No. 838,845. PATENTED DEC. 18, 1906.

C. COLLINS.

FIREPROOF BUILDING CONSTRUCTION.

APPLICATION FILED MAR. 12, 1906.

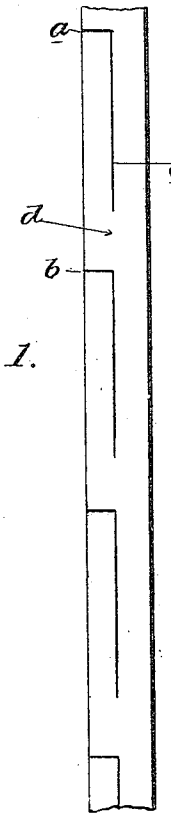

Fig. 1.

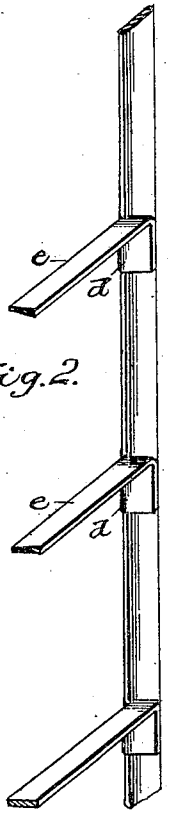

Fig. 2.

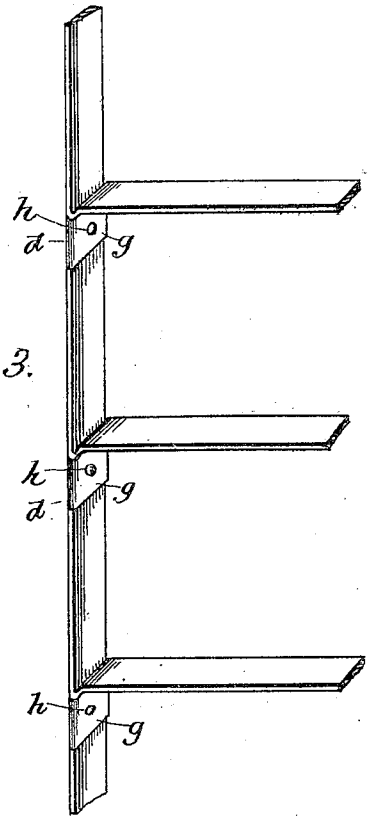

Fig. 3.

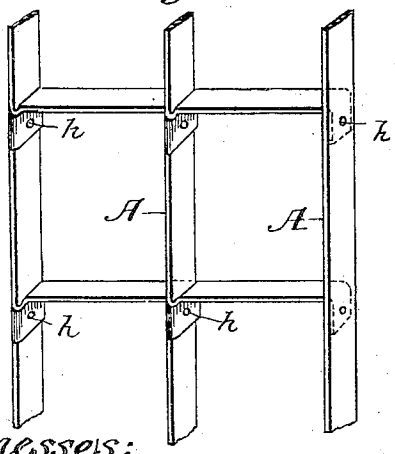

Fig. 4.

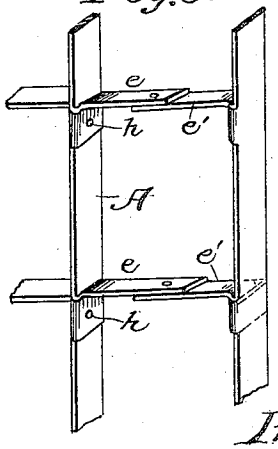

Fig. 5.

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UNITED STATES PATENT OFFICE.

CORNELIUS COLLINS, OF SAN FRANCISCO, CALIFORNIA.

FIREPROOF BUILDING CONSTRUCTION.

No. 838,845. Specification of Letters Patent. Patented Dec. 18, 1906.

Application filed March 12, 1906. Serial No. 305,732.

To all whom it may concern:

Be it known that I, CORNELIUS COLLINS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented new and useful Improvements in Fireproof Building Construction, of which the following is a specification.

My invention relates to certain new and useful improvements in fireproof building constructions, wherein a light and rigid metallic framework is employed for partitions, furring, ceilings, and other subdividing structures; and my invention consists of the parts and the constructions and combinations of parts, which I will hereinafter describe and claim.

In a former patent, granted to me January 2, 1900, No. 640,445, I have disclosed a fireproof building construction where structural metal is used and where parallel strips of sheet metal having little inherent rigidity in themselves are so connected with each other and with supporting-beams by lateral or transverse braces as to form rigid structures capable of supporting mortar, concrete, or other plastic material which will harden after application, whereby the metal and concrete become mutually supporting and are especially useful in the construction of partitions, ceilings, floors, and other subdividing structures which it is desired to render fireproof and where it is desirable to protect the metal from the direct action of heat or from destruction by oxidation or other causes.

In modern methods of building it is the tendency to eliminate wood and combustible material to as great an extent as possible and to substitute in lieu thereof wherever practicable steel, brick, stone, concrete, or other non-combustible materials. It is also desirable, on account of the costly character of the aforesaid structures, to economize the interior space as much as possible by making the interior walls, ceilings, and floors as thin as is consistent with strength and sufficient solidity to maintain them in place without vibration and to make them fireproof and resistant.

In the accompanying drawings, forming part of this specification, and in which similar letters of reference indicate like parts, Figure 1 shows a strip provided with cuts which form the bracing-strips. Fig. 2 is a similar view with the tongue or bracing strip bent to one side and standing at about right angles to the edge of the main portion of the strip. Fig. 3 is a similar view with the bracing-strip folded upon and against the main portion of the strip and the tongue portion bent at right angles to the side of the strip and to the folded portion. Figs. 4 and 5 show several of the strips united.

The construction shown in the present case involves a specific form of strip, wherein the tongue is cut from the edge of the main part of the strip, so as to leave an end portion of one side attached thereto, the base of the tongue being folded laterally and back upon the main part of the strip and the said tongue portion being then again bent in a plane about at right angles to the plane of the bending of its base portion and thence extended diagonally or horizontally to or toward the next adjacent strip.

The present improvement is preferably formed from single strips designed for the uprights of partitions, as I will presently disclose.

In Figs. 4 and 5 I show several strips A or uprights designed for use in a fireproof partition or like subdividing structure. Each of the strips is made of thin metal having little inherent rigidity, but which strips when braced as in my aforesaid prior patent form a sufficiently rigid skeleton framework for the lathing and plaster or other plastic exterior coating commonly used in this art.

The edges of the strips A I cut transversely at desired points, as in Fig. 1, these points depending somewhat upon the distance the parallel strips or uprights A are to be spaced from each other, as when the cut-out tongues are to extend to adjacent strips or uprights or only to corresponding tongues thereof.

In making the desired cuts for the tongues I prefer to cut transversely into the edge of the strip or upright to about the center thereof, as at the two points *a* and *b*, and I make a cut lengthwise and along substantially the center of the strip, as at *c*, which latter cut intersects one of the transverse cuts *a* and extends parallel with the edge of the strip, but terminates short of intersection with the other of the transverse parallel cuts *b*, so as to leave an uncut side connection with the main portion of the strip.

As the metal of the strip is relatively light and thin, it is comparatively simple to now bend the cut portion transversely along the uncut line, after which the tongue portion *e* may be bent to stand at almost any desired

angle between horizontal and vertical. If the cut portion of the strip is bent transversely on the line *d*, so as to stand at right angles to the edge of the strip, as in Fig. 2, the tongue portion may be bent so that its long edge will be about parallel and substantially flush with the width or flat side of said strip, and if the said cut portion is bent transversely about ninety degrees it will be folded back against the flat side of the strip and parallel with the strip, as shown at *g*, Fig. 3, and the tongue portion may then be bent downwardly and when thus bent will project centrally from the strip in either a horizontal or inclined position.

The tongue may be long enough to extend to the adjoining strip, Fig. 4, or said adjoining strip may have a like tongue *e'* extending toward the first-named tongue and overlapping the latter, Fig. 5, in which event the overlapping ends may be secured together in any suitable manner.

In some instances the bending of the cut portions transversely may be to the right, and in other instances it may be to the left, and either one or both plans may be adopted without departure from the scope of the invention.

When the tongues are folded back on the main part of the strip, as in Figs. 3, 4, 5, and 6, a rivet *h* or other well-known form of fastening may be used, if desired, for further security.

When the wall has been built up substantially as herein described, the metal lathing or other support for the plaster or finishing surface may be attached to the edges of the strips, and the plastic material being applied will pass through the interstices of the supporting-lathing in the manner well known in this art.

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

1. In a fireproof building construction, a metal strip or upright having a tongue or brace cut therefrom and remaining attached thereto at the end portion of one of its long sides, said attached portion being bent to one side of the main portion of the strip and having the portion which has been severed from the strip bent relative to the first-named bent portion to serve as a brace between adjacent uprights.

2. A structure consisting of sheets of metal having tongues cut therefrom with a portion of one of the long sides of the tongue remaining attached to the body of the strip, said tongue being bent along the attached portion transversely of the strip, and also bent substantially at right angles to the first-named bend and toward an adjacent strip.

3. A structure consisting of sheets of metal having tongues cut therefrom and normally extending lengthwise thereof, a portion of one of the long sides of the tongues remaining attached to the body of the strip, said tongue being bent along the attached portion transversely of the strip and folded back upon the flat side of the strip, and also bent at right angles to the first-named bend and toward an adjacent strip, and adapted to be secured to a part thereof.

4. Stud members having braces with their relatively free ends interconnected one with the other.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

CORNELIUS COLLINS.

Witnesses:
C. W. FOWLER,
TIMOTHY COLLINS.