

(No Model.)

A. GRAF.
FURNACE DOOR.

No. 485,189.

Patented Nov. 1, 1892.

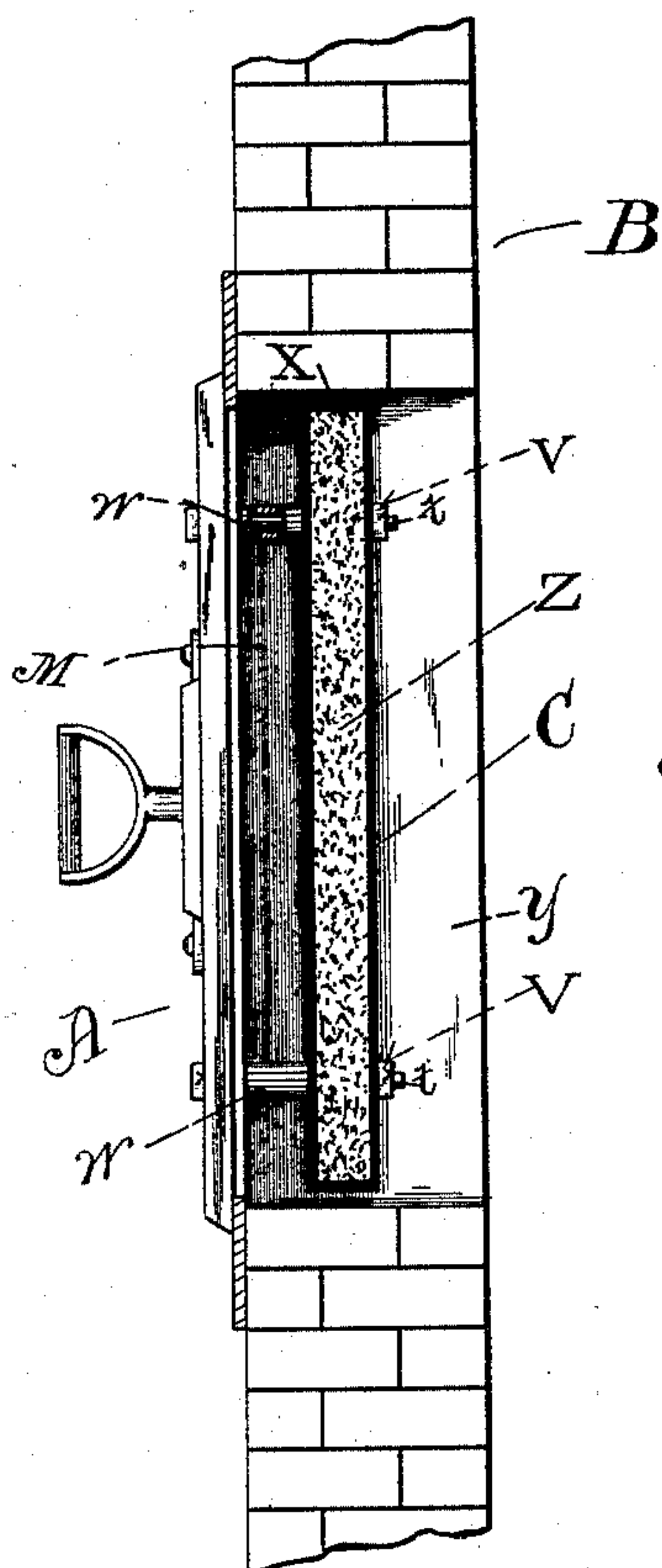


Fig. 1.

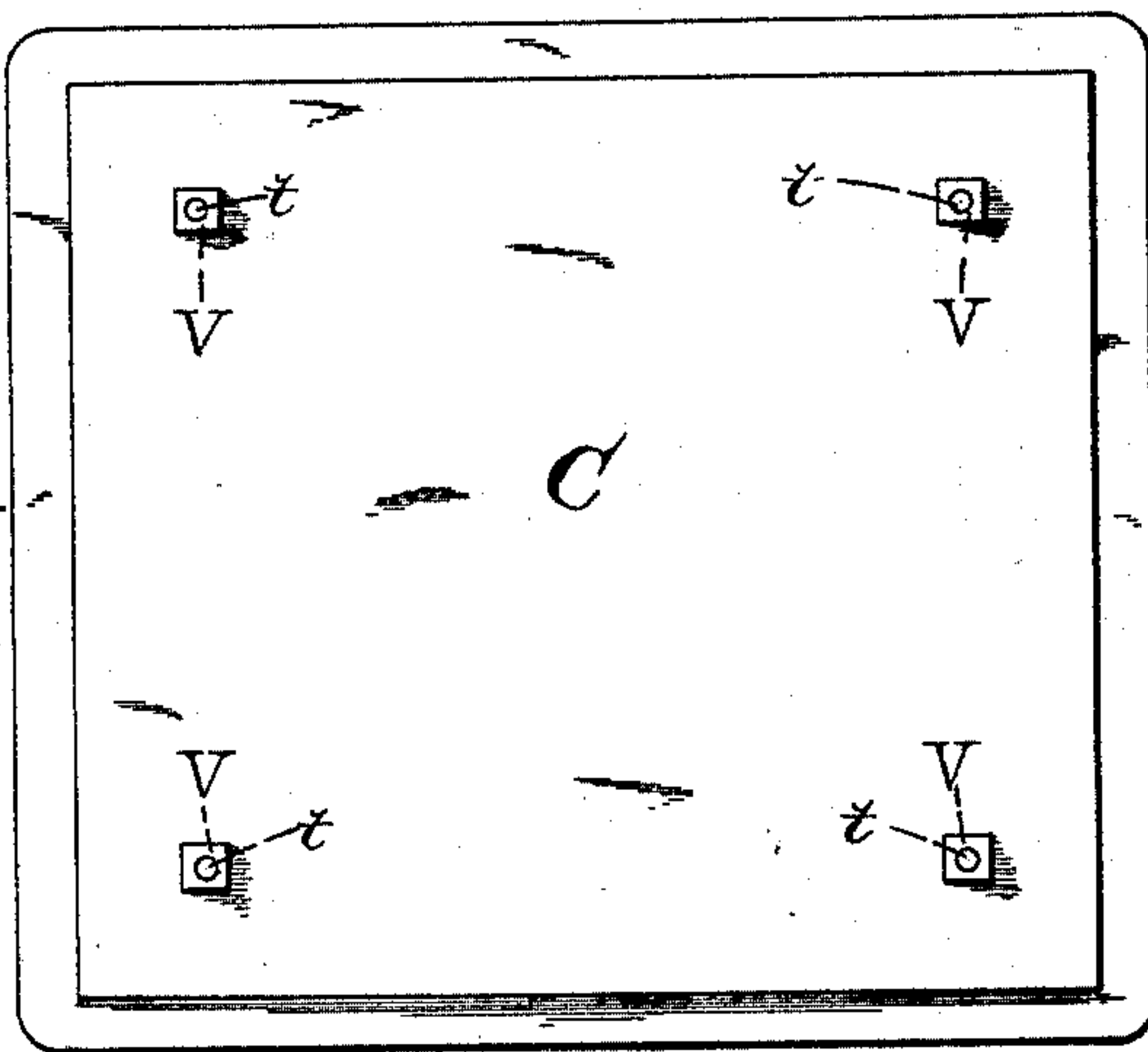


Fig. 2.

WITNESSES
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UNITED STATES PATENT OFFICE.

ANTON GRAF, OF GEORGETOWN, MASSACHUSETTS, ASSIGNOR OF ONE-HALF
TO STEPHEN OSGOOD, OF SAME PLACE.

FURNACE-DOOR.

SPECIFICATION forming part of Letters Patent No. 485,189, dated November 1, 1892.

Application filed May 2, 1892. Serial No. 431,473. (No model.)

To all whom it may concern:

Be it known that I, ANTON GRAF, of Georgetown, in the county of Essex, State of Massachusetts, have invented certain new and useful Improvements in Furnace-Doors, of which the following is a description sufficiently full, clear, and exact to enable any person skilled in the art or science to which said invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional view showing the door and wall of a furnace fire-box; and Fig. 2, an elevation of the inner face of the door, showing my improved insulating device.

Like letters of reference indicate corresponding parts in both the figures of the drawings.

My invention relates especially to an attachment for protecting the doors of furnace fire-boxes from heat, so that they may be readily manipulated, it being particularly designed for use with furnaces in which gas or other fuel producing intense heat is employed.

The nature and operation of the improvement will be readily understood by all conversant with such matters from the following explanation.

The metallic door A (shown in the drawings) is of ordinary construction and mounted in the usual manner on the fire-box wall B. Supporting-arms *t*, comprising bolts fitted to receive nuts *v*, project horizontally from the inner face of the door. Short sleeves *w*, preferably of insulating material, are disposed on the bolts. A rectangular box C, of thin sheet

metal, open at its top *x* and slightly less in width than the opening *y* in the wall B, is mounted on the inner ends of the bolt-arms *t*, which pass therethrough. The box is held out of contact with the door by the sleeves *w* and is secured on the bolts by the nuts *v*. Said box is filled with infusorial earth, asbestos, or any suitable non-heat-conducting material *z*. By this arrangement of parts an air space or chamber M is left between the door A and insulating-box C. The heat radiating directly from the fire strikes the box C, which contains the non-heat conductor.

The air in the space *m* is maintained at a temperature much lower than in the box, and comparatively-little heat is absorbed by the metal door, which may thus be manipulated by the fireman without discomfort.

Having thus explained my invention, what I claim is—

1. A furnace-door having a box connected therewith by bolts, said box being filled with insulating material, leaving an air-space between said door and box, and insulating material on the bolts between the door and box.

2. A furnace-door having a box connected therewith by bolts, said box being open at the top and filled with insulating material and leaving an air-space between said box and door, and insulating-sleeves on the bolts between the door and box.

ANTON GRAF.

Witnesses:

ORLANDO B. TENNEY,
JOHN A. PEABODY.