

favour of hand work, and machines have been practically discarded. The air plant is now used exclusively for drainage and haulage purposes.

DRAINAGE.—Except for some small subsidiary pumps, worked by compressed air, all the drainage is effected by means of drives to the open. In the Ironbridge Mine, a stone drive driven 6ft. by 4ft., and 40 chains long, takes all the water into the Waimangaroa River; while the Coalbrookdale Mine is drained by a similar drive into the Cascade Creek.

LABOUR.—Altogether, 640 men and boys are employed in and about the mines, and the average pay is higher than in any other part of New Zealand. The mines have been singularly free of serious labour troubles, and a good deal of this is due to the treatment of the men by the Company. In Denniston, the Company has spent over £300 in erecting and equipping a club, with billiard room containing two tables, social hall, and library, for the use of the employees. This Club is managed solely by a committee of workmen, and the caretaker is paid by the Company. Here is an example which might with advantage be followed by other big mining companies in New Zealand.

In conclusion, the writer must express his thanks to Mr. Dixon, District Superintendent, and Mr. Brown, Denniston Manager, for information freely and kindly supplied.

Correspondence.

(To the Editor.)

Auckland, January 16.

Dear Sir,—As a subscriber to your valuable monthly, I am writing to ask you or one of your subscribers to place me in communication with someone interested in aviation. I noticed some time ago that an instrument is needed to indicate to the aviator the angle at which his machine is inclined to the earth. During experiments connected with an invention (now protected) I came across a simple elucidation of the question, but have not time at the present to prosecute the matter.—Yours sincerely,

ERNEST M. BRESSY.

c/o Post Office,
Devonport, Auckland.

* * *

(To the Editor.)

Dear Sir,—I am getting water laid on to cattle troughs and 400 gallon tank on stand 12ft. high, the water being pumped by windmill from creek about five chains away, the whole elevation from creek to tank being about 60ft. I wanted the plumber to put the delivery pipe into bottom of tank so as to get the pressure from tank on to troughs and garden without a second line of pipes. He objects, on the ground that it was less work for the mill if the pipe was carried up into the top of the tank. I thought the pressure would be the same. Who was right?

J. W. RAMSDEN.

Kumeroa, 18/1/11.

Your plumber is right, though his reason is wrong. It would, as a matter of fact, take a little less work on the part of the mill to pump the water into the bottom of the tank than over the top, the pressure being about 26lbs. to square inch in the former case, to about 28lbs. roughly in the latter, as the water has to be lifted 4 feet further to get over the top of the tank. As a matter of practice, no good plumber would attempt to economise in the piping to the extent you suggest. To begin with, if the water were pumped in as suggested, through the bottom of the tank, it would not circulate freely. Unless the tank were emptied the water that was last pumped in would be first out, the top becoming stale. To prevent undue pressure on mill pump valves while mill is standing, a check valve should be placed some feet away from it.

Architecture and Building.

Our Beautiful World.

Man's Work in the Making and Marring of it.

A Lecture delivered to the Christchurch Beautifying Association, by S. Hurst Seager, F.R.I.B.A.

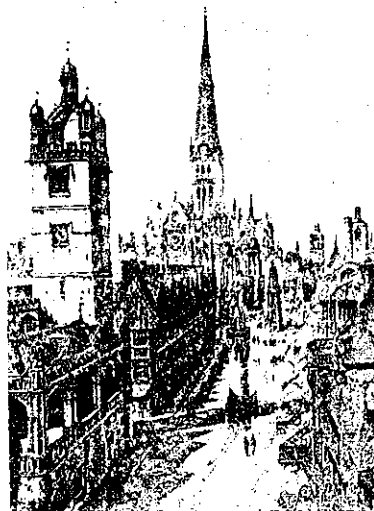
(Continued.)

The English cottage homes erected in the first five centuries of English life were always the natural expression of the wants of the people, so that whatever county we pass through we find the local material built into the homes, full of simple character, and thus becoming objects of beauty always. What can be more beautiful than the simple, half-timbered, thatched cottages of Anne Hathaway at Stratford-upon-Avon, or the cottages at Upton Gray in Hampshire. These are only some of thousands which embellish the natural beauties of the Old World, and in a collection of cottages, forming the village

of Nature have here wholly disappeared, but in their places these London burghers erected works of the greatest beauty; with such surroundings the artistic fountains and monuments they erected were highly appropriate, and gave dignity and beauty to the scene. Although there is individual expression in each building, all are in one style of work, and in perfect harmony, and the signs upon them giving the names and occupations of the different owners are all in themselves objects of great beauty. This, then, is the result of five centuries of man's work in accordance with the laws of Nature and thus in harmony with her. Those works still left to us which were erected at that time give the greatest pleasure to the beholder, arousing in him emotions and feelings akin to those which would have been aroused by the natural beauties the city has displaced.

This, then, should be our aim; always so to create our homes and our cities that what we take from Nature we give back in art. But is this the trend of modern thought and feeling? I think not, for with all the noble work of the past which forms the valued inheritance of the present, we are wilfully erecting works which can neither now nor hereafter give a spark of pleasure, and we are disfiguring our towns with ugly and useless announcements.

In this competitive age, it is, of course, absolutely necessary that tradesmen should be diligent in making their wares known, but competition in olden times was the competition in the excellence of the goods offered, while competition nowadays is competition in the loudness with which these goods are declared, and this loudness of acclaim not only absolutely ruins all chance of beauty in the city where it is made, but imposes a heavy tax indeed upon all who purchase the wares. Advertising is necessary, but it can be done artistically, and every one of us should resent very strongly indeed the disfigurement of our towns by ugly and unnecessary signs. Architecture cannot be phoney; it can only become so by the aid of sculpture, pictures, or writing. In this way many of the old mediaeval cathedrals told nearly the whole of the Bible story, yet they remain works of the greatest beauty, and all the Mohammedan mosques and monuments are covered with extracts from the Koran, adding to the beauty rather than detracting from the excellence of the work. But if our civic fathers want to tell you their office closes at 4 p.m., they put a placard on their wrought iron plates, to the great disfigurement of their building, so that whatever interest the gates have as works of art—and I can assure you the skilful craftsman who made them put his best work into them—is wholly destroyed. The example set by our civic fathers is naturally followed by other citizens, for it is in accord with the commercial spirit of the age in all parts of the world. It has come to be considered a necessity that if you have anything to say



PERFECTION.

streets, how simple they are, yet together they produce varied and picturesque effects. Think of the delightful village streets in Warwick and in all parts of England. Among the cottages there are shops and stores, yet nowhere is there a note of disfigurement to mar their simple beauty. This is typical of village streets built in the earlier days throughout the whole of England. There is unity in variety, for the character of them varies according to the local material of which the houses are built. These are the works and form the homes of the simple and unaffected country folk. When we turn to the homes and stores of the merchant, princes of London, and the shops and homes of its wealthy burghers, we find this simple work giving place to work equally artistic, but of a far higher standard. Look at Ludgate Hill, as it appeared towards the close of the fifteenth century, that is to say, about four hundred years after the welding together of the Norman and Saxon elements, which form the English nation. The beauties