

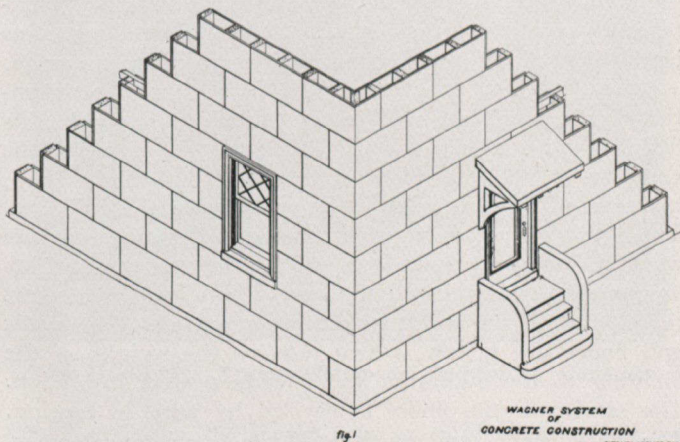
New Types of Concrete Construction.

INTERESTING METHODS OF REINFORCING—THE WAGNER SYSTEM, A NEW DEPARTURE FROM PRESENT METHODS OF BUILDING—OTHER METHODS OF REINFORCING AT PRESENT BEING TRIED OUT.

The advance that has been made in recent years in concrete construction is remarkable, and the future promises even greater strides in the use of cement. Complicated and expensive form work has figured extensively in the past in some classes of concrete work. Many attempts have been made to make a satisfactory concrete construction without the use of cumbersome forms.

It is the object of this article to describe an entirely new departure from present methods of building. It is claimed that this method of construction offers all the advantages of a solid concrete structure for practically the same cost as a wooden building.

By the Wagner system as shown in Fig. 1, buildings are constructed along the same lines as the ordinary so-called balloon frame buildings in wood; concrete slabs reinforced with poultry netting being used in place of wooden boards, and are tied to concrete studs by wires projecting from the ends of the slabs. Concrete studs between the slabs and carrying all the loads take the place of wooden studs.

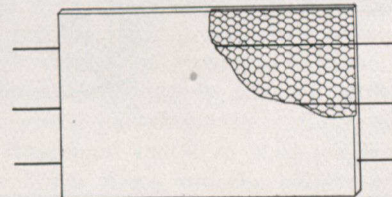


The advantages claimed for this system are, the absence of wooden forms and the minimum amount of material used, with the consequent low cost of construction; the hard impenetrable face, due to a wet mix and trowelling which does not allow the absorption of moisture; and the large air spaces which will make the building cool and dry in summer and warm in winter, and which make it perfectly safe to plaster inside without the use of lathing. For many purposes the smooth finish of the slabs on the inside, will answer without any extra white plaster coat.

Fig. 2 shows a slab with a portion of the surface removed to expose the poultry netting reinforcement and the bond wires. There are two or more of these bond wires in each slab, which project from the ends of the slab, and serve to hold it in place till the stud is poured and then to bond the slab to the studs.

Very little space is required for making the slabs as they can be made one on top of the other with a sheet of building paper between. In fact this is advisable, as it is more economical, and the slabs are kept damp and away from the air, which removes the danger of hair cracks.

Slabs can be made in multiple using a form as in Fig. 3. The steel plates on the form rest on the finished slabs, and hold the form in place till the concrete is poured, and gets its initial set, then the forms are disconnected at the corners and drawn out. The forms are then connected together again and placed on top ready for making a new set of slabs. It is advisable to use

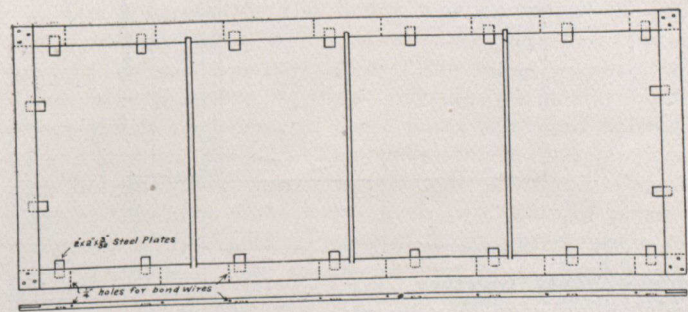


three or four forms, so as to leave them on longer and protect the corners from being broken until they are well hardened.

The slabs can be made either straight, or curved for bay windows, and the surface may be finished in various ways. The surface may be floated off, or trowelled to a smooth finish, and if a facing coat of marble dust and white cement is used, will closely resemble marble.

A very pleasing appearance is obtained by mixing a facing coat of red or grey granite chips, marble or any other stone or combination of stones that may be desired, and after the initial set, scrubbing the surface and washing with a hose at the same time, to remove entirely the cement and sand from the surface and expose the stones. The surface is finally washed with dilute acid, which removes all traces of cement from the surface of stones, leaving them clean and bright.

For special effects in decorating, slabs may be colored red, blue, grey or almost any color by the introduction of coloring matter into the cement mortar,



but this is not generally advisable as concrete should stand for what it is, and not be made to imitate any other material.

In the most pleasing cement buildings the architects have departed entirely from the old ideas of decoration, and have created a new style of architecture, using straight lines and long curves, which give the structure a massive and durable appearance, which is distinct from any other form of construction.