

Coming of Cement-Overcoated House Shows Possibilities of Stucco



ITALIAN VILLA AT FLORENCE - SHOWING USE OF STUCCO



TWIN RESIDENCES - ONE OVERCOATED

THE progressive citizens in every city and town in the country look with despair on the old frame houses. They exist in every section in almost countless numbers and seemingly are the one insuperable obstacle to every plan for the artistic regeneration of early crudeness in construction and design. They are used for every sort of business and residential purpose, and occupy such relation to existing economic conditions that any attempt at a wholesale demolition must be regarded as among the present impossibilities. They are too good to pull down and not good enough to justify a continued existence. Singly they are cold in winter and hot in summer and require frequent and expensive renewals of paint. Severally their inflammability is a constant menace to the safety of city or town and their usual disreputable and unsubstantial appearance violates every instinctive desire for the artistic and beautiful.

Happily by a process of evolution it has been recently demonstrated that the needed remedy is now available and its name is "stucco." This material is composed of portland cement and sand in about the same proportions used in making sidewalks. The word to the average mind conveys an impression of something cheap and perishable.

On the contrary, it is the most durable building material known. It does not shrink, burn or decay and readily adapts itself to every form of architectural expression. It is, further, not realized even by many foreign travelers that at least 90 per cent of the buildings in continental Europe, both public and private, are finished in stucco laid on rough brick surfaces. Far from being a sham, it is the aristocrat of building materials, as it covers the palaces of the royalties and nobility in every country and climate. The ancient Greeks and Romans knew its value and gave it almost universal use. It would be strange if the ingenious Americans did not some time discover its adaptability for their purposes. Their tardiness in this respect may be explained by the former abundance and cheapness of lumber, which was the "good enough" of early and hasty days, when shelter and cheapness were the ruling considerations.

Western architects, ever on the alert for improvements, are among the first to realize that with the aid of metal lath as a holding device stucco could be used in combination with wood, not only on new structures but the old ones. Those who occupy standing frame houses have cause to rejoice over their ability to quickly and economically convert their structures into the more comfortable and slightly stucco finish by attaching metal lath to the weather boarding and applying the plastic overcoating. As a rule those devoted to business purposes require only that the fronts be treated.

It will readily be seen that when this process spreads to the towns and farms in its general transformation of houses, stables and other outbuildings, from the appearance of wood to that of stone, the result will be as if some fairy had waved a magic wand and in a twinkling the hovels became palaces. The rule of construction is to leave an air space between the plaster and the weather boarding in the interest of dryness and uniformity of temperature. Experiments in the use of wood lath for this purpose have been uniformly disastrous. The cement is protective of rust on metal lath.

The Bee gives space for several examples of overcoating old houses in the hope that the success of the initial efforts may induce a general adoption, and the western cities and towns be redeemed from the appearance of ragged and nondescript architecture worked out in the most unsubstantial material. The citizens of Wheaton and Lake Forest, important suburbs of Chicago, have undertaken at public expense to reconstruct the fronts of their business section along harmonious and correct lines and when completed it will mark the elimination of much that is offensive to good taste and the substitution of beautiful and artistic effects. It is to be done in white cement and dark roofing tile, affording a judicious combination of colors very satisfying to the eye.

If by co-operation of effort the property owners of this city should in like manner inaugurate a wholesale reconstruction of the fronts of the frame buildings used for business purposes under skillful architectural advice, an immediate and substantial increase of trade and real estate values would doubtless be the profitable result.

It is a fact that the frame house is passing. Two factors are at work to this end. First, it is almost impossible nowadays to get the white pine building material which once ranked a real "first class." But in accepting that which is not the old first class material—good as it may be—the builder of the frame house is discovering that the cost of building is greatly enhanced in the last fifteen years. Hemlock is worked in on the building, especially in rafters, joints and heavy supports, and hemlock is an uncertain piece of timber.

That other great reason for interest in the cement coated structure is that while its cost may be no less, if properly constructed it has proved itself in stability and workmanship. To all purposes it becomes a stone building, warmer in winter and cooler in summer. And more than anything else, the necessity for painting and repainting is eliminated. Honest paint and honest painters applying it cost money if a frame house is to be "kept up."

These things are taken into consideration by the present day home builder. No matter how weather beaten the rough coat house may be, it darkens in keeping with its exposure to sun, weather and the inevitable north exposure. Therefore its appearance is pleasing, always. It has the appearance of "ripening."

But to any present owner of a frame house who is tired of its continual paintings, or its continual lack of this work, the builders of the cement house are prepared to take over his old frame structure and without removing a nail from its weather-boarding make it over into a distinctly new house.

The newest applications of stone effects to disreputable old frame houses that are found in sills, joists and every supporting part makes possible the rejuvenation of whole districts in cities and towns where age has told on roofs and weatherboardings. In the case of the house of twenty years ago when the suburban "artist contractor" made deformities out of house lines and proportions, the tearing away of the old cupola and the hump-backed roof will be the only real carpentry work necessary. The house may be brought up to the most artistic standards of the present, and over all the stone work finish is practical and more than in the quality of the lath. But poor and "sappy" as the lath may be, it is used only on the interior walls of the frame house, which leaves it free of wet and of extreme changes of temperature. But after the evolution of the "retarded cement" process complete. In these years of diminishing good timber no part of the modern frame house of average cost suffers



TWIN STORE BUILDINGS - ONE WITH STUCCO FRONT

for outside "plastering," it was a certainty that the wooden lath was open to question. But, as is usual in most necessities of the kind, the metalurgist and the steel manufacturer got together and solved this problem in the manufacture of the steel lathing, of which cements are a preservative from rust.

"Retarded" cement is explanatory in the name. All cements of the better grades harden quickly after water is applied and the mixture worked up. Eight or nine years ago S. W. Curtiss of Chicago began experiments with cement with the object of rendering them plastic for a reasonable working period. Hardening as the cement does in water, it was a question of proportions of cement and sand, with other stony substances, which would leave the mixture workable for the period



AN "OLD TIMER" MADE NEW

required for plastering it into place. He succeeded and today his formula is a manufacturing formula by which the dry material is shipped dry to the point of working. Water proportions are given for the mixing of the two or three coats that are

OLD FRAME HOUSE OVERCOATED

to finish the house. "After that," said Mr. Curtiss, "I can take any plasterer in a country town and make an expert of him in cement surfacing inside of two hours. The brick mason isn't particularly a good candidate. He slashes at his regular work and is likely to keep to his pace. But almost anyone with a mechanical taste can become the 'plastering mechanic' of this new trade."

In the present-day markets are all kinds of plastic materials manufactured for this building or recasting work. In the best of the work, however, the old rule once applied—or suggested—by the drayman who had the fat horse holds good. This drayman was asked how he kept his horse in such good condition. He replied:

"Well, I feed him a mixture of oats and sawdust, but on the principle of the less sawdust the better."

Lime and plaster of paris have been mixtures applied to cement to make it plastic and workable. These are cheaper ingredients and are held to be inferior to just the extent they enter into the mortar. At the same time Canada has made wide and lasting experiments with lime mixtures, forced into the "diamond shape" crevices made by nailing on two layers of lath, criss-cross. Some of the critics of lime in cement, however, still hold that the Canadian lime is a hydraulic lime, and that in that country the burnt limestone is "seasoned" for two or three months before it is worked up.

In a general way the making over of the old frame house into a new one of plastic front, sides and rear, the desirability of an air space between the weather-boarding and the inner coating of cement is emphasized. Using the steel lath it is not sufficient for best results that the small air seams made by nailing the steel to the laths of the weatherboarding are depended upon. To start from a waterproof eave of the frame house two inches may be allowed, with a slightly greater slope downward to the projecting center belt of the two-story house. From this projecting strip the same proportionate distance may be maintained to the projecting water table at the base of the structure.

A double purpose is served in this air space. Having this closed air chamber on the sides of the house, it serves to preserve dryness in wet seasons, while the extremes of outside heat and cold are reduced, summer and winter. The scientific principle is that which applies nowadays to the common icechest. Once the space between the outer and inner framework of the refrigerator was filled with charcoal in the best grade of icebox. Today it is accepted by the builders of these commodities that to leave the space open serves as well or better, for the reason that the filling material acted equally as a conductor of either heat or cold. And to prevent the ingress of heat was the main desideratum.

With this innovation of making over the old frame house into the new and tested cement exterior, not only the whole character of houses and even streets may be changed artistically, as Wheaton now is preparing for, but the fire risk is immensely discounted. Especially in the older buildings of wood, crowded together in solid blocks, not only is the outer timber in dry weather extremely inflammable, but the coatings of paint that cling to them is an added danger. Where tile roofing is substituted for shingles—as finally must come about—the cement house that has been "made over" will be close to the fireproof test.

But the frame house of long or short standing is not the only subject for overcoating and rejuvenating. The brick house or store building lends the same inviting sides to the artist in stone effects. The great residence of one of the Studobakers at South Bend, Ind., has been undergoing these artistic touches, where columns of Bedford stone in the walls were set between bricks. After the brick walls were set the cement workers stepped in and effaced all the bricks in its construction. With the Bedford stone decorations in relief, the cement work brings out the effects in pleasing manner.

Labor Saving Possibilities of Electricity in the Home

NOW that electricity has become so easily accessible, not only in large cities, but in towns and villages as well, why are we not making the household work lighter, quicker and more agreeable? A power that creates neither superfluous heat, odors nor dirt should be invaluable in kitchen and laundry—in fact, throughout the house. Most of us know the comfort and luxury of turning a button to bring light out of darkness, but we are only beginning to comprehend the other uses to which that same magical button may be put. All of us have taken a more or less impersonal interest in watching the progress from hand power to "electrical power in the large manufacturing concerns surrounding us, and the interest has been far from impersonal in observing and enjoying the advanced methods of transportation; but we have toiled on patiently in our own kitchens, dependent upon the uncertainties of coal and wood and enduring the heat during the summer months as best we may. Gas stoves have relieved that situation tremendously, and those who are awake to the possibilities of this progressive age are enjoying the economy of time, strength and patience afforded by the introduction of washing machines, bread-mixers, cake-beaters, etc. What we want now is a power to run the washing machine and the bread-mixer. The halcyon day is undoubtedly far distant when the turning of a few magic buttons will bring the required power to turn every domestic crank. We of the twentieth century are in the dawn of that day, and it is time for us to open our eyes and become willing experimenters.

A Joy Forever.

The vacuum cleaner is at present making us all gasp with wonder. We see dirt and dust disappear as if by a miracle and foresee with incredulity a speedy relief from the necessity of those semi-annual trials of patience and strength, the spring and fall house cleanings. We may have one in the house to be worked by two people or, better still, by one person with the assistance of electricity.

For our laundry work we can get electric irons. The most trying part of ironing has always been the heat—the heat of the room and the heat of the iron. The electric iron may be used in any room where there is an electric attachment, for a large washing in the laundry or for a little pressing in the bedroom. There need be no stove of any kind in the room where the work is done, nor is there any heat from the iron to penetrate to the hand or rise in waves to the face. Moreover, the convenience of be-

ing able to press out the wrinkles in a linen skirt or shirtwaist without either rousing the ire of the cook by getting in her way or taking the time and trouble to heat an iron in the usual way is inexpressible. The price of the iron, \$3.75 for the small size, will soon be saved in laundry bills. The traveler will find one of these irons extremely useful. Wrinkles come so easily in traveling, rates for pressing and laundry work are high at hotels, and time is limited.

Helpful Devices.

The irons come in all weights from three pounds up to eight. The three-pound iron is particularly adapted to light work and is easily carried by a traveler. The six-pound iron is used for ordinary laundry work. A six-foot length of flexible cord comes with the iron, together with the necessary plug for attachment to any ordinary electric light fixture. It takes but a second for the attachment and it is absolutely without difficulty or danger.

The amount of power required to run a range for the kitchen still makes them too expensive at present prices to be practical. When the electric companies are willing to make special prices for cooking we may hope to use them.

The small portable electric stoves from four and a half to fifteen inches in diameter are not expensive to run and are extremely convenient for use in place of the more or less dangerous alcohol lamp. They are round and flat, with four feet raising them about two inches from the flat marble or asbestos stands to which they are attached. With them comes the same cord and plug as with the iron. They will bring water to a boiling point in a very few minutes. Coffee made over them in a percolator is ready in about eight minutes.

Special Utensils.

One must get special dishes for these stoves, because they must be made with flat bottoms to fit exactly to the stove. They are fastened to them so that no power can be lost on account of poor contact. The dishes made for them are either of aluminum or of copper. The copper dishes are plated with tin on the inside and nickel on the outside. It is possible to use the ordinary tin dishes, but those specially prepared are more economical in the end. The different sized stoves fit the smaller and larger dishes.

There are chafing dishes opening up vic-

lons of after-theater suppers and midnight spreads. One could cook almost, if not quite, an entire dinner, if need be, including the toast made on the flat surface of the stove itself. A double boiler and saute pan are equally useful, and for traveling or for a cup of hot water or tea in one's room there is either a cup or a tea-kettle. They have a coffee percolator also to fit the stove, so that one may prepare her cup of breakfast coffee for luxurious consumption in bed with just as little effort. Baby's food can be prepared by electricity at home or abroad. When boarding or living at a hotel something of this kind is a necessity.

Aside from the uses of electricity for cleaning, ironing and cooking, there is that ever-present necessity for most of us—the curling iron. The little electric heater solves the problem. One is so frequently in houses where there is no gas, and even with gas the process of holding the iron over the flame and waiting patiently for it to heat is a very tiresome one. These little time and patience savers cost about \$3. Still another ingenious device is the electric-heating pad to be used in applying heat to the body. It should be invaluable in illness, taking the place of the flannels heated at such an expenditure of time, strength and trouble, and with such an unavoidable loss of heat and consequent effectiveness in transmission from stove to patient. The electric pad may even take the place of our invaluable friend, the hot water bag, as a foot warmer. It is very light and soft, with covering first of muslin and then of elder-down. It will heat in about fifteen minutes, and by means of an internal arrangement the heat may be controlled and kept at a definite point.

An effort is being made to combine the use of electricity for cooking with the fireless cooker, the calorico. Why should that not be the ideal arrangement and solve the problem? At present the use of electricity for a range is too expensive for most consumers. Since the calorico is for the express purpose of saving fuel as well as heat and trouble, why can't we start our boiling, stewing and baking on an electric stove, saving heat, odors, etc., there, and then at the magical moment transfer everything to the calorico? The calorico has now been brought to the state of perfection (somewhat beyond the haybox), in which it will carry on every cooking process, with the possible exception of frying and broiling. Since these processes are brief, the good offices of the calorico are hardly needed.—Helen Lanborn in Harper's Bazar.

Photographs by Wire.

Mr. Thorne Baker, a technical expert and

inventor of London, thrilled the Engineers' Society of New York when he explained the operation of a new contrivance by which photographs are set by wire.

For more than sixty years inventors have been trying to perfect a machine that would transmit photographs over the wire. Mr. Baker has worked out a method based partly upon the inventions of others, for sending an exact reproduction of a photograph.

Mr. Baker had a portable machine with him, and gave a clear illuminating idea of how it works. The inventor told the engineers the wire photography abroad has reached a stage where it has long since ceased to be experimental.

Practical tests were made during the recent trial of Mme Steinhell in Paris, when photographs of the principals were transmitted over the wire from Paris to London, and were printed in a London newspaper. No demonstration has been made of the system for any distance equal to that from New York to Boston. Mr. Baker told the engineers that he was certain the test on Saturday would be successful.

The wire photography machine exhibited by Mr. Baker resembles in its chief aspects, the photograph, with its cylinder adjustment. There are two principal parts, for sending and receiving, exactly alike as to appearance. The process by which the photographs are sent closely follows the idea of the transmission of telegrams.

A print is made from the negative in the usual way. From this print a wet plate negative is taken, and this is printed upon a film of highly sensitized tin foil, with a screen of lines running one way, instead of crossing, as is the case with ordinary zinc half tones.

The tin foil film is then wrapped around the photograph-like cylinder or drum of the sending machine. Adjusted above the cylinder is a stylus with a fine point. An electric current is sent through the stylus, and as the cylinder revolves the stylus records the lines upon the film. In turn, the current waves thus produced are sent over wires to the receiving machine.

Upon the receiving machine there is similar stylus, poised above the cylinder upon which is wrapped a sheet of paper which has been treated with a chemical substance so that it records the faintest movement of the stylus.

As the stylus, animated by the electric current, goes over this sensitized sheet, the photograph is traced exactly as it is recorded by the sending stylus, giving a complete reproduction of the original photograph upon the sensitized sheet.