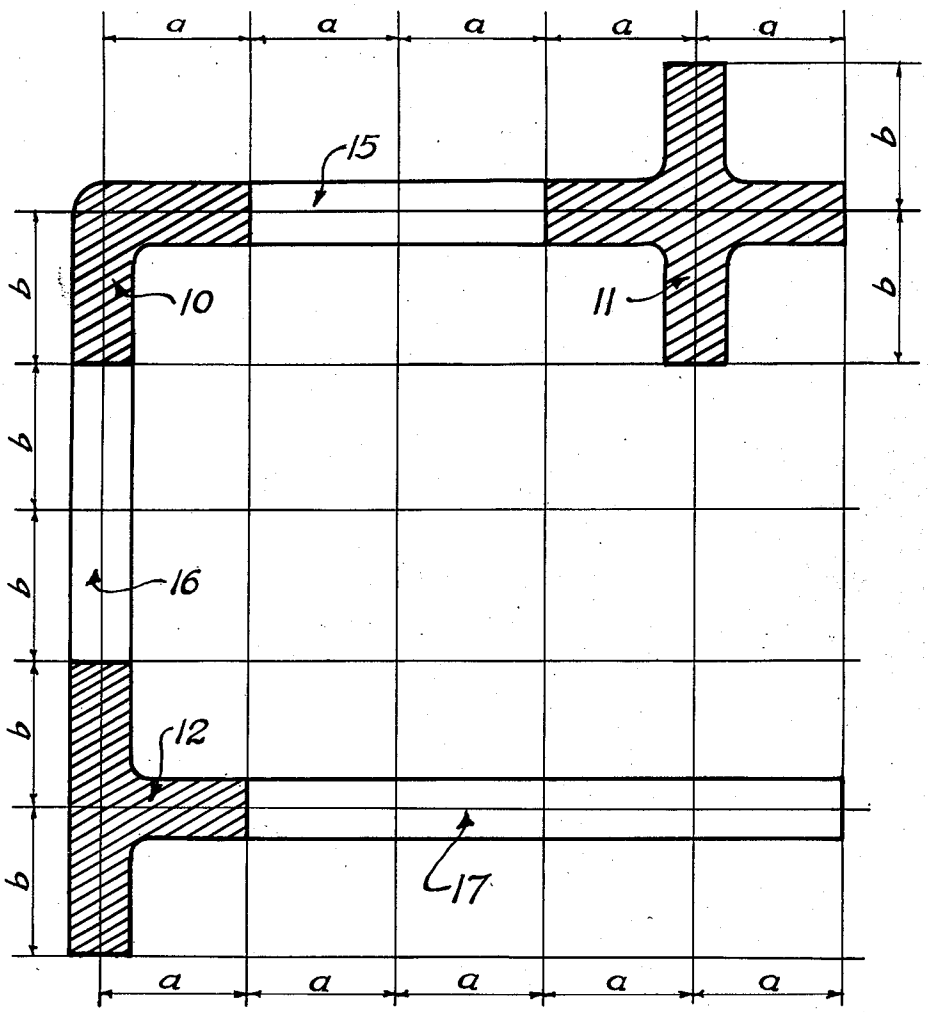
Oct. 22, 1940. M. N. EGOROFF 2,218,694

BUILDING CONSTRUCTION

Filed July 3, 1936




Inventor
MSTISLAV N. EGOROFF
by his Attorney,
Simon Broder

Patented Oct. 22, 1940 2,218,694

# UNITED STATES PATENT OFFICE

2,218,694

## BUILDING CONSTRUCTION

Mstislav N. Egoroff, Chevy Chase, Md.

Application July 3, 1936, Serial No. 88,773

2 Claims. (Cl. 20—1)

(Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757)

The invention described herein, if patented, may be manufactured and used by or for the United States, for governmental purposes, without the payment of any royalty thereon.

Heretofore, in building construction, particularly as practiced in the construction of wood houses, the usual procedure has been, first, to lay a foundation of brick or concrete or stone or similar heavy material, and then to support the framework of the house on this foundation. The framework comprises columns, joists, beams, framing girders, and similar members, and these are designed to support the weight of the superstructure and the probable loading.

In the construction of wood houses, the skeleton or framework comprises vertically extending columns or studs and horizontally extending beams or joists. These members must be of the proper dimensions to support their own weight, the weight of the accompanying lath, plaster, woodwork and other parts of the structure, and also the weight due to the live load. Usually, the bearing members are fitted empirically by the workmen on the site, and the accompanying dead-load members like the covering, filling, and fireproof material are then cut to match these supporting members. It will be appreciated that this procedure is time-consuming, inefficient, and expensive.

The primary object of my invention is to improve this method of constructing houses, and it proposes to erect a house through the instrumentality of a plurality of similar structural elements which I designate as panels or modules. These panels or modules are designed to bear the proportionate share of the weight and loading of the completed structure, in contradistinction to the former method of first erecting a frame or skeleton which alone bears the weight and thereafter adding thereto the filling or non-weight-bearing members.

An essential feature of my invention resides in the fact that my panels may all, or substantially all, be made of the same dimensions, or multiples thereof, both for exterior and for interior use. The variations in size due to outside corners and internal partitions are compensated by joining or connecting members which I here designate as fittings. With a sufficient number of such fittings, I may proceed with the erection of houses which differ from one another merely in multiples of a panel. It will be obvious that such procedure will result in a minimum of handwork at the site. It is understood, of course, that these panels or the fittings, or both, may be of any material suitable for building construction, the principles of my invention being applicable irrespective of its nature.

The panels which are used in my building system are of predetermined widths, lengths, and thicknesses, the last mentioned dimension depending primarily on the kind of material and the degree of protection desired. For example, steel panels may have a thickness of the order of $\frac{1}{16}$ inch, whereas wood panels may be $\frac{3}{4}$ inch thick or more, and concrete panels may be more than 3 inches thick. The length and width will be such as to permit ease of handling, though I prefer to make the length between 8 and 9 feet to correspond with the height of one story. The ends of the panels, to interdigitate with the appropriate fittings, contain grooves, or sleeves, or tongues, or splines, or any combination thereof. Preferably, to reduce the cost of manufacture and to permit ease of handling, I groove the ends of the panels and provide the fittings with tongues to mate therewith.

If desired, the floors, ceilings, and roof of the structure may be constructed similarly, the main requirement being appropriate fittings.

Other advantages will appear to those skilled in the art as the specification proceeds.

The accompanying drawing illustrates some features of my invention, although it is understood that these embodiments are illustrative and not limitative, and that variations may be made in size, proportion, and other details, without departing from the spirit of the invention. The figure illustrates in schematic form one way of carrying out my invention, some of the elements being shown in section for the sake of simplicity.

With reference to the drawing, I show a partial horizontal view of a structure embodying my invention. A corner or L-fitting is shown at 10, a cross or X-fitting at 11, and a partition or T-fitting at 12.

With particular reference to the L or corner-fitting, the length of the fitting, measured from the center line to the end, is represented by *a*. This distance *a* is equal to the distance *b*, which represents the width of the fitting. This distance *a* or *b* will be the basic or unit dimension used throughout my system.

The cross or X-partition 11 is constructed on the same basic dimension *a* or *b*, or on multiples thereof. The total length of this fitting is equal to $2a$, and the total width is equal to $2b$.

The T-fitting, as represented, has a total width of $2b$ and a length of *a*.

The panels of my structure are represented at

15, 16, and 17. The total length of the panel 15 is equal to $2a$; the total length of the panel 16 is equal to $2b$; and the total length of the panel 17 is equal to $4a$.

It will be apparent that the panels or the fittings or both may have dimensions which are multiples of the basic unit $a$ or $b$. For example, the corner or L-fitting 10 may be twice as long as it is wide, or the partition or T-fitting 12 may have a dimension two or more times that shown, or the panels may be longer.

With this arrangement I can erect a structure of any dimension which is a multiple of my basic unit $a$ or $b$ without going to the trouble and expense of cutting or forming the various members. I am enabled to construct buildings with the use of unskilled labor and in a very short time. The benefits of this system will be apparent to those who have engaged in construction work.

Another advantage of my system resides in the fact that in the use of my corner or L-partition 10, the contiguous panels 15 and 16 may be joined thereto at a distance from the actual corner which is equal to the unit distance $a$ or $b$. In other words, I may join the panel 15, for example, to the member 10 along a line or a plane. Heretofore, in joining two members at a corner it has been necessary to align both members with nicety in two planes perpendicular to each other, in order to have the edges of the members in contact. In my system, once the member 10 has been positioned, it is relatively easy to join its adjoining panels 15 and 16 thereto.

If it is desired, for some reason or other, not to use the basic dimension for all members, it will still be advantageous to employ the type of fitting shown and described herein in order to obtain ease of erection and of joining.

There are many ways of effecting the union of two adjoining members. This may be done by the use of the grooves, or sleeves, or tongues, or splines, as already indicated, or any other means may be employed, such being known to those skilled in the art.

It is obvious, of course, that one panel may be joined to another panel, or that one fitting may be joined to another fitting, where this is necessary or desirable in the structure.

Having now described my invention, what I now claim as new and desire to secure by Letters Patent is:

1. A building fitting comprising three projecting portions, two of which are collinear, adapted to mate with other building members of substantially the same thickness as said projecting portions, the distance between the effective ends of the projecting collinear portions being a multiple of the distance between the effective end of the other projecting portion and the centerline of said projecting collinear portions.

2. A building construction comprising panels and fittings, each of the fittings comprising at least two projecting portions adapted to mate with other building members of substantially the same thickness as said projecting portions, the distance between the effective ends of the panels being a multiple of the distance between the effective end of any said projecting portion of a fitting and the center of any other portion noncollinear thereto.

MSTISLAV N. EGOROFF.