(No Model.)

J. J. WEAVER.

CONSTRUCTION OF BUILDINGS.

No. 418,598. Patented Dec. 31, 1889.

FIG. 1.

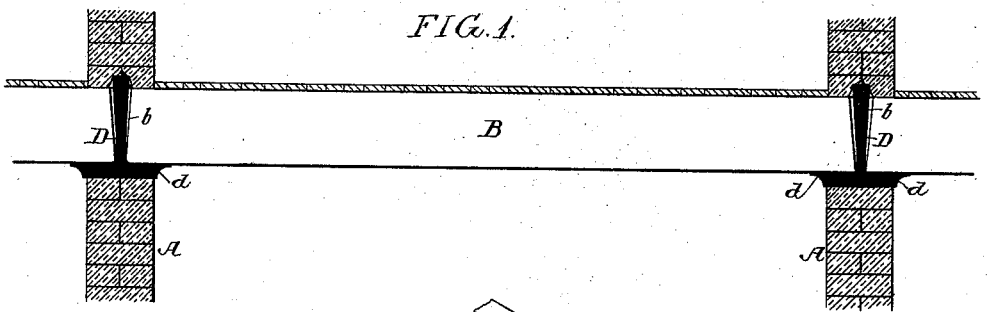


FIG. 2.

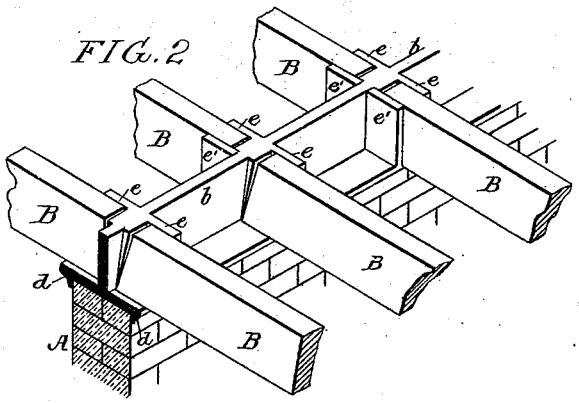


FIG. 3.

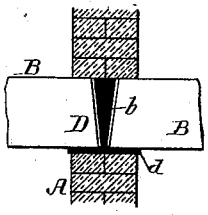


FIG. 5.

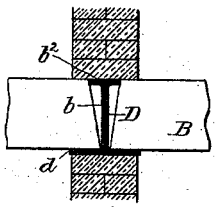


FIG. 4.

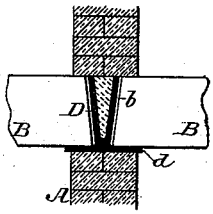


FIG. 6.

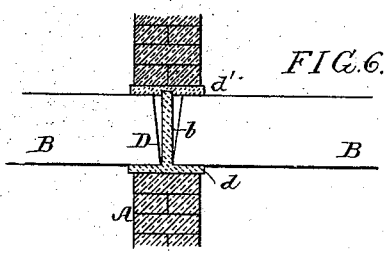
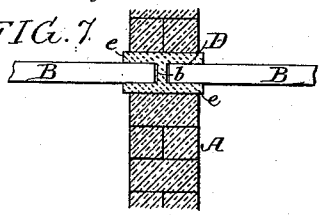


FIG. 7.



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by his Attorneys
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UNITED STATES PATENT OFFICE.

JOHN J. WEAVER, OF PHILADELPHIA, PENNSYLVANIA.

CONSTRUCTION OF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 418,598, dated December 31, 1889.

Application filed July 5, 1887. Serial No. 243,374. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. WEAVER, a citizen of the United States, and a resident of Philadelphia, Pennsylvania, have invented certain Improvements in the Construction of Buildings, of which the following is a specification.

The object of my invention is to protect the joists of one building from igniting by the burning joists of an adjoining building; and this object I attain in the manner fully described hereinafter, reference being had to the accompanying drawings, in which—

Figure 1 is a transverse section of one floor of a building with a portion of the adjoining building, illustrating my invention; and Figs. 2 to 7, inclusive, are views illustrating different forms of joist-protectors constructed in accordance with my invention.

In building rows of houses—such as cheap dwellings—it is a common practice in many cities to build the party-walls of the first story, and then to so place the joists on these walls that the joists of adjoining houses either abut or overlap, the latter plan being resorted to when very thin party-walls are used, in order to give sufficient bearing for the joists. The walls are then carried up to the next story, and the joists placed thereon in the same manner. When a fire occurs in one of a row of houses so built, there is imminent risk of its spreading to adjoining buildings, the fire being communicated from a joist or joists of the building in which the fire started to an abutting or overlapping joist or joists of an adjoining building or buildings, where it can make rapid headway between the floor and ceiling. I protect the joists from this danger in the following manner: The party-walls A being built up, as shown in Fig. 1, to the first floor, I place an inverted T-beam D, preferably of iron, on the top of each wall, as shown in Figs. 1, 2, 3, 4, and 5, this beam having a central vertical web *b* and opposite projecting flanges *d d*. On these flanges *d* are supported the ends of the joists B of adjoining buildings, as shown, the web *b* being interposed between the ends of the joists, and said web may extend slightly above the top of the joists, if desired—as shown, for instance, in Fig. 1—so that when the wall is continued up another story fire can by no possibility be communicated from one building to another through the medium of the joists. The T-beam D not only completely cuts off communication between adjoining buildings along the line of the joists, but it also gives the joists a perfectly even bearing on the wall.

In Figs. 1 and 2 I have shown the flanges *d* of the beam extending beyond the line of the wall, and forming cornices for the rooms below, which cornices may be ornamented in any way desired, this extension of the flanges, moreover, providing considerably more bearing for the joists than the construction shown in Figs. 3, 4, and 5. The use of a T-beam, however, is not necessary to the proper carrying out of my invention. For instance, in Figs. 6 and 7 I have shown a double pocket for the joists, this pocket being preferably of terra cotta, and having the web *b*, the flanges *d*, and side flanges *e e*, and, when the joists are in place, being covered by a cap-piece *d'*.

In all cases where single or double pockets for the joists are used, I prefer to provide them with the side flanges *e*, so as to completely inclose the ends of the joists, as this not only adds to the fire-proof qualities of the structure, but also securely fastens the joists in proper place. The central web *b* of the beam D is made tapering to accord with the bevel of the ends of the joists, and for additional security this web may be made hollow and filled with non-conducting material—as shown in Fig. 4, for instance—and the web may be flanged at the top, as shown in Fig. 5, in order to provide a more extended support for the wall above.

In Fig. 2 I have illustrated a form of beam in which the most desirable features of construction have been combined. The beam is in the form of an inverted T-bar, and its lower flanges *d* are extended slightly beyond the line of the wall and form an ornamental cornice for the ceiling of the room below. At suitable intervals along the beam are formed pockets for the joists, that portion of the web of the beam against which the joist abuts being tapered to accord with the bevel of the end of the joist, and in order to form a more extended support for the brick-work above. One side of each pocket is formed integral

with the body of the beam and the other side e' is removable, so that the joist may be readily put into place.

It will be understood that the partition beams or pockets may be made of any fireproof material that will withstand the strain to which it is subjected.

I claim as my invention—

1. The combination of the wall and joists with a joist-supporting beam constructed with a lower flange to receive the ends of the joists, and a central web having a thickened upper portion to aid in supporting the wall above, substantially as described.

2. The combination of the wall and joists with a joist-protector consisting of a beam provided with a series of pockets covering the ends of the joists, said pockets having two side flanges, one formed integral with the body of the beam and the other being removable for the insertion of the joist, substantially as specified.

3. The combination of the wall and joists with a beam having a joist-protecting web and a joist-supporting flange, the latter extending beyond the line of the wall and forming the cornice for the room below, substantstantially as specified.

4. The combination of the wall and joists with a joist-protector having a web tapering in form and separating the joists of adjoining buildings, substantially as set forth.

5. The combination of the wall and joists with a joist-protector having a hollow web separating the ends of the joists, and having a non-conducting filling, substantially as set forth.

6. The combination of the wall and joists with a joist-protector consisting of a double pocket formed with a lower flange, side flanges to protect the sides of the joist ends, and a central vertical web betweeu the two pockets, substantially as set forth.

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

JOHN J. WEAVER.

Witnesses:
WILLIAM D. CONNER,
HENRY HOWSON.