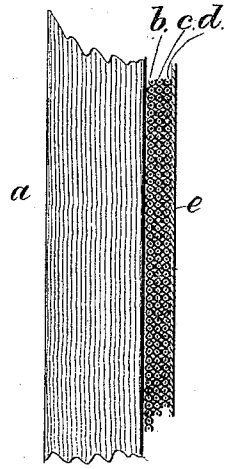
(No Model.)

J. McCARROLL.

FIRE SHIELD FOR ROOFS, &c.

No. 309,076. Patented Dec. 9, 1884.



Witnesses

Chas. H. Smith

J. Stair

Inventor

James McCarroll.

per Lemuel W. Serrell

atty.

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UNITED STATES PATENT OFFICE.

JAMES McCARROLL, OF NEW YORK, N. Y., ASSIGNOR TO THE McCARROLL FIRE PREVENTIVE MANUFACTURING COMPANY, OF SAME PLACE.

FIRE-SHIELD FOR ROOFS, &c.

SPECIFICATION forming part of Letters Patent No. 309,076, dated December 9, 1884.

Application filed March 13, 1884. (No model.)

To all whom it may concern:

Be it known that I, JAMES McCARROLL, of the city and State of New York, have invented an Improvement in Fire-Shields for Boxes, Roofs, and Articles Requiring to be Protected from the Action of Flame, of which the following is a specification.

The property of a single thickness of fine wire-gauze to confine flame or to check the spread of fire has heretofore been known, but, in consequence of the fine meshes of the gauze, it is impossible to employ wire of a sufficient size to obtain the strength that is often required.

In Letters Patent No. 275,240, granted to me April 3, 1883, two or more layers of wire gauze or netting are described as a means for preventing the spread of fire, and under some circumstances for the admission of light and air.

I have devised improvements upon the aforesaid invention by which its utility is increased, and the mode of its application is modified, and the gauze or netting is rendered invisible without impairing its efficiency. I find that the wire-netting is not liable to warp and become detached by the action of heat, because the wires are bent at so many places that lateral extension under the action of heat may be taken up by the various bends springing. I have found that when two or more layers of wire gauze or netting are employed a comparatively wide mesh can be used, and the greater the number of layers the wider the mesh that may be employed, because the meshes, being one above the other or partly crossing each other, form a tube which is long in proportion to its diameter, and is therefore impenetrable to flame. The netting is very much increased in strength and in the general thickness; hence the flame on one side of the two or more layers of netting is much farther away from any wooden articles to which it may be applied than it would be if there were only one thickness of gauze. The air-cells between the wires form repellants of heat, and hence one layer of netting may be hot, but the next or the third will be scarcely warmed, and the heat is kept away from the article that is to be protected.

In carrying out my invention I apply the two or more layers of wire-netting to the surfaces of wardrobes, bureaus, boxes, closets, or boxes for containing legal documents or other papers, silver-ware, dresses, or other articles that require to be protected from the action of fire. It is to be understood that such protections are not like fire-proof safes, but the progress of combustion is so checked and hindered that there is time for extinguishing a fire, whereas light inflammable articles without protection would be entirely consumed.

One feature of my said invention is the combination, with the aforesaid two or more layers of wire-netting, of a covering-surface for the netting and for forming a finish which adapts the article to the intended use. For instance, in permanent partitions for buildings, the two or more layers of wire-netting receive upon the surface paper-hanging or ornamental material, to prevent the partition, bureau, closet, box, or other article being objectionable in appearance; or the outer layer of netting may be covered with paper-pulp or any other material in a sufficiently plastic condition to enter more or less into the meshes of such netting.

Where this improvement is applied to roofs of buildings, oil-tanks, or other structures, the two or more layers of netting prevent the passage of fire, and at the same time prevent the air or gases being confined.

In making shingle-roofs or other articles requiring a frame-work, such frame-work is to be prepared as usual, and the two or more layers of netting are placed upon the same and nailed down; then the shingles or other materials to form a surface are applied in any usual or convenient manner. If the shingles catch fire and burn up, the building is protected, because the fire will not pass through the netting.

With oil-tanks the wire-netting will form a tight covering that will prevent flames reaching the oil, but it will allow vapors to pass off; hence the tank cannot explode. The covering to shed off water from the oil-tank may be of sheet-tin, tarred paper, and gravel caused to adhere by bituminous materials, or of any other suitable roofing substance.

In the drawing I have represented my improvement, *a* being the wood-work, framing, or other article to be protected, *b c d* being

the two or more thicknesses (three being shown) of wire-netting fastened upon *a* and *e*, the surfacing to such netting of paper or other suitable substance.

Having herein stated the general features of my invention, I reserve the right to make one or more separate applications for the specific articles or mode of protecting such articles from fire, as herein named.

I claim as my invention—

1. The combination, with the article of wood or other combustible material, of the two or more layers of wire-netting placed one upon the other, substantially as set forth.

2. The protecting-covering for boxes, bureaus, cases, and other articles of wood or combustible materials, composed of two or more layers of wire-netting attached to the surfaces of such articles, and a surface of paper or other material to cover such netting, substantially as set forth.

3. The protecting-covering for wood or other combustible material, composed of two or more layers of wire-netting fastened to such material, and a covering to the wire-netting, which covering passes more or less into the meshes of the netting, substantially as set forth.

Signed by me this 6th day of March, A. D. 1884.

JAMES McCARROLL.

Witnesses:
GEO. T. PINCKNEY,
WILLIAM G. MOTT.