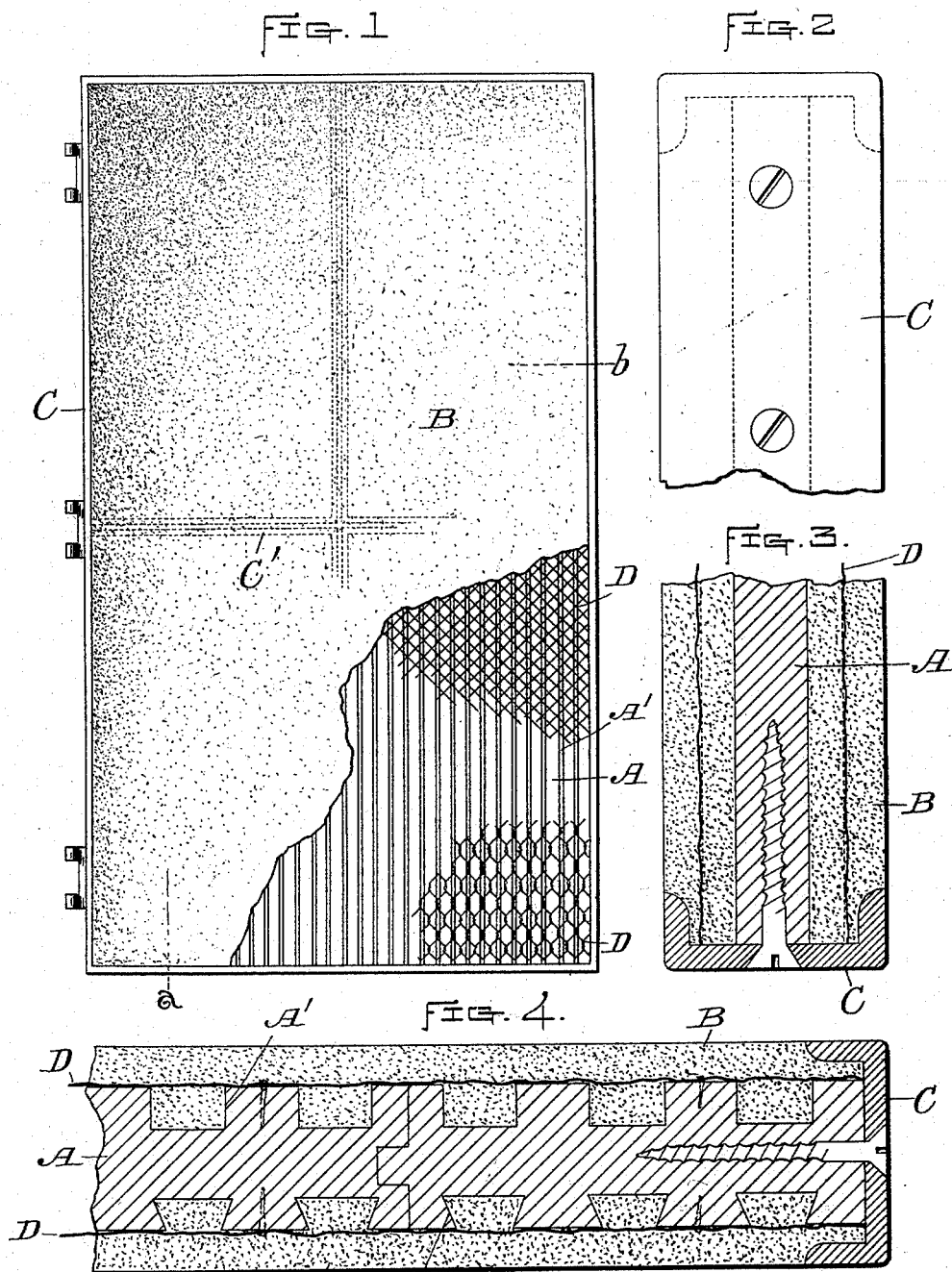


(No Model.)

O. W. NORCROSS.
FIREPROOF DOOR.

No. 526,732.

Patented Oct. 2, 1894.



Witnesses;

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UNITED STATES PATENT OFFICE.

ORLANDO W. NORCROSS, OF WORCESTER, MASSACHUSETTS.

FIREPROOF DOOR.

SPECIFICATION forming part of Letters Patent No. 526,732, dated October 2, 1894.

Application filed March 8, 1894. Serial No. 502,880. (No model.)

To all whom it may concern:

Be it known that I, ORLANDO W. NORCROSS, of the city and county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Fireproof Doors; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, forming a part of this specification, and in which—

Figure 1 represents a fire-proof door embodying my improvements, with part of the outer coating removed to illustrate the interior construction thereof, hereinafter described. Fig. 2 is an edge view of the upper end of the door shown upon an enlarged scale. Fig. 3 is a vertical section through the lower end of the door, taken on line *a*, Fig. 1, and Fig. 4 is a horizontal section through one side of the door, taken on line *b*, Fig. 1.

My invention relates to doors or shutters composed principally of wood coated with mortar or other suitable fire-proof material; and comprises the following four elements, viz:—the central supporting part, composed of planking grooved both sides; a metal frame inclosing said grooved planking; wire-netting, wire-cloth, or other suitable, open, metal covering applied and secured to the grooved surfaces of the planking, and a coating of mortar or other fire-proof material applied over said grooved surfaces and metal covering, as will be hereinafter more fully set forth.

In order that others may better understand the nature and purpose of my said invention, I will now proceed to describe it more in detail.

In the drawings, A represents the planking, which is provided with suitable grooves A', upon both sides, to receive the mortar or other fire-proof material B. C is the metal frame inclosing said planking, and D the wire-netting, wire-cloth, or other open, metal-covering which is placed over and secured to the grooved surfaces of the planking prior to applying said fire-proofing material thereto.

Various kinds of open, metal-covering, and

shapes of grooves may be employed in carrying out my invention in practice, and I, therefore, do not limit myself to the special styles and shapes shown in the drawings. I also reserve the right to use common mortar, cement, or any other suitable, fire-proof material for plastering the sides of the door, and also to make the inclosing frame of any fire-proof material or shape suitable for the purpose. It is designed to ordinarily make said frame of iron or steel, and to simply extend a border around the outside edges of the door, as shown by full lines in the drawings; but, in the construction of large doors it is desirable to use one or more cross-braces C', (see dotted lines Fig. 1) and I, therefore, reserve the right to thus construct, or otherwise modify the door, as aforesaid.

A door or shutter made in accordance with my invention is not nearly as heavy as the usual iron doors, and may be manufactured much cheaper. It is very firm and strong, and affords an effective barrier to the flames in case of fire.

Practical experience has demonstrated that mortar produces one of the most perfect and efficient fire-stops known when applied to wood or other materials requiring protection against fire. The application of wire-netting or other open-metal covering over the surface of wood work also materially retards the progress of fire, as is well known. I use said metal covering, in this instance, for the above purpose, and also to afford a better clinch for the mortar, also for the purpose of preventing said mortar from cracking, and to add to the strength and stiffness of the door.

It is preferable, in practice, to use what is known as "adamant" plaster, or similar, hard, fire-proof material upon the doors, and to paint or otherwise ornament the surfaces thereof, thus rendering said surfaces sufficiently strong to resist ordinary knocks without breaking, and presenting a neat and tasty appearance.

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

A fire-proof door, comprising in combination the following elements, viz:—the central, supporting planking, grooved on both sides; the iron frame inclosing said planking; the open, metal covering applied and secured to the grooved surfaces of the planking, and the fire-proof material applied over

said grooved surfaces and metal covering, substantially as and for the purpose set forth.

ORLANDO W. NORCROSS.

Witnesses:

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