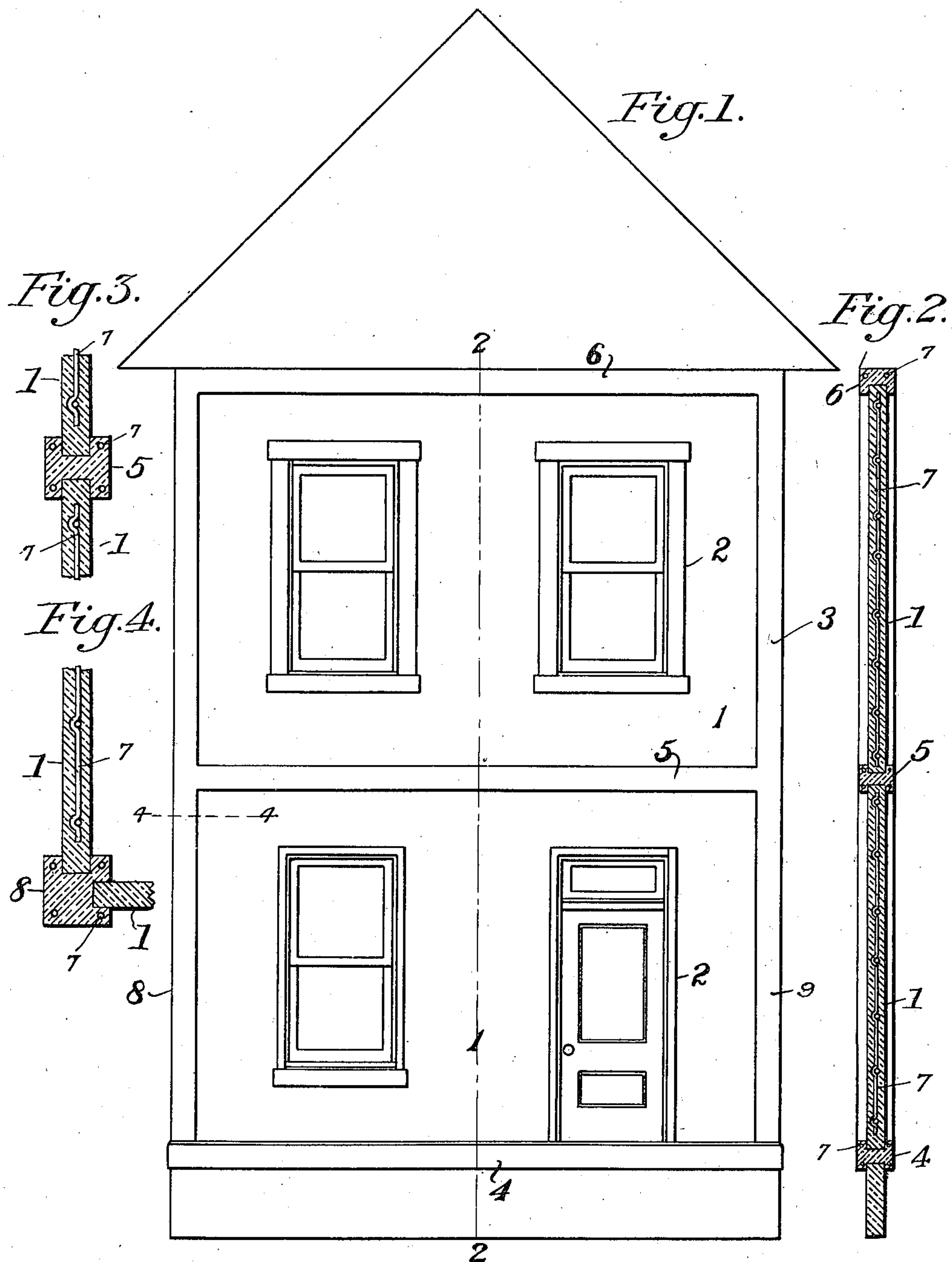


D. J. ANDREW.
 CONCRETE BUILDING AND METHOD OF MAKING THE SAME.
 APPLICATION FILED JUNE 24, 1908.

983,597.

Patented Feb. 7, 1911



WITNESSES

Alice Ackroyd
W. L. Gilman

INVENTOR

David J. Andrew
By his Attorneys
Phillips Van Orsdel Fish

UNITED STATES PATENT OFFICE.

DAVID J. ANDREW, OF LAWRENCE, MASSACHUSETTS.

CONCRETE BUILDING AND METHOD OF MAKING THE SAME.

983,597.

Specification of Letters Patent.

Patented Feb. 7, 1911.

Application filed June 24, 1908. Serial No. 440,114.

To all whom it may concern:

Be it known that I, DAVID J. ANDREW, a citizen of the United States, residing at Lawrence, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Concrete Buildings and Methods of Making the Same; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to concrete buildings and to an improved method of erecting such structures.

Prior to the present invention it has been proposed to erect what is known in the art as a "reinforced concrete" building by constructing temporary wooden frames or molds for the various parts of such buildings which are to be made of concrete, and to progressively, as the building advances in height, deliver into such molds the concrete mixture which surrounds and incloses the reinforcing metallic bars placed in position in said molds, and after the concrete mixture has set sufficiently, the frames or molds are removed and this process is progressively advanced until the reinforced concrete structure has attained its desired height. It has further been proposed to erect a building, such as a dwelling house, in such a manner as to produce when completed a monolithic concrete structure, and it has been suggested that this could be done by providing suitable metal molds which could be set up at the location of the proposed building and the concrete mixture poured into such molds in a semi-liquid form and allowed to set while protected and inclosed by the molds for a sufficient length of time to harden, after which the molds are to be removed, leaving the building in a practically complete state with the exception of the finish. The first method has been found to be objectionable by reason of its comparatively slow and costly procedure, and by reason of the large waste of material in both molds and structure, a large amount of material being employed in the structure unrequired to support it or to resist the elements. With regard to the second method proposed of molding or casting a monolithic building in its entirety, the cost of the molds renders the use of the method unadapted to any purpose except the erection of a large number of

houses or structures of identical design. There is a constantly increasing demand, however, for concrete buildings and more particularly for concrete dwellings, and it is with the object of producing such buildings of individual design in an expeditious manner, at small expense, and of greatly reduced quantity of materials of construction, that I have produced my present invention.

To the above ends my invention consists of a concrete building and the method of constructing the same which will be hereinafter set forth and claimed.

The invention further consists of the improved monolithic section or panel for concrete buildings which will be hereinafter described and claimed.

My invention is illustrated in the accompanying drawings in which:

Figure 1 shows a front elevation of a dwelling house embodying the same. Fig. 2 is a section taken on line 2, 2 of Fig. 1; Fig. 3 is an enlarged view of the central portion of Fig. 2, and Fig. 4 is a section taken on line 4, 4 of Fig. 1.

In carrying out my invention I cast or mold of any suitable concrete mixture the panels 1 which may be of any desired size, shape or thickness. Preferably the sections or panels 1 will be of a size to form a considerable part of the walls of the building to be erected, and as shown in the drawing they are of a size to extend entirely across the building from side to side and of a height corresponding to the height between the floors or stories of the building.

In the process of casting or molding, the panels 1 will be provided with suitable openings 2 for the windows and doors. The sections or panels 1 it will be understood are cast or molded previous to beginning the erection of the building, and are allowed to set a sufficient length of time to permit their removal from the molds and their handling in the course of constructing the building, and they are held in place and supported in the wall of the building by means of a cast or a molded monolithic frame or casing indicated in a general way by the reference character 3, which as shown in Fig. 1 of the drawing, entirely surrounds the outer edges of the sections or panels 1 and comprises the sill 4, the belt course 5, and the cornice and plate 6 extending between and connecting the corner posts 8 and 9, which frame is cast

or molded in position in the house or building and about the edges of the previously molded and erected sections or panels.

Briefly then my invention may be said to consist of the employment of previously molded sections or panels set in position in the wall of the building and secured therein by a surrounding and inclosing supporting frame of concrete material cast or molded in place during the construction of the building.

The sections or panels 1 are made of any usual or preferred concrete or plastic mixture and they are strengthened by having embedded therein any usual or preferred form of metallic reinforcement such as the wires or rods 7.

In casting or molding the surrounding and inclosing frame 3, suitable metallic reinforcing rods 7 will be incorporated therein. In the erection of the building, the sill 4 will be molded or cast in position in the structure and will be provided along its upper edge with a rabbeted recess into which the lower edge of the lower section 1 will be embedded.

The house will consist of the previously cast or molded sections inclosed by the cast or molded retaining frame which when set forms practically a monolithic structure.

The word panel as used in the claims is intended to define any form of section of whatever shape or design adapted to be united to other panels of the same or different shape by a cast or molded frame.

The expression concrete, as herein employed, is intended to include any form of plastic material which is capable of being cast or molded and thereafter becomes solid and strong.

Having thus described the invention what is claimed is:—

1. The method of constructing the walls of concrete buildings which consists in mold-

ing or casting a suitable number of concrete panels and allowing them to harden, each of said panels being of suitable width and of a height substantially equal to the distance between the floors of the building desired, arranging a plurality of said panels in their final position to inclose the first floor, casting a sill at the base of said panels and casting vertical posts connecting adjacent panels, then placing a second series of panels above said first floor panels, to inclose the second floor, casting a belt course around the adjacent edges of the first and second floor panels and casting vertical posts connecting adjacent panels of said second floor course, continuing said operation until walls of the desired height are produced, then casting a cornice on the top edges of the upper series of panels, said sill, vertical posts, belt courses and cornice being so cast as to form a monolithic frame for said panels.

2. The method of constructing the walls of concrete buildings which consists in molding or casting a suitable number of concrete panels and allowing them to harden, each of said panels being of suitable width and of a height substantially equal to the distance between the floors of the building desired, arranging a plurality of said panels in their final position to inclose the first floor, casting a sill at the base of said panels, casting vertical posts connecting adjacent panels, and casting a belt course girder section which embraces the upper edges of said panels, said sill, vertical posts and belt course girder section being so cast as to form a monolithic frame which entirely surrounds each panel.

In testimony whereof I affix my signature, in presence of two witnesses.

DAVID J. ANDREW.

Witnesses:

HORACE VAN EVEREN,
ALICE ACKROYD.