F. G. LYNDE.

CONCRETE SLAB FOR THE ERECTION OF CELLULAR STRUCTURES.

APPLICATION FILED JULY 15, 1919.

1,425,119. Patented Aug. 8, 1922.

Fig. 1.

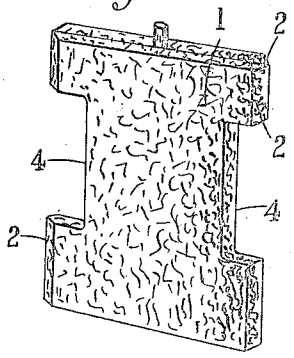


Fig. 2.

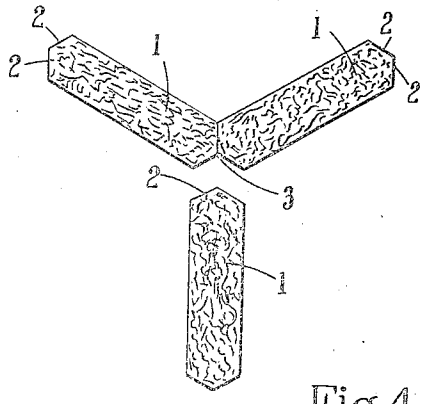


Fig. 3.

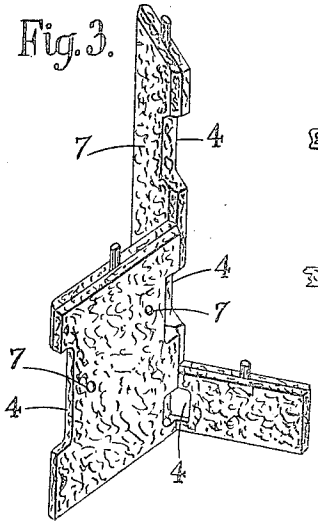


Fig. 4.

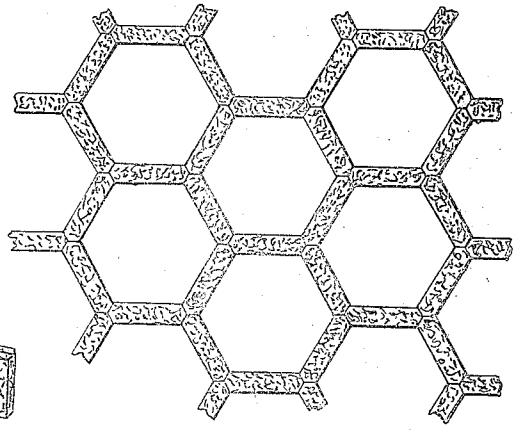


Fig. 6.

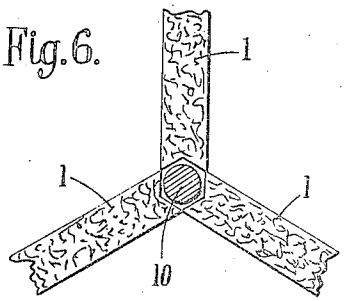
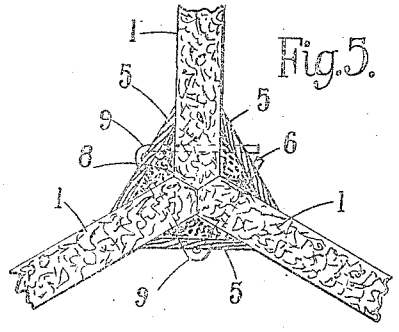


Fig. 5.



Francis Gascoigne Lynde,
INVENTOR.

By his Attorney.

UNITED STATES PATENT OFFICE.

FRANCIS GASCOIGNE LYNDE, OF BELVEDERE, ENGLAND.

CONCRETE SLAB FOR THE ERECTION OF CELLULAR STRUCTURES.

1,425,119. Specification of Letters Patent. Patented Aug. 8, 1922.

Application filed July 15, 1919. Serial No. 311,051.

To all whom it may concern:

Be it known that I, FRANCIS GASCOIGNE LYNDE, subject of the King of Great Britain, and resident of The Eaves, Picardy Hill, Belvedere, Kent, England, have invented certain new and useful Improvements in and Relating to Concrete Slabs for the Erection of Cellular Structures, of which the following is a specification.

This invention is an improvement in or modification of that described and claimed in the application for Letters Patent Serial Number 311,049, filed July 15, 1919.

In my aforesaid specification I described the erection of reinforced concrete structures by means of concrete slabs which are so arranged relatively to each other during erection that the horizontal joints in alternate vertical series of slabs are staggered relatively to each other as by this means each individual slab—except those composing the lowermost and uppermost portions—of the structure is supported and stiffened by the maximum number of juxtaposed slabs. By arranging the horizontal junctions or joints in this manner a very firm and strong structure is ensured and the slabs being ready prepared are at once held in a vertical and true position for the next oncoming slab to secure and permanently lock the preceding slab so that the erection is capable of accomplishment with truth and expedition.

Now it is the object of the present invention to provide an improved construction of slab which while retaining the characteristics of the slabs above referred to in so far as the disposition of the horizontal joints is concerned shall be adapted for the speedy erection of hexagonal cellular concrete structures.

With this end in view my present invention consists primarily in forming the slabs in such a manner that any two slabs when arranged in angular juxtaposition to form a portion of an hexagonal structure will present in the direction of their vertical edges a recess adapted to receive the vertical edge of a third slab.

More specifically considered my invention consists in forming the edges of the slabs with oppositely disposed bevels arranged at an angle of 120° to each other so that any two slabs when arranged in angular juxtaposition to form a portion of an hexagonal structure will present a "bird-mouth" adapted to receive the vertical edge of a third slab similarly formed. A further and subsidiary feature of the invention consists in the improved means for bending the vertical joints of an hexagonal cellular structure erected in accordance with the primary feature of the invention and which will hereinafter be more specifically described.

In order that the the said invention may be readily understood and carried into effect same will now be more fully described with reference to the accompanying drawings in which—

Figure 1 represents a perspective view of a slab for the erection of hexagonal cellular structures under this invention.

Figure 2 is a diagrammatic plan view of three slabs two of which are juxtaposed to form a portion of a cell of hexagonal form whilst the third slab is shown as spaced therefrom to illustrate the recess formed by the two slabs for its reception.

Figure 3 is a perspective view of three slabs under this invention arranged in angular relation to form part of an hexagonal cell.

Figure 4 illustrates in plan a portion of an hexagonal cellular structure constructed according to this invention.

Figures 5 and 6 are detail views hereinafter more particularly referred to.

In the erection of an hexagonal structure under the present invention those edges of the slabs 1 which when said slabs are erected constitute their vertical edges are formed with oppositely disposed bevels 2 arranged at an angle of 120° so that, as will be clearly seen by reference to Figure 2, when two slabs are arranged in angular juxtaposition a recess or "birdmouth" 3 is formed adapted to receive the similarly bevelled edge of a third slab. By constructing the edges in this manner not only will each slab be held in place immediately when it is bedded in position but it will also be retained vertically by the two adjoining slabs by reason of the birdmouth recess 3 before mentioned.

Preferably each slab 1 is formed during manufacture with one or more recesses 4 in its edges so disposed that when the slabs are juxtaposed said recesses will register (see Figure 3) and these recesses are utilized as a means of effecting the bending of the slabs together at the vertical joints. To this end appropriate vertical centering 5 (Figure 5) is arranged across the angles of the cells and secured in position by metallic

wire or rod 6 which passes through the centering and through the aforesaid recesses 4 or alternatively through holes 7 (Figure 3) drilled in the slabs. Fat concrete 8 is then poured between the centering 5 and slabs 1 which when set forms fillets and securely bonds the slabs together and makes a tight joint between them. The wires 6 are then cut at the points 9 (Figure 5) and the centering 5 removed.

In the slightly modified form of vertical joint illustrated in Figure 6 the vertical edges of the slabs are bevelled in the opposite direction to that shown in the other figures of the drawing that is to say each vertical edge forms in itself a "birdmouth" recess so that when three slabs are arranged in juxtaposed position a key 10 may be inserted and fat concrete or cement poured around it to bond all firmly together.

I claim:

1. An hexagonal cellular structure comprising concrete or like slabs, oppositely bevelled vertical edges on said slabs the vertical edges of one slab when arranged in juxtaposition to the vertical edges of another slab forming with said vertical edges a recess to receive the vertical edges of a third slab, and a recess in the vertical edges of each slab.

2. An hexagonal cellular structure comprising concrete or like slabs, vertical edges thereon oppositely bevelled at an angle of 120° the vertical edges of one slab when arranged in juxtaposition to the vertical edges of another slab forming with said vertical edegs a recess to receive the vertical edges of a third slab and a recess in the vertical edges of each slab.

3. An hexagonal cellular structure comprising a series of vertically arranged slabs, oppositely bevelled vertical edges on said slabs, a recess in each of said slabs, a second series of vertically arranged slabs oppositely bevelled vertical edges on said slabs one vertical edge of said series being arranged in juxtaposition to one vertical edge of said first series of slabs, a recess in each of said second series of slabs, a third vertical series of slabs, oppositely bevelled vertical edges on said slabs, one of said vertical edges being arranged in juxtaposition to a vertical edge of said first series of slabs, and the other vertical edge of said third series of slabs being arranged in juxtaposition to a vertical edge of said second series of slabs, a recess in each of said slabs, the recesses in the slabs registering with each other and a filling of concrete in said recesses.

4. An hexegonal cellular structure comprising a series of vertically arranged slabs vertical edges on said slabs oppositely bevelled at an angle of 120° a recess in each of said slabs, a second series of vertically arranged slabs vertical edges on said slabs oppositely bevelled at an angle of 120° one vertical edge of said series being arranged in juxtaposition to a vertical edge in said first series, a recess in each of said series of slabs, a third vertical series of slabs, vertical edges on said slabs oppositely bevelled at an angle of 120° one of said vertical edges being arranged in juxtaposition to a vertical edge of said first series of slabs, and the other vertical edge of said series being arranged in juxtaposition to a vertical edge of said second series of slabs, a recess in each of said third series of slabs the recesses in the slabs registering with each other and a filling of concrete in said recesses.

Signed at London, England, this 23rd day of May, A. D. 1919.

FRANCIS GASCOIGNE LYNDE.