"Great Eastern." We will enumerate these, and explain those which require it presently. Her chances may be stated thus :---

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- 1. An inner and outer skin.
- 2. Water tight bulk heads.
- 3. Ample masts and sails.
- 4. Paddle wheels.
- 5. A screw propeller.
- 6. Steering apparatus.

Of these details, let us first consider the motive power, which is wind and steam, and afterwards we will describe the peculiar construction of the ship, so far as words can be made into pictures.

In the motive power, then, we have the wind, to avail itself of which the "Great Eastern" will have five masts, the three centre masts being crossed by yards as in a line-of-battle ship; the other two masts, one in the bow and one in the stern of the ship, will be smaller in size "for fore-and-afters."

Then, again, we have the steam power, namely, the paddlewheels and the screw. We have before stated the nominal power of the engines, which, by the way, is far below their actual power, and we have also given the names of the makers. These engines, it is needless to say, are incomparably larger than any hitherto made. They will be placed in different parts of the ship, and will be entirely independent of each other. The vessel will have ten boilers and five funnels, or, as the American calls them, "smoke pipes." Every boiler can be cut off from its neighbour, and used or not, as desired. They will be placed longitudinally along each side of the ship, and it will give some idea of their generative power when we say that every boiler will have ten furnaces; thus giving to the whole no less than 100 furnaces. The kind of boiler to be used has been decided upon, but not before an experi-The coal to be used is anthracite. mental boiler was made.

The vessel will have two paddle-wheels in the usual manner, but the paddle-engines are to be on the disconnecting principle, so that they may be used jointly or separately, and both or either paddle-wheels can be put in independent motion. Great anxiety has been felt as to the diameter of the paddle-wheel, which at present has been fixed at sixty feet. There are few points connected with a paddle-wheel steamer more important than the diameter of the wheel, six inches, more or less, in many cases, altogether changing the character of the vessel. A consideration of the light and heavy draft of water o of the des above, muloaded, and of the wh Brunel rej

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