

E. C. LITTLE & D. H. NATION.

Stove Oven-Shelf,

No. 205,754.

Patented July 9, 1878.

FIG. 1.

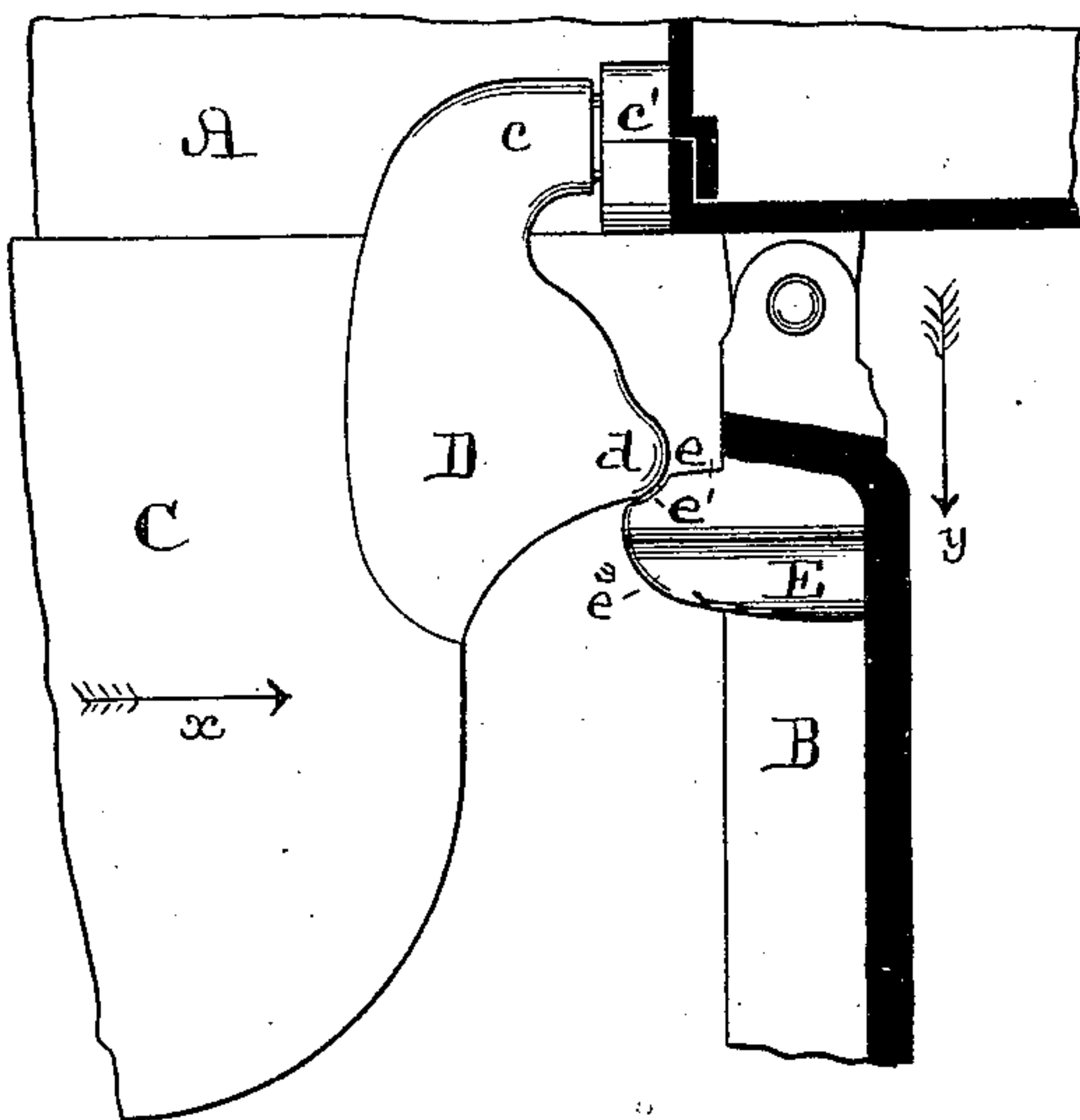


FIG. 2.

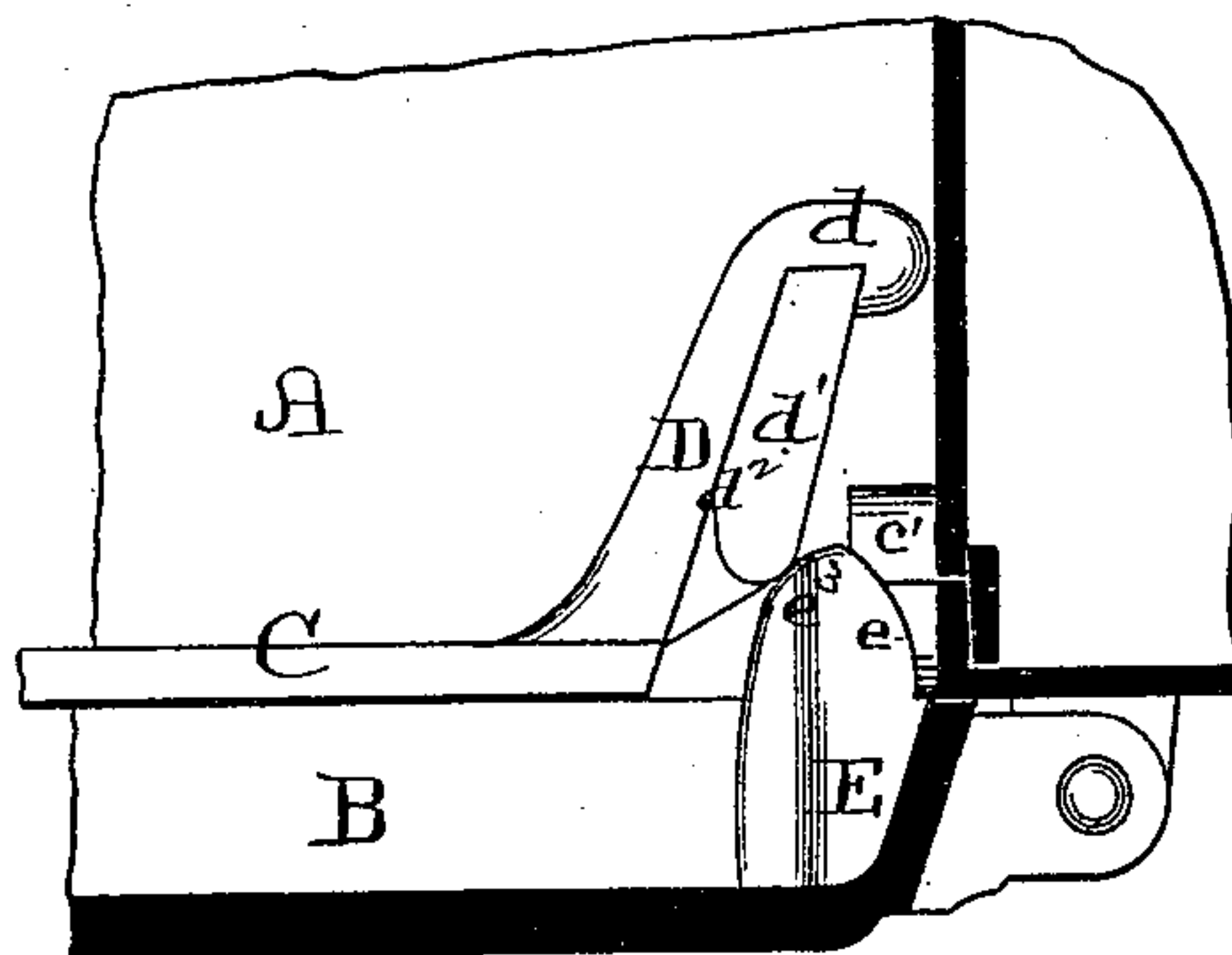


FIG. 3.

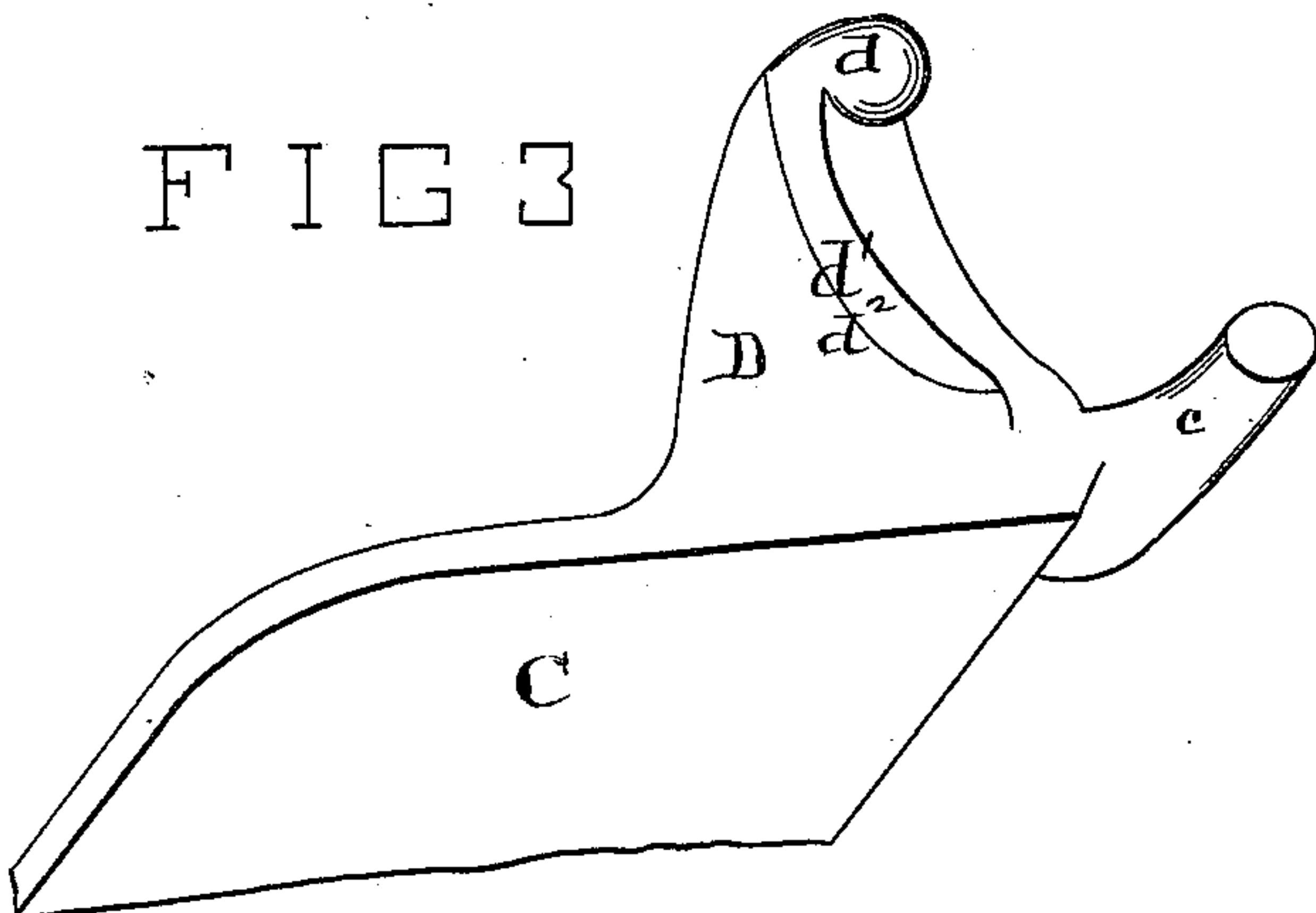


FIG. 4.

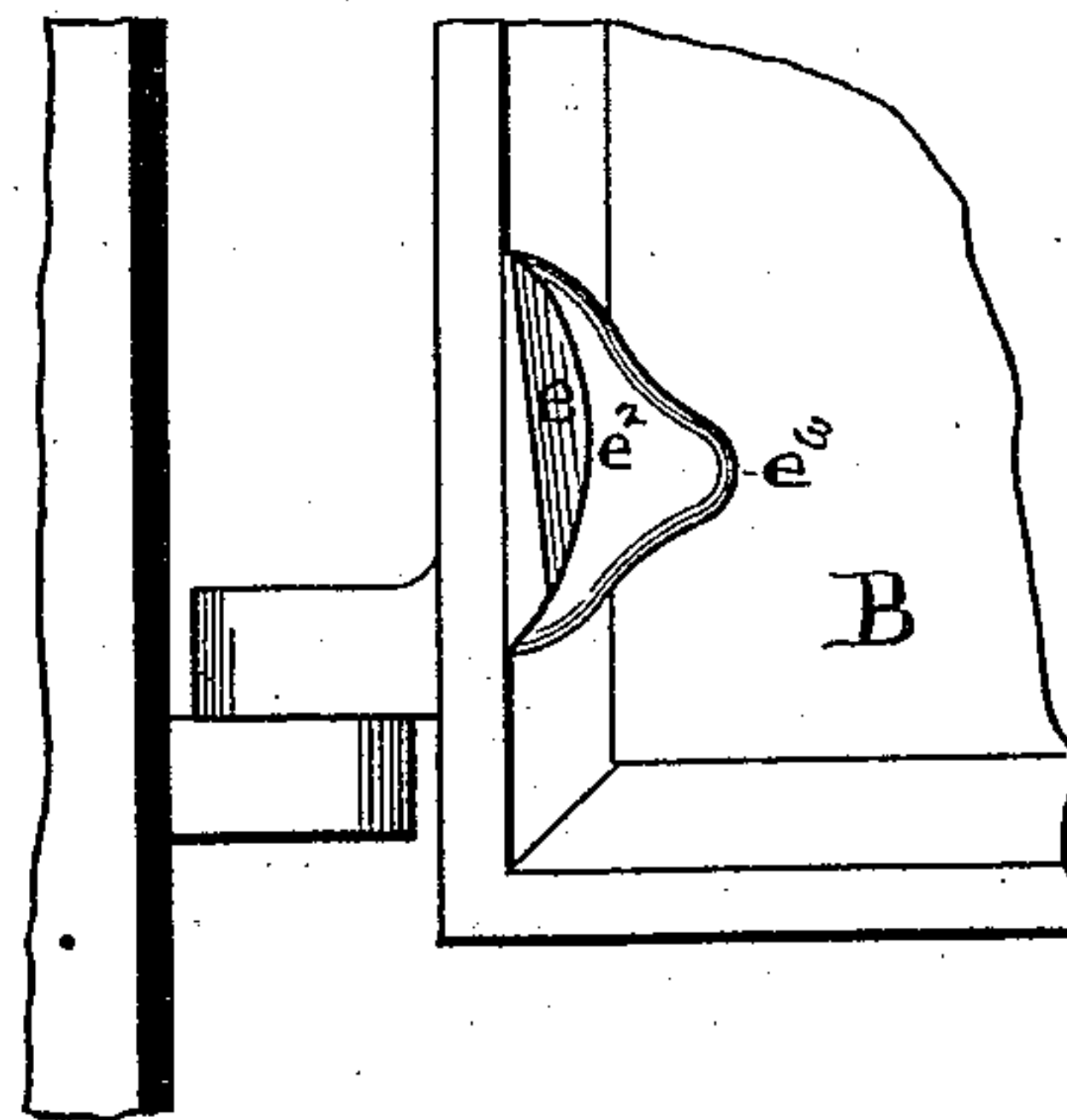
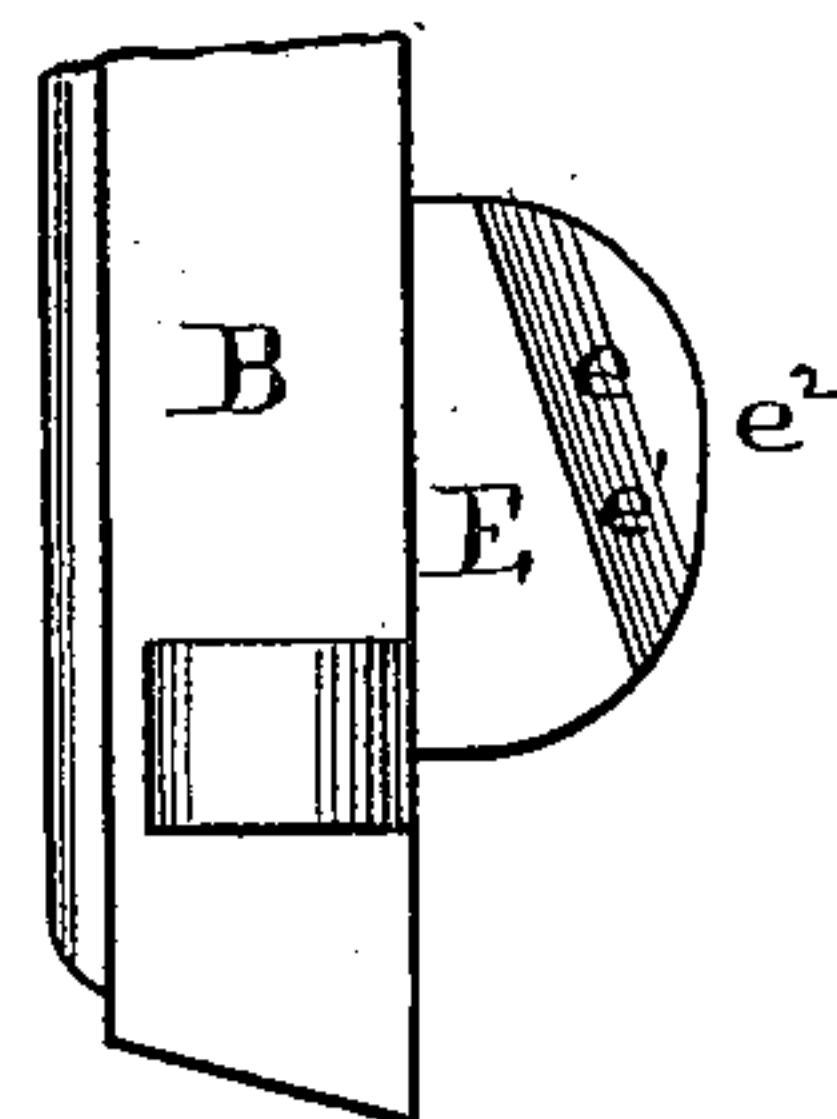


FIG. 5.



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FIG. 6.

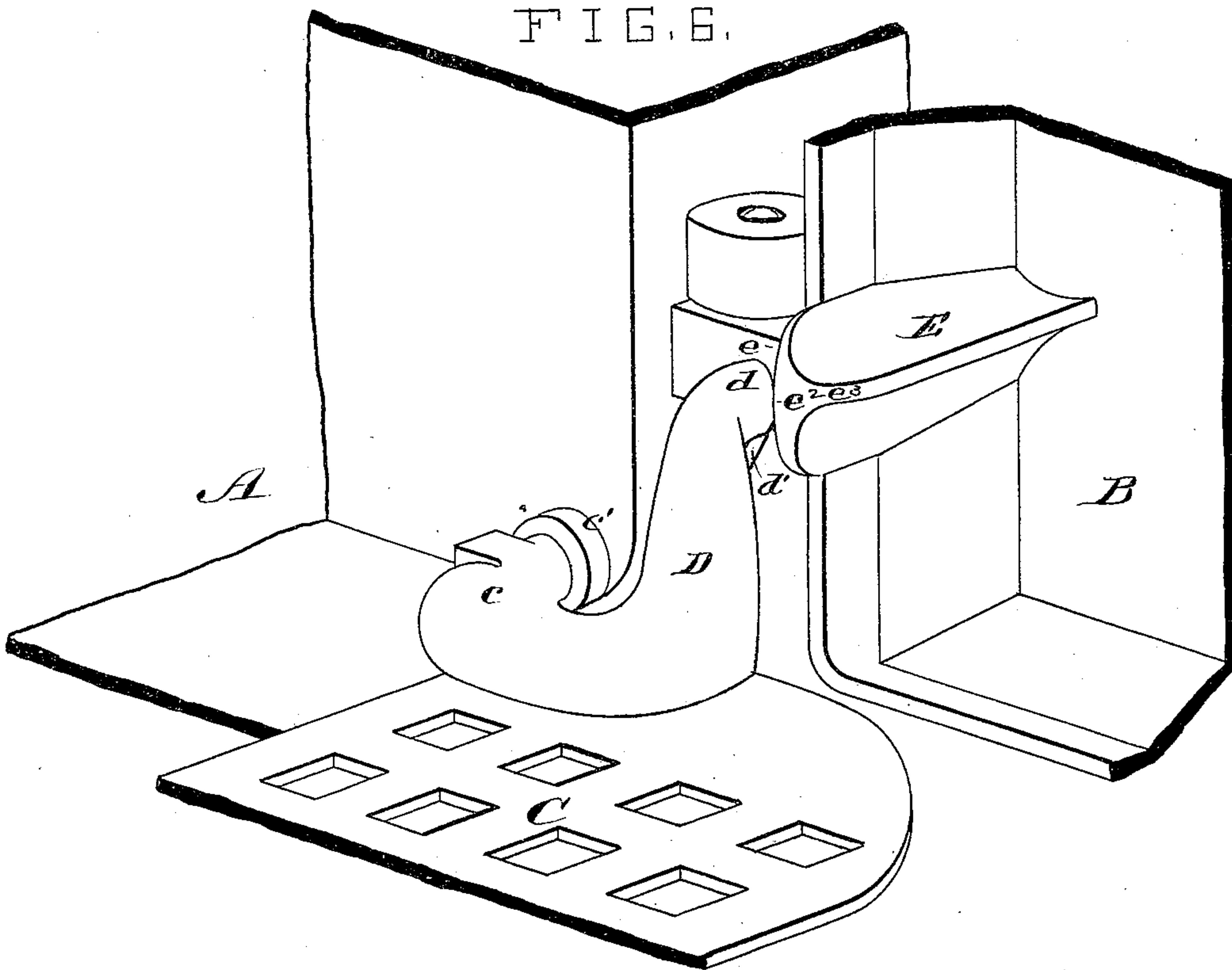
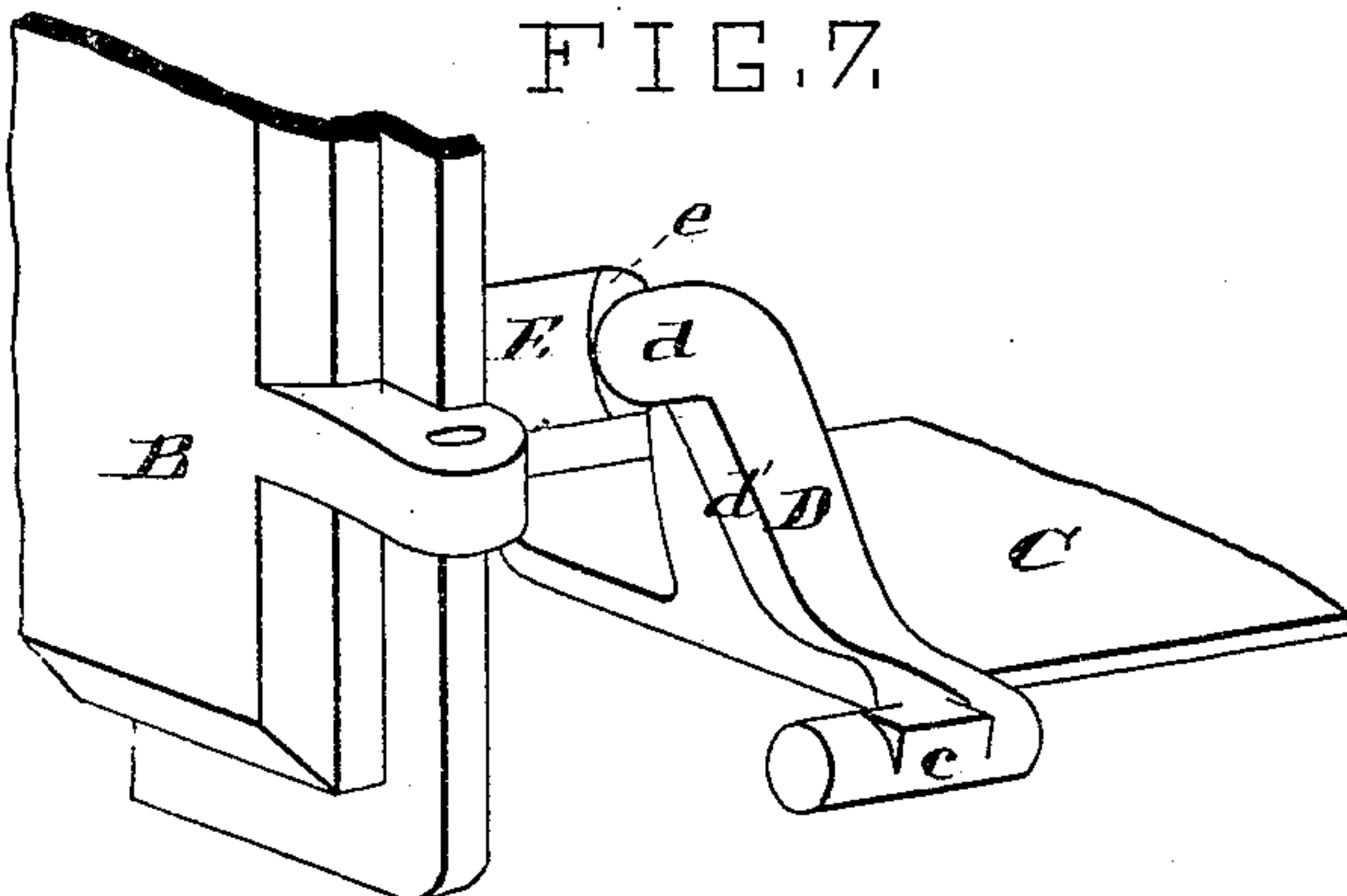


FIG. 7.



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EZEKIEL C. LITTLE AND DAVID H. NATION, OF ST. LOUIS, MO., ASSIGNORS  
TO THE EXCELSIOR MANUFACTURING COMPANY, OF SAME PLACE.

## IMPROVEMENT IN STOVE-OVEN SHELVES.

Specification forming part of Letters Patent No. 205,754, dated July 9, 1878; application filed  
May 13, 1878.

*To all whom it may concern:*

Be it known that we, EZEKIEL C. LITTLE and DAVID H. NATION, residents of St. Louis, Missouri, have made a new and useful Improvement in Stove-Oven Shelves, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making part of this specification, in which—

Figure 1 is a horizontal section taken through a stove embodying the improvement, showing the shelf let down, and showing only the parts immediately connected with the improvement; Fig. 2, a similar section, the parts being as when the oven-door is closed and the shelf turned up; Fig. 3, a view, in perspective, from beneath of that portion of the shelf shown in Figs. 1 and 2; Fig. 4, an elevation, looking in the direction of the arrow *x* of Fig. 1, of that portion of the oven-door shown in Figs. 1 and 2, and showing also that part of the stove to which the door is hinged; and Fig. 5, an end elevation of that portion of the oven-door shown in Figs. 1, 2, and 4, looking in the direction of the arrow *y* of Fig. 1; Fig. 6, a view, in perspective, of the improvement and of the parts immediately therewith connected; and Fig. 7, a detail, being a view, in perspective, from the inner side thereof (and looking from the position of the door-hinge) of a portion of the oven-shelf and of the oven-door, the parts being as in Fig. 6.

The same letters of reference denote the same parts.

The present is an improvement in that class of oven-shelves that are operated by the movement of the oven-door, and that, when the oven-door is shut, are inclosed within the oven, but when the oven-door is opened, are let down outward therefrom, forming a hearth just without the oven, and preferably even with the oven-bottom.

In the present improvement the shelf is operated by a projection on the oven-door coming directly into engagement with a projection upon the shelf; and the improvement has especial relation to the peculiar shape, arrangement, and operation of these projections.

Referring to the drawing, A represents the stove-oven; B, the oven-door, and C the oven-

shelf. The latter is supported by arms *c*, that are journaled in suitable bearings *c'*, and by means of which the shelf can be turned up within the oven or let down on the outside thereof. The shelf, at the end toward the door and near the inner edge of the shelf, is provided with a projection, D, that stands up from the shelf, and inclining slightly toward the door, as indicated more distinctly in Fig. 2. At its upper end the projection has an extension, *d*, that projects horizontally toward the inner end of the door. The projection is further, and on the side toward the door, provided with a rib, *d'*, that extends from the extension *d* downward, curving around, as shown in Figs. 2 and 3.

The door B is furnished with a projection, E, that projects from the inner face of the door far enough and so as to come past, opposite, and against the outer side of the extension *d* when the door is in the position of Fig. 1. The projection E, at its outer end and on the side toward the extension *d*, is beveled, as shown at *e*, Figs. 1, 2, 4, and 5. This bevel is preferably hollowed out slightly, as shown more distinctly at *e'*, Fig. 1. The nose of the projection E is also rounded in a vertical direction, as shown at *e''*, Figs. 4 and 5; and the projection is also preferably extended at *e'''*, Figs. 1, 2, and 4, in the direction of the outer end of the oven-door.

To lift the shelf, the door is moved into the position of Fig. 1. The bevel *e* of the projection E comes against the outer side of the extension *d*, causing the shelf to be lifted slightly. As the door continues to close, the nose of the projection passes down against the rib *d'*, causing the shelf to be lifted higher and higher, until finally the parts are brought into the position shown in Fig. 2—that is, the nose of the projection E, as the two parts D and E move upon each other, first rides diagonally downward and across the rib *d'* until it is close to the main part of the projection at *d''*, and then rides diagonally downward and back toward the outer lower end of the rib *d'*; and when the door is shut, the extension *e'''* is brought against the lower end of the rib *d'*, as in Fig. 2, and serving to hold up the shelf sufficiently to keep the latter from coming in con-



tact with the inner face of the door. The letting down of the shelf is effected by a movement the reverse of that above described.

The shelf being balanced to fall outward when its support is withdrawn, as the door swings open the projection moves up on the rib  $d^1$ , letting the shelf gradually down.

The chief advantage obtained from the present improvement is that the movement of the door in closing is gradually imparted to the shelf. However suddenly the door is swung to, the shelf is never struck violently; but its lifting is initiated easily and gently, and the entire movement effected quietly. This is owing, mainly, to the projection on the door encountering first the extension  $d$  of the part D, and then to its winding down and around the rib  $d'$ , in the manner described.

We are aware that stove-oven shelves have been lifted by means of the oven-door, and that projections have been used upon the door and also upon the shelf; and also that the projection on the door has been furnished with a roller. The latter is valuable in reducing the

friction; but it is liable to be broken in suddenly closing the door, and it increases the cost of the construction. By means of the peculiar shape of the parts E and D we are enabled to dispense with a roller, and yet be able to operate the shelf as easily as when a roller is used.

We claim—

1. The combination of the door B and the shelf C, the former having the projection E, having the bevel  $e$ , and the latter having the projection D, provided with the extension  $d$  and rib  $d^1$ , substantially as described.

2. The door B, having the projection E, provided with the extension  $e^3$ , and having the bevel  $e$ , in combination with the shelf C, having the projection D, provided with the extension  $d$  and the rib  $d^1$ , as and for the purpose described.

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Witnesses:

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