No. 855,704. PATENTED JUNE 4, 1907.

D. G. HADLEY.

BUILDING CONSTRUCTION.

APPLICATION FILED FEB. 8, 1907.

3 SHEETS—SHEET 1.

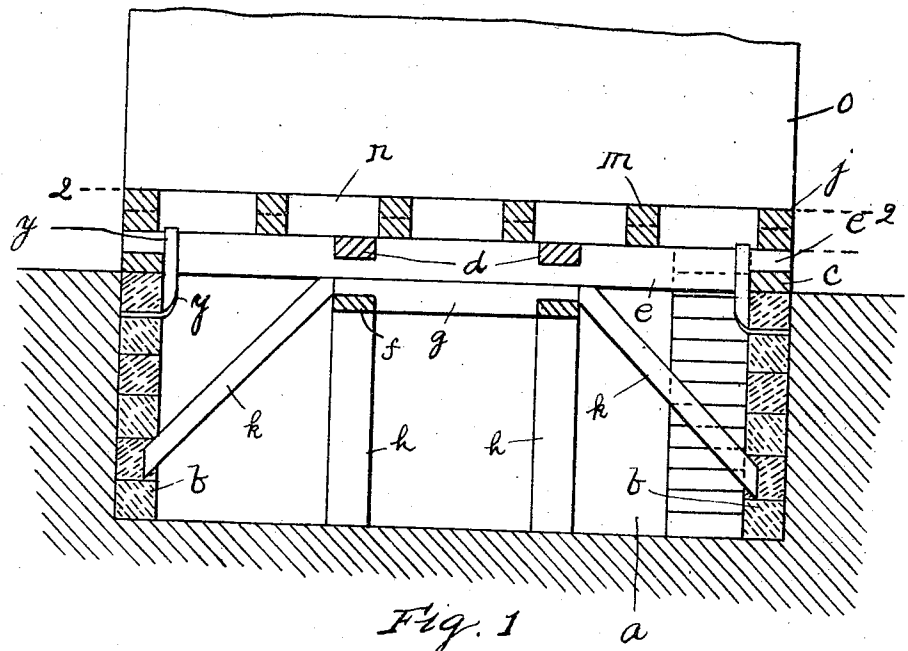

Fig. 1

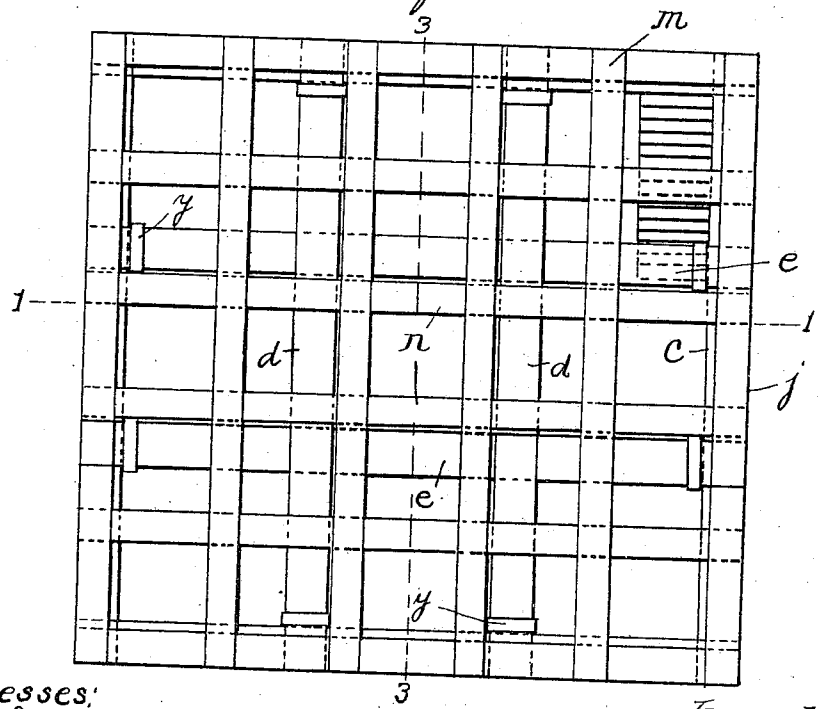

Fig. 2.

Witnesses:
H. B. Davis.
Cynthia Doyle

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3 SHEETS—SHEET 2.

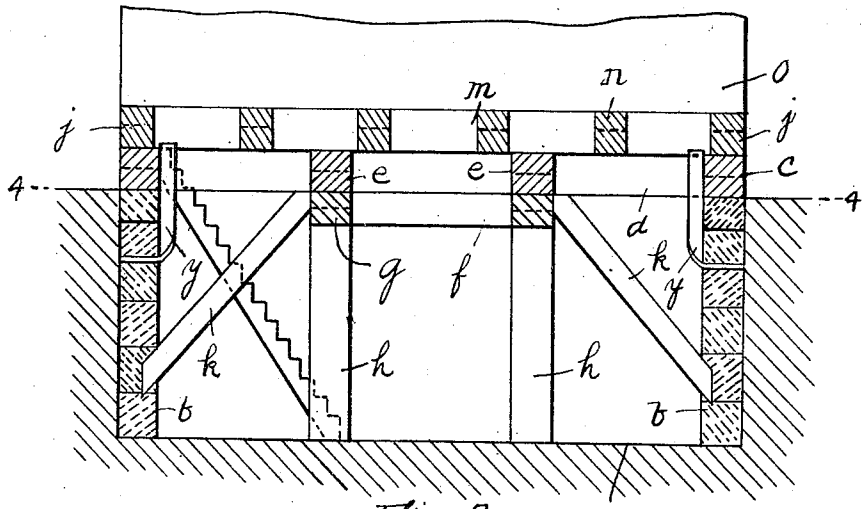

Fig. 3.

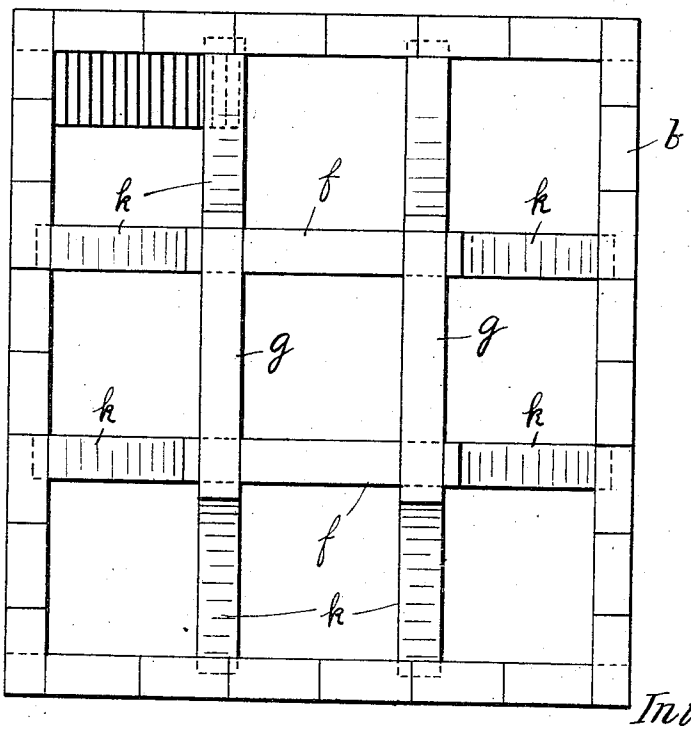

Fig. 4.

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3 SHEETS—SHEET 3.

Fig. 5.

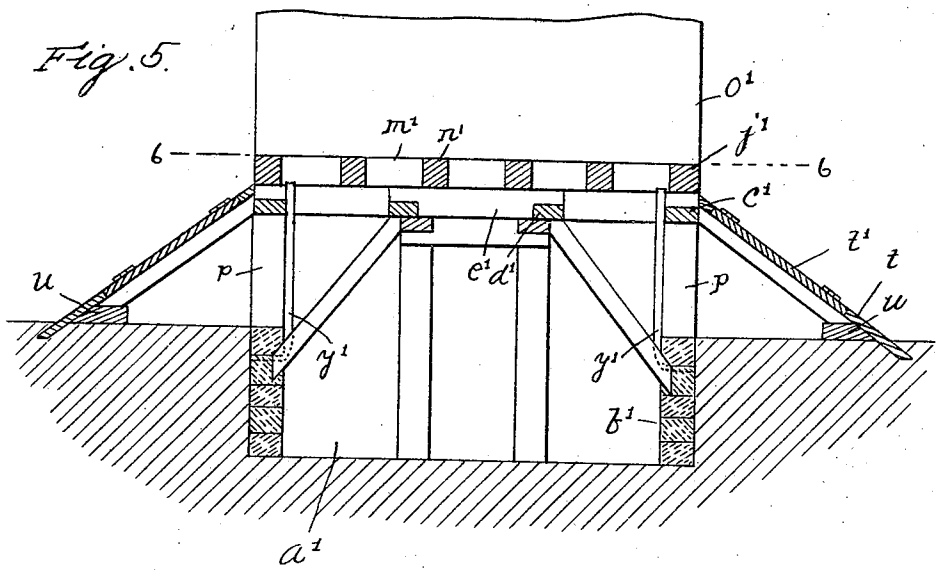
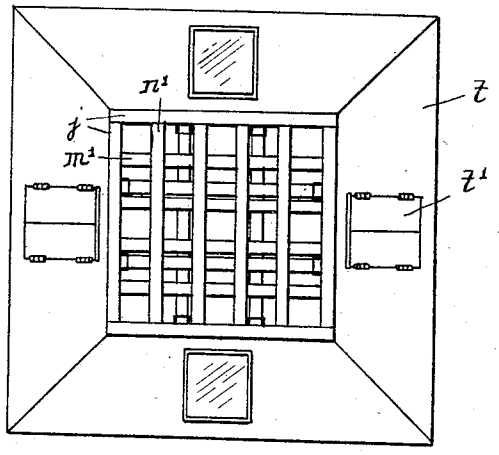


Fig. 6.



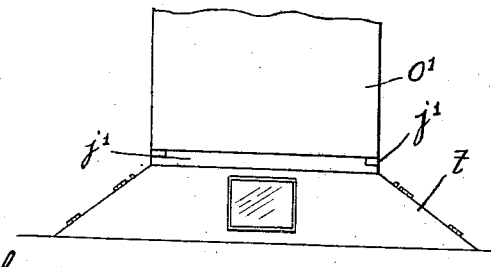


Fig. 7.

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UNITED STATES PATENT OFFICE.

DANA G. HADLEY, OF WEST NEWBURY, MASSACHUSETTS.

BUILDING CONSTRUCTION.

No. 855,704. Specification of Letters Patent. Patented June 4, 1907.

Application filed February 8, 1907. Serial No. 356,475.

To all whom it may concern:

Be it known that I, DANA G. HADLEY, of West Newbury, county of Essex, State of Massachusetts, have invented an Improvement in Building Construction, of which the following description, in connection with the accompanying drawings, is a specification, like characters on the drawings representing like parts.

This invention relates to a construction of building which is especially adapted to be employed in those sections of the country which are subject to cyclones, and winds of sufficient violence to move a house from its foundation.

If a building, as ordinarily constructed, is blown on its foundations to any extent, the whole building is likely to collapse on account of the tearing loose of the supports thereof, and to fall into the cellar. For this reason it is dangerous for a person to take refuge in the cellar of the ordinary building, in case of cyclones or violent wind storms, although it is readily accessible.

The object of my invention is to provide a building construction having an excavation or basement therebeneath in which the occupants of the building may take refuge with safety, so that, in case the building is blown partially or entirely from its foundations, it will not fall into the space below it, and so that the building will, in some instances, remain intact, and may be returned to its original position without being seriously damaged. I accomplish this object by means of the construction shown in the accompanying drawing, in which,

Figure 1 is a central cross section on the line 1—1 of Fig. 2 of a building constructed according to my invention. Fig. 2 is a plan view thereof on the line 2—2 of Fig. 1. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a plan view on the line 4—4, of Fig. 3. Fig. 5 is a sectional view of a modified form of my invention taken at the line 5—5 of Fig. 6. Figs. 6 and 7 are respectively a plan view and a side elevation of said modified form of my invention on a somewhat smaller scale.

As illustrated in Figs. 1 and 4, a cellar or excavation *a* is dug in the ground in the usual manner and is inclosed by the usual foundation walls *b* of brick, stone or similar substance on which the usual sills *c* rest, said sills being connected at their corners by the usual lap joints. A series of cross beams *d* and *e* are provided which are jointed at their ends to the sills *c*, said cross beams running across the cellar at right angles to each other so as to provide a supporting frame, the surface of which is on a level with the surface of the sills *c*, thus forming a frame work support having an approximately level upper surface. For the sake of illustration, only two pairs of cross beams *d* and *e*, extending at right angles to each other, are shown, although obviously the number would vary according to requirements, said beams being securely anchored to the foundation wall by any suitable means, such as stirrups *y*, which pass over the same and have their ends embedded in the wall *b*.

For the purpose of supporting these cross beams *d* and *e* at their middle portions, I preferably provide reinforcing beams *f* and *g*, which are held against the middle portion of the under sides of the cross beams *d* and *e*, respectively, by uprights of piers *h*, as shown in Figs. 1, 3 and 4, said uprights being preferably arranged at the intersections of said cross beams, and the ends of said reinforcing beams and the cross beams are braced and supported by a series of inclined braces *k* which are seated at their lower ends in the cellar walls *b*, and at their upper ends bear against the ends of said reinforcing beams *f* and *g*, and the under sides of said cross beams *d*, *e*.

A frame work, composed of sills *j* and cross beams *m*, *n*, is also provided, the under surface of which is also level, or in an approximately horizontal plane, and rests on the upper surface of the beams *d*, *e* and sills *c*, and on this frame work the building *o* is constructed and supported in the ordinary manner.

With this construction, if the building *o* is moved from its foundation, its supporting frame, composed of the sills and beams *m*, *n*, may merely slide on the foundation frame, composed of the sills *c* and cross beams *d*, *e*, and the latter, in any event, will prevent the building from falling or collapsing into the cellar. As the movement of the upper frame, and the building thereon, will not in any way disturb the lower or foundation frame, or its supports, if the building is only slightly moved from its foundation it may again be moved back in place without injury thereto.

In Figs. 5, 6 and 7 I show a somewhat modified form of my invention, in which the excavation is comparatively shallow, so that the inclosure designed to be used as a place of refuge is built as much above the surface of the ground as below, and can be used for regular occupation. In this construction the excavation a' is surrounded with walls b' of masonry, as in the previously described construction, and then walls p, which may be either of wood or masonry, are built thereon to a suitable height. A foundation frame, similar to the one already described, and composed of sills c' and cross beams d', e', is provided on the top of wall p, and said cross beams and sills are preferably anchored to the masonry b' by stirrups y', in a manner similar to that previously described. A building frame similar to the building frame j, m and n previously described, and composed of sills j' and cross beams m', n', is arranged upon the foundation frame c', d', e' in a manner which will be obvious and a structure o' is built thereon.

To protect the walls p, which extend above the surface of the ground, I provide an inclined wind deflecting shield t which extends obliquely from the upper edge of the sills c' of the foundation frame to the ground on all sides, the lower edges of said shield being anchored by any suitable means, and being preferably embedded, to a suitable extent, in the ground. A series of windows and doorways are preferably provided in the shield and corresponding openings in the wall p are also provided, said openings in the shield being provided with doors t' which may be closed when desired, so that the basement room thus provided is suitable for habitation. With this arrangement the pressure of the wind upon the shield will have an action to press the foundation frame and walls p downwardly, as well as horizontally, so that the horizontal force while being deflected, will act to hold the frame and walls in place.

The structure above the foundation frame may be blown from its foundation, as described, in reference to the other form of my invention, without injury to the basement portion.

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

1. A building construction comprising a foundation frame having a chamber therebeneath, an independent building frame resting on said foundation frame, and a structure supported on said building frame, substantially as described.

2. A building construction comprising a foundation frame having a chamber therebeneath and having its upper surface in approximately the same horizontal plane, a foundation frame having a structure built thereon and having an approximately horizontal bearing surface resting on the surface of said foundation frame, substantially as described.

3. A building construction comprising a foundation inclosing an excavation, a foundation frame anchored thereon, and having a series of cross beams extending over the excavation, the upper surface of said frame being in approximately the same horizontal plane, and an independent building supporting frame resting on said foundation frame and having an approximately horizontal bearing surface to engage the upper surface of said foundation frame, substantially as described.

4. A building construction comprising a foundation inclosing an excavation, a series of sills anchored thereon, a series of cross beams extending over the excavation and connected to said sills, the upper surface of said sills and cross beams being in approximately the same horizontal plane, a series of independent building-supporting sills resting on said foundation sills and having a series of cross beams connected thereto with their under sides approximately in the same horizontal plane, substantially as described.

5. A building having walls extending above the surface of the ground and a wind deflecting shield surrounding said walls and extending obliquely from the upper ends thereof to the ground, said walls and said shield having corresponding openings and said shield having means for closing the openings therein substantially as described.

6. A building having walls extending for a distance above the surface of the ground, a foundation frame secured to the upper ends of said walls, an obliquely disposed wind deflecting shield surrounding said walls, connected at its upper end to said frame and extending to the ground, and an independent structure supported on said foundation frame, substantially as described.

7. A building comprising a foundation frame and means for supporting the same at a suitable distance above the ground, a wind deflecting shield surrounding said frame and extending obliquely therefrom to the ground and an independent structure supported on said frame, substantially as described.

8. A building support comprising a foundation inclosing an excavation having sills thereon, a series of cross beams connected at their ends to said sills and extending at right angles to each other across the excavation and having their upper sides in approximately the same horizontal plane, a series of reinforcing beams arranged beneath the middle portion of said cross beams, a series of uprights arranged at the intersection of said cross beams for supporting said cross beams and said reinforcing beams against the under side thereof, a series of inclined braces engaging the ends of said reinforcing beams at their upper ends and fixed in the foundation

at their lower ends, an independent supporting frame on said sills and cross beams, and a building construction on said frame, substantially as described.

9. A building having the opposite portions of its side wall extending obliquely upward from the ground and toward each other to form continuous wind deflecting sides, said sides having openings leading to the inclosed chamber and wind deflecting means for closing said openings, substantially as described.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

DANA G. HADLEY.

Witnesses:
H. B. DAVIS,
CYNTHIA DOYLE.