh water, etc., is 210 tons, and they are capable of containing 136 tons of water. Each set has about 8,000 square feet of tube surface, exclusive of the furnace, and about 4,064 square feet of feeder surface. Each is equal to supply freely with moderate firing steam for an indicator of 1,800 horse power when working with 15 lb. but with full firing can supply an indicator of 3,500 horse power. The fireplaces and ashpits are fitted so as to be well adapted for the use of anthracite coal.

'The screw engines are constructed on the same improved principles. They have four cylinders, of 84 inches diameter and 4 feet stroke. The cylinders are capable of being worked together or separately. When working 43 strokes a minute, with steam at 15 lb. and cutting off at one third of the stroke, these engines give an indicated power of 4,400 horses, but at 33 strokes a minute with 25 lb. and cutting off at one third of the stroke, these engines give an indicated power of 2,500 horses. But at 43 strokes a minute, with steam at 15 lb. and cutting off at one third of the stroke, these engines give an indicated power of 4,400 horses. But at 33 strokes a minute, with steam at 25 lb. and cutting off at one third of the stroke, these engines give an indicated power of 2,500 horses. The screw engines are capable of being worked together or separately. When working 43 strokes a minute, with steam at 15 lb. and cutting off at one third of the stroke, these engines give an indicated power of 4,400 horses. But at 33 strokes a minute, with steam at 25 lb. and cutting off at one third of the stroke, these engines give an indicated power of 2,500 horses. Thus the united efforts of both sets of paddle engines will drive the Leviathan vessel through the water with a power of not less than 12,000 horses. What fleet could stand in the way of such a mass, weighing some 30,000 tuns, and driven through the water by 12,000 horse power at the rate of three miles an hour? The screw engine boilers are in three distinct sets. Each consists of 324 tuns, and their capacity is 470 tons. The probable consumption of coal when both engines are at full work will average 250 tons per diem. Two coal compartments at the bottom of the ship will be used for pumping water into the tanks of ballast, and as the coal is delivered from these tanks perfectly water-tight, any one or any number can be filled at pleasure.'

She is, or is to be, lighted throughout with gas, made on board; and on dark nights the electric light, on the main top, will shed an artificial moonlight upon deck. To save labor, the anchor is weighed and the sails hoisted by steam; in case of accident, the same steam power will be applied to the pumps. In order to provide against any possible accident, she is provided with two fine steamers in the guise of paddle-box boats, (one of these is shown in our engraving,) each ninety feet long, and a large number of smaller boats besides. These, together with the lifeboats, are so disposed as to be ready for launching at a moment's notice. In fine, she seems to have every thing that ingenuity can devise or money procure, to make her perfectly safe. A corps of 'firemen' is to be attached to the ship, and a fire-engine is to be placed on board, to be used in case of need. The ship is to be lighted throughout with gas, made on board; and on dark nights the electric light, on the main top, will shed an artificial moonlight upon deck. To save labor, the anchor is weighed and the sails hoisted by steam; in case of accident, the same steam power will be applied to the pumps. In order to provide against any possible accident, she is provided with two fine steamers in the guise of paddle-box boats, (one of these is shown in our engraving,) each ninety feet long, and a large number of smaller boats besides. These, together with the lifeboats, are so disposed as to be ready for launching at a moment's notice. In fine, she seems to have every thing that ingenuity can devise or money procure, to make her perfectly safe. A corps of firemen