



had it all their own way. Between four and five million pictures had to be ordered to get them cheaply enough; and, although they could have been bought more cheaply in Saxony, yet, as this line was to be called "British made," Messrs. Roberts placed the order with one of the largest litho firms in this country. The pictures are of a very high order, and are thoroughly British in design and colour.

#### The Ring Board Department.

In passing we noticed the "ring board" department (which appeared a very busy one), the blackboard and easel department (which is continually during the season working at high pressure), the general games department, (where there were scores of different games, some new and some old favourites, in various stages of completion), to say nothing of the modest 1d. game department, all presenting a scene of the greatest activity, and one cannot help wondering where all the enormous and varied productions go.

There would not seem to be much room for a difference in quality in a game retailing at anything from a penny to a shilling, but let anyone compare the games produced by various manufacturers, and he readily sees the difference. For instance, the beautifully-coloured labels and linings for the boxes and game boards manufactured at the Glevum Works are real works of art, designed by first-class artists and lithographed and printed by some of the best firms in the country.

The present members of the Company are Messrs. H. O. and J. O. Roberts, both of these gentlemen devoting their entire time to the business they have created in but little more than a decade. They have not only added very materially to Gloucestershire's importance as a manufacturing district, but have brightened the fireside in countless homes throughout the world. It is but just to add that they have throughout shown that integrity which is peculiarly necessary to their business. In collaborating with others in perfecting games, and in their connection with dealers, they have proved worthy of every confidence that may be placed in them.



## THE STONEHOUSE BRICK AND TILE CO., LTD., STONEHOUSE.

**Manufacturers of Plain and Ornamental Bricks, Flooring Squares, Roofing, Drain Pipes, Terra Cotta Goods, etc.**

A VERY gratifying illustration of Gloucestershire's industrial development in recent years is afforded by the Stonehouse Brick and Tile Company, Limited, whose works have become one of the most important of the kind in the country. This business was established in 1890, when the present limited liability company was organised by Mr. E. Jenner Davies, J.P., in conjunction with Mr. J. F. Hayward, of Bath, and the late Mr. M. P. Hayward, of Cheltenham, and from the very beginning its growth has been uninterrupted.

The works were begun on a small scale on the present site, where the Company own in freehold twenty acres of land in one tract, immediately adjoining the Great Western Railway, a private siding extending along the whole front of the works and directly opposite the kilns from which the goods are loaded directly into the railway wagons. The property covers a large hillside, with practically inexhaustible deposits of the finest clay to be found in this entire section. The clay deposits, which have already been worked to a depth of 100 feet, comprise four distinct seams: Yellow Plastic, Brown Marl, Blue Lias, and Metford Sands, all of which, as determined by both



General View of the Stonehouse Brick and Tile Company's Works, Stonehouse

analysis and actual use, are of excellent quality.

When the Company began operations a small portion of the hillside was levelled to permit of the erection of the necessary buildings, which were but a fraction of their present size. As the cuttings extended farther back into the hillside additional buildings were erected in the room thus made available, the present compact plant covering a level area of several acres. The present capacity of the works is 10,000,000 bricks yearly, while the staff of workmen number nearly one hundred.

The works as at present constituted are not only the largest in the county, but in point of arrangement and equipment they represent the latest and most approved ideas known to brickmaking. While we shall not attempt a technical or detailed description of the plant, it may be proper to refer in a word to several noticeable features of construction. The motive power is furnished by two large steam engines by Lees, of Hollingwood, for the main plant, with four auxiliary engines, two of which are by "Robeys," Lincoln, in as many separate departments, and two large boilers, of Cornish and Lancashire type. The chimney stack, which was erected in 1900, taking the place of two which were in use before then, is the tallest in the county, having a height of 202 feet, with a base diameter of 17 feet at ground level and foundation. This chimney is not only connected with the three boiler fires, but also removes the products of combustion from the entire plant, including eight drying floor fires and fifty-four kiln furnaces. The enormous draught of the chimney may be inferred from the fact that some of the flues leading into it are not less than 700 feet long, and yet sufficient draught is generated for the fires at that distance from the base of the chimney. The premises are lighted throughout, both inside and outside the buildings, with incandescent gas, and the various rooms are heated with steam; and in every possible way the comfort and efficiency of the workmen have been provided for. It may be proper to add here that the Company pay the fees for such of their employees as desire to take special courses at the School of Science and Art, a fact which not only attests the cordial relations existing between employers and employed, but which shows the constant effort made by the Company to increase efficiency.

The latest important addition made to the plant, and one which illustrates the Company's progressiveness, is the new hot-air drying plant completed last year. This addition consists

of six "tunnels," each 110 feet in length, in a building 165 feet long, the whole having a capacity for drying 25,000 bricks per day. Each tunnel contains a line of trucks with roller bearings, the track gradient being such that as fast as the trucks of dried bricks are removed at one end the remainder move down to make room for new trucks ready for drying. The heated air, which has a temperature of about 180 degrees, is forced into the tunnels by a powerful fan. From the drying room the bricks are taken, on the same tracks, to the kilns directly opposite.

In every department the mechanical equipment is of the most efficient type. All the clay is drawn by steam power up an inclined plane to the upper floor, whence it descends by gravity through several sets of rollers, by which it is reduced to the necessary fineness by the time it reaches the presses on the ground floor. While brickmaking is the most primitive of industries it is also among the most highly-developed, and those who remember the old hand process that prevailed but a few decades ago can scarcely realise the extent to which machinery and modern scientific methods are now used in plants such as that to which we are briefly referring.

The Stonehouse Brick and Tile Company make literally hundreds of different styles of plain and ornamental bricks, varying in hardness from the "rubber" bricks, which can be cut with a knife, to the hardest vitrified brick for street paving and similar purposes. They also design and manufacture large quantities of terra cotta balustrades, mouldings, etc., having gained particular prominence in this class of work. From having started with a purely local patronage they now execute orders for deliveries over a very wide area. They recently received an order for over 3,000,000 bricks for buildings for the Government, to be used in the barracks now in course of erection on Salisbury Plain.

The present directors of the Company are Messrs. J. F. Hayward and E. Jenner Davies, Mr. M. P. Hayward, the former chairman, having died on March 5th last, at the age of 86 years. Mr. A. W. Anderson is the manager of the works. Mr. Anderson adds theoretical to practical knowledge, and is constantly studying to improve his methods of production. He has travelled abroad, making use of his observations of other works wherever possible to effect an improvement. It is but just to say that his efforts have been very successful, as the splendidly-appointed works testify.