

cately constituted than man, and treat her with great deference; yet I have seen our young sisters associate with those of the opposite sex who are addicted to bad habits, who smell of tobacco and alcohol so that their presence would sicken a temperate man. Yet the ladies seem to take no notice of it. That is a something I do not understand as yet. Are their minds more gross, or are they hiding their natures because of social customs? Such things should not be tolerated in good society. Our daughters should demand practical respect. They should teach those that give way to pernicious habits that they are not desirable company because of those habits.

Let us look at these matters coolly and dispassionately. The discoveries of science have substantiated the words of revelation that some things are not good for man. Let us live so that we can be free from their evil effects and enjoy life as our Father designed we should.

#### OCEAN TRAVELING.

A LITTLE over eighty years ago Robert Fulton placed the first steamboat that the world had ever seen on the Hudson river. As the little vessel lay at anchor quite a crowd gathered on the banks to look at her. And numerous were the observations and comments heard on every hand and side. Quite a large number were filled with skepticism and one man was heard to say, "Is that the thing to go up the river against the wind and against the tide without any oars and without any sails? Absurd! Impossible!" And he laughed, and quite a number joined him.

Bye and bye the sailors were seen on the deck, working at the windlass and heaving up the anchor. In a few minutes, after the anchor hove in sight, the vessel began to move, slowly at first, but steadily, up the river, against both wind and tide. The crowd stood gazing after her spell bound, until she had passed completely out of sight, when the wisacre who had spoken before said, "Well, she has gone; but she will never come back."

Notwithstanding the world's croakers every year saw numerous and important improvements in steamboats and their machinery, but for a long time no one dreamt of attempting to travel on the ocean by steam. When at last it was suggested, an English nobleman said he would eat the boilers of the first steamboat that crossed the Atlantic

Ocean. If he tried it he must have hurt his teeth.

Thirty years after Fulton's little steamer ascended the Hudson, the attempt was made to cross the ocean, and was completely successful. The *President*, one of the very first to cross, was, however, lost with all hands; no trace of her was ever found. The *Great Western* was, I believe, the very first to cross the ocean, and she made scores of voyages, and was singularly free from accidents of every kind.

The earliest company to establish a regular service was the Cunard which soon became and remains to this day the most popular and best-patronized of any line of ocean steamers. A few facts partly culled from a paper written by Mr. John Burns, the chairman of the company, are very interesting. Their first ship, the *Britannia*, built in 1839, was 1,300 tons burden. On leaving Liverpool she took 800 tons of coal for her outward voyage—she burned 44 tons per day. Her steam pressure was 9 pounds, and her speed a little over 8 knots per hour. Gradually and steadily, as new vessels were built, they increased in every particular until they reached the *Scotia*. She was nearly three times the size of the *Britannia*, and could steam 14 knots per hour.

I mention the *Scotia* because she was the last of the paddle wheelers. Since her time the screw has completely superseded the paddle. The last and finest vessels added to the Cunard line were the sister ships *Umbria* and *Etruria*, built in 1885. These vessels are 8,000 tons burden, over 6 times the size of the *Britannia*. The *Etruria* has averaged a speed of 18 knots in nine consecutive voyages between Queenstown and New York, which is equal to 21 statute miles per hour, or somewhat greater than the average speed of the ordinary train service on any railway in the world. Her engines indicate fourteen thousand horse power, and are supplied with steam from nine double-ended boilers, each with eight furnaces or a total of seventy-two furnaces. The total consumption of coal is 300 tons per day, or 12 tons per hour, or 466 pounds per minute; and if the whole of the fires were raked together and formed into one large fire, there would be forty-two tons of coal, or a mass twenty feet long, twenty feet broad, and rather more than four feet high, burning fiercely. Besides the coal, 130 gallons of oil are used daily for journals, bearings, etc. In the engine room are the dynamos and driving engines

used for lighting the ship by electricity.

Her crew is made up as follows: Captain, 6 officers, surgeon, purser, 46 seamen, 2 carpenters, boatswain and mate, 2 masters-at-arms, 12 engineers, 112 firemen and trimmers, 72 stewards, 6 stewardesses, 24 cooks and assistants; in all 287 hands.

The amount of provisions, groceries etc. on board at the time of sailing is very large. On the 28th of August last the *Etruria*, with 547 cabin passengers and a crew of 287, had on board when leaving Liverpool the following quantities of provisions: 12,550 lbs fresh beef, 780 lbs corned beef, 5,320 lbs mutton, 850 lbs lamb, 350 lbs veal, 350 lbs pork, 2,000 lbs fresh fish, 600 fowls, 300 chickens, 100 ducks, 50 geese, 80 turkeys, 200 brace grouse, 15 tons potatoes, 30 hampers vegetables, 220 quarts ice-cream, 1,000 quarts milk and 11,500 eggs.

In groceries alone there were 200 different articles including (for the round voyage of 21 days) 850 lbs tea, 1,200 lbs coffee, 1,600 lbs white sugar, 2,800 lbs moist sugar, 750 lbs pulverized sugar, 2,000 lbs butter, 1,500 lbs cheese, 3,500 lbs ham and 1,000 lbs bacon. The foregoing seem enormous quantities, but very little was left upon the vessel's arrival in port. The consumption may easily be accounted for when it is considered that the crew use 574 lbs of meat per day (2 lbs per head), and that 350 lbs are used daily to make beef tea. Breakfast, lunch and dinner for 547 passengers account for the remainder. The number of eggs, 11,500, appears to be a large consumption for a seven day passage; it is in reality more than an egg per minute from the time the ship sails from Liverpool until her arrival in New York, but they are prepared in many ways for breakfast, and disappear in hundreds at supper; in fact it is not an unusual thing to see a lady or gentleman finish off a supper of grilled chicken and devilled sardines with four poached eggs on toast.

Lemons are used at the rate of 1,200 per day, oranges 2,000 per day, and apples 1,500 per day. The quantities of wines and spirits for consumption on the round voyage comprises 1,100 bottles champagne, 850 bottles claret, 8,000 bottles ale, 2,500 bottles porter, 4,500 bottles aerated water, and 650 bottles spirits, etc.

Crockery is broken very extensively, being at the rate of 900 plates, 280 cups, 438 saucers, 1,213 tumblers, 200 wine glasses, 27 decanters