



BISCUIT TOWN.

By JOSEPH HATTON.

With Illustrations by W. H. MARGETSON.

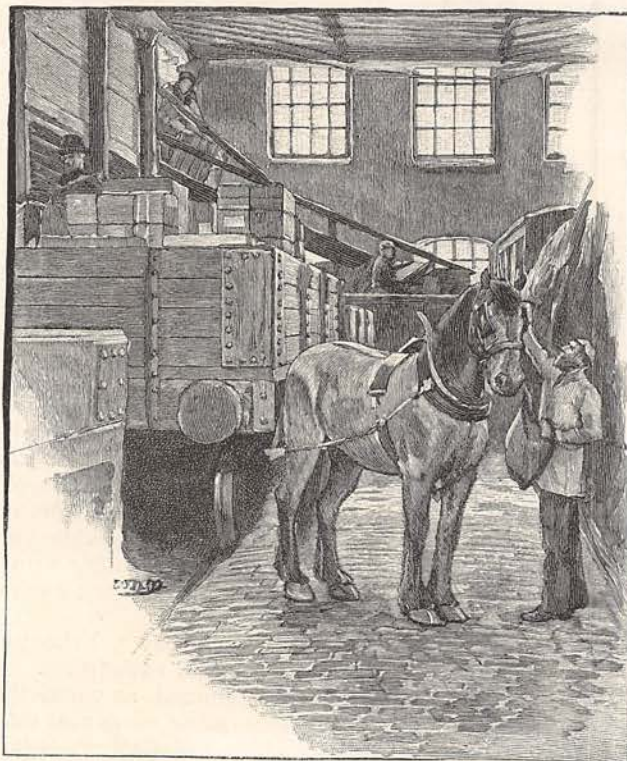


ONCE upon a time a distinguished editor organized a scheme to explore Toy Land. Having settled the geographical situation of the country, he called together certain men of fancy and erudition. They included pens and pencils. No other weapons were needed. Unlike the dwarfs of modern Africa, the manikins of Toy Land were known to be of a sweet and gentle nature. The elephants and other wild beasts of the country of Santa Claus are in no sense inimical to literary men or artists. The result of the trip was a remarkable volume in which the distinguished travellers related their adventures in a community of blue-eyed houris, wooden sailors, India-rubber monkeys, tin soldiers, mechanical mice, fiery steeds on wheels, porcelain swans on crystal lakes, coloured gentlemen who, smiling while you wound them up, discoursed beautiful music, troops of soldiers always under arms, and drums and trumpets ready for the feasts of peace or the blasts of war; such a wonderful community as never was seen before or since.

En route for Reading, and many times during my tour of Biscuit Town, I thought of that same pioneer meeting and that same fanciful history of the expedition. It might have been a Raleigh trip to Guinea so carefully was it planned, so wonderful the discoveries that followed. But after all the whole business was no more real than the wit-combats that Fuller saw at the Mermaid; it was all in "the mind's eye." Fanciful as it was, invented by the happiest imaginations literary and artistic, it was as nothing compared with the reality of Biscuit Town on the Upper Thames. Imagine a personally conducted tour of youngsters over a land of cakes, with full permission to make prizes of close upon four hundred different kinds of biscuit, sponge and wedding, ginger-nuts and wafers, almond cakes, and plum compounds sugar-coated, orange drops, and filbert routs, toy-cakes and raspberry creams, conversation biscuits and cakes of every fashion and design. What would Toy Land be to this—with close upon five thousand men and women in white aprons and bakers' caps dealing out sugar and spices, eggs and milk, to make hour by hour tons of delicacies that no amount of annexation can reduce in bulk or variety? Hundreds of machines at work, fed with a magic dough printed like books and bound in lovely cases. A town of many buildings, with tiny railways from room to room, and ovens baking day and night. An army of men laying in the dainty cakes, and another taking them out brown and crisp in mighty baskets. Outside the town and in and out of its dividing streets great locomotive engines steaming to and fro with loads of biscuits for conveyance all over the world, civilized and uncivilized. Far away, troops of farmers bringing in their corn and eggs, ships sailing the seas with sugar and spices, all for Biscuit Town! Toy Land is little more than a poor jest compared with this real town of biscuits

that challenges the attention of travellers westward-bound between London and Oxford, with tall cupolas and red-iron and slated roofs.

Reading has a history that goes back for over a thousand years. The Danes rowed their ships up the Thames to the Kennet that now runs through Biscuit Town, and made Reading their base of operations in Wessex. Down to the days of Queen Elizabeth, Parliament, driven from London by the plague, frequently legislated at Reading. It has seen the triumphs of war as well as peace. During the reign of Charles I. and forty odd years later, when the Prince of Orange defeated the troops of James II., Reading felt the shock of arms. As a seat of trade and commerce it has been celebrated for its manufactories of cloth and velvet. These have disappeared to make way for Biscuit Town, the only other important trade being of an agricultural character. The one business may be said to be complementary to the other, seeing that biscuit-making comprehends that also of the miller, the dairyman, and the farmer. The only hint of machinery, otherwise than that associated with pastoral pursuits, belongs to the supplementary works of Biscuit Town, and these include tin-shops and smithies, engineering sheds, and saw-mills for the manufacture of the thousands of boxes and packing-cases used by the firm, not to mention some of the curious and exclusive implements and machines required by the biscuit factory. In dealing with the great industries apart from the new and remarkable methods of manufacture that excite one's astonishment, it is most satisfactory, by way of encouraging the hope that the English supremacy will always be maintained, to hear of the considerable number of secrets that are still held by the great firms. At one time it was our manual skill that defied competition, the training of workmen from father to son. As machinery began to take the place of the hand-made work of the anvil, the loom,



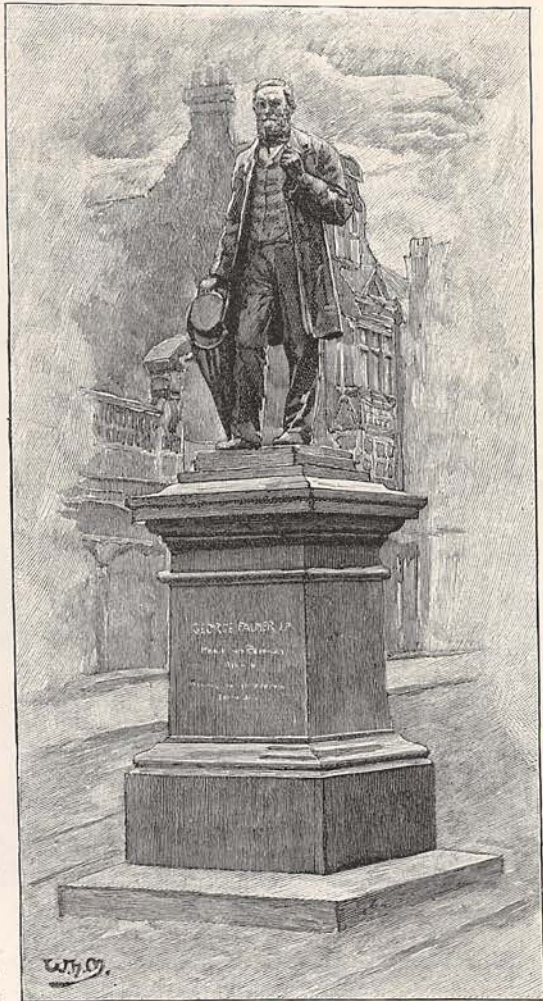
RAILWAY SIDINGS IN THE WORKS.

and the bench, the mechanical fight began. For many a long year we held our own in that direction; but, traders at heart, we sold our machines and with them their secrets to all comers. If we made money in this way it is to be feared we lost it in others that might have been far more permanent in the matter of national gain. I only refer to this economical subject to congratulate the reader on the fact that English manufacturers have been careful of late years not to give away all their mechanical secrets. Free Trade has made competition so keen, has handicapped the English manufacturer so heavily, that his ingenuity, his invention, and his enterprise have been stimulated into great achievements; and in all my pleasant trips to trading centres, I notice, with pleasure, guarantees of future prosperity that are to be found in the never-resting and never-tiring watchfulness of the manufacturer to win a point in the tremendous competition of his rivals both at home and abroad.

The biscuit trade belongs to the reign of Victoria. About the time of the Queen's accession the Reading house began to develop a small wholesale trade. Mr. George Palmer joined the late Mr. Huntley in his business, and the firm of Huntley and Palmer commenced their prosperous career. "As hard as a captain's biscuit" was

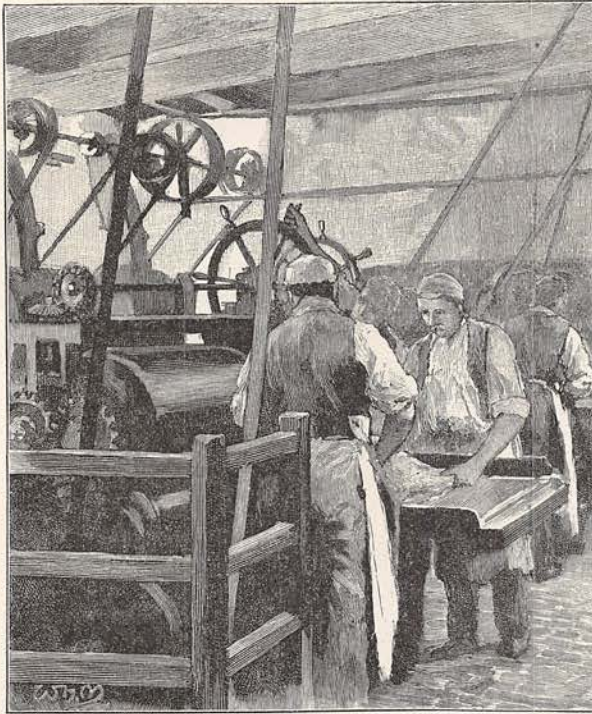
a proverb in those days. Almost the only biscuit made, it was as firm as adamant and very dear. It was sold at a penny. To-day a dozen or twenty better biscuits are sold for the same popular coin. When the firm began to introduce various kinds of biscuits the demand overwhelmed them. They had to invent machinery to meet it. From making half a dozen kinds of biscuits they have come to making nearly four hundred; from supplying England they have come to supplying the world. Once they employed fifty hands, now they employ between four and five thousand. They used to send their goods in carts to the railway. Three great railway systems now run into their yards. They load the trucks in their own warehouses; their own locomotives pilot them to the main lines of the Great Western, the South-Eastern, and the South-Western. During the past half-century Reading has increased in population from 16,000 to 60,000. This growth is chiefly traceable to the biscuit industry. The practical genius of the factory was Mr. George Palmer. He might also be called the father of modern Reading. Untiring in his schemes for its improvement, lavish in his gifts, a model mayor, a conscientious representative in Parliament, his fellow townsmen did not wait to give him a posthumous memorial. The characteristic statue in bronze erected in the principal street, was uncovered in his presence on the occasion of a popular demonstration in his honour. The sculptor was Mr. George Simonds, a native of the town, and he is said to have been very successful in making his work more life-like in its portraiture than is common in stone. On the death of Mr. Thomas Huntley in 1857, Mr. George Palmer's two brothers, Mr. Samuel and Mr. William I. Palmer, joined the business, and at the present time three of Mr. George Palmer's sons, and three of Mr. Samuel Palmer's are members of the firm. Besides the working staff at Reading, the firm have a large establishment in London where several of the partners are resident, conducting the extensive London, Continental, and foreign business of the House,—a necessary condition of such a world-wide trade. Numerous travellers also are engaged in representing the firm in England and abroad. Personally and by steam and telegraph the proprietors of Biscuit Town may be said to have "put a girdle round about the earth."

One can hardly imagine an industry more happily placed than the biscuit factory at Reading. Both are more or less like each other. The town has a pleasant healthful atmosphere. It is clean and looks prosperous. The Thames and the adjacent meadows give it an air of holiday. In the summer the river is alive with pleasure boats, the town busy with well-dressed visitors. The biscuit factory is a town within a town. It is a series of buildings, connected with each other by bridge and passages. The river Kennet flows through it, and helps to make it picturesque. You enter the works from the King's Road. Within the portals you realise at once that you



READING'S MONUMENT TO MR. GEORGE PALMER.

are in the presence of a well-disciplined establishment. Nothing that you see is likely to discount in your estimation the popularity of the biscuit. Accompanied by a pleasant guide and an artist on the look-out for likely studies, we begin our tour with the mixing mills. Here are a series of elaborate revolving pans, in which materials for special kinds of biscuits are being mixed into dough. Each mixer is waited upon by a number of men carrying buckets of flour, sugar, treacle, milk, eggs, and other tempting ingredients. One set of mills is dealing with gingerbread-nuts, and the mixer is using his material as it is required, treacle, flour, or sugar. Other mills are engaged with Milk, Empire, Colonial, and other well-known biscuits. In the centre of each revolving pan is a shoot for the dry mixed meal that is prepared in a room above, and this is tempered to taste and consistency with the wet products and the sweets already mentioned. When the material is thickened into dough it is put



A CORNER IN THE MIXING AND ROLLING ROOM.

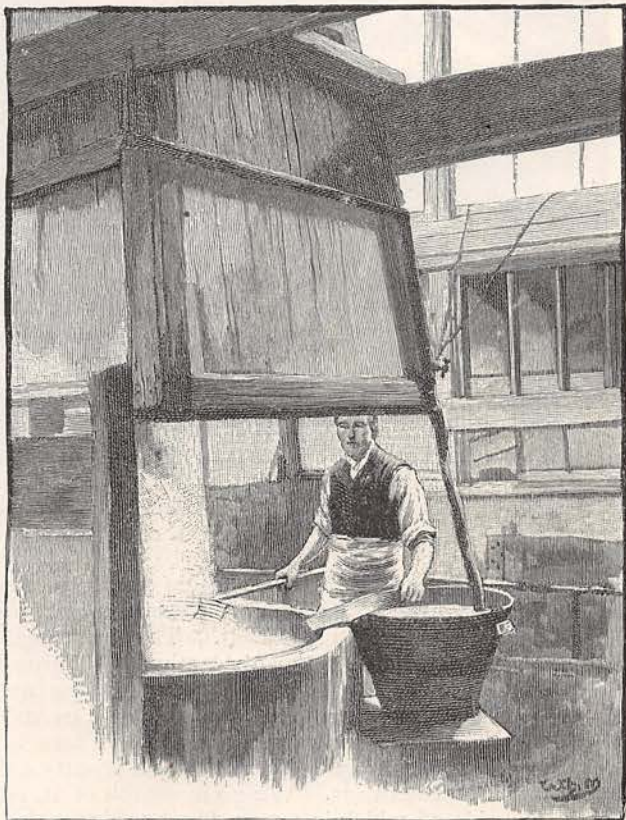
into great presses and rolled, leaving it in flat firm masses, very fine in appearance, quite silky to the touch, with almost a polish upon it. There are mixing drums as well as pans. Different biscuits different methods. The mixing drums are large busy machines. Inside them are agitators, with long arms that go round and round working up the paste and fitting it for the breaking rollers that await it close by. It comes out in solid slabs of dough, which the breaking rollers spread into long pliable breadths of thick material. The machine is not unlike one of the earliest printing machines called the Belper, something between a press and a glorified mangle. The dough passes from the breaking rollers to a machine that resembles the modern printing machine known as the Gripper. The machine is fed very much as a printing machine is fed, but instead of paper with rolled dough, which is carried along automatically, the cutters

cutting out the biscuits, and the dies stamping them ready for baking; if we say the dies print the biscuits the similarity to the printing machine is fully borne out. The cut and printed biscuits are removed on trays to the ovens. As we follow them we pause *en route* to notice hand-made biscuits, rolled in the old way, and cut into shape with the hand-block. Here are also raspberry biscuits, the jam being laid in with a kind of palette knife; and, also by hand in an adjacent department, German rusks and French rusks are being prepared. The rusk is simply a plain bun or cake cut in two and roasted. It would seem as if this department were devoted to methods that belong to the early history of the works. Here, for instance, is a hand-machine for making a sugary kind of cake or biscuit, called African and Queens. It is a curious tubular arrangement, something between a gatling gun and a sausage machine. At the breach it is loaded with the already prepared material, which is wound out in long zig-zag ropes that are cut into lengths and despatched to the bakery. Here are also the moulding machines for filbert biscuits and other forms for dessert. While the inventor and the engineer are continually engaged in improving the mechanical methods of production the managers of the bakery keep a wary eye on the requirements of the various markets. They

have their proved and tried brands of biscuits that never change. For these they have a settled and regular demand. But never a year passes that does not see some marked addition to their list of goods. One of their newest productions is the "Breakfast Biscuit," not the least successful of their "specialties." The "Wheatmeal" is also very popular, and who does not know the "Osborne," the "Oval Thin Captain" and the "Toast"? The "Spray," the "Abernethy," the "Nonpareil," the "Lunch" and the "Picnic" are equally famous. There is a fashion in biscuits as in other products of the day.

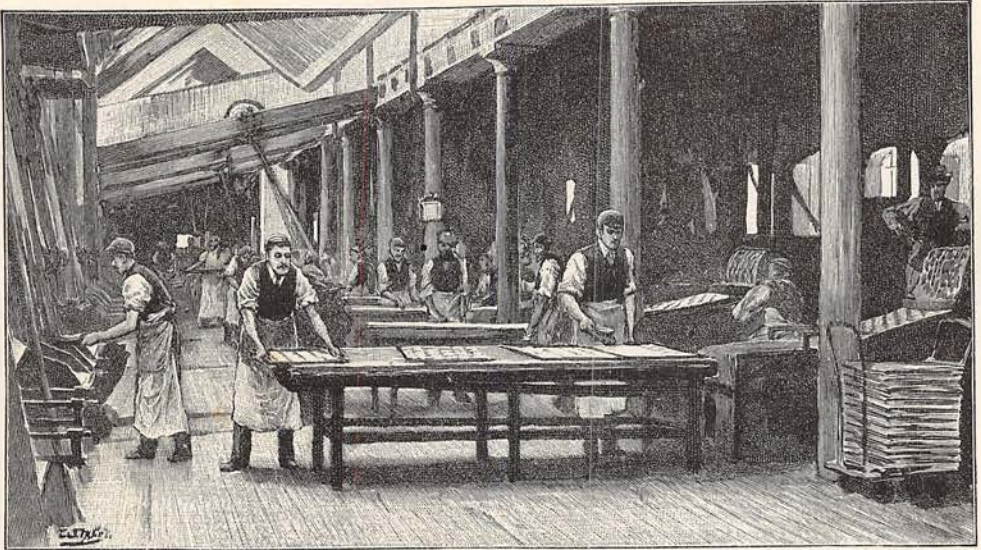
Cracknel biscuit baking brings us to an artistic corner of the works. After the Cracknel has gone through the process of mixing and rolling it does not go straight to the oven; it undergoes the intermediary process of boiling. Here is the first and only time inside the factory that the changing scene is softened by the presence of steam. Our artist is right. Steam has a very picturesque effect. Wagner knew this when he introduced it into his operatic pictures. It idealises the commonest incidents. In this corner of Biscuit Town it rounds off the jagged edges, vignettes the cauldrons, gives us artistic glimpses of the attendant workmen. Nor does it hurt the pleasant "biscuity" flavour of the atmosphere which is general in the place. There is nothing in it of the washing-day smell of Mrs. Cratchitt's Christmas pudding.

Touching that same atmosphere of Biscuit Town it is never oppressive, and it is always clean. There is the wholesome flavour of wheat and flour and eggs and cream in it, with once in a way a *soufflon* of fruit and jam. Now and then there comes in through an open ventilator a breeze from distant meadows that carries one's thoughts to primrose banks and violet glades in Thames woods, for it is a spring day on which we make this trip to the Reading land of cakes. But let us not forget that we are following those trays of biscuits that are going in one continuous procession to the ovens, from the cutting machines. One of these machines is more or less a duplicate of the other. In traversing these great works you observe that one operation is repeated over and over again. From room to room, from floor to floor, you see the same method of mixing and rolling, and cutting, and stamping, resulting in different kinds of products it is true, but all are biscuits or cakes that come to the packer's net. All the time our path is over iron-sheeted ways, lined with shining rails, along which small trucks are being propelled by cheery-looking labourers who are conveying stores to the mixers. We also encounter similarly engaged white-aproned men with shining buckets of milk, in which yokes of eggs are floating, giving the mixture a most rich appearance. Into various steam-moved receptacles these creamy loads are emptied, while others go to the revolving pans we have already mentioned. The whole place is busy with a peculiarly pleasant and wholesome activity. Every passage-way seems to have been newly washed or painted, and the iron floors here and there shine like burnished silver.



BOILING CRACKNELS.

The baking of the biscuits is an interesting operation. We come to one of the great blocks of ovens by and by, though we are still only in the initial stages of our tour. The system is however the same right through the works. There is a vast block of masonry. You feel the heat of it, but only in a moderate degree, as you approach. The ovens debouch as it were into a large serving room. You cannot see



OVENS AND CUTTING MACHINES.

into them. They have a row of wide apertures nevertheless. Hardly any heat is emitted from them. You are only conscious of a kind of revolving band or tray or hot plate, it is difficult to say what. The apertures, as if they were mouths, are fed with trays of biscuits from the Abernethy right through the alphabet of biscuits to the Water and the Yacht, biscuits of every shape and form, round, oval, diamond, square, thick and thin, long and broad. The ovens' mouths take them in as fast as they can be fed; and so the tale goes on. There is no stoppage as it seems to us, unless the "baker's man" pauses to cut a "patty cake" himself. Of course there is another side to the ovens. We go in search of it, passing down a narrow passage of brick, one side of which is warm, for it encloses the furnaces through which or over which the biscuits are passing on their evolutionary way to perfection. At length we find ourselves at this other side of the tropical country through which the baking material is passing. The exits of the ovens are almost as mysterious as the entrances. Out come the biscuits in layers, falling one over the other into tubs and baskets, yellow and brown and white, the ginger nuts a dark rich cocoa colour, all sharp and crisp and perfect in form. They travel hence by miniature railway, by hoists and lifts to their several destinations in the sorting-rooms for the home, colonial, and continental trade. Hundreds of workmen on the floors above or beyond will receive and sort them, pack and label them for their various journeys. Thus from day to day, from year to year, the raw material comes in and thus goes out a manufactured product, the stock, always renewed, employing an army of people inside the town and out. There is no affectation in calling this great factory a town. It has its government, its social life, its reading rooms and library, its telegraphs and telephones, its busy crowds, its railways and river, its strangers within its gates, its highdays and holidays, and its thousands of busy people, men, women, and children.

We now ascend a stairway, and by a short overland route cross the Kennet and enter the newer part of the works. Biscuit Town like other towns and cities has grown up gradually. It has its beginnings if not its endings. It has spread on this side the Kennet and the other, widening at this point and narrowing at the other to fit the land and avoid the water. Leaving the passage-way across the river we enter one of the great stores of flour in sacks. No illustrator of "The House that Jack Built" has ever yet indicated such a vast array of malt-sacks as this store

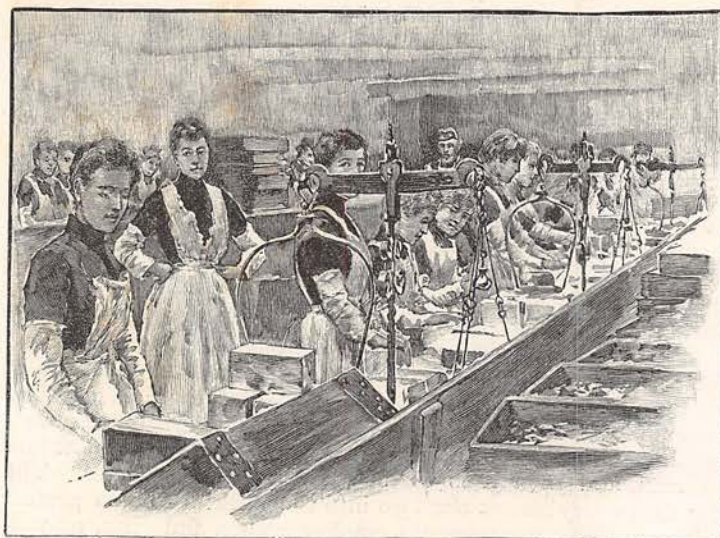
of flour in Biscuit Town. In the new part of the factory we notice that the floors are larger than those we have previously crossed, the roofs higher, the scenes busier. Here we come to a cutting-room with sixteen of these enormous machines like newspaper presses ranged all in a row, with flying wheels and bands overhead, with white-capped men feeding the presses and white-aproned men carrying away the cut and printed biscuits. But there is none of the inky smell of the printing office, none of the litter of sheets of paper, nothing black in the way of ink; all is clean and warm. The temperature of the place may be influenced by the fact that on the other side of the vast floor is a range of ovens, so that the produce of the machines goes straight away to the furnaces with their slowly rotating receivers. Once more we pass down the narrow way by the ovens and come to the receiving-room. We note the same features as before, more and more however impressed with the regularity of the progress from flour to dough, from dough to biscuit. Pausing in our tour of mixing mills and cutting machines, leaving behind us as we think for good ovens and stores, we come to one of the centres of the motive power of the factory. It is a hundred-and-seventy horse compound horizontal engine, bright and shining; one of a dozen engines scattered through the works. We pass out from the steady and silent beat of the great piston-rod to meet with vast repetitions of the machines we have already described; larger floors still, more light, greater spaces, and increasing varieties of biscuits, with the additions of cakes in moulds and cakes with icings white and pink. Among these varieties are sets of tempting designs for children that surely belong to that Toy Land we have mentioned. Here are biscuit sailors, soldiers, organ men, pedlars, farm yard favourites, and Punch himself; yes, the veritable Punch with his dromedary hunch; and, in perfect keeping with the familiar figure, by his side are thousands of caricature biscuits stamped with humorous portraits of serious people. We take our lunch off these pictorial dainties. It is almost cannibalistic to eat these images of men and women. But there is no time for reflection. On we go again in sympathy with the never-quiet trolleys on the never-ending railway; more machines, more ovens, more cakes, more biscuits; until at last we arrive at the sorting-rooms, and then it is all biscuits and no machines. The primary object of sorting is that every biscuit shall go into the packing-rooms perfect as to shape and colour. The packing departments employ women and girls, as well as men and boys, but the former work in separate rooms. They have no share in the



THE FLOUR STORE.

manufactory. The fresh faces and soft voices of the women are an agreeable change. There is also an air of repose in their work-rooms, which is a relief from whirling wheels and the thump of cutting machines. The women wear over their own gowns large sleeved linen aprons, their hair is neatly dressed, their hands scrupulously clean, their whole appearance in keeping with their work. They are a happy-looking community, these girls of Biscuit Town. This portion of the establishment is carefully divided into three departments, continental, colonial, and home. In

the general export department, handy for constant use, are hundreds of stencil plates for branding packages with addresses which include many familiar and unfamiliar names such as San Juan, Jeddo, Hong Kong, Jaffa, Jerusalem, Quebec, Cape Town, Antigua, Porto Rico, Batavia, Bonny, and the Rio Grande. From this floor we pass through a long range of offices and counting houses belonging to the export department (a business kept entirely distinct in every way from the executive offices on the ground floor at the entrance of the factory) into a room bright and lively with a crowd of girls engaged in packing Sugar Wafer biscuits, which are largely sold on the Continent, where they are universally popular. They consist of eight or ten varieties of as many flavours—vanilla, raspberry, lemon, and so on, not forgetting the meat wafer, which is as nutritious as it is dainty. There are few towns or villages



PACKING FANCY BISCUITS.

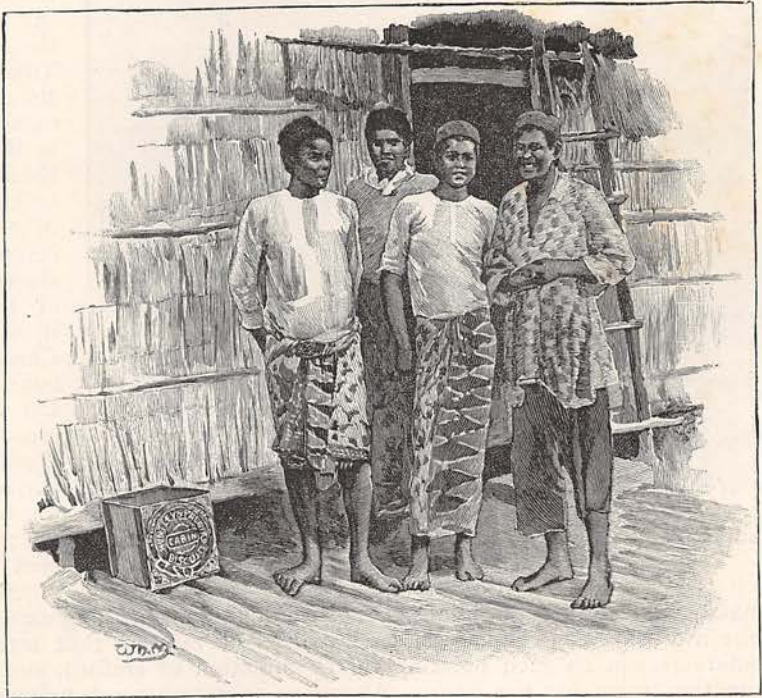
on the French side of the Channel where this British manufacture is not a common article of commerce. The Wafers are sorted and packed with as light and delicate a touch as if they were treasures beyond price. Adjacent is the decorating room, where the sugar-coated cakes and biscuits are ornamented. The artists are mostly girls. Each is provided with a bag of icing, which terminates in a tube similar to the ordinary artists' colour tube, except that it is pointed and

is practically used as a pencil. As the decorator moves the tube over the subject to be decorated she squeezes the bag, and the icing-sugar exudes in such proportions as the subject requires and with very pretty results. This work reaches its highest standard in the wedding cake room, where the elaborate ornamentation of the great discs of spice and plum are the bases of the sugar-artist's fancy. The piping tube is here used by several men, who work either from pencil drawings or extemporaneously. Several cakes commissioned for forthcoming festivals which had just been photographed were real works of art, one, an example of the Italian style of ornamentation, which it would seem a pity to destroy.

When most you think you have seen the last of a thing, traversing the great industries, that thing of all others is sure to turn up again. Even flanking one of the packing-rooms we came once more upon more ovens. This time, however, they are the old-fashioned baking ovens, open and served with the ancient peel. They belong to the Easter cake and sponge cake department. Here the cakes are put into the oven in batches. You can look in and see them packed not unlike porcelain in a potter's kiln. But who does not know the public bakery of country towns and villages? It still exists in many parts of London, where the people round about bring their Sunday dinners, their pies and joints and stews. There is always something attractive in the manipulation of anything by hand. It is so here as contrasted with machinery in the weighing out of ingredients for the cakes and loaves of sponge and other delicacies, the mixing with spade and spoon, the pouring out into moulds, the baking in the old way. And now we come to the home department of sorting and packing, and discover the destination of a certain over-head kind of railway, which has its little station in one of the lower rooms. It has an over-wire, not unlike the favourite tramway of Boston in the United States. The gradients are steep as a mountain railway. Full baskets are started upon every arrival of empties. We had noted the beginning of the line. Here, in the home department, it had its termination. They called it "Jacob's ladder."

Every minute a new basketful arrived, every minute an empty one descended. Sorting and packing occupy both men and women. They show remarkable dexterity in their work. There are tins of mixed biscuits, some of large others of small assortment, and in cases of various sizes. A certain quantity must be got into each box. For the mixed tins as many girls are employed as there are varieties of biscuits. A tin passes from one to the other until it is finished, the first one placing a layer and so on, the last having to see that the whole are properly fitted. The work goes on with unobstructed regularity. Curious machines are employed in the manufacture of the tins for which the firm possesses several patents. For the export trade they use special tin boxes that, being watertight, are nevertheless provided with an ingenious contrivance for opening without the need of knife or nippers. It is a necessity as regards the East this soldering of cases so that they are absolutely watertight. Those who are acquainted with the tropics will thoroughly understand how important this is; for of all useful products of the old country that belong to the

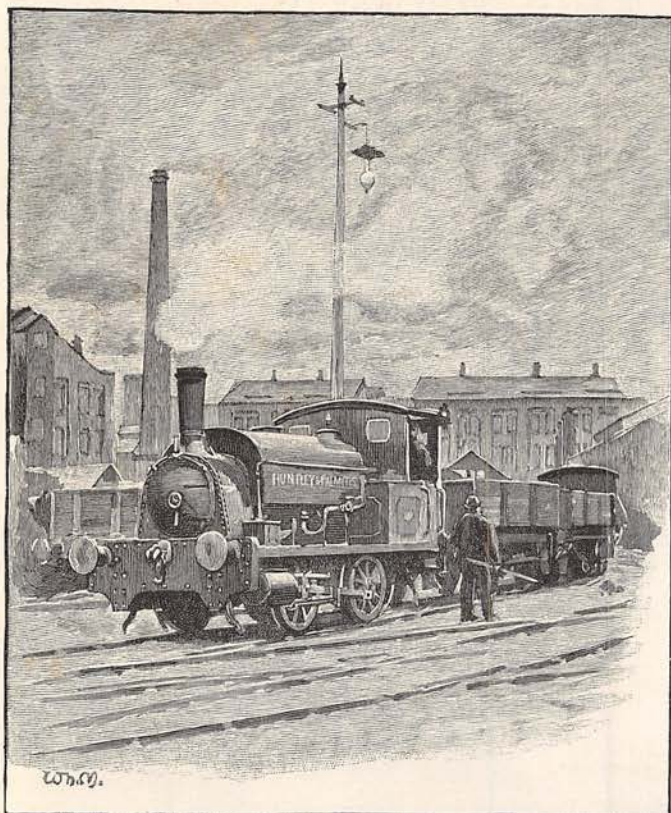
commissariat department of the traveller and the pioneer none is of greater value than the biscuit. Civilised cities receive it as a matter of course, but the pioneer, the soldier on the march, the wanderer outside the frontiers of law and order, they open the biscuit-tin with a satisfaction that few can understand who know nothing of the hardships of savage travel, with its scant supplies of food and the miserable character of the best that is to be had. The very tins in which his biscuit is packed will help to pay the pioneer's way as a



IN A NATIVE BORNEON HOUSE, SANDAKAN.

valuable exchange with African tribes and savages of the Eastern seas. There are countries where kings and queens of dusky subjects find material for personal adornment in the boxes and packing-cases made at Reading on the Upper Thames. The accompanying illustration is from a photograph recently forwarded to Messrs. Huntley and Palmer, from Hong Kong, by Mr. Wilkinson, a stranger to the firm, who thought the incident of one of their familiar tins being part of the furniture of a Dusun or Malay house, in North Borneo, could not fail to interest them. It is quite within our own time that the region of Sandakan, where Mr. Wilkinson during his travels came upon this token of civilisation which inspired his excellent picture, was one of the most mysterious regions of the unexplored world. Together with the vast territory surrounding the mountains of Kina Balu, it was supposed to be peopled by men with tails, and by bloodthirsty hordes of savages whose recreation was head-hunting outside their own villages. Sandakan is now one of the chief settlements of the British North Borneo Company; but the native still roams at large upon its borders. The volume of *The English Illustrated Magazine* for 1886, in an article entitled "Adventures on the Equator," contains an interesting illustration of Sandakan and its picturesque native houses.

When the tins and boxes are packed at last in the larger cases of plank and nails, they arrive at the same place of out-put. Whether their destiny is Glasgow or Timbuctoo they come to one level, outward-bound. Instead of a crane, Biscuit Town has constructed a kind of switchback railway, along



THE PRIVATE RAILWAY.

which the great cases with their varied addresses are shot into the railway shed below. The shed is part of the general buildings, and it has a railway siding; so that the goods may be said to slide into the trucks that await the loading. Several of the railway companies' officials are present and take part in the work of despatching the goods; and the Biscuit Town locomotives convey the trucks and attach them to the main-line trains. Out in the yards and on the Kennet wharves one might be inspecting the premises of some great railway company with its workshops. Here are hundreds of tons of timber layer upon layer, cut and uncut. Close by a saw-mill is buzzing and humming. On one hand is an engineering shop where the mysteries of rapid and perfect biscuit-making by machinery are worked out; on the other tinmen are at work with ingenious contrivances for

making boxes while the joiner is constructing giant packing cases for ocean voyages. Far away in the distance the several lines of railway that intersect the yards and buildings can be seen pointing in the direction of Oxford, and thither and beyond run the trains for the west. Above us tower the red buildings of Biscuit Town with their tall chimney stacks that seem to reach the sky; and we take our leave of Reading, once more wondering at the enterprise, the invention, the organization, the ingenuity, the courage, and the capital that may be absorbed in the manufacture of what the world chooses to regard as its ordinary everyday requirements.