R. M. DYAR.

FIRE STOP.

APPLICATION FILED JUNE 6, 1921.

1,433,606. Patented Oct. 31, 1922.

Fig. 1.

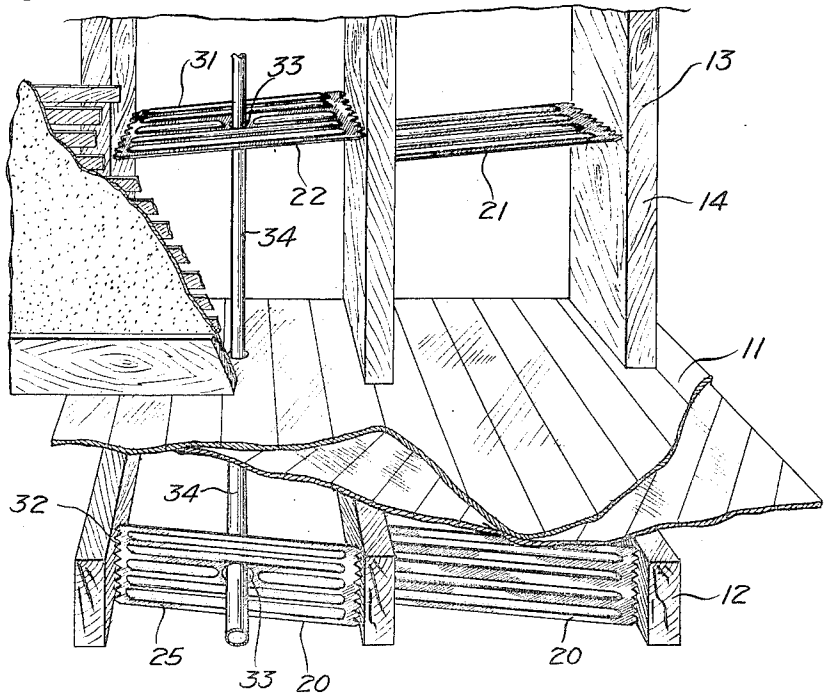


Fig. 2.

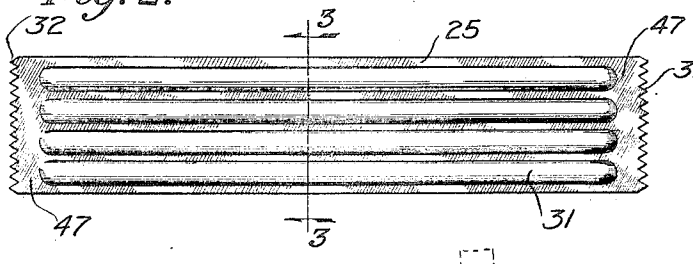


Fig. 3.

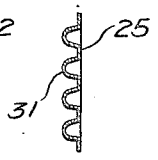
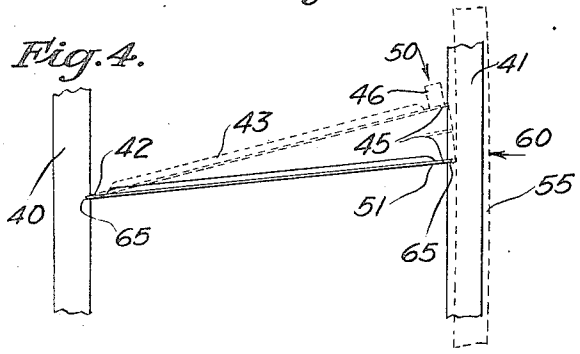


Fig. 4.



INVENTOR:
RALPH M. DYAR,
BY
Galvin & Hamin
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

RALPH M. DYAR, OF GROSSE POINTE FARMS, MICHIGAN.

FIRE STOP.

Application filed June 6, 1921. Serial No. 475,507.

To all whom it may concern:

Be it known that I, RALPH M. DYAR, a a citizen of the United States, residing at Grosse Pointe Farms, in the county of Wayne and State of Michigan, have invented a new and useful Improvement Comprising the Fire Stop, of which the following is a specification.

My invention relates to building construction. In the standard forms of wooden building construction, it is common practice to provide a frame work of wall studs and floor joists upon which are mounted the surface members such as the flooring, exterior siding, and the interior lath and plaster finish for the walls and ceilings. The hollow wall and floor spaces resulting from this type of construction form a considerable fire hazard as they act as flues through which flames may be transmitted and through which a draft may be established.

It is common practice to provide fire stops in these spaces, these fire stops closing the space so that it is impossible to get any considerable draft therethrough. These fire stops are commonly secured at either end to the studding and joists by means of nails, screws or other fasteners.

It is the principal object of my invention to provide a fire stop which may be used in wooden building construction and which may be secured in place without the use of any fastening other than that forming a portion of the stop itself, and which can be secured in place in locations in which the workman could not find space to provide the ordinary securing means.

It is also a further object of my invention to provide a fire stop which may be cheaply formed from fire resisting materials, and which may be installed with a minimum expenditure of labor, thereby providing a much cheaper and more effective fire stop installation. A still further object is the provision of an article of this nature which will also be of utility as diagonal bracing for reinforcing the structure in which it is used.

Referring to the drawing which is for illustrative purposes only;

Fig. 1 is a perspective view showing a portion of a building with my invention installed therein.

Fig. 2 is a plan view of a fire stop embodying my invention.

Fig. 3 is a section on a plane represented by the line 3—3 of Fig. 2.

Fig. 4 is a view illustrating a preferred method of installing the fire stops between the building members.

In the form of the invention shown, 11 is a floor of a building supported upon joists 12 and supporting a wall 13 carried on studs 14. In the drawing the lath and plaster forming the side of the wall nearest the observer has been removed to better illustrate the invention.

Fire stops embodying my invention are shown at 20, 21 and 22, those illustrated being of the preferred form consisting of metal plates 25 formed of sheet iron and stamped with longitudinal corrugations furnishing stiffening ribs 31 so that the fire stop will remain substantially flat at all times. Formed upon the ends of the fire stop are a plurality of prongs or teeth 32 which are sufficiently sharp to engage the members 12 and 14 between which they are installed.

The particular feature to which I desire to direct especial attention resides in the development of the conception of a fire stop which shall consist of a plate of suitable fire resisting material of slightly greater length than the distance between the wall and floor members and having its abutting edges suitably prepared to engage the surfaces of the members between which the fire stop is to be used; which fire stop, owing to the aforesaid condition, may be installed with a considerable economy of labor as will be hereinafter described.

In Fig. 4 of the drawing I have illustrated the manner in which the fire stops may be easily installed, it being understood that the members indicated as 40 and 41 are floor joists or wall studs in the framework of a building under construction before the surface members have been applied. One of the engaging ends 42 is placed against the member 40 and the fire stop caused to assume the position indicated by the dotted lines 43 with the opposite engaging end 45 resting against the member 41, such position being necessarily diagonal as the fire stop is longer than the distance between the engaged faces of the members 40 and 41.

A block 46 is placed upon that flat portion 47 from which the teeth 32 extend and

by striking the block as indicated by the arrow 50 the end 45 is driven down to the position indicated in full lines 51. The wedging action of the stop in being thus driven in place forces the members 40 and 41 apart as illustrated by the dotted lines 55. Several blows of a hammer then delivered as indicated by the arrow 60 will cause the teeth 32 to become firmly embedded at 65 in the surface of the wooden members. Although the installation of the fire stops would be somewhat simplified by leaving the end 45 smooth so that less friction would be incurred in driving same into place, the expediency is not so pronounced as to cause the adoption of that type as the preferred form, as the formation of teeth upon both ends is accompanied by cheaper cost of manufacture owing to the fact that they may be made complementary in a continuous stamping process. If desired, small openings 33 for the passage of electrical conduits and pipes 34 may be provided in the fire stops, and it may be further desirable to seal around the pipes 33 to form a more perfect obstruction of the passage.

I claim as my invention:

1. A fire stop for obstructing passages between building members, comprising: a flat metal plate slightly longer than the space in which said plate is to be secured, and means on the ends of the plate for locking it in position by moving it from an oblique towards a right angled relation to said building members.

2. A fire stop for obstructing passages between building members, comprising: a flat plate slightly longer than the space in which said plate is to be secured; and means on said plate for locking it to said members by wedging said plate between the members.

3. A fire stop for obstructing passages between building members, comprising: a flat plate slightly longer than the space in which said plate is to be secured, said plate having longitudinal stiffening ribs formed therein; and means on said plate for locking it to said members by wedging it between the members.

4. A fire stop for obstructing passages between building members, comprising: a flat plate slightly longer than the space in which said plate is to be secured; and prongs formed on each end of said plate.

5. A fire stop for obstructing passages between building members, comprising: a flat plate slightly longer than the space in which said plate is to be secured, said plate having stiffening ribs formed therein; and prongs formed on each end of said plate.

6. The combination with the studding or joists of a building of a fire stop adapted to be placed in the space between said studding consisting of: a metal plate of a length greater than the width of said space, so that its ends will contact the members while standing obliquely thereto; and means on the ends of the stop which will lock the same in place by moving it from its oblique relation toward a right angled relation to said members.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 26th day of May, 1921.

RALPH M. DYAR.