J. E. CONZELMAN.

CONCRETE CONSTRUCTION.

APPLICATION FILED APR. 29, 1909. RENEWED APR. 18, 1910.

962,699. Patented June 28, 1910.

Fig. 1.

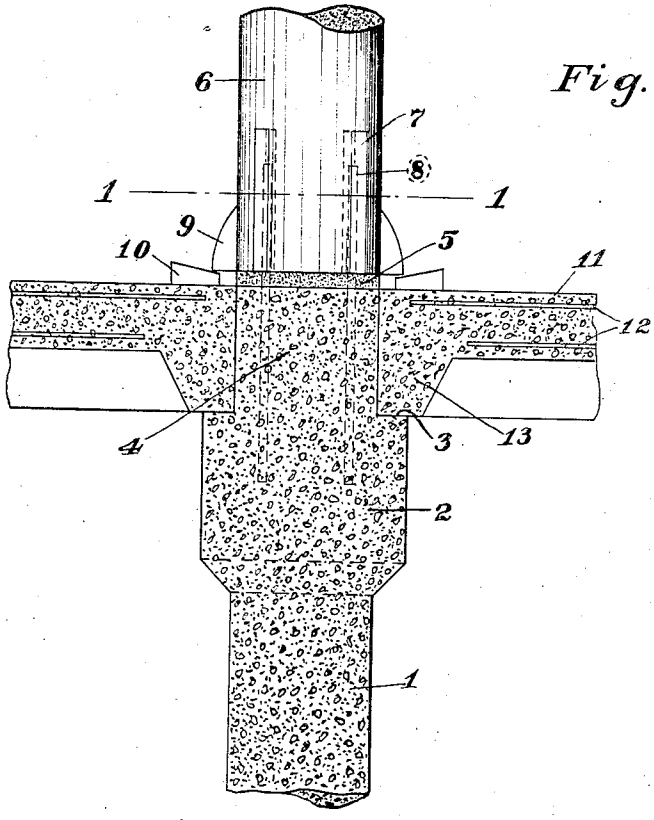
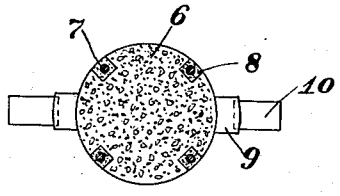


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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CONCRETE CONSTRUCTION

962,699. Specification of Letters Patent. **Patented June 28, 1910.**

Original application filed January 9, 1909, Serial No. 471,431. Divided and this application filed April 29, 1909, Serial No. 492,863. Renewed April 18, 1910. Serial No. 556,289.

To all whom it may concern:

Be it known that I, JOHN E. CONZELMAN, a citizen of the United States, residing at the city of St. Louis, State of Missouri, have invented certain new and useful Improvements in Concrete Construction, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to concrete building structures and particularly pertains to a construction in which superposed columns are joined to form a rigid and secure structure, and horizontal floor and ceiling members are used and are supported at the junction points of said columns.

It is the object of this invention to provide a structure of concrete building elements which coöperate and are interengaged to form a rigid, secure and lasting jointure of said elements.

It is also an object to provide a concrete building structure in which the general construction of the coöperating uprights and horizontal elements is generally improved, to present a neat appearance as well as to prove of strong and durable nature.

This invention consists in a modification of the concrete structure that forms the subject-matter of my copending application for patent, Serial No. 471,431, filed January 9, 1909.

In the drawings forming part of this specification in which like numbers of reference denote like parts wherever they occur, Figure 1 is a sectional view showing the union of two concrete columns and slabs; and Fig. 2 is a sectional view on line 1—1, Fig. 1.

Referring more particularly to said drawings, column 1 is surmounted by a cap 2, which is provided with shoulder 3 and stud 4. On the top of stud 4 a mortar bed 5 is formed which unites column 1 and column 6, the latter of which is superimposed thereon. In the base portion of column 6 grooves or notches 7 are adapted to receive rods 8, which are fastened in said grooves or notches by concrete poured therein, and which, also, pass through the mortar joint 5, and are embedded in the concrete of stud 4 of cap 2. Radial lugs or projections 9, extend outwardly from the base of column 6. The insertion of wedges 10 under said lugs 9 and resting on slab 11 enables the setting of column 6 at precisely the right height. For instance, in order to make column 6 reach to exactly the right height, it is necessary that rods 8, already fixed in stud 4, shall be in such relation to grooves 7 as will allow said column to reach to the greatest desired height. Said rods can not be drawn down out of stud 4, but can be drawn down in said grooves, and this is done by forcing wedges 10 under lugs 9, thereby forcing column 6 upward, and thus, also, drawing said grooves away from rods 8 embedded in such manner as to leave a larger space in each of said grooves unoccupied than before column 6 was wedged upward.

Slab 11, is one of the horizontal members comprising the ceilings and the floors and comprises a concrete panel having the flanges 13 which are adapted to rest on shoulder 3, and abut against the stud 4. Said slab 11 is reinforced by longitudinal reinforcing rods 12 which are embedded therein below the top and bottom surfaces of the slabs.

Having thus described my said invention, what I claim and desire to secure by Letters-Patent is:

1. A concrete construction comprising a pair of columns, one of the same being superimposed upon the other and containing grooves, a slab supported by the other column, said first-mentioned column bearing lugs, tie-rods embedded in said grooves and in said other column, said superimposed column being adapted to be adjusted vertically by said lugs to adjust said superimposed column above the other.

2. A concrete construction comprising a pair of columns, one of the same being superimposed upon the other and containing grooves, a slab supported by the other column, said first-mentioned column bearing lugs, tie-rods embedded in said grooves and in said other column, the said lugs being adapted to coöperate with a lifting means to adjust said superimposed column vertically.

3. A concrete construction comprising a pair of columns, one of the same being superimposed upon the other and containing grooves, a slab supported by the other column, said first-mentioned column bearing lugs, tie-rods embedded in said grooves and in said other column, said lugs being adapt-

ed to coöperate with a lifting means to adjust said superimposed column above the other, there being a mortar-bed between said columns.

4. A concrete construction, comprising in combination, a column, having a surrounding cap formed around its upper end below the top thereof, a slab supported upon said cap, a column superposed above said first column, and having radial projections, and means for bonding said columns end to end, said radial projections being adapted to cooperate with a lifting means whereby to adjust said superposed column vertically.

5. A concrete construction, comprising in combination, a column, having a surrounding cap formed around its upper end below the top thereof, a slab supported upon said cap, a column superposed above said first column, and having radial projections, and means for bonding said columns end to end, said radial projections being adapted to receive a lifting means between said radial projections and said slab to vertically adjust said superposed column.

In testimony whereof I have affixed my signature in presence of two witnesses.

JOHN E. CONZELMAN.

Witnesses:
GEO. G. ANDERSON,
GLADYS WALTON.