P. L. G. JOHNSTON.

REENFORCED CONCRETE CONSTRUCTION.

APPLICATION FILED DEC. 10, 1919.

1,410,923. Patented Mar. 28, 1922.

Fig. 1.

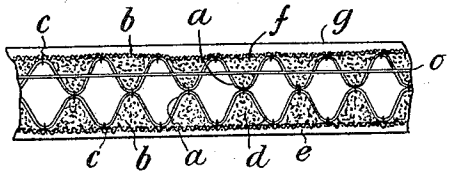


Fig. 2.

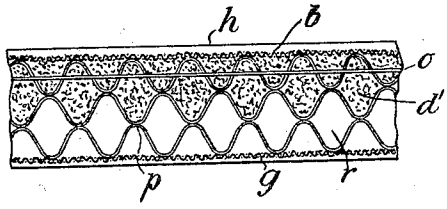


Fig. 3.

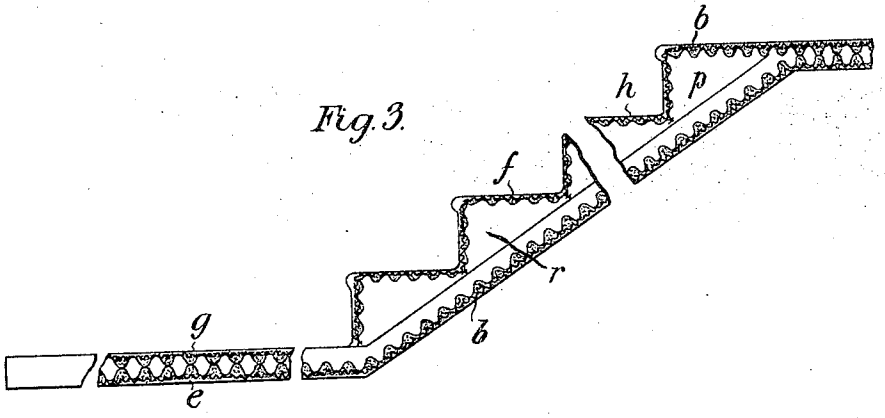


Fig. 4.

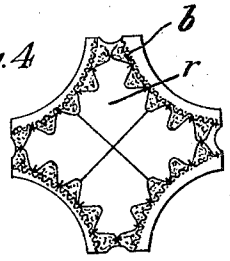
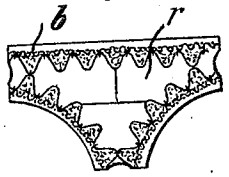


Fig. 5.



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REENFORCED-CONCRETE CONSTRUCTION.

1,410,923. Specification of Letters Patent. Patented Mar. 28, 1922.

Application filed December 10, 1919. Serial No. 343,872.

To all whom it may concern:

Be it known that I, PERCY LIONEL GILBERT JOHNSTON, a subject of the King of Great Britain and Ireland, residing at Mottingham, in the county of Kent, England, have invented certain new and useful Improvements in Reenforced-Concrete Construction, of which the following is a specification.

This invention relates to reenforced concrete building construction and more particularly to compound building slab and parts of buildings comprising corrugated metal and concrete and wire netting secured to the corrugated metal and embedded in the concrete with or without rods passed transversely through the corrugations of one or more sets or series of sheets.

According to this invention the slabs are formed of two or more sheets of corrugated metal superposed valley to valley so as to form hollow spaces between apices and bolted together with sheets or strips of wire netting secured thereto on one or both external sides and concrete laid on one or both external sides so as to embed the wire netting and be securely held by the netting to the sheet, the arrangement being such as to create slabs with a series of cavities therein which is adapted to resist the transmission of sound. Rods may be passed transversely through the corrugations of one or more sets or series of sheets.

The concrete may be stone or coke breeze concrete, the work may be finished off with neat cement, rough cast plaster or otherwise.

Referring to the drawings filed herewith:—

Fig. 1 is a section of a slab formed with two corrugated sheets;

Fig. 2 is a section of a slab formed with three corrugated sheets;

Fig. 3 is a section showing the application of the invention to a staircase;

Fig. 4 is a horizontal section of a column;

Fig. 5 is a section of a beam.

a a are corrugated metal sheets. *b b* are sheets or strips of wire netting stretched over the corrugations. These may be secured to the sheets by clips or studs *c* passing through the sheets.

Ordinary concrete *d* is placed or cast on the sheet *a* so as to embed the wire netting, and rough cast or plaster *e* is the external finish.

Concrete formed of coke breeze and cement *f* is placed on the other side of the corrugated plate and the surface is covered with plaster *g*. Rods *o* pass through the corrugations to prevent horizontal shear.

The corrugated sheets are bolted together at *p* and where used as a floor may be covered with suitable flooring material *h*. Cavities formed between the corrugated sheets are shown at *r*. The slab shown in Fig. 1 is shown to a smaller scale at the foot and top of the staircase as shown in Fig. 3. The construction shown in Fig. 3 is preferably formed or cast in one piece. The bottom corrugated sheets from the top and bottom slabs being carried through to form the soffit of the staircase.

In Fig. 4 and Fig. 5 the parts are formed or cast in one piece to form cavities *r* and can be used as columns, beams and other parts of buildings.

Where more than two corrugated metal sheets are employed the concrete may be disposed in one or more of the series of internal cavities as shown at *d'* in Fig. 2.

What I claim and desire to secure by Letters Patent is:—

A building structure, comprising, in combination, a plurality of corrugated metal sheets superposed and bolted together, rods passing transversely through the corrugations of said sheets thereby to prevent horizontal shear, wire netting secured on the external side of at least one of the sheets, and concrete laid on the external surface of at least one corrugated sheet thereby to embed the wire netting, the construction being such as to form a slab having a series of cavities between the metal sheets.

In testimony whereof I have signed my name to this specification.

PERCY LIONEL GILBERT JOHNSTON.