

of the captain of a ship like the *Ohio*, is 4500 dollars, when in service; 3,500 dollars when on leave of absence or off duty. The salary of the President of Harvard University is 2,205 dollars, without leave of absence, and never being off duty!

If the large endowments of Harvard University are dwarfed by a comparison with a single ship of the line, how much more must it be so with those of other institutions of learning and beneficence, less favored by the bounty of many generations? The average cost of a sloop of war is 315,000 dollars, more, probably than all the endowments of those twin stars of learning in the western part of Massachusetts, the colleges at Williamstown and Amherst, and of that single star in the east, the guide to many ingenious youth, the seminary at Andover. The yearly cost of a sloop of war in service is about 50,000 dollars; more than the annual expenditure of these three institutions combined.—*Hon. Charles Sumner.*

From the *Toronto Globe.*

### THE MAMMOTH STEAMSHIP.

We have on several occasions noticed the character and progress of this wonderful attempt to overcome, by opposing still stronger forces the fierceness of that ocean-strife to which navigators have been exposed, from the time when the man, who Horace says must have had a heart of triple brass, first launched his bark on salt water, to the present half-way house of the nineteenth century. The following particulars, however, for which we are indebted to the *State of Maine*, may not be uninteresting, especially when it is remembered that there is some hope of this gigantic vessel becoming to a great extent a peculiarly Canadian 'Institution.' This great steamer, then, is being constructed on the Thames by Messrs. Scott and Russell, under the direction of I. K. Brunel, the Engineer. She is to be 684 feet long, 83 feet broad, 58 feet deep, with four decks, and a measurement of 27,000 tons. She will be ship rigged with five masts, and steered with two rudders, the one before the other behind the screw. Besides the screw she will also have paddle-wheels, which are to be worked by a separate engine from that which sets the screw in motion. These engines, placed in different parts of the ship, will be worked by the steam from ten boilers, having each ten furnaces and a smoke-pipe for every pair of boilers. The screw engine will be 1,600 and the paddle engine 1,000 horsepower; total, 2,600. Cylinder of screw, 4 feet; diameter of cylinder, 84 inches; stroke 4 feet; cylinder of paddle-engines, 74 inches; length of stroke, 14 feet 6 inches. Each engine-room will be forty feet long. The screw propeller will be 23 feet in diameter. The paddle-wheels have been fixed at 58 feet diameter. Draft of water loaded, 28 feet; in ballast, 18 feet.—the shaft of this monster-vessel has been made at the works of the Messrs. Napier, on the Clyde, and is 4½ feet in diameter, and her chain cables are made of 4½ inch iron. The mode of constructing her hull is as follows:—

The steamer is built into a set of square iron boxes or compartments, encased within a double shell of iron plates, the inner one of three quarter inch iron, forms the inner skin or hide. Outside this is an outer skin of one inch iron plates. The outer and inner plates will be joined to each other by longitudinal webs or girders formed of plates and angle iron. There will be seventeen of these webs on each side of the ship, thus joining the outer and inner skins by means of a number of water-tight cells, of such extraordinary strength that they give a rigidity never before com-

municated to any vessel. Besides these small cells forming the wall, as it were, of the ship, she is being built in seventeen sections—the midship section being first built up to its full altitude, and the iron decks laid—the other sections, fore and aft, being successively built in like manner, and joined to the preceding section. It may, therefore, be said that the ship will consist of a great number of water-tight apartments between the outer and inner skins, and of thirty-two large square compartments in the body of the vessel, not merely nominal divisions, but complete, substantial water-tight bulk-heads, of sufficient strength to bear the pressure of being filled with water. In case of accidentally being broken in two, the separate portions would float without damage to the cargo contained in the uninjured sections.

The accommodations for the conveyance of passengers on board this ship will be something almost fabulous. She will accommodate a whole expeditionary army, say ten thousand men, if used as a troop ship; but for other purposes she will be able to receive on board six hundred first class and eight hundred second class passengers. Her saloon will be four hundred feet long and fifteen feet high. It is expected that from her vast bulk this ship will move upon the waves of the ocean as easily as smaller crafts move upon the little ripples of our fresh water rivers. A gale of wind will be no gale to her, and she will be as steady in a hurricane as a flat bottomed punt from which gentlemen fish for carp in a pleasure pond. Of course it is not every harbor that will suit a craft of twenty-seven thousand tons measurement, although, considering her great tonnage, twenty-eight feet, which is calculated as her loaded draught, is small enough. Great efforts are, therefore, being made to have her permanently employed in the American trade, and Boston and Portland are each competing for the honor of having their port made the goal of her western voyages. We understand that our friend Mr. Bellhouse has gone out to communicate with the owners of this wonderful vessel, with the view of determining them to adopt Portland as the place to which she shall permanently run. The Grand Trunk Railway and the Great Western Railway have, of course, a very considerable interest in the success of this negotiation. With the *Mammoth* steamship running across the Atlantic from Portland to Liverpool, and the most direct line across the Continent to the Western part of the Continent over the Victoria Bridge at Montreal, an immense trade must be brought upon the Canadian route, which must swell the receipts of our railroads, and, no doubt, add immensely to all the commerce of the country.

From the *Venice Gazette.*

### THE POPE'S RULE IN AUSTRIA.

According to the new Concordat:—"The Catholic religion shall be maintained and protected, with all the rights and prerogatives accorded to it by the holy canons, in every part of the empire where it dominates.

"The *Placetum Regium* is abrogated.

"The relations of the Bishops with the Holy See in Spiritual affairs, the relations of the bishops with their clergy and the people, their instructions and enjoinders in spiritual affairs, are free

"The nomination of the vicar and the college, the granting or refusal of ordination to such as appear unworthy of it, the foundation or collation of curates, the institution of public prayers, the convocation of the synods, the publication of the pastoral letters and