A. MEIER & P. DEUKER.

ILLUMINATING APPARATUS FOR BAKERS' OVENS.

No. 177,533. Patented May 16, 1876.

Fig. 1.

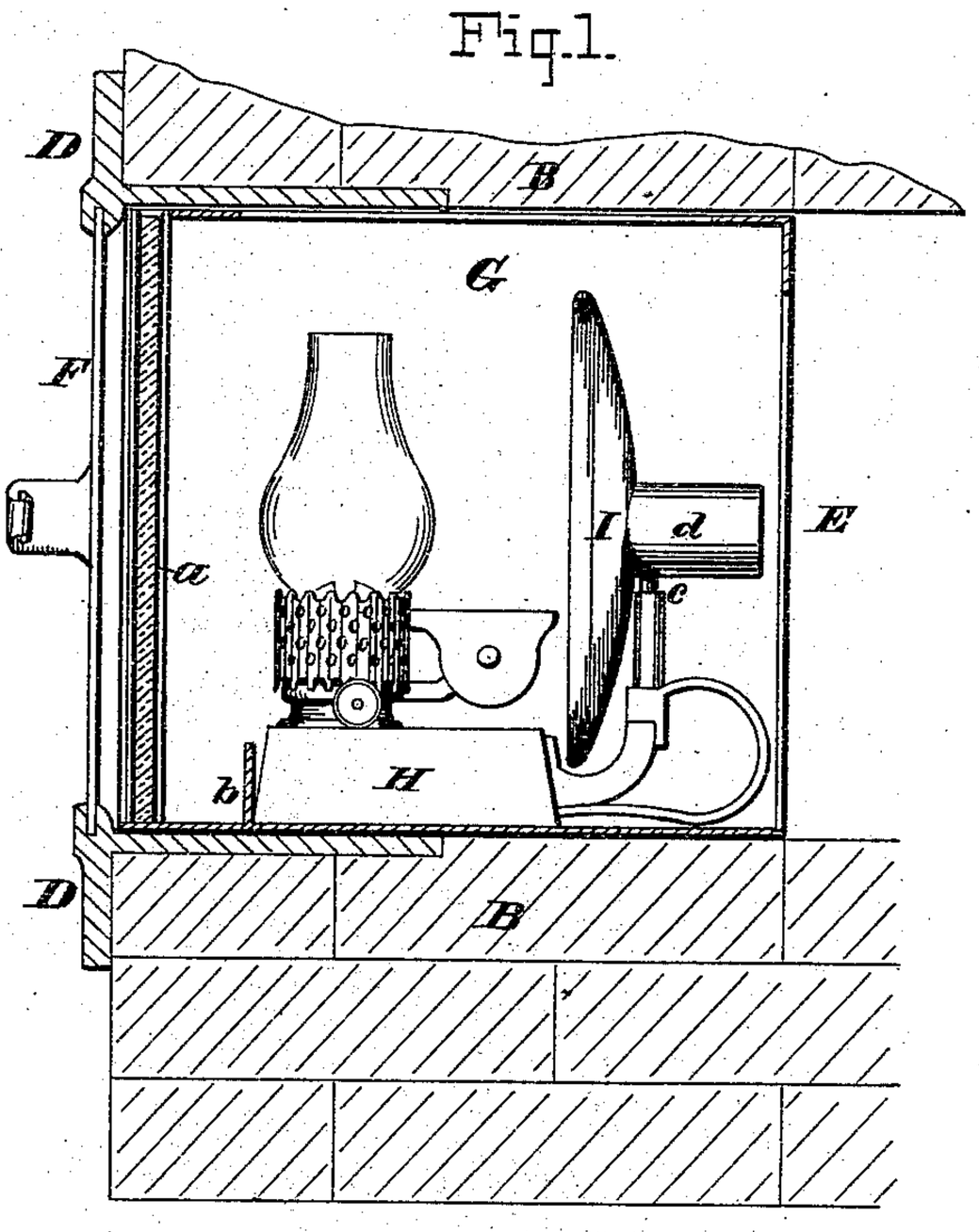


Fig. 2.

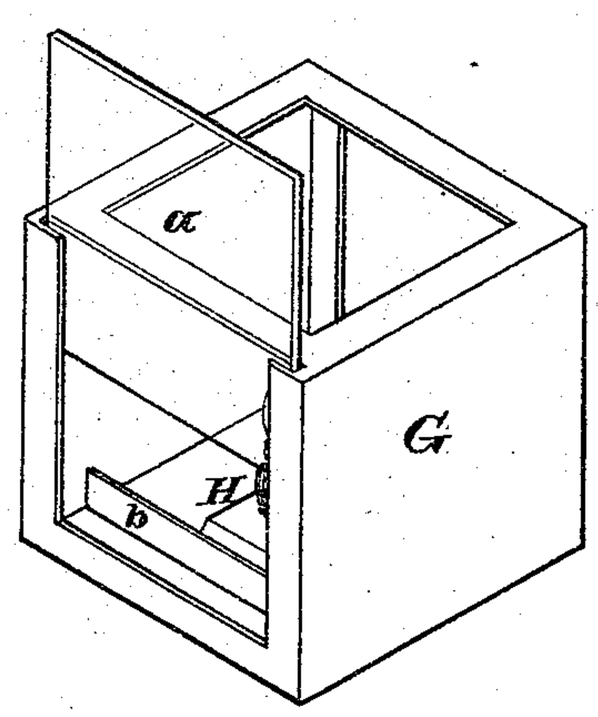
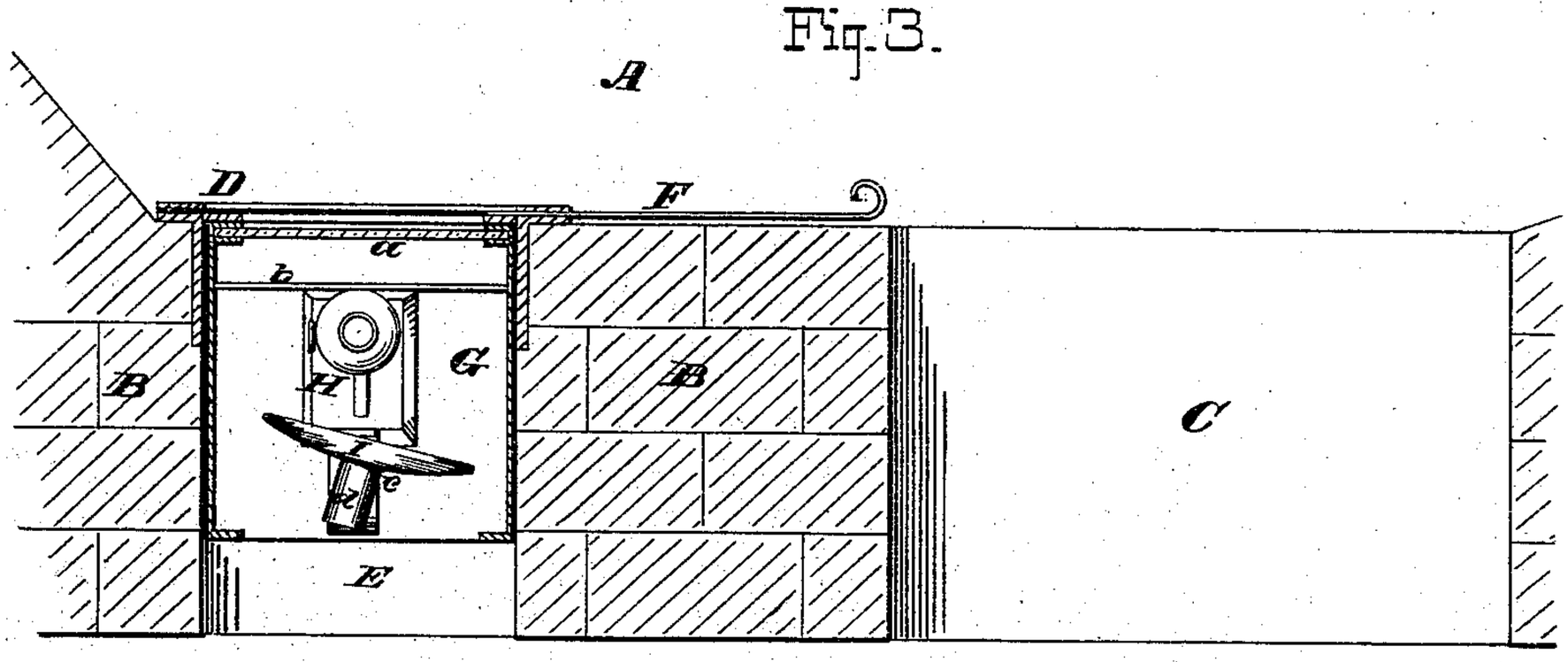


Fig. 3.



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UNITED STATES PATENT OFFICE.

ANTON MEIER AND PETER DEUKER, OF NEW YORK, N. Y.

IMPROVEMENT IN ILLUMINATING APPARATUS FOR BAKERS' OVENS.

Specification forming part of Letters Patent No. **177,533**, dated May 16, 1876; application filed April 29, 1876.

To all whom it may concern:

Be it known that we, ANTON MEIER and PETER DEUKER, both of the city, county, and State of New York, have jointly invented certain Improvements in Illuminating Apparatus for Ovens, of which the following is a specification:

This invention relates to a device for illuminating the interior of bakers' ovens, the object being to throw a bright light to the farthest innermost recesses of the oven during the baking, or at any other time, the source of light being invisible to the person inspecting the interior of the oven, but entirely under control.

In the drawings, Figure 1 is a longitudinal vertical mid-section on a large scale, illustrating our invention. Fig. 2 is a perspective view of the lamp-case; and Fig. 3 is a horizontal section through the front wall of the oven, showing the relative positions of the illuminating apparatus and the oven-door.

Let A represent the interior of an oven; B, the front wall of the same; and C, the door or door-opening, all of which may be constructed in the usual way.

In the front wall B, and as near the door as convenient, is built a rectangular cast-iron frame, D, to bound an aperture, E, which extends through the wall. To this frame is fitted a shut-off slide, F, which plays in grooves in the flanges of the frame D, and which may be conveniently operated through the oven-door C. The opening E may be as close to the oven-door as shown in Fig. 3, but not so close that the slide F, when drawn out, will interfere with the passage of articles through the oven-door. G is a lamp-case, arranged to slide freely into the aperture E, and rest against a flange of the frame D, so as to prevent the escape of hot air from the oven. This case may be made of sheet-iron, and it is provided with a glass front, *a*, arranged to slide in vertical grooves in the case, so as to be readily removable for cleaning, as shown in Fig. 2. H is an ordinary lamp, to set in the lamp-case, as shown, but not attached thereto. A stop, *b*, is provided to prevent the lamp being pushed too far forward. The lamp is provided with an adjustable reflector, I, mounted on a vertical spindle, *c*, attached to the lamp body or handle, and having its focus arranged to properly concentrate and reflect the rays from the burner. When the oven is to be heated for baking, the slide F is pushed in so as to cut off or close the aperture, so that no heat may escape. The lamp-case may be taken out, the lamp cleaned and got ready, and the glass front *a* removed and wiped off. When the oven is ready for baking the case is pushed into the opening E as far as it will go, and the lamp lighted and put in it. The slide F may now be drawn back, and the glass front, while it prevents any escape of heat from the oven, will permit the reflector to throw a bright light into the farthest recesses of the same. By turning the reflector on its spindle by means of the arm *d*, the light may be directed to any point, as desired. A lamp is most convenient, but a gas-burner, provided with a stand and a flexible tube, might be used. For the glass front *a* we prefer to use a piece of thick French plate, but a plate tempered by the Bastie process would answer very well. The lamp should have a chimney of the same material, so that both may be the better able to withstand the heat from the oven.

In the ordinary way of illuminating ovens the baker throws open the door, and introduces a burner or hand lamp. The light being necessarily visible, and between him and the interior of the oven, he is partially blinded by the glare, and the steam arising from the baking bread prevents the rays of light from penetrating to the extreme depth of the oven. Moreover, he is compelled to throw the door wide open, and much heat is lost.

Our device completely obviates these defects. The door may be opened and closed quickly, there being no lamp or burner to handle and delay the operation. The source of light is invisible while the interior of the oven is being inspected, and every part may be examined, the reflector serving to concentrate the rays and cause them to penetrate the vapors in the oven. The lamp-case is readily removed, and the glass front taken out for cleaning. The lamp may also be readily removed, and the reflector taken off for cleaning or polishing.

Having thus described our invention, what

we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the frame D, provided with a slide, F, the lamp-case G, having a removable glass-front plate, *a*, and arranged to receive a suitable lamp, H, or a burner, all arranged to operate as set forth, for the purposes specified.

2. In combination with the frame D, slide F, and case G, having a glass front, *a*, the lamp H, and removable reflector I, arranged to rotate on a vertical spindle, *c*, so as to direct the reflected rays to any part of the oven desired, when arranged to operate as and for the purposes set forth.

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

ANTON MEIER.
PETER DEUKER.

Witnesses:
HENRY CONNETT,
ARTHUR C. FRASER.