

THE MAMMOTH IRON STEAMER.

The first idea of those who hear of an iron ship is probably of something amazingly strong, but so heavy as to be kept afloat with difficulty, and liable to go down "like a stone," as the sailors term it; the moment she has the misfortune to spring a leak. Now all this is pure imagination, and it only requires to inspect an iron vessel while under the builder's hands to have every prejudice on the subject removed, and to ascertain that so far from being heavier and more liable to sink, the weight of an iron vessel built of the same degree of strength as one of wood, the external dimensions of both being equal, will be something less than half of the latter, the proportion being we believe, in an average, about as seven to sixteen.

A strong wood-built vessel is estimated to weigh at least sixteen hundred weight to every register ton; the new iron ship building at Bristol, about seven hundred weight, or, in other words, supposing a wood built vessel of the same size as the Great Western Company's new iron steam-ship and both to be loaded with the same weight of cargo, the iron ship might take in fourteen hundred tons of water by leakage before she would come to the same bearings as the other.

Not only is the iron ship superior in lightness, but she is far less liable to spring a leak at sea than a wood-built vessel. There is scarcely a plank in an ordinary ship which is not forced into its place, more or less, contrary to the position it would maintain, if left to itself, and this is particularly the case in the bows and in the run of the vessel, where after being softened and rendered pliant by saturation from steam, it often requires considerable mechanical power to bring the planks to what is technically called "their berth."

Again, every plank however firmly bolted to the timbers within, is quite independent of, and unconnected with, those above and below it; the consequence of which is, that every wood-built vessel is liable to strain at sea, whenever, as it is often needful to do, an unusual press of canvass is carried on her; the masts in this case acting as a powerful lever on the upper works, with which they are connected by the deck and beams; and the ballast or cargo below endeavoring to maintain its position by its *vis inertia*, it becomes evident, that in proportion as the vessel heels over from the force of the wind, so much greater must be the strain on the weather or upper side; and this having a direct tendency to open the seams between the planks, it is by no means uncommon for vessels to leak under such circumstances, which had previously shown no symptoms of complaining; and oftentimes the fastening works loose, treenails and bolts are partially drawn, butts started, and the vessel becomes unseaworthy, however new, until she has again been overhauled by the shipwrights.

All old sailors are perfectly aware of this, and are never caught by a storm on a lee-shore, without keeping a watchful eye on the pumps as well as on the sails; but in the case of an iron built vessel it is entirely different; every separate sheet of iron with which she is closed in, is adapted to its peculiar situation from which it has no tendency to remove itself, except that which it naturally derives from gravitation; and as every sheet is bolted in the firmest manner, into all those which it adjoins, above, below and laterally, as well as to the iron ribs or frame on which they are laid, the vessel may be considered as compact as a cylinder; and we should no more expect to find her leak by straining at sea, than we should expect to see the bilge plank of a wood built vessel open through its centre under similar circumstances. To supply the place of a keelson, ten distinct rows of plates are fixed to run the whole length fore and aft to the bottom, about two feet deep, and something less than that apart, the whole being united by a number of bands

the form of the letter U, the bottom of each of which is fastened into a flooring iron, and the two plates between which it stands; thus with superior lightness, securing equal strength, and distributing the support so as to meet the strain on the bottom wherever it occurs.

To insure the safety of the vessel, and prevent her from being subject to wreck at sea, from whatever cause, she will be divided into separate apartments, each of which will be water-tight, & any two of them supporting the entire weight of the vessel with considerable buoyancy, so that if she ran into an iceberg, or were thrown upon a rock, she would not be liable to go down, or endanger the lives of the passengers, as long as one end remained unbroken. To this may be added the power of her pumps, which will be enabled in case of any serious leak, to throw off a quantity of water exceeding 7000 gallons, or 25 tons per minute, so that a leak which would in five minutes sink a loaded ship of the size of three or four hundred tons would merely keep the pumps of this steamer briskly at work, to prevent water from gaining on her. In fact, when the ship is fairly afloat, with good canvass aloft and the screw propeller below, she may be pronounced to be the most safe and complete nautical machine with which mankind were ever yet acquainted.—*Polytechnic Journal.*

KINGSTON MARKETS.

Beef, per cwt.	30	0	a	0	0
Mutton, per lb.	0	3	a	0	4
Veal, per lb.	0	3	a	0	4
Ham, per lb.	0	6	a	0	7 1/2
Chickens, per pair,	1	1	a	0	0
Eggs, per doz.	0	9	a	0	10
Potatoes, per bushel,	2	0	a	0	0
Apples, per barrel,	5	0	a	7	6
Pears, per barrel,	25	0	a	0	0
Hay per ton,	70	0	a	80	0
Flour, fine,	30	0	a	32	0
Flour, superfine,	32	0	a	34	0
Oats, per bushel,	2	0	a	2	3

TORONTO MARKETS.

Fine Flour, per barrel,	1	3	9	a	1	5	0
Wheat, per bushel,	0	4	0	a	0	5	4
Barley, ditto,	0	1	9	a	0	2	0
Oats, ditto,	0	1	3	a	0	1	4
Pease, ditto,	0	2	0	a	0	2	6
Oatmeal, per barrel,	0	0	0	a	1	5	0
Beef, per 100 lbs,	0	17	6	a	1	0	0
Mutton, (qr.) per lb.	0	0	3 1/2	a	0	0	4
Veal, ditto,	0	0	3 1/2	a	0	0	4 1/2
Butter, (fresh) per lb.	0	0	8	a	0	0	10
Cheese, per lb.	0	0	4	a	0	0	5
Fowls, per pair,	0	0	1	a	0	2	0
Eggs, per dozen,	0	0	4 1/2	a	0	0	6
Hay, per ton,	2	5	0	a	3	10	0
Potatoes, per bushel,	0	1	1	a	0	1	3

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