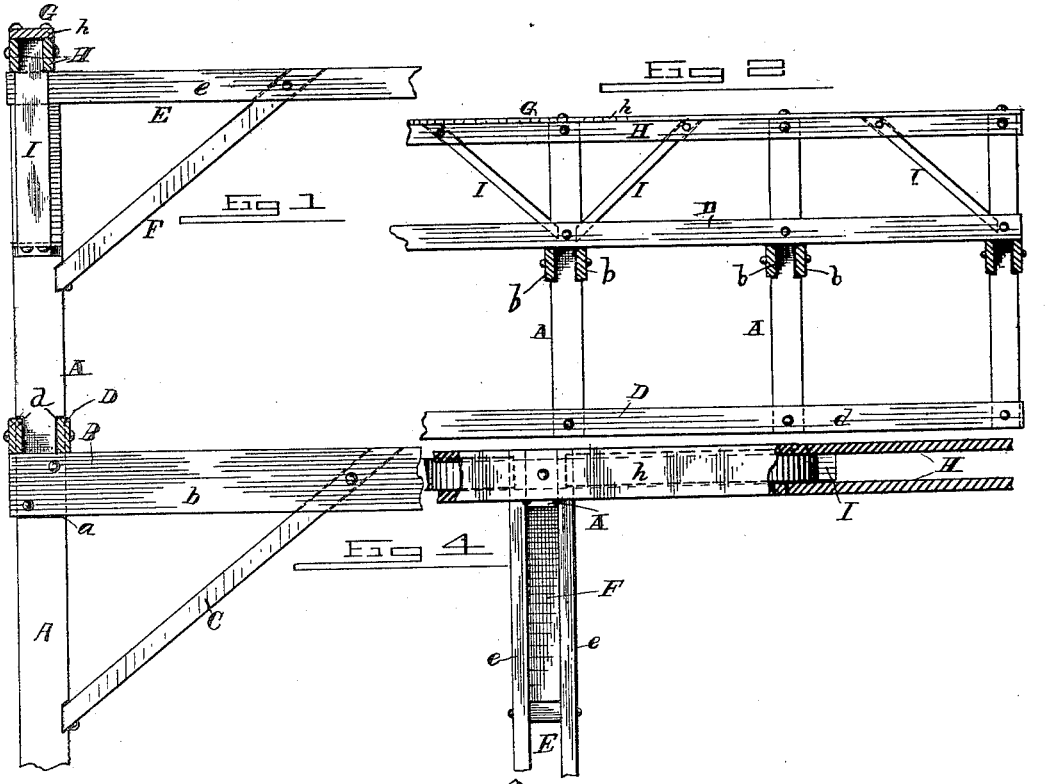
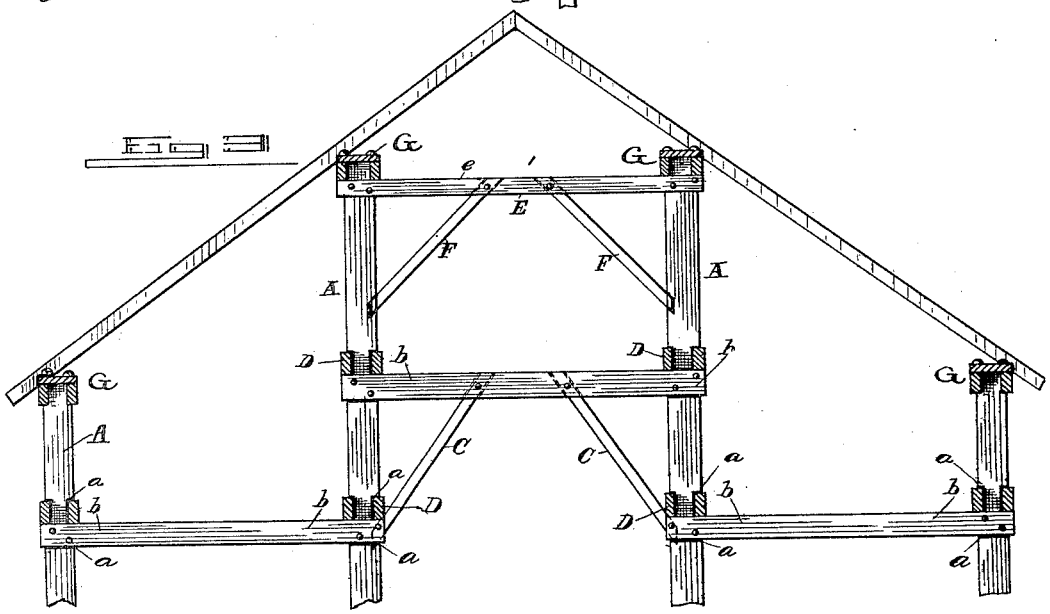
(No Model.)

G. H. MERCER

FRAME HOUSE.

No. 419,056. Patented Jan. 7, 1890.





Witnesses.
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UNITED STATES PATENT OFFICE.

GEORGE H. MERCER, OF BOWLING GREEN, KENTUCKY.

FRAME HOUSE.

SPECIFICATION forming part of Letters Patent No. 419,056, dated January 7, 1890.

Application filed August 22, 1889. Serial No. 321,588. (No model.)

To all whom it may concern:

Be it known that I, GEORGE H. MERCER, of Bowling Green, in the county of Warren and State of Kentucky, have invented certain new and useful Improvements in Frame Buildings; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

This invention is an improvement in buildings, and it has especial reference to the framing of wooden houses, its objects being to construct a framing of small timbers, thereby saving material and expense, and which will be more durable and stronger, also lighter, than the framings as ordinarily made; and to this end the invention consists in the employment of double timbers to form the beams and girders of the framing with suitable braces and fastenings, whereby such timbers are supported and united, all of which will be clearly understood from the following description in connection with the drawings, to which reference is had by letters.

Figure 1 is a detail sectional elevation of a portion of the framing of a building, illustrating the construction of the beams and girders and the manner of bracing the same. Fig. 2 is a vertical sectional view through one side of a framing. Fig. 3 is an end sectional view thereof. Fig. 4 is a detail view.

A designates one of the vertical posts rising from the sill-beam or other suitable support, or planted in the earth. In common buildings this post is of solid timber, and there are others like it at the corners and intermediate points in the plan-line of the building, according to the weight of the superstructure to be upheld thereby.

B designates one of the horizontal joists which support the floor of the first or second story. This joist is formed of parallel planks *b b*, which lie parallel with each other, and with their narrowest edges uppermost, their ends being secured to the beams at the opposite sides of the building by means of bolts or nails, the planks being at opposite sides of the post and their ends resting in rabbets *a* in the sides of post A, as indicated in the drawings.

C designates a brace-piece, its lower end being secured to the inner face of post A, and its upper end lying between and bolted to the planks *b b*, as shown.

D designates a horizontal bar composed of planks *d d*, which are secured to opposite sides of post A above and resting upon planks *b b*, as shown. This bar is to connect adjoining posts A A in the plan-line of the building.

E designates one of the ceiling-joists, composed of planks *e e*, and F is a brace therefor, the joist E and its brace being secured to post A similar to joist B and its brace C, as shown.

G designates the top or wall plate. This is composed of side planks H H, secured to post A similar to bar D, and partly supported on joist E, and *h* is a top plank secured to and covering the space between the planks H H.

I I designate inclined braces springing from opposite sides of post A, their lower ends resting in rabbets in said post, and their upper ends lying between and bolted to planks H H, as shown.

It will be seen that the braces not only support the joists and girders, but that they also serve to separate the members thereof and prevent their springing laterally. The members of the joists and bar, being set edgewise, will sustain a great superimposed weight, and the entire joist or bar is not likely to give way altogether, as one member would yield before the other.

One very important feature of my invention is that I dispense with mortising of the timbers. In place of solid lumber or beams I employ compound lumber for the beams, girders, &c., which saves material, increases strength, and lessens the work of framing, as the members of the compound timbers, being light, can be more readily handled, since the timbers are compounded as they are built into place, not first compounded and then put into position. The space between the members of my compound timbers, in the ordinary framing where solid lumber is employed, is occupied by solid material, which is thus wasted. The braces also, as ordinarily used, must be mortised to the joists and bar. I clamp them

between the members thereof, and thereby mutually strengthen each, whereas mortising always weakens the lumber.

By setting the members of the compound bars parallel and vertically edgewise, as shown, they will support a greater superimposed weight, and are more durable, lighter, and cheaper than solid timbers.

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

The herein-described framing for buildings, comprising a series of vertical posts A A, a series of horizontal joists B, composed of opposite blanks *b b*, arranged vertically edgewise in pairs and resting in rabbets in posts A A, the series of compound bars D, composed of planks *d d*, the top plates G G, composed of opposite parallel planks H H, set vertically edgewise, and horizontal plank *h*, and the inclined braces C C, each having one end secured to one of the posts A and the opposite end clamped between the members of one of the compound bars B, C, or G, whereby the framing is made without mortising, all substantially as and for the purpose described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

GEORGE H. MERCER.

Witnesses:
JOS. G. COVINGTON,
W. W. HENDRIX, Jr.