berland (50) 6,621 tuns, 1,250 horse-power, at Millwall; the Minotaur (50) 6,621 tuns, 1,250 horse-power, at Blackwall; the Agincourt (50) 6,621 tuns, 1,250 horse-power, at Birkenhead; the Hector, (32) 4,063 tuns, 800 horse-power, at Glasgow; the Valiant, (32) 4,063 tuns, 800 horse-power, at Millwall; the Tamar (3) 2,812 tuns, 500 horse-power; and the iron-cased frigate Royal Alfred, (34) 3,716 tuns, 800 horse-power, at Portsmouth; the Ocean (34) 4,045 tuns, 1,000 horse-power, at Devonport; the Zealous (34) 3,716 tuns, 800 horse-power, at Pembroke; and the Favourite (22) 2,186 tuns, 400 horse-power, at Deptford. In addition to the above, the Royal Sovereign, 3, 968 tuns, 800 horse-power, is being converted into a cupola ship, and the Enterprise, building at Deptford, for a shield-ship, on the new plan submitted to the Admiralty. During the year 1862, the vessels launched at the several dockyards were the Caledonia (50) 4,045 tuns, 800 horse-power, iron-cased frigate at Woolwich; the Royal Oak (34) 3,716 tuns, 800 horse-power, iron-cased frigate, at Chatham; the Prince Consort (34) 3,716 tuns, 800 horse-power, iron-cased frigate, and 31 wooden vessels of various sizes.—*Mitchell's Steam Shipping Journal.*

Stuffing Leather.

A correspondent of the *Shoe and Leather Reporter* says:—"I am in favor of using a wheel for stuffing leather when weight is desired, and believe that not only is weight added but the quality of the leather improved. I would recommend using stuffing made with a large part tallow, applied hot, the leather put into the wheel as soon the hot stuffing is applied, and run in the wheel from one-half to three quarters of an hour. The stuffing should be applied to both sides of the leather. After the leather is 'wheeled' sufficiently, it is well to put it in a box or keep it from the air for a day or two, and that put out in the usual way, and have as much stuffing applied as the leather will need, using cold stuffing and soften if thought advisable. I have no doubt but upper and kip leather would be much improved in quality by this process, but it would make it more expensive than the usual way. The leather should be semi-dried before the hot stuffing is applied. I do not think my views of stuffing leather are entirely new; but very few tanners, however, use a wheel, and many wholly reject the idea."

The Greens of Ladies' Dresses, Wreaths of Flowers.

We can look with admiration upon the art of applying pigments to cloth when such innocent substances as ultramarine are employed for the purpose of producing the colours desired; but when we see those greens which are produced from arsenic and copper our admiration of the art vanishes altogether. These substances are extremely poisonous,—poisonous to the persons who wear them, and poisonous far more to the persons who make them for the wearer. Those poisonous colors that are applied by topical fixing are merely put on by a sort of glue upon the surface of the cloth. They are stuck on, in fact, by cheese, and if by any friction a portion of them rubs off they form a fine dust, which floats in the air and is readly breathed into the lungs. To give you some idea of the poisonous properties of this substance, I may mention that a lady in the extensive folds of a modern dress made of green tarlatan wears so much arsenic as would poison a hundred and fifty stalwart men. In addition to this, the colour is often put on with much less firm substances than those I have described to you. I have been describing the genuine way of applying it by means of lacterine or albumen but in order to produce these green dresses very cheaply this poisonous pigment is often put on only with starch, and it then rubs off with the greatest freedom. You have lately seen accounts of Coroner's inquests held in this town upon poor flowergirls who have been poisoned by this colour in the making of green flowers. The amount used for that purpose is large. A lady's ordinary wreath of green flowers contains as much arsenic as would poison five men, so that the amount used of these poisonous materials is very great. I may mention to you what Napier says in his "Manual of Dyeing." He says that he had known workpeople become invalids for life by having to wind as many yards of arsenic sage yarn—that is to say yarn dyed green with this poison—as gave them in wages only one shilling. We must not avoid a solemn truth for fear of a pun when we allege that this is not the art of *dyeing*, but of *death*. If purchasers will avoid these fatal pigments, manufacturers will soon abandon their preparation.—*Dr. Lyon Playfair.*

Aluminium Bronze.

In the supplementary number to vol. 24 of the *Philosophical Magazine*, just published, we find a remarkable article, by Lieutenant-Colonel A. Strange, F.R.A.S., on the properties and present value of aluminium bronze, an alloy consisting of ten parts of aluminum bronze, an alloy consisting of ten parts of aluminium and 90 of copper. Its tensile strength is stated at 73,185 lbs. per square inch, being more than double the breaking strain of gun metal, and 1,186lbs. more than the average tenacity of cast steel. Its resistance to compression is 132,416lbs, to the square inch; that of cast iron being 115,542 lbs. As to malleability, this alloy may be drawn out under the hammer almost to a needle point at a red heat. Its rigidity is about three times that of gun-metal, and 44 times that of brass; it is less affected by change of temperature than either of the latter; it may be cast with extraordinary facility into any shape: it does not clog the file, and yields fine elastic shavings on the lathe. It tarnishes much less readily in the air than any other metal or alloy used for astronomical instruments, and will receive the finest graduation possible. It is extremely elastic, can be rolled into sheet metal, or also hammered and drawn, and seems admirably adapted for the tubular parts of astronomical instruments. Its specific gravity is 7·689, nearly the same as wrought iron. To make this alloy extremely pure copper should be used; the best is copper deposited by electricity; but, since that kind is very expensive the best is copper from Lake Superior, which makes an alloy of an excellent quallity. The ordinary coppers of commerce generally fail, owing, it is said, chiefly to the presence of iron, which appears to be specially prejudicial. Another precaution is to remelt the alloy two or three times. The first melting, in the proportions above stated, produces an alloy of ex-