

May 29, 1928.

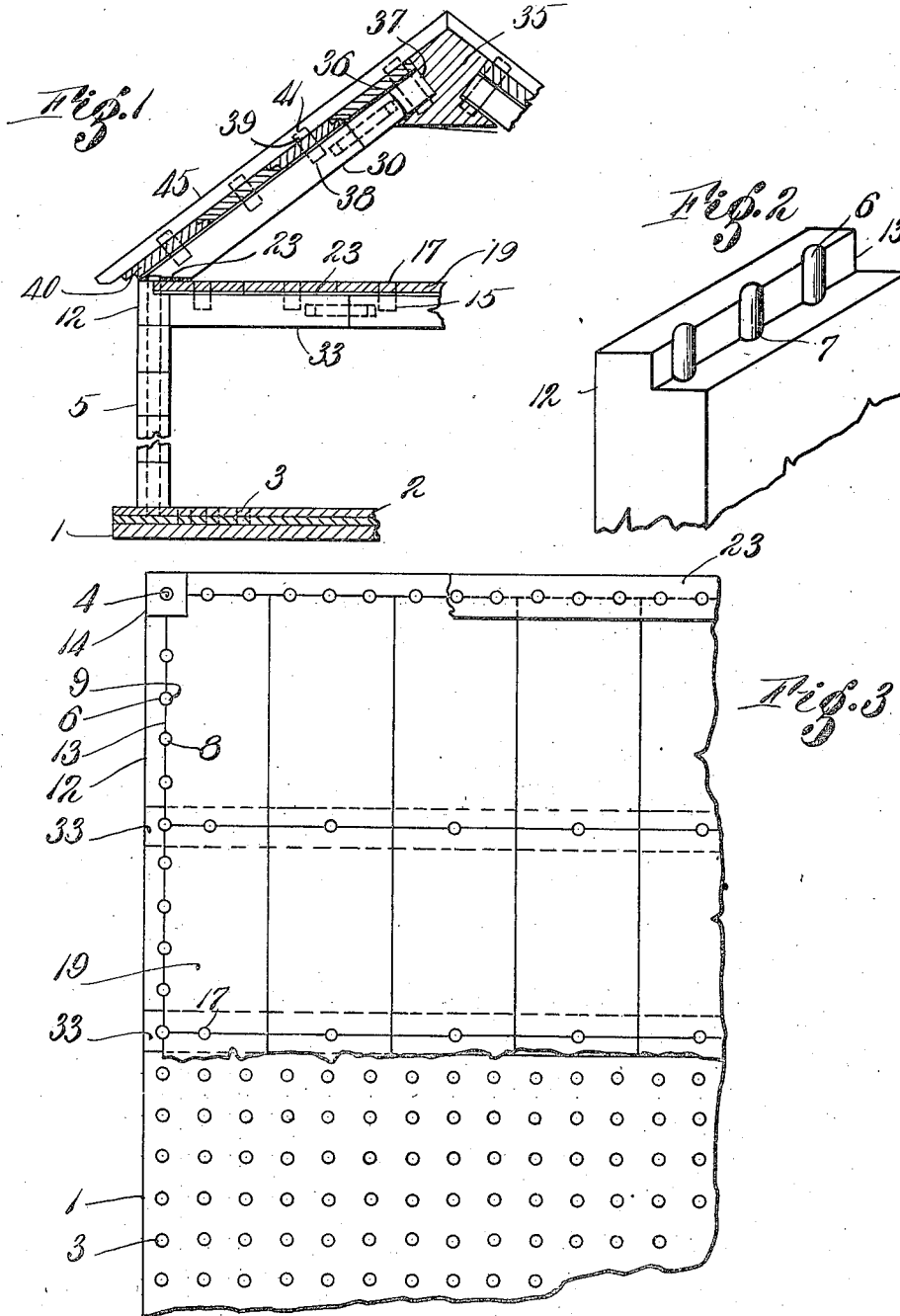
1,671,505

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TOY BUILDING

Filed Dec. 2, 1925

3 Sheets-Sheet 1



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Fig. 4

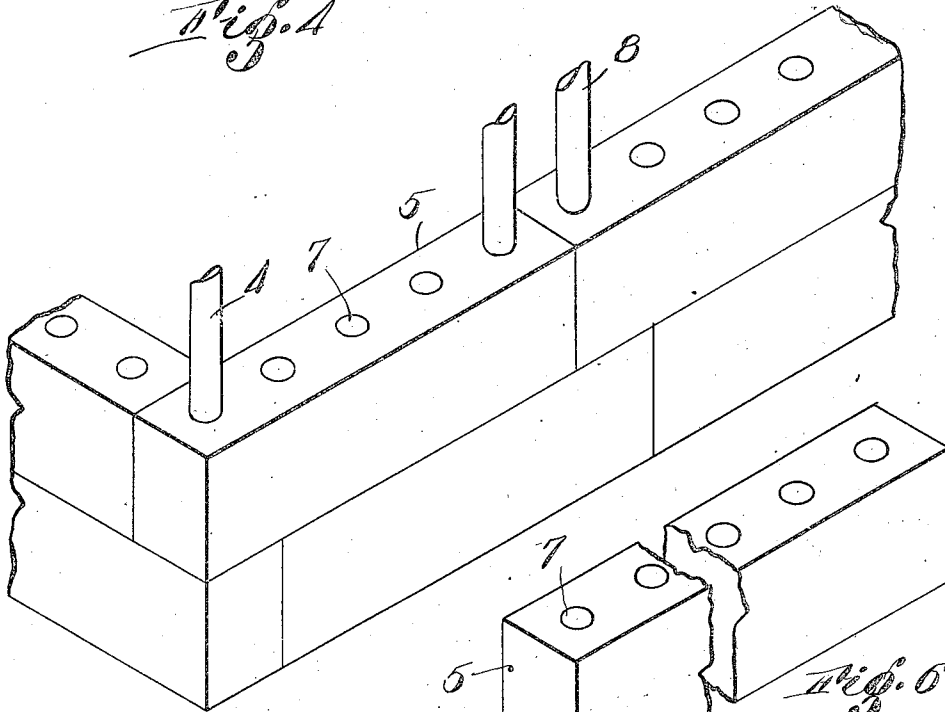


Fig. 5

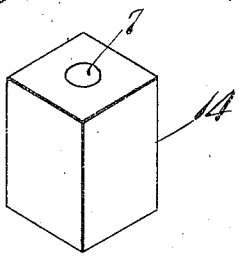


Fig. 6

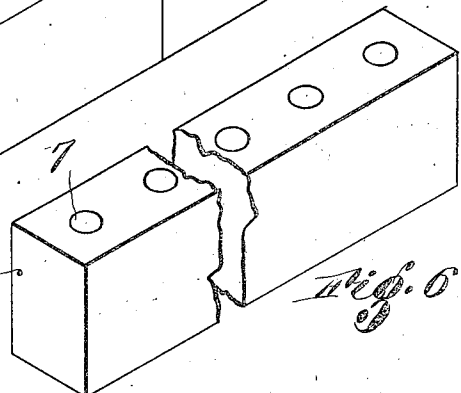


Fig. 7

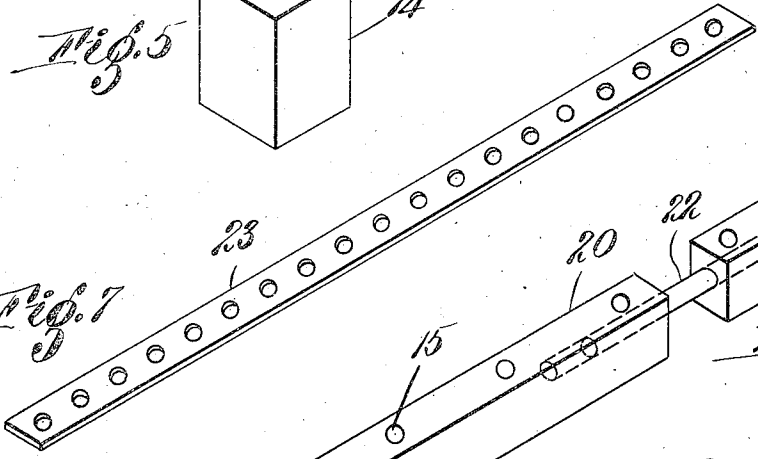
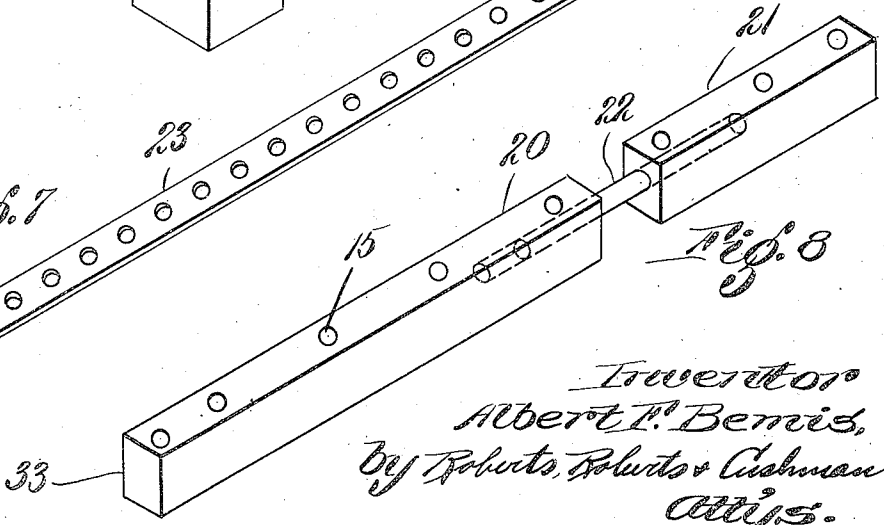


Fig. 8



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3 Sheets-Sheet 3

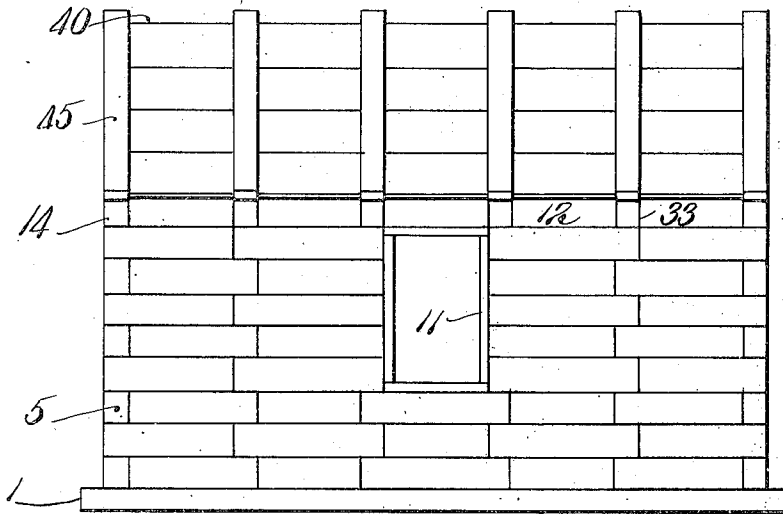


Fig. 9

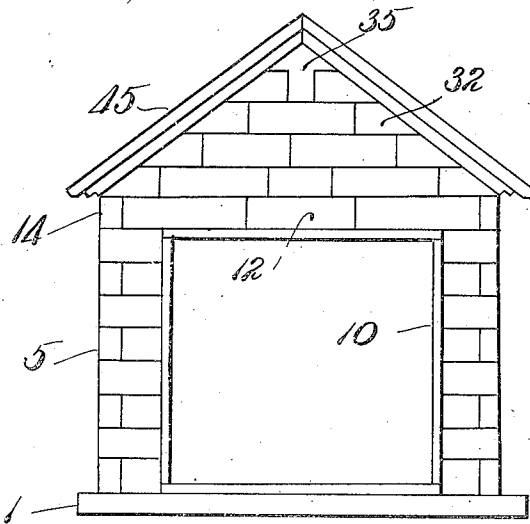


Fig. 10

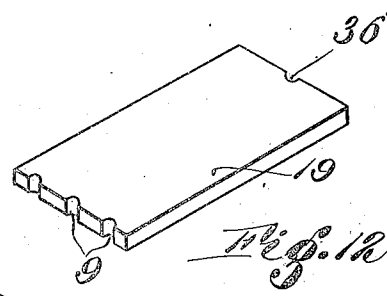


Fig. 12

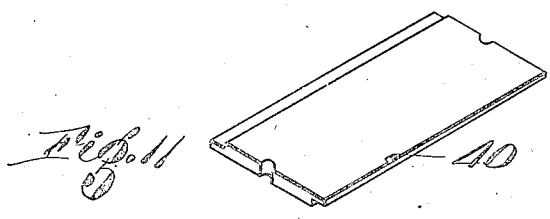


Fig. 11

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UNITED STATES PATENT OFFICE.

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TOY BUILDING.

Application filed December 2, 1925. Serial No. 72,677.

This invention relates to improvements in miniature buildings such as dog houses or houses of the type used for models and displays by architects or builders, but more particularly to toy houses of different sizes and designs.

For this purpose I propose to provide a system of structural blocks or units which may be used with a series of plans having wall outlines printed thereon, and if desired, rugs, floors and other details of furniture or the like. Toy houses built in accordance with my invention may be of a semi-permanent nature and adapted to endure a considerable exposure to the elements, the parts being designed so that they may be bound with cementitious material to render the structure more solid and weather-tight.

A salient feature of the invention is the provision of interchangeable means which may be combined in various ways to permit the erection of houses of different dimensions and shapes, and to suit various floor plans or conceptions of the individual builder. The structural units of my invention are designed to be incorporated in these various plans with little or no necessity for extra or special parts prepared for individual installations.

These and many other objects of the invention will appear to those skilled in the art upon a reading of the description and claims in conjunction with the accompanying drawings.

In the drawings:

Fig. 1 is a vertical section through a wall and a portion of a floor and roof of a toy building;

Fig. 2 is a detail perspective;

Fig. 3 is a plan view of a portion of the floor and base shown in Fig. 1;

Fig. 4 is a perspective view of a portion of a wall assembly;

Figs. 5, 6, 7, and 8 are perspective views of structural components;

Fig. 9 is a side elevation of a completed toy building; and

Fig. 10 is an end elevation of the same; and

Figs. 11 and 12 are perspective views of component parts.

In the construction of a house or other building, in accordance with my invention, a base 1 is first provided to hold courses of blocks at varying locations and distances.

As shown in Fig. 1, this base member includes a solid bottom portion of wood or the like upon which is a layer 2, which may preferably be of laminated wood with the holes 3 therein at modular distances. Holes 3 correspond with the holes 7 which are spaced from each other at modular distances in the building blocks 5 shown in Fig. 4. The blocks are preferably one module in width in each case, and of varying lengths, but the length in each case is a certain definite number of modules. In certain cases the blocks may be only one module in length (Fig. 5), while in other cases they are multiples of this length.

The base 1 constitutes a floor for the toy building and a base for carrying it from place to place; in certain installations, however, base 1 may be omitted and the toy structure built directly upon a floor, table or the like.

To erect a building upon the base 1, ties 4 are set up to mark the corners or intersections of walls. These ties are preferably of a length which will approximate the height of the wall of a toy building and they fit into holes at the ends of blocks set up to define the intersecting walls, blocks in alternate courses of which overlap each other as shown in Figs. 4 and 9. Intermediate the corners the blocks may be assembled in any desired manner, as in broken courses like ordinary brickwork, and they are preferably fastened together by short ties 8, each having a length approximately equal to two courses of blocks. The holes 7 in the blocks have a rough surface and the ties 4 and 8 similarly have rough surfaces, the ties fitting into the holes with a fairly firm fit, but being designed to permit the application of an adhesive, such as plaster of Paris or gypsum, to cement the units rather firmly together when a semi-permanent construction is desired. The door frames 10 and window frames 11 are preformed and are each adapted to be installed in the walls at the desired points.

At the top of each side wall preferably is provided a course of girt blocks 12 which are rabbeted at 13 to engage the edges of floor slabs 19, while similar blocks may or may not be used for the girt course at the ends of the building. Holes in the girt blocks have semi-circular continuations 6 along the side of the rabbets 13, which are adapted to register with semi-circular

notches 9 in floor slabs 19, thus forming recesses for ties 8. Blocks 12 are suitably spaced to permit the interposition of the ends of the floor beams 33 therebetween.

5 The floor beams are preferably one module in width and are provided with holes 15 at suitable intervals of several modules from one another. These holes 15 extend only a portion of the way through the beams 33, as may be seen from Fig. 1, and are interlocked with comparatively short ties 17 extending through the recesses formed by semi-circular notches 36 in the edges of adjoining floor slabs 19. A floor slab of this type is shown more particularly in Fig. 12, certain of the slabs having notches at their sides to engage ties 8 and others having longer sides without notches.

At the corner of the girt course of blocks is disposed a square unit 14, the floor slabs at the corners being suitably notched to engage this block. In order to permit the construction of buildings of different widths the floor beam 33 may be formed of separate parts, as illustrated more particularly in Fig. 8, in which the two similar parts 20 and 21 are shown connected by a tie 22, which is slidably engaged in an opening in the end of one of the members, as member 20, and is firmly inset in the end of the other member. The provision of parts 20, 21 of a few different lengths permits the forming of beams having a wide variety of lengths.

Girt strips 23 of celluloid or thin fibre board are provided with holes spaced to coordinate with the holes in the blocks 12. These strips may be laid along above the girt blocks to tie them firmly together and they may also be placed upon the beams 33 to hold the parts thereof firmly together, the holes in strips 23 being engaged by the ends of ties 8 or 17.

The rafters 30 are quite similar to the floor beams except that their ends are bevelled to fit upon the girt course of blocks and edges of the floor, these bevelled surfaces being recessed to engage ties 4 or 8 extending upwardly from the wall structure. Rafters 30 may be variable in length, in the manner above described with reference to the floor beams, in order to permit the construction of roofs of different dimensions. In order to reduce the number of different parts required to the minimum, I prefer to have the pitch of the roof standardized at one or two different angles. I am thus able to provide sets of blocks 32 with their ends suitably bevelled to fit the lower surface of the roof upon either end of the building and likewise it is necessary to provide only one or two sets of rafters 30. The rafters 30 at their upper ends engage a ridge 35 of the cross-sectional form shown in Fig. 1, which has the inclined surfaces 36 and 37 to engage the bottoms and ends of rafters 30.

The ridge may be solid, or it may be variable in length similarly to the floor beams. If desired, the ends of the ridge may be extended in the form shown in Fig. 10 at the tops of the end walls, or blocks of the form there shown may be used at this point. Holes 38 extending for a portion of the depth of the rafters are provided for engagement with ties 39 which pass through openings formed by registering semi-circular recesses in the roof slabs 40 and into recesses 41 in the outer rafters or rib members 45. The roof slabs 40 are provided with interengaging rabbeted longitudinal edges to provide approximately weather-tight construction for the roof. These slabs are nominally designed to extend between two rafters and the joints between consecutive rows of roof slabs are covered by the rib members 45 which may be variable in length as described above with reference to the floor beams and main rafters, but which preferably are provided in various lengths to suit different sizes of roofs. The upper ends of rib members 45 are bevelled at a suitable angle to enable them to form a firm joint at the ridge of the roof.

If desired to erect a semi-permanent construction of this nature such as a dog house, bird house or the like, such a material as plaster of Paris or gypsum may be applied to the various pegs or ties, to the edges of the roof slabs, and to the rib members etc. to seal the parts firmly together in order to form a semi-permanent weather tight structure.

Obviously the various units which have been described may be combined in a wide variety of ways to provide buildings of various types. If desired, buildings of more than one story may be erected, and additions or modifications such as eels, flat roofs, stairways, chimneys, steps and many other accessories may be readily incorporated in the structure or added thereto to suit the individual wishes and fancies of the user. Paper floor plans to be placed upon the base 1 may be provided with indications of the locations of walls, ties etc. and may have representations of rugs etc. thereon, if desired.

I claim:

1. A system of units for the construction of toy buildings, including a series of blocks having holes therein at modular distances, slabs having semi-circular notches in their edges at modular distances or multiples of the same, beams having holes at distances corresponding to the distances of the notches in the slabs and holes at their ends and pins designed to tie the blocks together and to tie the slabs to the holes in the beams and to tie the ends of the beams to the blocks.

2. In a system of units for the construction

tion of a toy building, or the like, including
a series of blocks adapted to be combined to
provide buildings of different dimensions,
slabs having semi-circular notches at their
5 edges, beams of variable length with holes
spaced to correspond with the notches and
with holes at their ends, pins for engaging
the notches in the slabs and the holes in the
beams, whereby a floor or the like may be
10 provided for buildings of different sizes and
pins for the holes in the ends of the beams
to secure them to walls formed by the blocks.

3. In a system of structural units for a
toy house or the like, rabbeted blocks de-
15 signed to form a girt strip, holes in the
blocks with semi-circular continuations
along the sides of the rabbets, floor slabs en-

gaging in the rabbets, semi-circular notches
in the floor slabs, ties engaging the holes and
the semi-circular notches to hold the slabs 20
and girt blocks together.

4. In a system of structural units for a
toy house or the like, rabbeted blocks de-
signed to form a girt strip, holes in the
blocks with semi-circular continuations 25
along the side of the rabbets, floor slabs en-
gaging in the rabbets, semi-circular notches
in the floor slabs, ties engaging the holes
and the semi-circular notches to hold the
slabs and girt blocks together, and a girt 30
strip engaging the tops of the ties.

Signed by me at Boston, Massachusetts,
this 30th day of October, 1925.

ALBERT F. BEMIS.