

# NEWS OF THE BUSY HOME BUILDERS

## ROUGH CEMENT FOR FINISH

Unique Exterior Used on New Home on North Side.

## CHARACTER IN ARCHITECTURE

Dwelling Should Reflect Personality of the Owner in Style, Says One of Omaha's Architects.

One of the pretty homes just completed in the north part of the city is of a novel design. It is finished in rough cement, with half timbers after the style so commonly seen in England and on the continent, particularly in France and Germany. The roof of this house is a gambrel and the windows upstairs are fitted with small panes of glass and they swing on hinges instead of pushing up and down. The roof is of shingles stained a pretty tint of light green. The interior is of colonial design, the colors being chiefly light browns and ambers, with some dark yellow. The large living room opens from the hall. There low bookcases line the wall, and above them is a narrow shelf on which pieces of old-fashioned pottery are displayed. The billiard room is especially novel in its finish. There is a handsome cruet above a narrow shelf running all around the room at a height of about six feet. It is furnished in mission style.

"A home should reflect the personality of the owner," said a local architect. "There is too much of a tendency to fall in with the various styles of architecture, regardless of whether they are suited to the persons who live in them. When I say the house ought to reflect the personality of the owner I, of course, mean it should reflect the personality of the people living in it. A dainty little house with plenty of 'gingerbread' isn't suitable for a big husky couple or for the cottage of a farmer. It is more suited to a poet, musician or some such person. On the other hand a house built of rock and with all its lines firm, solid and bulky, is not fitting for a musician or artist, but rather for a successful man of business, an engineer or some such person. A big house on the Moorish lines, with broad porches and overhanging eaves is most fitting for a family in which there are many children."

There are flowers which are suitable for growing around the house, even in winter in this latitude. The Christmas rose, if planted on a southwest slope, where it is protected from the east and north winds, will often bear flowers. The crocus and snowdrop are good winter plants. The winter iris grows to a height of only about six inches. It is a beautiful plant, bloomed with dark and pale blue usually. Plants of this kind, if set out in the proper season, make the winter pass with scarcely a missing of the beauties of the resplendent summer garden.

"People today seem to have a rage for old-fashioned furniture," said a local dealer. "But they have the knowledge to distinguish between the genuine and the many clever imitations which are being made to meet the demand. For example, take corner cabinets. We had some genuine cabinets of this kind, but they had solid doors. Nearly everybody wants a cabinet with glass doors, and the manufacturers of old-style furniture which is sent out to masquerade as the genuine have put such doors on the cabinets. As a matter of fact, the old cabinets were manufactured with solid doors. Those cabinets are the genuine and yet the people won't buy them."

A looking glass inserted in a closet door is a novelty in a bedroom where wall space is largely taken up by windows and doors. The glass is in the door of a closet and it has the advantage of economizing space, beautifying the door itself and furnishing a glass which can be moved by merely pushing the door to and fro, thus throwing the light wherever it is desired.

The creation of four handsome houses out of no other materials than sand and cement has been accomplished at the corner of Nineteenth and Clark streets. The process of building them has been rather slower than that of erecting the ordinary house, but the results accomplished, the process is entirely satisfactory to the builders. The cost, too, had been remarkably low. A shanty was erected on the site and the artificial stone was made right there, set out to dry, and as soon as it was hard enough was placed on the walls. By placing the stone in the right place it was in the process of conversion from raw material to a place in the wall. The making of the stone was begun while the excavating was being done. When this was completed and walked up with solid cement, the first stone was "ripe" and ready to be put in place. The manufacture continued then from day to day about as rapidly as the stone could be placed, thus keeping the supply just right.

An Omaha contractor expresses the belief that there will be a large increase in the amount of brick used for building purposes in homes next year. His reasons for this belief are the fact that brick is plentiful now and the price is low. It is true that the supply of cement is also good, but this has been put to so great use, and there is so great a demand for it from all directions, that he believes there will be a restriction to brick. Brick can be placed in a building with considerable effect architecturally, and its wearing qualities have been tried with time and have not been found wanting in any respect.

A house being erected in the west part of the city is decidedly novel in its arrangement, as well as in the furnishings. It is on which the builder has erected it. The lot lies about twelve feet above the street level. The problem to be dealt with, therefore, was either to build the house on the lot and have a flight of steps leading to it from the street, or to excavate the surrounding ground and have the clay banks form a close range view from the windows. Either plan was undesirable. The steps, as well as the bare clay bank, would have been unattractive.

The builder, with the aid of an architect, solved the problem in a manner which was desirable, and now the house is nearly finished and is proving a thing of beauty. The plan was merely to set the first floor of the house on the level of the street. This was done, building it of brick. In front there is a pretty, broad porch, with artistic trimmings of wrought iron. From this porch steps lead to the reception hall. From the reception hall stairs lead to the living room above. The interior finish is beautiful and on this main floor there is a porch in front and one on the side. From this floor one can step directly into the basement and into the cellar. The house has the additional advantage of having the main rooms

## Origin and Use of Portland Cement

Portland cement, as ordinarily classified, is of three kinds, viz: 1. true Portland cement; 2. slag cement; 3. natural cement.

The Association of German Portland Manufacturers has given a definition of Portland cement in a practical manner, as follows: "Portland cement is only such an article as is made by calcining a thorough mixture, consisting essentially of calcareous and clayey substances, and then grinding same to the fineness of flour." This means that true Portland cements are obtained by burning to the point of incipient vitrification either hydraulic lime stones or mixtures of argillaceous lime stones and afterward grinding the product to a fine powder.

For example, Atlas cement is made of cement rock and limestone at North Hampton, Pa. Bookley cement is made of Maryland clay at Bellefonte, O. Lehigh cement is made of marl and limestone at Mitchell, Ind., and in Lehigh Valley, Pa. These materials are mixed in a definite absolute proportion, and all the cement mills have chemists in charge of laboratories, who determine the proportions of the materials that are being used from day to day, and thereby maintain a standard of cement as nearly as possible of the perfect mixture.

The following is given as being a typical analysis of a good commercial Portland cement:

- Silica, 21 per cent to 24 per cent.
- Alumina, 4 per cent to 6 per cent.
- Oxide of iron, 2 per cent to 4 per cent.
- Lime, 57 per cent to 62 per cent.
- Magnesia, 1 per cent to 4 per cent.
- Sulphuric acid, 1 per cent to 3 per cent.
- Water and carbonic acid, 1 per cent to 3 per cent.

The second kind of cement mentioned above, namely, slag cement, is sometimes called Puzzolan cement, and it has been defined as a product obtained by intimately and mechanically mixing without subsequent calcination, powdered hydrates of lime with natural or artificial materials, which generally do not harden under water when alone, but do so when mixed with hydrates of lime; the materials mentioned which are mixed with the hydrates of lime being, in the case we have under consideration, furnace slag.

This cement resembles Portland in its properties, but it is more like natural cement. It is not as perfect or true as cement and is not suitable for use in air nor in sea water, but when mixed properly works well in fresh water. It is not as reliable as true Portland cement and is not used to any extent in building operations.

As may be expected, as materials are taken directly from the ground, burned and ground into a cement, the cement itself will vary in quality. The clinker, in fact, is made of the materials as they are found in nature without any daily laboratory ascertaining and fixing of proportion.

In 1790 Joseph Parker introduced a cement as nearly like modern Portland cement as any used in those days, which he made by burning lumps of chalky clay stones, finely pulverized the clinker, and called it "Roman cement" because its color was very similar to that of the lavas in the vicinity of Rome. After a few years' investigation and repeated experiments under Parker's process, qualities of pulverized limestones were mixed with clay in certain combining proportions, calcined in kilns and ground very fine. This made a cement which was called "Portland" by Joseph Aspdin, a brick mason of Leeds, England, who manufactured and named it because of its resemblance in color to the Portland sandstone, from quarries in the English channel, out of which St. Paul's cathedral, the Eddystone lighthouse of Smeaton and other prominent structures of England were built. In the fall of 1824, Aspdin, the inventor, obtained a patent for his hydraulic mixture. Many experiments were made about this time by English and French engineers in producing a cementing material that was expected to command the attention of the builders; but no permanent results were obtained by them.

It was reserved for a German chemist, in 1828, to formulate the first theory of the action of ingredients and their proper combining proportions to make a true Portland cement, since which time valuable material could be depended upon.

Other pioneer investigators entered the field for a quarter of a century afterward, and each trial resulted in an improvement on the production, till an excellent quality was established, and a commendable standard attained between 1855 and 1860. It was not until 1860 that any considerable quantity of Portland cement was made for the general market in England and on the

continent, and but very little for exportation.

From this date up to 1875 increasing amounts of foreign "Portland" were brought to the United States and constituted the greater portions of such cement used in this country by the architects and engineers. About this decade, 1875 to 1880, a domestic product began to come into competition with the imported article, and has now almost displaced the foreign manufacture.

David O. Saylor was the first manufacturer of Portland cement in the United States, at Copley, Pa., about the year 1872. Two processes, known as the wet and dry, are used in making of the materials for Portland cement, the material first being crushed in either case and then thoroughly mixed, after which they are then ground to extreme fineness, thereby becoming thoroughly mixed. It is then ready to pass through the kiln, which is nearly always at the present time of a rotary nature and consists of a steel cylinder five feet to six feet in diameter and about thirty feet in length.

The cylinder is lined with fire brick and slightly inclined and revolves slowly. The raw material is fed in at one end, subjected to great heat, and is discharged from the lower end of the kiln as a clinker, and is then ready to pass to the final grinding, which produces cement as used in a commercial way.

The manufacture of Portland cement, the proper manipulation and mixing of materials and the testing of the product, have now reached a very advanced stage, and has been reduced to as much of a science as any other building material we have. Cement should be ground very fine in order to secure the best results.

When cement is ready to be used and is mixed with a sufficient amount of water to bring it to a paste, it soon loses its plastic nature and finally reaches a point where it can not any longer be handled without producing a rupture.

This change of condition is known as setting and may be considered as separate from hardening of the mixture. Setting usually takes place within a few hours, while hardening is continued for months and years. The time of setting is again divided into the time of initial setting and final setting. The time of setting of cement depends upon the time of year, setting more slowly in cold weather than in warm. The initial setting generally takes place in thirty minutes to an hour and final setting within four or five hours.

Developing test for tensile strength of cement is for: Twenty-four hours, 70; seven days, 68; twenty-eight days, 72; three months, 70; six months, 70; one year, 80.

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The growth of the industry of cement manufacturing is simply marvellous—our statistics tell us that the total output of Portland cement was \$2,000 barrels. At this time reinforced concrete was unknown, and the value of Portland cement concrete as a structural material was not dreamed of. Natural cement had the field, and concrete, where it was used at all, was confined wholly to fortifications and underground work. The output of Portland cement in periods of five years are as follows: 1885, 150,000 barrels; 1890, 235,000 barrels; 1895, 300,000 barrels; 1900, 450,000 barrels; 1905, 500,000 barrels.

In 1897 and 1898 there came a great shortage in structural steel. Deliveries were so uncertain and remote that engineers saw country over, were at their wit's end to find ways and means for fulfilling their designs, and they turned at once to reinforced concrete to help them out of their dilemma. European systems of reinforced concrete were introduced, and engineers generally began to study the subject from a scientific standpoint, with the result that by the year 1900 the steel concrete structure was recognized generally as a structural possibility, and its adoption was considered for every conceivable kind of problem.

At this period the production of Portland cement in this country had reached \$450,000 barrels per annum. In the succeeding five years, however, the popularity of concrete and the confidence of the public in its properties were demonstrated in a most astonishing manner, for the production of Portland cement sprang from 8,000,000 barrels in 1900 to 30,000,000 barrels in 1906.

The total production of all kinds of hydraulic cement in 1906, including Portland, natural rock and Puzzolan cement, was \$6,027,231 barrels, valued at \$24,013,215. Of this total \$5,619,822 barrels were Portland valued at \$12,249,652. Three million nine hundred and thirty-five thousand two hundred and seventy-five barrels were natural rock, valued at \$2,362,140. And 481,224 barrels were Puzzolan cement, valued at \$412,921.

Then the bottom fell out of everything, as it were, and prices on Omaha real estate fell below the actual value and remained down for a number of years. The present addition, \$1,000,000,000, places \$2,000,000,000 in proportion than prices in Omaha, is higher in proportion than prices in Omaha. Morning inside is one of the popular suburbs of Sioux City. It is three miles and a half from the city and residents have never been able to see anything better than a twenty-minute car service. Lots in Morning inside are desirable, sell for \$60 to \$150, though it has been a question whether they were worth the price asked. With the best car service in Omaha, lots in the new Creighton addition, south of Hancock park, are selling at from \$80 to \$120, and they are much more desirable in comparison to anything which is offered in the suburbs of Lincoln or Sioux City.

When the Omaha Real Estate exchange meets Wednesday, it may resemble a debating society, with something more than an idle question to debate. What effect a postal savings bank will have on the exchange, favoring or opposing the postal savings banks, was the subject of the exchange on Wednesday last. Mr. Yates, president of the Nebraska National Bank, addressed the exchange, and when Mr. Yates concluded his address with the statement that if the postal savings banks were established in America there would be no real estate money, the real estate men would have voted down a resolution to favor the postal savings banks. Mr. Yates told them that if the banks were established at all, deposits of \$100 or under should be the

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### TIMELY REAL ESTATE TALK

Prices on Omaha Lots Are Now Low Enough.

NO BREAK IN VALUES EXPECTED

Dealers Give Reasons for Thinking that the Price of Real Estate is Not Going Any Lower.

Will Omaha real estate depreciate in value after the financial flurry and cause a loss to buyers or will those who intend to buy be able to secure property for less money? This is the question which scores are asking real estate dealers. But there seems to be no possibility of Omaha real estate going a cent lower than it is at present. On the other hand the tendency is for a steady advance.

Asked concerning the maintenance of prices, ten out of a dozen are confident that no decline is likely in Omaha property, as it is as low now in many instances as it was in 1898 and 1897, and in many instances the prices quoted on unimproved lots are less than twenty years ago. Few lots were offered in Omaha than for less than \$700 and the \$1,000 lot was the average. Lots in addition not as desirable in proportion to the size of the city, sold readily for \$1,000 to \$2,000 and the lot under \$700 was out in the woods or far up the river, most astonishingly manner, for the production of Portland cement sprang from 8,000,000 barrels in 1900 to 30,000,000 barrels in 1906.

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