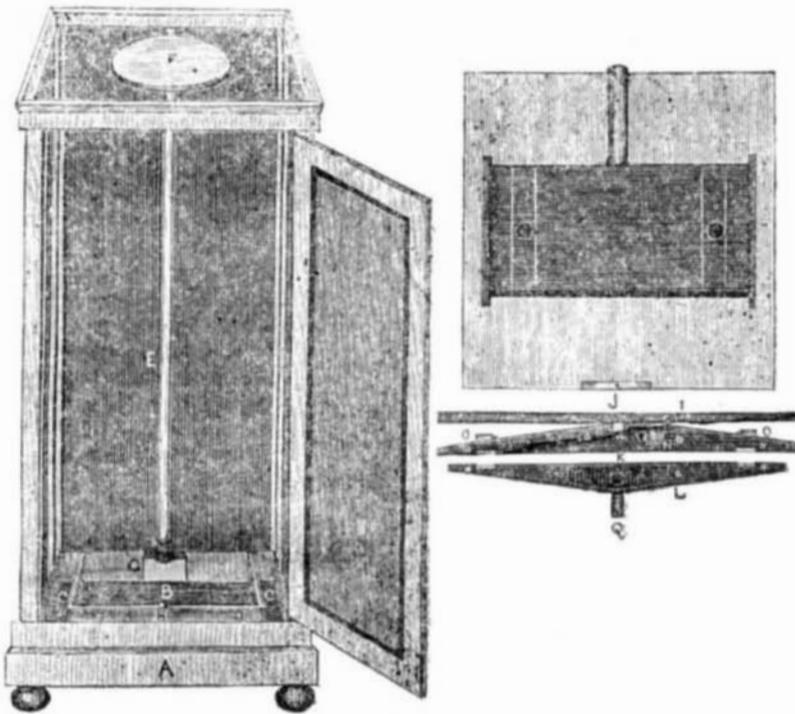


Biscuit Machinery.

The following description of the machinery for making biscuit for the English Navy, at Gosport, Eng., is taken from a serial publication entitled "The Land we Live in," now in course of publication in London.

The biscuit machinery at Gosport is as complete a thing in its way as the block machinery at Portsmouth; and the saving which it has effected in manual labor is not less striking. To understand properly the improvement in this respect, it is well to know how sea-biscuits were formerly made. The flour and water were put into a large trough, and mixed up by the naked arms of a workman called the driver—a slow and very laborious employment: this dough was then kneaded by a roller, worked over and upon it in a very odd manner. Being rolled and kneaded into a thin sheet, the dough was cut into slips by enormous knives, and these slips cut into small pieces, each sufficient for one biscuit; each biscuit was worked into a circular form by the hand, stamped, pierced with holes, and baked. The placing in the oven was a remarkably dexterous part of the business. A man stood before the open door of the oven, having in his hand the handle of a long shovel, called the peel, the other end of which was lying flat in the oven. Another man took the biscuits as fast as they were formed and stamped and threw them into the oven with such un-deviating accuracy that they always fell on the peel. The man with the peel then arranged the biscuit side by side over the whole floor of the oven. Seventy biscuits were thus thrown into the oven, and regularly arranged in one minute: the attention of each man being strictly directed to his own department; for a delay of a single second on the part of any one man would have disturbed the whole gang. But, well arranged as this system appears to have been, it could not maintain its place against the efficiency of machinery. Portsmouth, Plymouth, and Deptford, have all of them biscuit making machinery on a magnificent scale. We can almost say that we see corn go in at one end, and see the biscuits come out at the other.

The corn is ground by mills in the usual manner; and the meal or flour descends into a kind of hollow cylinder, where the requisite quantity of water is added to it. Round and round the cylinder revolves, and a series of long knives within it so hacks and cuts, and divides the contents, that, as the meal and water become mixed up into dough, these knives knead it in a way that has never been equalled by human arms. Not a lump or an ill-regulated mass can escape the close action of these knives; all is cut through and incorporated in an equable state among the rest of the dough. But we ought not to say that the dough is kneaded by this means: it is only mixed. The kneading is performed by ponderous masses called breaking rollers. The dough is spread out flat on an iron table, and two rollers about a ton weight each, are worked to and fro over it until the dough is perfectly kneaded. The celerity with which these operations are conducted are quite marvellous. It is said that two minutes time is sufficient for the thorough mixing of five hundred weight of dough in the cylinder; and that five minutes suffice for kneading this dough under the rollers. The sheet of dough is brought to a thickness of about two inches; it is cut into pieces half a yard square; and each of these is passed under a second pair of rollers, by this it is extended to a size of about two yards by one, just sufficient in thickness for the biscuits to be made. A very remarkable cutting instrument is then made to descend upon the thin sheet of dough, by which it is, at the one stroke divided hexagonal or six-sided biscuits each of which is at the same time and by the same blow punctured and stamped. The biscuits are not actually severed one from another; so that the sheet of dough still remains so far coherent as to be put into an oven in its unsevered form. A flat sheet of about sixty biscuits (six to the pound, on an average) is put into the oven, baked for about ten or 12 minutes, withdrawn, broken up separately, and stored away. All the sea-biscuits used to be circular; but it is found that there is a less waste of time and material by making them six-sided. It is pleasant to think that

DESHON'S LATE IMPROVED SHOWER BATH.

In using one of these improved Baths, the bather turns into the bottom of the Bath little or much water as desired, and steps into the Bath upon the top of a simple and conveniently arranged pump which sets on the bottom and inside of the Bath frame, and which is operated with the foot of the bather by gently rocking from one side to the other. This motion draws the water into the pump at valves O O, and forces it out at valves N N, into the side chamber formed in the side piece L, and through that into the pipe E, and so on to the basin F, from which it falls in form of a shower.

A, is the Bath frame; B, basin, or a part of the bottom that contains the water to be used. C, waste chamber or a part of the bottom that contains the water after being used; D, ledge between basin and waste chamber; E, conducting pipe; F, basin at the top of conducting pipe, the bottom of which is perforated to form the shower; G, stay for conducting pipe; H, stay for platform on pump, represented in the cut above the letter J; I, bellows pump without the girt of india rubber cloth that forms the sides of the pump chambers; J, the top of the pump; K, bottom of the pump; L, one of the pieces that are screwed on the sides of the top and bottom of pump, to make the

our jolly tars are not sufferers by this expeditions mode of making their sea bread. It seems to be admitted that the machine made biscuits are better made and kneaded than those made by hand. The three bakeries at the three arsenals before named, could produce when at full work six or eight thousand tons of biscuit in a year; which would effect a saving of ten or twelve thousand a year as compared with the old method.

Force of Periodic Vibration.

Many curious instances might be mentioned of the great effects produced by periodic vibration. One of the most familiar, perhaps is the well known effect of marching a company over a suspension bridge, when the latter, responsive to the measured step, begins to rise and fall with excessive violence, and if the marching be continued, most probably separates in two parts. More than one accident has occurred in this way, and has led to an order that soldiers in passing these bridges must not march, but simply walk out of time. Another curious effect of vibration in destroying the cohesion of bodies, is the rupture of drinking glasses by certain musical sounds. It is well known that most glass vessels when struck, resound with a beautifully clear and musical note of invariable and indefinite pitch, which may be called the peculiar note of the vessel. Now, if a violin or other musical instrument be made to sound the same note, the vessel soon begins to respond, it is thrown into vibration, its notes grow louder and at last it may break. In order to insure the success of this experiment, the vessel should not be perfectly annealed. However, the tendency to break is invariably the same.

chambers tight after the girt of cloth is folded round to form the sides of the chambers.—This piece has a slot or mortice cut into the under side so when screwed on the side of the bottom the valves N N, underneath it have room to work, as so forming a chamber for the water to unite when forced, from the chambers O, O, which is forced through into the elbow Q, into the pipe, E, and so on; M, thick leather hinge inserted into the top and bottom of the pump and wedged in tight on one side only; N, outside valves; O, inside valves, and chambers; P, water ways; Q, Elbow.

The bottom of the bath is so arranged that the bather can, by shifting a cock, use a little water over and over for hours if desired or can use 8 or 10 gallons separately, and can use it so as to have it fall moderately, or as if it had 5 10 or 15 feet fall. A working model may be seen and all information given to all who may be desirous of acquiring an interest in the city of New York, or in any territory unsold, by immediate application to Theodore F. Engelbrecht, General agent for the sale and introduction of useful and important inventions throughout the United States and Europe. Office 79 John Street.

Italy and the Pope.

The people of Italy says Dr. Baird, in his lectures, are active, ingenious, and laborious. The peasantry are very industrious.—Even the lazzaroni of Naples of whom so much is said, are not idle, from choice. Of their ingenuity there can be no doubt. It was the testimony of a British manufacturer who had hundreds of different nations in his employ, that the Italians are the most ingenious and skillful workmen in Europe, the Swiss next, and the Scotch next. He places English last. If the Italians were not ground down by political and ecclesiastical despotism, and so governed that enterprise and industry are without avail, they would be one of the most energetic nations in Europe. The present Pope has made many improvements. He has enlarged the freedom of the press and encouraged the publication of the newspapers; he has encouraged trade, industry and education—the construction of rail roads and other internal improvements; reformed the administration of government, and organized a national guard. He has something like a legislature, and probably will soon have one in reality.

Women.

Women are too apt to run into extremes in every thing; and overlook the fact that neither personal beauty nor drawing room display are calculated to form permanent attraction, even with the most adoring lover. The breakfast table in the morning, and fire-side in the evening, must be the touch stones of conjugal comfort; and this is a maxim which any woman who intends to marry should never lose sight of.

Canadian Correspondence.

Mr. Editor:—

I was fully aware, before seeing the notice in your paper, of your difficulty in furnishing your British American subscribers on account of the change in Post Office regulations;—but owing to the scarcity of States money, I have delayed writing you, as I could not obtain money which would pass without a discount with you. I had paid I believe to No. 26, and for double the price of your paper I would not have it stopped or lose a number, and enclosed I send you \$2, which will pay for the paper this volume, by the end of which time I shall have made arrangements for the next, although Uncle Sam and John Bull's quarrels should interfere somewhat with our business.

The Canadians think that it is the best move for Canada that could have been made; for so long as the States offered such facilities for transporting their mail from Boston and New York, they had but little hope of being able to carry out the project of the Quebec and Halifax Railroad. This movement on the part of the States inspires them with new hopes and they will commence anew memorializing the English Government for a grant, and if the present arrangements continue they will effect it, and the States will then be as dependent on Canada for early foreign intelligence as Canada has been on the States for their letters. They have already started an overland mail from Halifax to Montreal. Mother England will see to it that her darling Canada will not be subjected to present inconveniences long. Yours, &c. A. J. P. Hamilton, Canada West, Dec. 8, 1847.

TO CORRESPONDENTS.

"W. S. of Tolland Co., Conn."—We have been informed that the English patentee, Mr. Brooman, has applied for letters patent in the United States. There is but little of the raw material in the country. Messrs. Armstrong & Co., No. 132 William street, this city, are agents for the sale of bands and other articles made of it. We have but a small piece of it; it is of a light drab color.

"C. O. R. of Mass."—The glass slides of magic lanterns are painted with common paints for glass, then painted with black varnish on other parts to prevent the transmission of light except through the figure.

"D. G. N. of W., N. Y."—The best pipe for wells is lap-welded tinned iron, or cast iron if they could be tinned. Copper would be the best, only if the tin was destroyed by leaves, or any substance in the water which would affect the copper, it would not be so safe for use as iron. Galvanized sheet iron is excellent, only in the water there must be an absence of all matter that will affect the zinc. Lead pipes are the cheapest, and perhaps the best where the water is pure and care taken not to use the water that is drawn by the first three or four strokes of the pump.

"W. E. L. of Black Rock."—Your improvements in the harness loom appear to be valuable and so far as we can judge from your description without a drawing, there is nothing in the way of securing a patent. Whether improvements lately made in Lowell are of the same nature or not, we have not the precise information, but we think they are not.

"E. R. S. of N. Y."—Your plan for coupling and uncoupling rail road cars, is certainly a desirable one. Its advantages are great, if it operates as you describe it. No couplings of the same kind is in use that we are aware of.

"J. S. of W. N. Y."—Sec. 7, of the Act of 1839 of the Patent law says, that no patent shall be held to be invalid by reason of the purchase, sale, or use, prior to the application for a patent except on proof of abandonment to the public, or that it was purchased or used for more than two years prior to application for a patent. "All letters should be post paid to us, especially when making enquiries.

"W. B. of Maryland."—An answer to your enquiries will be found in our article on electrotype. See the voltaic condenser. The iron ceases to be a magnet after being separated for some time from the current.

"J. P. of Albany, N. Y."—Your plan for Kilm Dryers is nearly the same as one invented