



New Steamship Enterprise.

MESSRS. EDITORS:—It is seventy-five years since John Fitch experimented successfully with his rudely constructed steamboat on the Delaware river, making a speed of eight miles per hour, and when, with proud emotions, he remarked to his invited guests, "This gentlemen, will be the method some future day of crossing the Atlantic;" and for which bold piece of prophecy the ingenious Fitch was, of course, liberally credited with being quite crazy.

More than fifty years ago, Oliver Evans advanced the idea of constructing steamboats for transatlantic navigation, of great length and proportions for buoyancy and light draught; and discarding the principal requisites in the model of a sailing vessel, contending that such steamers would run at a moderate expense, not load too deeply with fuel and cargo, or light up too much from the consumption of fuel on a passage or for want of cargo, and make great speed.

At intervals, for many years past, some one or other of intelligence upon the subject, but with power or influence limited to the use of the pen, have discussed through different journals the propriety of the adoption of similar principles for ocean steamers as a profitable investment.

A contributor to the SCIENTIFIC AMERICAN, of an early date, says:—"Build a ship of say, 450 feet in length, 56 feet breadth of beam inside the paddle-boxes, with not more than 22 feet depth of hold, with a long flat floor and small 'dead rise.' A vessel thus constructed will not sink at her load lines (14 feet) more than one inch for every 100 tons of coals placed on board; and as her consumption of fuel in ordinary passages across the Atlantic will not exceed 1,000 tons at the utmost, it follows that she will not be sunk so as to load her wheels at the commencement, nor lighted up at the termination of her voyage, so as to prevent her engines acting with full power and efficiency. Such a boat, with engines of properly graduated power, could be driven with safety 17 knots per hour in an ordinary sea-way, making the passage from here to Southampton, in all ordinary weather, inside of eight days, on a consumption of fuel not exceeding 800 tons of coals."

Though Americans are generally ready to accept improved principles connected with mechanical or commercial science, they seem to have adhered with great tenacity to the practice of applying steam for ocean navigation to the form of vessels adapted chiefly to sailing. This, however, may be accounted for in the fact that the organization of sea-going steamers has hitherto been the work of commercial parties, whose antecedents have been connected with sailing ships or packets, and were therefore afflicted with the disease of "spars and canvas" on the brain; the consequence is, that they have been spending fortunes of money in fuel to force their ships through a great depth or density of water, and a resisting atmosphere or perhaps head wind, and with an army of sailors whose chief employment at sea, in fast ships, consists in hauling the yard-arms about in order that they may "stick" the wind to the best advantage.

But daylight is dawning, and there is hope that even within the period of the present generation we may be able to cross the Atlantic with a degree of comfort not very inferior to that experienced on the great *St. John*, or a Long Island Sound steamer, and in such case who would be so bold as to predict the extent of population afloat between the New and Old World?

I have been examining the prospectus of a new company, entitled the "United States and European Express and Passenger Steamship Company," whose design it is to build a line of steamers to run weekly trips between this city and England, making the passages within eight days. The boats are to be of large capacity, but light draught of water, not exceeding 18 feet, and of 9,000 tons measurement, to be propelled wholly by steam, with four sets of engines that may work together or independently of

each other; but in either case giving motion to two paddle or side-wheels of ordinary construction; and two screw propellers, one under each quarter of the vessel—commonly known as "twin screws"—capable of using an aggregate of 2,500 horse-power nominal, or 9,000 indicated. As their sectional area of resistance will be only 930 square feet, the boats can of course make enormous speed, and in the ordinary or average state of the Atlantic can make the passage in not much over six days, if it is thought best to use the available power.

An important feature of the boats will be their great longitudinal strength, which will be derived from what seems to be intended as two "hog-framed bulkheads," extending the whole length of the ships. This is a feature which I believe is wholly omitted in the present transatlantic steamers, the absence of which must account for their breaking up so readily when they unfortunately come in contact with some rocks, or even sometimes a sandy bottom. There are points, however, in the details of their machinery, as far as described in the prospectus, which I think are fit subjects for discussion, and as the scheme is one of great public interest I shall beg, with your permission, to refer to it in your subsequent numbers.

New York, June 23, 1864.

SEABIRD.

Further Details concerning Key-seats.

MESSRS. EDITORS:—Please find herewith three dollars for the SCIENTIFIC AMERICAN, for one year, commencing July 1st. You can consider me a life subscriber. Among some twelve or thirteen papers and periodicals that I take, none are received with half the pleasure that the SCIENTIFIC AMERICAN is; in fact no other publication is to be compared to it. I noticed on page 341, Volume X., a diagram giving the size that key-seats should be made. I would like to make a suggestion which, perhaps, every one has not thought of. The seat in the shaft should be made deeper than the one in the wheel or pulley, whereas the contrary is more generally the case. The tendency of the wheel is to hang back, thus giving the key a twisting strain, and providing the shaft and wheel are both of the same material and both seats the same depth, it would be much the easier to break out the iron on the shaft than from the wheel when both seats are the same depth; I have often seen work spoiled by cutting large seats in the wheel, and only a "flattened" place on the shaft.

C. C. HALLADAY.

Utica, La Salle county, Ill., June 3, 1864.

[Mr. Halladay has forwarded us a diagram with his letter, but we are so pressed with work of this class that we cannot execute it. Our mechanical readers will understand the point and appreciate its importance, as we do.—Eds.]

A Visit to our Office.

MESSRS. EDITORS:—As this is the third time I have employed your firm in getting out patents, and you have succeeded with each application, and if I had fifty more to apply for I should most assuredly employ your firm in preference to any other in the United States, it is a duty I owe to your firm to make some public acknowledgments for your untiring perseverance for all who employ you. Your Scientific Patent Agency is the best and surest, and has the greatest facilities for procuring patents of any in the country, therefore I do earnestly recommend your establishment to every inventor. Having paid a visit a year or two ago to New York city I stepped into the office of Messrs. Munn & Co., to see their extensive establishment, and I was surprised to see the machinery in their building. I think a failure to procure a patent through their Agency almost impossible.

JOSEPH HOUGH.

Westchester, Pa., May 2, 1864.

MISCELLANEOUS SUMMARY.

THE steam-plow has been introduced upon the fertile plains of Australia. It is stated that one and a half acres can be plowed with ease, by working up to medium speed. No particulars are given of the machinery, but great hopes of its success were entertained by those present at the trial. Steam plowing must eventually be a practical fact in this country.

CALIFORNIA SILK.—The soil and climate of California are admirably adapted to the growth of the mulberry tree, in all its desirable varieties, to the breeding and feeding of the silk-worm, and to the production of silk, more so than almost any European country, owing to the fertility of the soil and dryness of the climate, giving a peculiarly rich and nutritive character to the leaves of the mulberry tree, which imparts a higher, finer, and more delicate quality to the silk produced from them. Certificates from the highest authorities in Europe show that the California silk, after being fully tested, carefully analyzed and compared with European silk, proves to be of the very best quality.

A SILLY FRENCHMAN.—A Frenchman in London recently conceived an entirely new style of self-destruction. He first bought an egg in the market, extracted its contents (by "suction"), and filled the shell with gunpowder. Then going into a very crowded thoroughfare he placed the egg in his mouth, and "touched it off" with a match. Instead, however, of blowing his head to atoms, the powder, when ignited, merely poured forth a stream of fire and smoke from the aperture in the shell, but without doing any harm to the man. The astonishment of the passers by at beholding a human mouth suddenly become the crater of an active volcano, may be imagined.

THE following manufacturing concerns in South Boston paid government taxes during the year ending May 1: Bay State Iron Co., \$24,076 50; Downer Kerosene Oil Co., 52,121.32; Felton & Waters, Distillers, 29,669 18; Harvey & Morris, Brush Manufactory, 1,481 13; R. Hoe & Co., Printing Press, 1,555 32; James P. Ingols & Co., Brass Foundry; 1,041 09; Francis H. Jenney, Oil, 7,092 55; Naylor & Co., Wire Works, 13,810 94; New England Roofing and Manufacturing Co., 1,755 43; Libbey & Howe, Glass, 2,269 05; South Boston Iron Co., 14,350 33; Suffolk Glass Works, 2,466 05.

GOOD NEWS FOR LOVERS OF PEACHES.—The *Trenton Gazette* says that the peach crop promises to be large this year—the largest ever raised in New Jersey. "In Monmouth and Ocean counties we hear of no drawback to a large yield so far. The veteran producers of Monmouth county predict a crop above the average. Benj. Reed, of Heightstown, has 180,000 trees in Ocean county that are in bearing, and is preparing to send to market 224,000 baskets. A friend, whose judgment we think is good, informs us that the fruit crop of New Jersey, south of the Raritan Bay, from present appearances will be very large."

THE Meriden Britannia Company, of West Meriden, Conn., have nearly completed a new brick building, over 360 feet long and 40 wide, with a wing 95 by 40 feet. This, in connection with their other buildings, it is said will render the establishment the largest in the world for the manufacture of German silver, white metal, plated and Britannia ware. The company employ about 500 hands, and will commence work in the new building about the first of September.

SAFETY-VALVE REGULATOR.—We secured a patent Feb. 9, 1864, in behalf of Messrs. Huntington & Robertson, of Alexandria, Va., for a safety-valve regulator, which is advertised in another column. The invention has since been tested, and letters in our possession from those who have used it assure us that it is really a valuable improvement.

It was stated in the French Corps Legislatif that the iron-clads *Magenta* and *Solferino* cost from five millions francs to five and a half each. The *Couronne* cost more, because it was all iron, and in France building in iron is more expensive than building in wood.

THE Granite Mill at Fall River, when completed, will be the finest structure of the kind in that city. The main building is 328 feet long by 70 wide, and 5 stories high. It will contain 840 looms, and 35,328 spindles.

IMPLEMENT TRIAL.—The Iowa State Agricultural Society announce a grand trial of farm implements and machinery at Burlington, on Sept. 26, the day preceding the State Fair.

A NUGGET of gold was recently found in New Zealand weighing 50 ounces.

THE yield of gold in Australia and New Zealand for 1863 is near \$40,000,000