

No. 878,275.

PATENTED FEB. 4, 1908.

C. COLLINS.
FIREPROOF BUILDING CONSTRUCTION.

APPLICATION FILED MAR. 12, 1906.

Fig. 1.

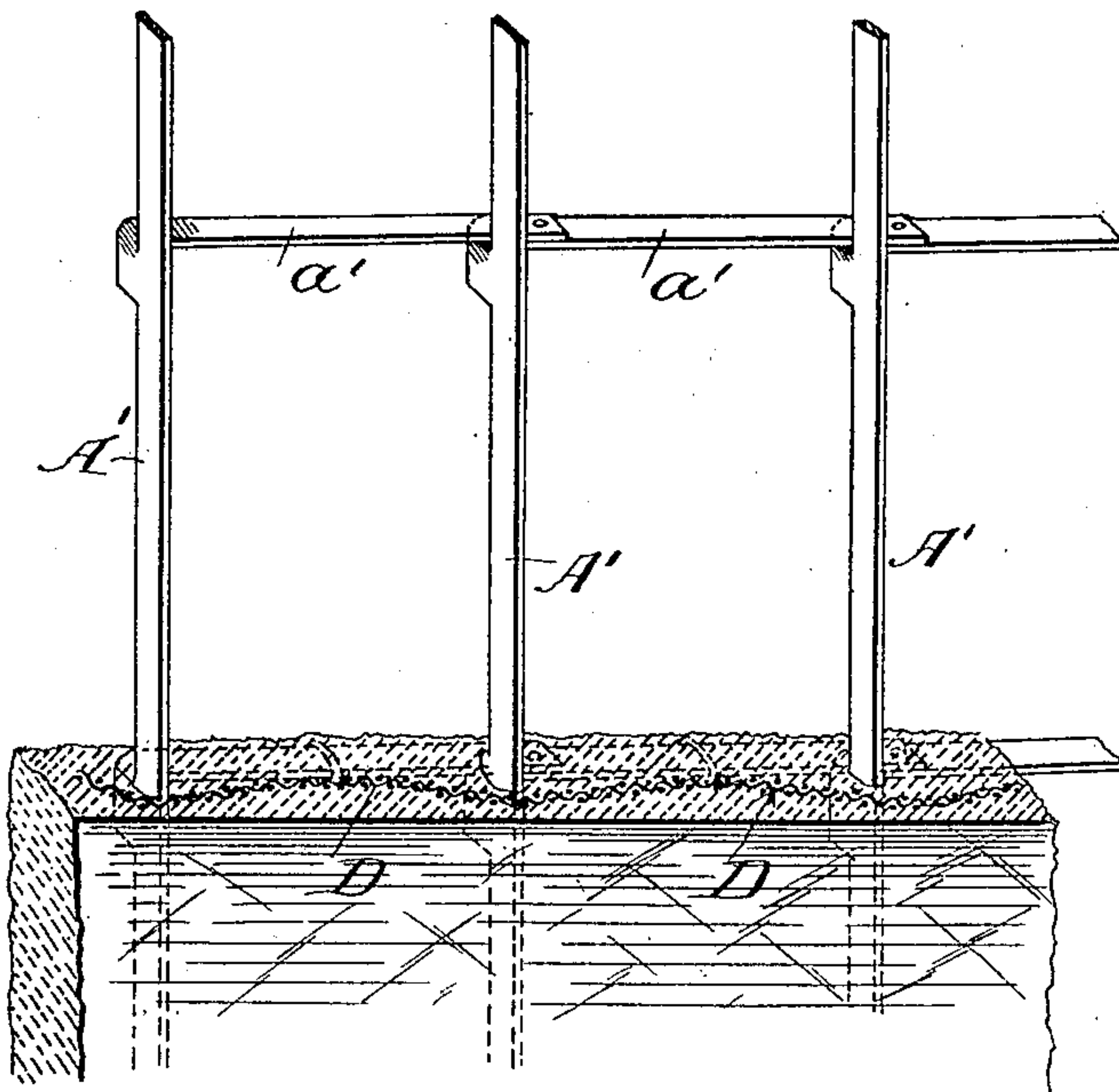


Fig. 2.

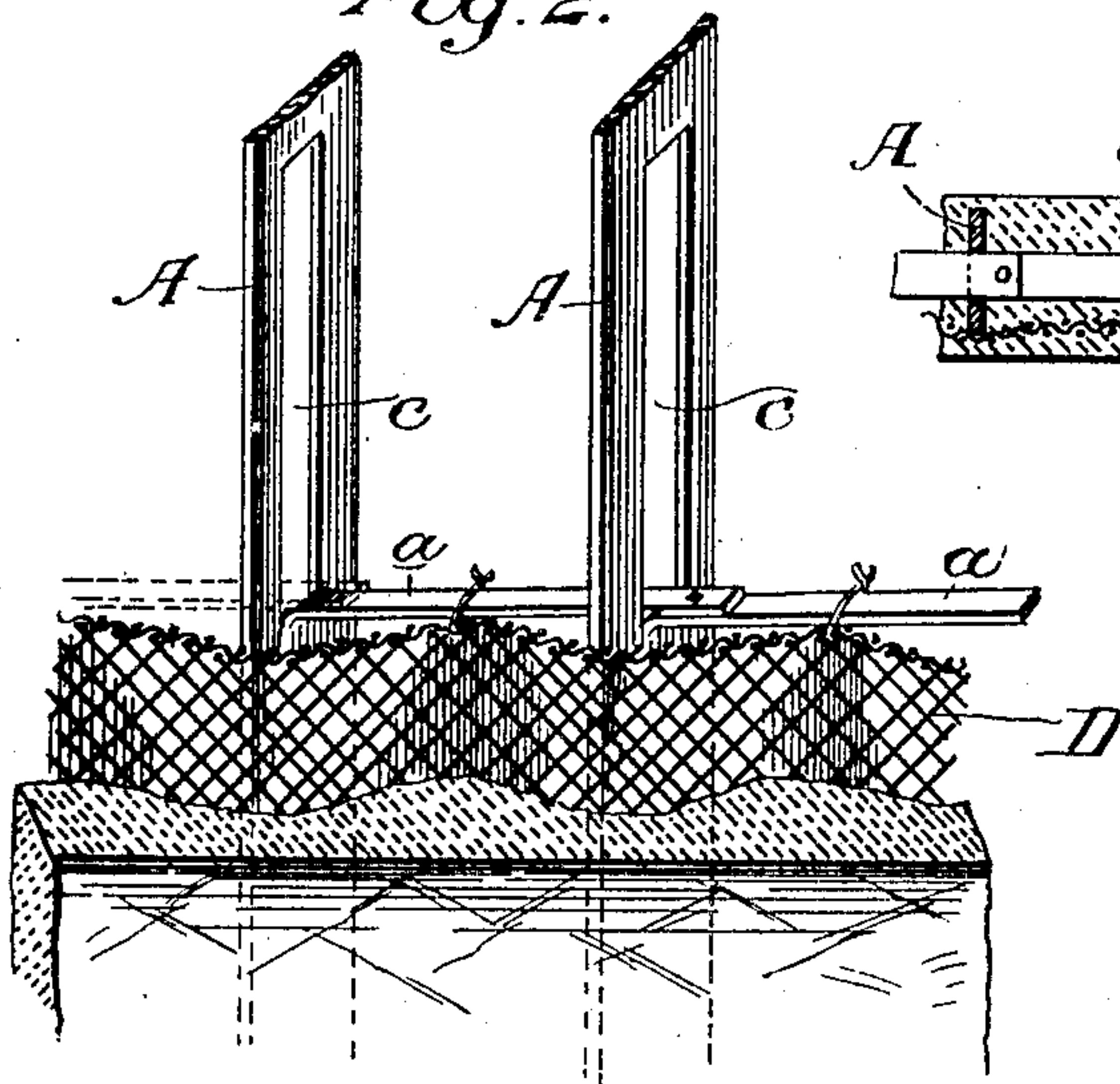
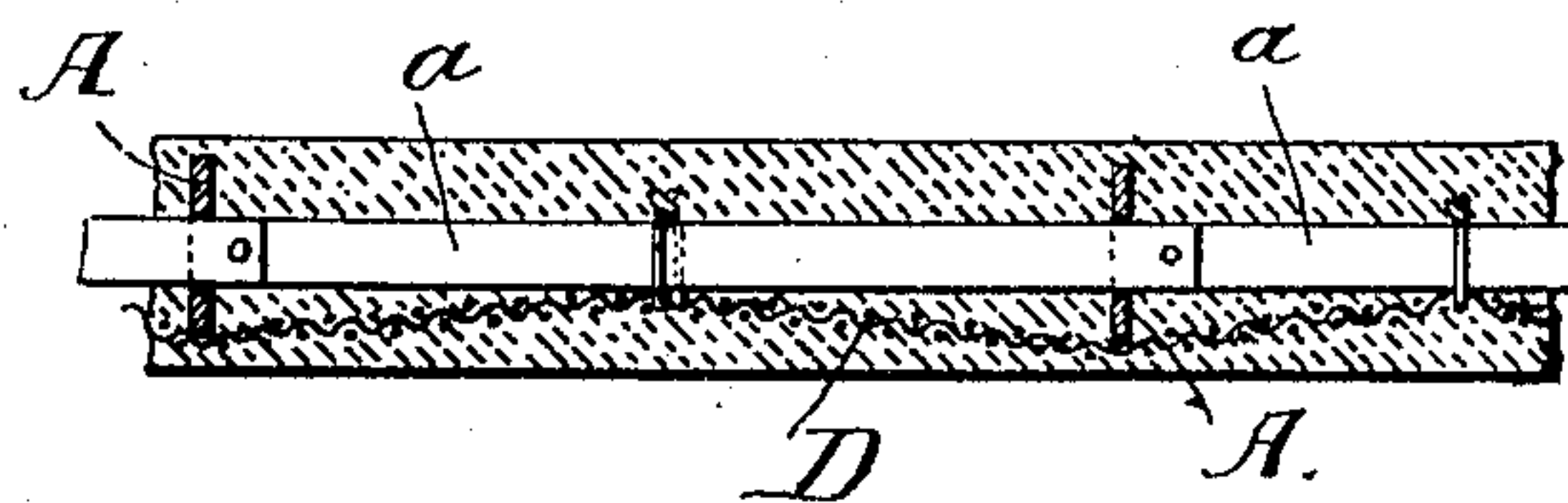


Fig. 3.



Witnesses:

C. D. Fowler
A. E. Powell

Inventor:

Cornelius Collins

By J. D. Walter Fowler

Atty.

UNITED STATES PATENT OFFICE.

CORNELIUS COLLINS, OF SAN FRANCISCO, CALIFORNIA.

FIREPROOF BUILDING CONSTRUCTION.

No. 878,275.

Specification of Letters Patent.

Patented Feb. 4, 1908.

Application filed March 12, 1906. Serial No. 305,730.

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 my present invention an important object is to still further economize in the cost of structures of the character before alluded to by providing a construction which enables a cheaper or lighter form of metal lathing, burlap or like supporting material to be used, to

facilitate the work of the plasterer and to thereby reduce the cost of the building.

In the accompanying drawing forming part of this specification and in which similar letters of reference indicate like parts in the several views,—Figure 1, represents in perspective a section of partition embodying my invention. Fig. 2, is a similar view showing a metal strip or upright of modified form. Fig. 3, is a sectional view of a ceiling or floor construction embodying my invention.

In carrying out my invention I take strips which are substantially like those of my aforesaid prior patent, that is strips A from the central portions of which tongues *a* are cut and thence bent towards or to a corresponding adjacent strip, or the tongue thereof, or strips A' from the edge of which similar tongues *a'* are cut, as shown in Fig. 1.

One very suitable manner of extending the tongues so that they will serve as transverse bracing pieces between adjacent strips, is to cut the tongue long enough to extend to and through the opening *c* made in adjacent strips by cutting a tongue therefrom whereby the free end of the tongue from one strip may be secured to the base portion of the tongue of the adjacent strip by a rivet or by any of the methods heretofore used in this art for a similar purpose.

In the methods now resorted to for plastering a wall or partition constructed of a skeleton metal frame work substantially as described, a metallic lathing, burlap or like fabric is stretched between the outer edges of the adjacent parallel strips and the plaster, or plastic outer covering is applied by a trowel in the usual manner.

A scratch coat is usually first applied, the plaster working its way through the interstices of the lathing or other fabric and forming keys on the rear side which keys, when the material "sets" or hardens, serve as a lock for the plaster. When this scratch coat has set, the plasterer then works from the opposite side of the skeleton frame work and by manipulating his trowel he works the plaster into and between the strips A, A' and the tongues thereof so as to embed the same in the plaster. Often it is slow work to properly fill in the deep parts of the frame work, and it is not until the plaster fills the entire hollow frame work and is built up or "nursed" to the outer edge of the strip, that the plasterer may apply the finishing surface by

sweeping his trowel up and down and side-wise and without exercising much care, thereby finish the partition.

Where a metallic lathing or burlap, or like fabric, is stretched transversely across and between adjacent parallel strips and tied or secured to the edges thereof, it is difficult and almost if not quite impossible to work the plaster from one side through the interstices of the fabric and over and around the strips and braces thereof so as to embed the same, this difficulty being rendered particularly slow and laborious because of the looseness or slack which is present in the metal lathing, burlap, etc., particularly in the lighter and more inferior grades of this material, therefore the general custom has been to apply the scratch coat on one side and, when this coat "sets" or hardens "nurse" or build up the plaster filling from the opposite side.

In my present invention I provide a construction by which the plaster may be worked from one side of the frame work almost entirely and until the strips and the tongues thereof are substantially completely covered and embedded in the plaster, the plaster being in fact worked clear to the opposite edge of the strip, and even slightly beyond the same, so that the plasterer has only to smooth down the surface of the partition on this opposite side by a few quick sweeps of his trowel to finish the same. To permit this operation to be effected, and to draw the metal lathing, burlap, or other fabric D under such tension that it will form a substantially solid backing for the plastering operation, I secure said lathing or fabric to the edges at one side of the strips, and I draw the portion of said fabric which is between adjacent strips up against the bracing tongues and secure the same thereto. This takes up any slack or looseness which may be in the fabric, an operation which permits me to use the lighter and more flimsy and cheaper grades of fabric as the support for the plaster.

With the lathing or fabric secured as described, the plasterer works the plastic material over the fabric following the general line of the same and until the plaster covers and embeds the whole metal structure behind the fabric and even overflows the rear edges of the strips and tongues. Then the V-shaped or other space in front of the fabric is filled or built up flush or slightly beyond the plane of the front edges of the strips and finished in the usual way. The rough back surface of

the partition or the surface at the opposite side of said partition is readily finished by smoothing down the rough surface by a few sweeps of the trowel. Thus the partition is capable of being plastered substantially entirely from one side, and the delays incident to the workmen working first from one side and then from the other and the delays caused by working the plaster into the deep, parts of the frame work, are reduced to a minimum. The same construction is applicable in floor and ceiling constructions, as in Fig. 3, and wherever a solid structure of the character described is desired.

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

1. In a fireproof building construction, the combination of parallel strips and bracing pieces extending transversely therebetween and forming therewith a metallic frame work, a fabric secured to the strips and extending between the like edges of adjacent strips, said bracing pieces lying in a vertical plane at one side of the said edges of the strips and said fabric having the portion intermediate of the edges of said strips drawn inward to one side of the plane of the outer edges of the strips and substantially in contact with the bracing pieces, and secured to the bracing pieces said fabric adapted to receive a coating of plastic material.

2. A fireproof construction consisting of a metallic frame work composed of parallel metal strips and bracing pieces extending transversely therebetween and forming a connection between adjacent strips, said bracing pieces cut out of the body of the strips so that their side edges lie in a vertical plane at one side of the corresponding edges of the strip, a lathing surface or fabric extending between the like edges of adjacent strips having the portion intermediate of the adjacent strips drawn inward towards and substantially in contact with and secured to the bracing pieces whereby intermediate portions of the fabric are placed under tension to form substantially a rigid bed, and a plastic coating over the lathing or fabric and embedding the same and the metallic frame work.

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

CORNELIUS COLLINS.

Witnesses:

C. W. FOWLER,
TIMOTHY COLLINS.