

on May 10, 1883, the excess then being 206,953 tons.

These views are at present shared in London and on the Continent, where at latest dates there was a decided improvement, with a strong speculative undercurrent, not as yet perceptible in New York, in spite of the enormous American fruit crop in prospect. How long New York will remain apathetic under the circumstances is becoming a matter of considerable curiosity.

Deceitful Business.

There is seemingly no business carried on in the world where there is more fraud and dishonesty than in the building trades. All builders and contractors are not dishonest, but the number who are is legion. The chief aim of many seems to be to ascertain some plan for bringing in a bill of extras, or for evading the true intent of the contract by furnishing a different and poorer material than that specified in the specifications. It is a very difficult thing for a "green hand" at building to make a contract with a builder which will hold water. There is such a chance for ambiguity, and for concealments and omissions. Then, half of the parties do not know what is necessary to be done to insure a good building, and the honest carpenter is the last man to inform them. Go into court, and there will be seen case after case arising out of the attempt of some smart builder to palm off sham in the place of good work. There seems to be no way of avoiding this trouble unless one goes to a skilled and honest architect and places the matter wholly in his charge. Even then disputes and litigations frequently arise.

There is room for a radical change in the building trades. The cause of much of the dishonesty in these trades arises from the unscrupulous competition which there prevails. Bidders offer to take jobs at a loss, hoping to make up by scrimping and by obtaining payment for a liberal amount of "extras." It is difficult to point out a remedy for this evil. If one can find a builder who is known to be honest, it would be better to patronize him, even if his bid is a trifle higher than that of his competitors. Underbidding is the bane of the building trades. Cheap contracts usually mean cheap and deceitful work, and unsatisfactory results all around. It is pretty safe to say that no builder calculates to lose money on a job, and many of the gentlemen of the craft will get out from under a too low bid by means which will not bear the light of day.

All contractors for erecting buildings as we have said, are not thus dishonest. Some, even, will go on to the end and faithfully perform their engagements when they know they will lose by so doing. Such men should be rewarded by good patronage, but unfortunately they do not always grow rich. The doctrine of the "survival of the fittest, we are sorry to say, does not always prove true in their case.—*Industrial World*.

Pavements of Compressed Wood.

The increased favor with which wood pavements have of late come to be regarded in

European cities has led to the devising of numerous processes that have for their object the preparation of wood in use for pavements. In a process of this kind, on the one hand, of course strength and durability of the product must be aimed at; on the other, it is necessary that the working expenses be as low as possible. In this connection we note an article in the *Semaine des Constructeurs* on the process of Cyprien Mallet, which is said to fulfil these requirements. The salts of the metals and various other substances having the property of preserving wood from decay, Mallet injects, hot, into the core of pine trees, an antiseptic fluid, and then compresses the logs about one-tenth their volume. The antiseptic fluid is composed of: copper sulphate, 6 kilos; juice sulphate, 6 kilos; sodium chloride, 3 kilos, which are dissolved by boiling in 35 litres of water containing no lime salts. Without interrupting the boiling, there is added then: resin oil, 40 kilos; heavy oil, 40 kilos; suet, 10 kilos. This solution is concentrated to a certain degree over a moderate fire. Ten litres of this liquid mixed with ninety litres of boiling water is the fluid used. The wood charged with this preparation becomes very hard, yet it retains sufficient elasticity; it is not affected by the weather. In Paris the cost of a pavement of this kind comes to about four dollars per square metre.—*Sanitary Engineer*.

The Crushing Capacity of Brick.

A rather soft brick will crush under a weight of about thirty or forty tons per square foot, while a first-rate machine pressed brick will require from 300 to 400 tons per square foot; this last is about the crushing limit of the best sandstone, or two-thirds as much as the best granites or roofing slates. But masses of brickwork will crush under much smaller loads than single bricks thus, small cubical masses only nine inches each side, laid in cement, crushed under twenty-seven to forty tons per square foot. Others, with piers nine inches square and two feet four inches high, in cement, only two days after being built required forty-four to sixty two tons per square foot to crush them. Cracking and splitting usually under about one-half the crushing loads.—*Industrial World*.

Gunboat Trials.

A new gunboat, built by the firm of Sir W. G. Armstrong, Mitchell & Company, to the order of the South Australian government, has been put through the necessary trials as to speed and behavior under fire during the past week off the Tyne. The vessel, which is of the small cruiser type, is a twin screw, schooner rigged, and heavily armed, and is the third vessel of the kind supplied by the same firm to the colony of South Australia. The hull is of steel, made specially strong above the water line, and its dimensions are: Length, 180 feet; breadth of beam, 30 feet; depth, 16 feet. She has a mean draught of 12 feet 6 inches, with a displacement of about 1,000 tons. Her armament consists of one 8-inch gun forward, with one 6-inch gun on each broadside, and another of the same size astern; besides which she carries five Gatling guns, each capable of discharging 1,200

shots per minute. The engines which were supplied by Messrs. R. & W. Hawthorn, developed an indicated horse-power of about 1,600, while an average speed of 14 knots per hour was attained. The vessel is named the "Protector." Besides these three gunboats supplied to the government of South Australia, the same firm a short time ago delivered two to the Queensland government, all being intended to act in the defence of the coasting interests of the Australian colonies.

How the Bananas Grow.

The banana is an annual, the fruit coming to maturity about a year after the shoot is planted, the trunk of the tree subsequently attaining a height of from eight to ten feet, and a girth of thirty-six inches. From this trunk, which is of a fibrous nature, are thrown out long palm-like branches, at the junction of which appears the fruit, each group of bunches numbering from four to twelve, being called a "hand," and each hand having eight or ten bananas upon it. A bunch of eight hands is the ordinary size of shipping fruit. From the root of the tree several shoots or suckers sprout, each of which, in turn, becomes a fresh tree. The life of the banana tree, however, is not usually long, for it is felled after the fruit is gathered, and sometimes, indeed, during the operation. Jamaica contains a good many banana plantations, varying in size from twenty-five thousand to two hundred thousand trees, for the most part cultivated by the small settlers in the different parishes. These holdings generally consist of three or four acres of land, on which the owners live in a temporary mud hut, being afraid to leave their property to the tender mercies of their neighbors, who rob each others grounds with the strictest impartiality whenever they get a chance. The cultivation is very primitive. The land being cleared by a big hoe, a hole is dug and the sucker is planted in it, in most cases nature doing all that is necessary; but in larger plantations the trees are all planted with some degree of system in the form of squares, and trenches are dug for irrigation, the banana thriving best in damp stiff soil.—*Journal of Trade*.

Business as it is at Present.

It is noteworthy that whatever may be the condition of trade in the different localities from which we have advices, there is no unsound feeling, and that assurance of good business to come seems to be the prevalent idea. Nor do the trade generally admit that they have done worse during the last six months than in preceding intervals. If buying has been closer, and if profits have been correspondingly reduced, it is patent, if we are to believe what we are told, that the volume of trade has been full—greater, indeed, than before in the quantity of goods disposed of. If, therefore, purchases have been light in detail, we must assume that they have made a large aggregate, and possibly, on the whole, returns have been as good as ever, even if it has taken "mony a mickle to mak a muckle." It is just as well that merchants should begin to divest themselves of the idea of large profits or exceptional