

Adulterations.

Beer and ale, since the duty has been taken off hops, can be made, and are made, without either malt or hops, and the excise are fearing that this will be the cause of a diminution in the receipts as regards the tax upon malt. We have just seen that the Berlin Faculty of Medicine are opposing the drinking of Bavarian beer, which they declare to be the cause of innumerable cases of apoplexy.

Bavarian beer, which was not known in Prussia 20 years ago, is now largely consumed in that country. Wine is made and sold which neither contains the juice of the grape nor that of any other fruit.—*Sanitary Reformer.*

Bleaching Powder.

Since 1838 the method pursued in the manufacture of bleaching powder has entirely changed, and the quantity made has far more than doubled. At that time it was made by the decomposition of manganese and common salt with sulphuric acid, which was a rather costly process, and the price was about 28*l.* per ton. It is now manufactured from what was at one time the waste muriatic acid referred to above, and the price has been reduced to one-third. During the last few years the demand for bleaching powder has been increased, partly on account of the extensive use of esparto grass from Spain in the manufacture of paper, which has been found to require a large quantity of chemicals to bleach it, and nearly all the Spanish grass imported to this country is shipped to the Tyne. The quantity of bleaching powder now made is 11,200 tons annually.

Resin Size.

This article is manufactured according to a patent obtained by Mr. W. S. Losh, and is intended to produce a size suitable for paper-makers, and to supersede the old size in ordinary use, which consists of alum, resin, and soda ash. Its manufacture has, however, been only partially developed, and not more than 100 tons yearly is produced; but a new and cheap size, which can be prepared ready for the use of the paper trade, is, we think, a step in the right direction, and the theory of the sizing of paper is a field still open to chemists.

Value of London Sewage.

The following is taken out of a letter from Baron Liebig recently published:—"From exact calculation of the liquid and solid voidings of London (the detail of which would be out of place here) we may conclude that 42 tons of ammonia, 10 tons of phosphoric acid, and 7½ tons of potash find their way into the London sewers daily. These 42 tons of ammonia are contained in 247 tons of guano; the ten tons of phosphoric acid in 83.3 tons of guano thus 163.7 tons remain in which the phosphoric acid is wanting; or, what is the same thing, if, to the sewerage obtained daily from London, 100 tons of superphosphate of lime (at 20 per cent. of phosphoric acid) be added, the value of the daily voidings of the metropolis, or the sewage of London, is made equivalent to 247 tons Peruvian guano; or, by the addition yearly of 36,500 tons of superphosphate, we may acquire the value of 90,

155 tons guano, at 13*l.* 12*s.* 6*d.* = 1,228,364*l.* Deduct the price of 36,500 tons of superphosphate, at 5*l.* 5*s.* = 191,628*l.*, and we have 1,036,736*l.* as the money value of the sewage. To this should still be added the worth of the potash in the sewer water. Potash is the manure which the farmer obtains with the most difficulty; it is that element, too, which renders his stable dung (the amount of phosphoric acid and ammonia being the same) of greater value and efficacy. In 247 tons of guano, about 1½ ton of potash are contained; but every day 7½ tons are obtained in the sewer water, which gives a surplus of 6 tons, corresponding to 11 tons of sulphate of potash, giving yearly 4,015 tons, which, at 18*l.* per ton, shows a money value of 72,270*l.* Add this to the sum above given, and we have as real annual money value of the London sewerage 1,109,006*l.*"

The Shipping Trade of Quebec.

During the past season 1,332 sea-going vessels, of an average tonnage of 520 tons, making a total of 692,640 tons, have been cleared at this port, against 895 vessels, of about the same average, making a total of 465,400 tons during last year, thus showing an increase in favour of 1863 of 437 vessels, and 227,240 tons.—*Gazette.*

A Flax Mill at St. Catharines.

The Novelty Iron Works, at the east end of the town, has been leased by Mr. Walter Arnold, and will be converted into a flax mill, the necessary change of machinery being now made.

A Traveller's Opinion of the Japanese.

They are bold, courageous, proud, and eager after every kind of knowledge. A friend of mine gave a workman a Bramah lock to put on a box; it was not discovered until some time afterwards, and only then by the absence of the name, that the lock had been imitated, and, as the workmen confessed, the original kept as a pattern. I have been on board a steamer (paddle), which used three years ago to run between Nagasaki and Jeddo, 600 miles, whose engines and boilers, and every part of her machinery, were made of copper. She was built by a doctor in Jeddo, whose only guide was a Dutch description of a steam engine translated into Japanese. An American gunnery officer was sent over in 1859, in the Powhattan, to teach them gunnery. He was courteously received, and then taken over the arsenal at Jeddo. He returned to the ship saying "he had been taught a lesson instead of having to teach." In many of the arts and manufactures they excel us; their beautiful castings in bronze would puzzle the most experienced European workmen. I have shown specimens to clever workmen who have confessed they could not imitate them. Though they do not know how to blow glass, I have seen samples which would rival in brilliancy any made in England. The French Minister had a large ball, so clear, and of such perfect colour, that he believed it to be a gigantic sapphire, and bought it for a good round sum. Their paper imitations of leather are perfect; their paper waterproof coats are bought by the captains of ships for their exposed boats' crews; their own