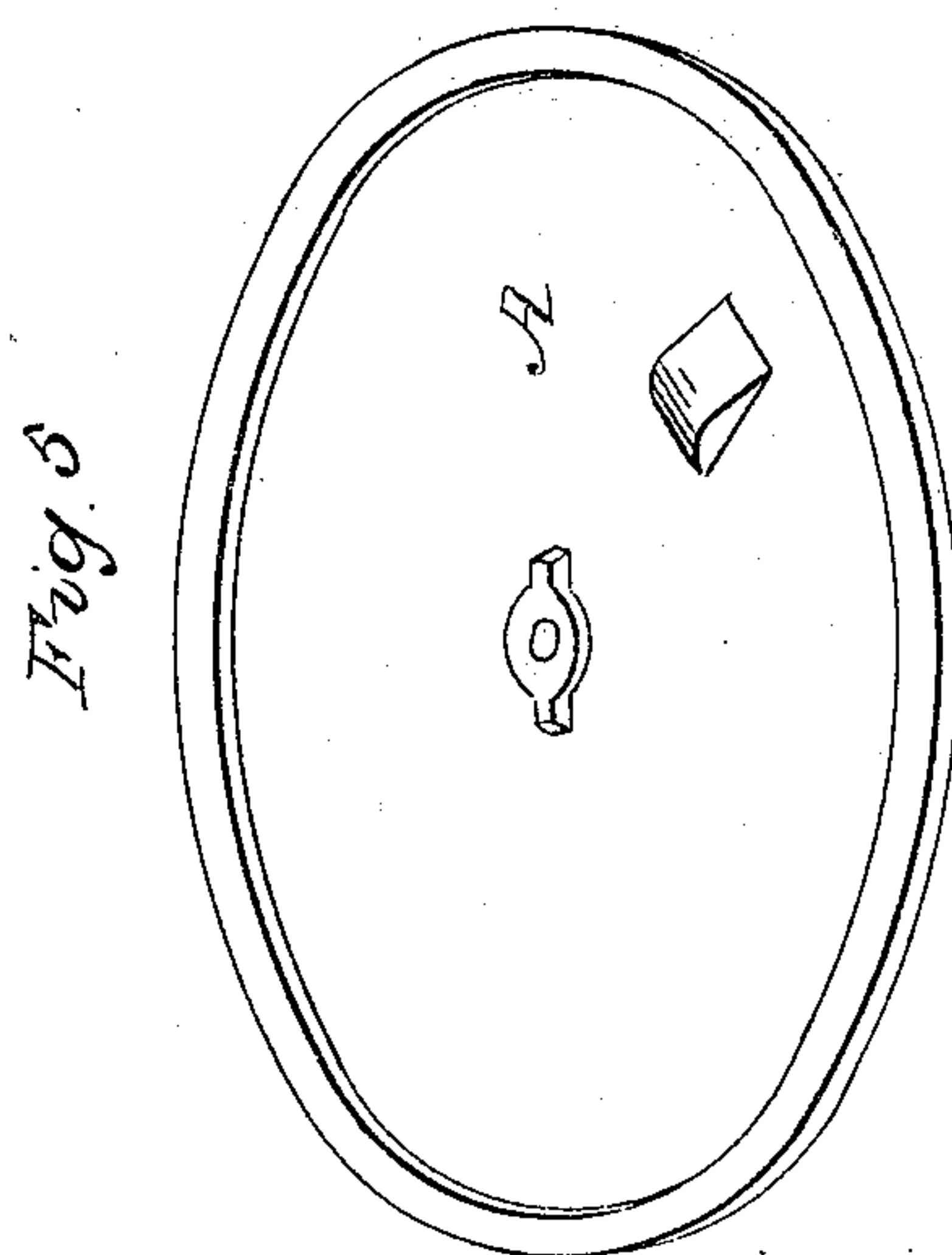
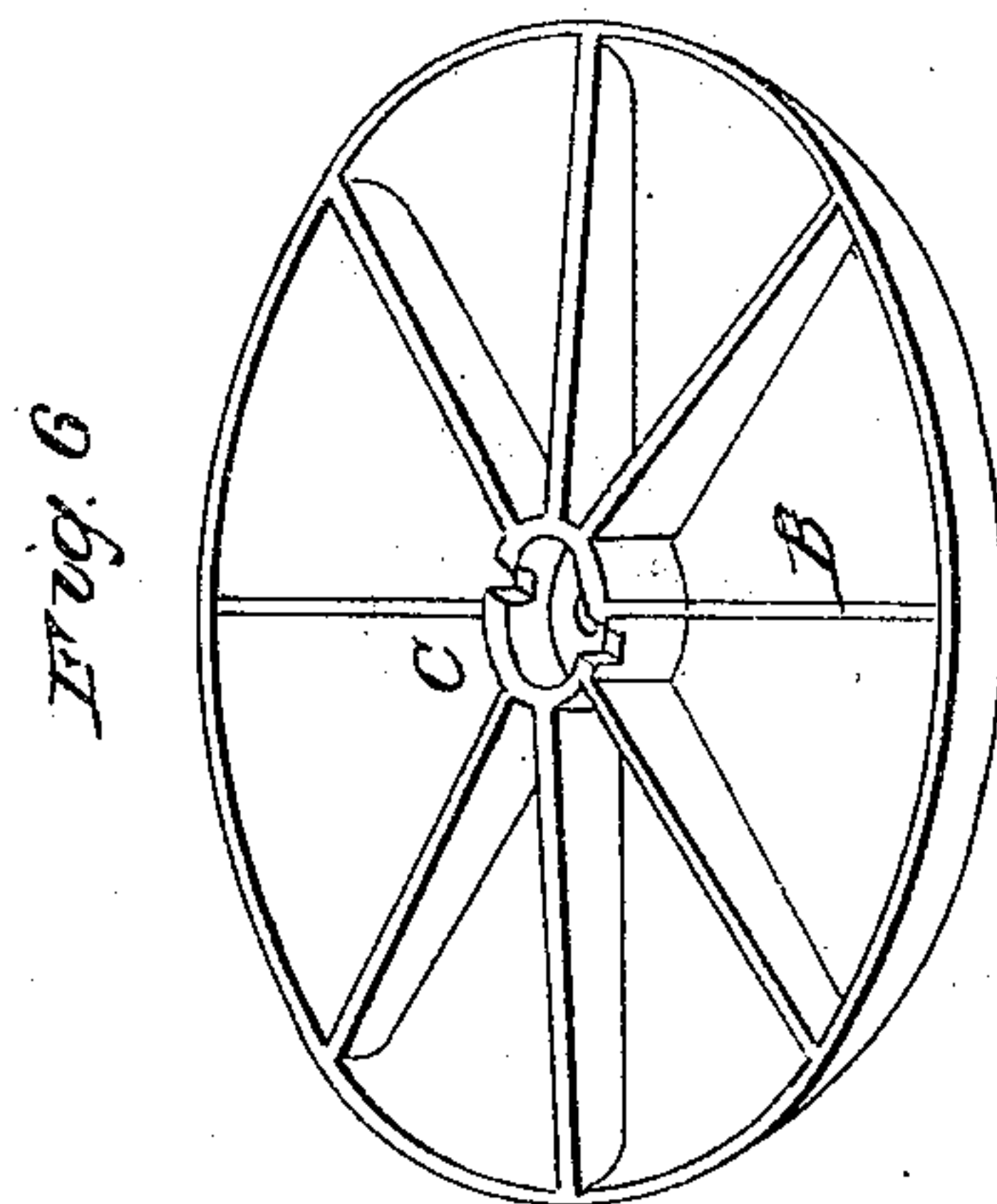
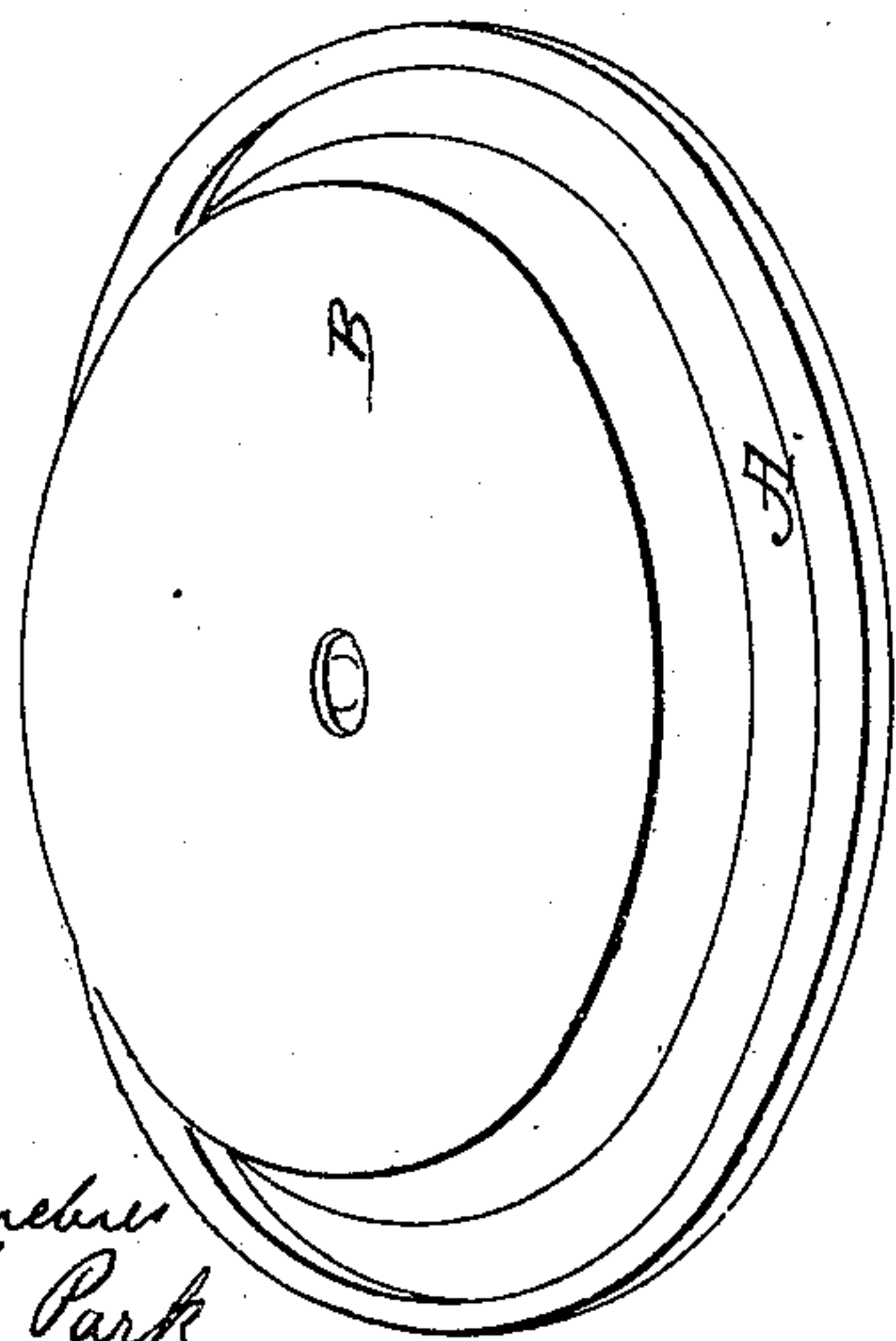
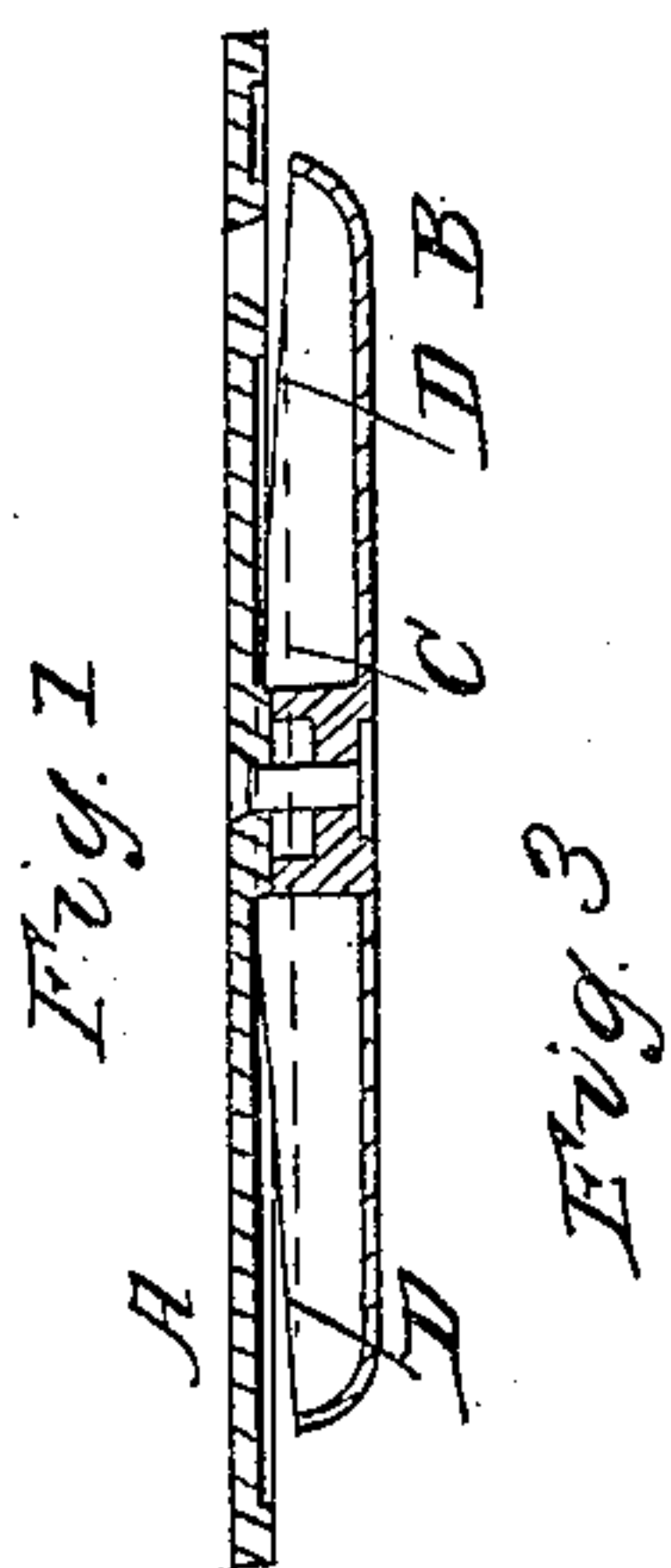
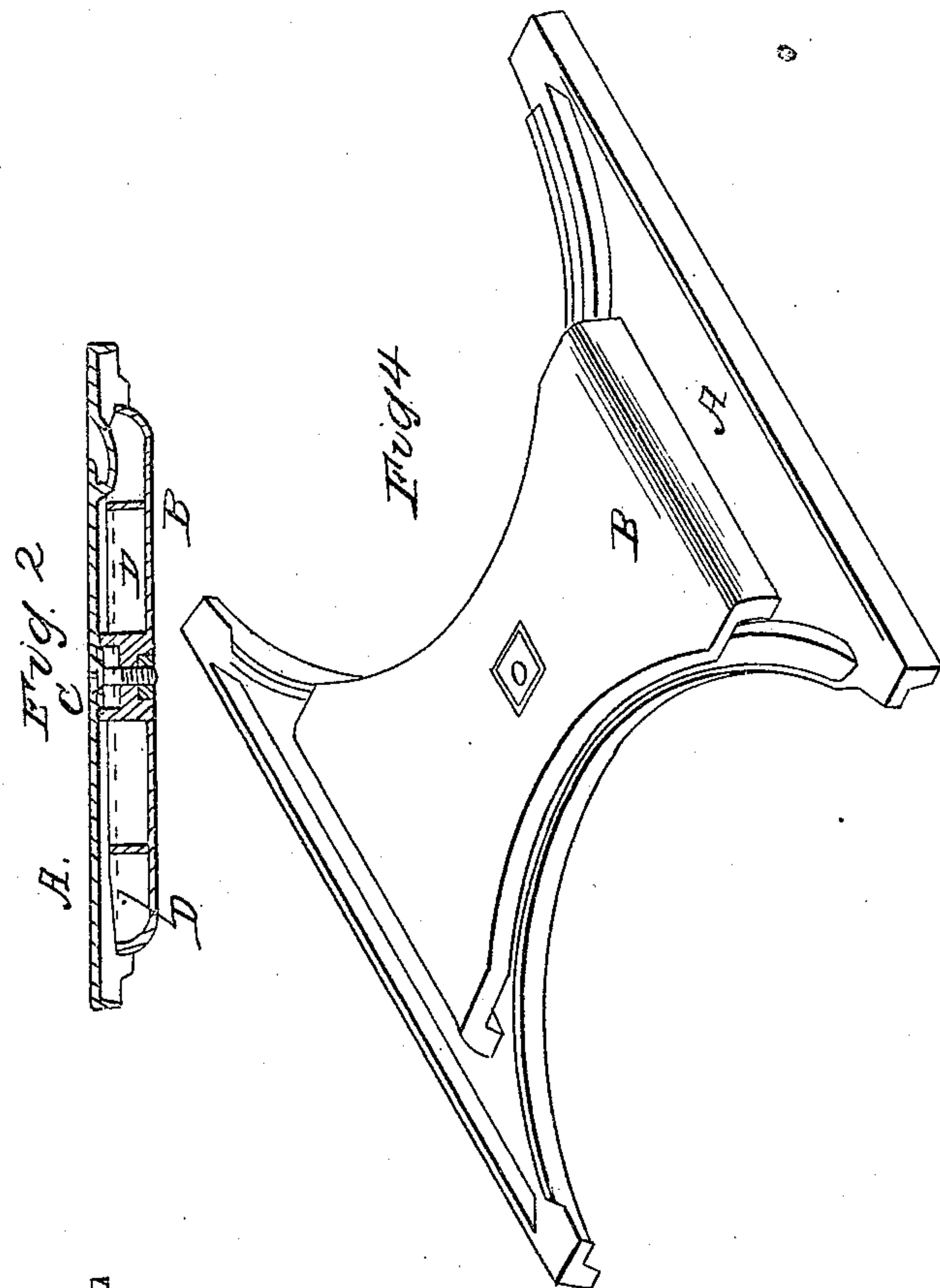


J. RUSSELL.

Stove Lid.

No. 30,988.

Patented Dec. 18, 1860.



Thos. J. Connelley
Andrus L. Park

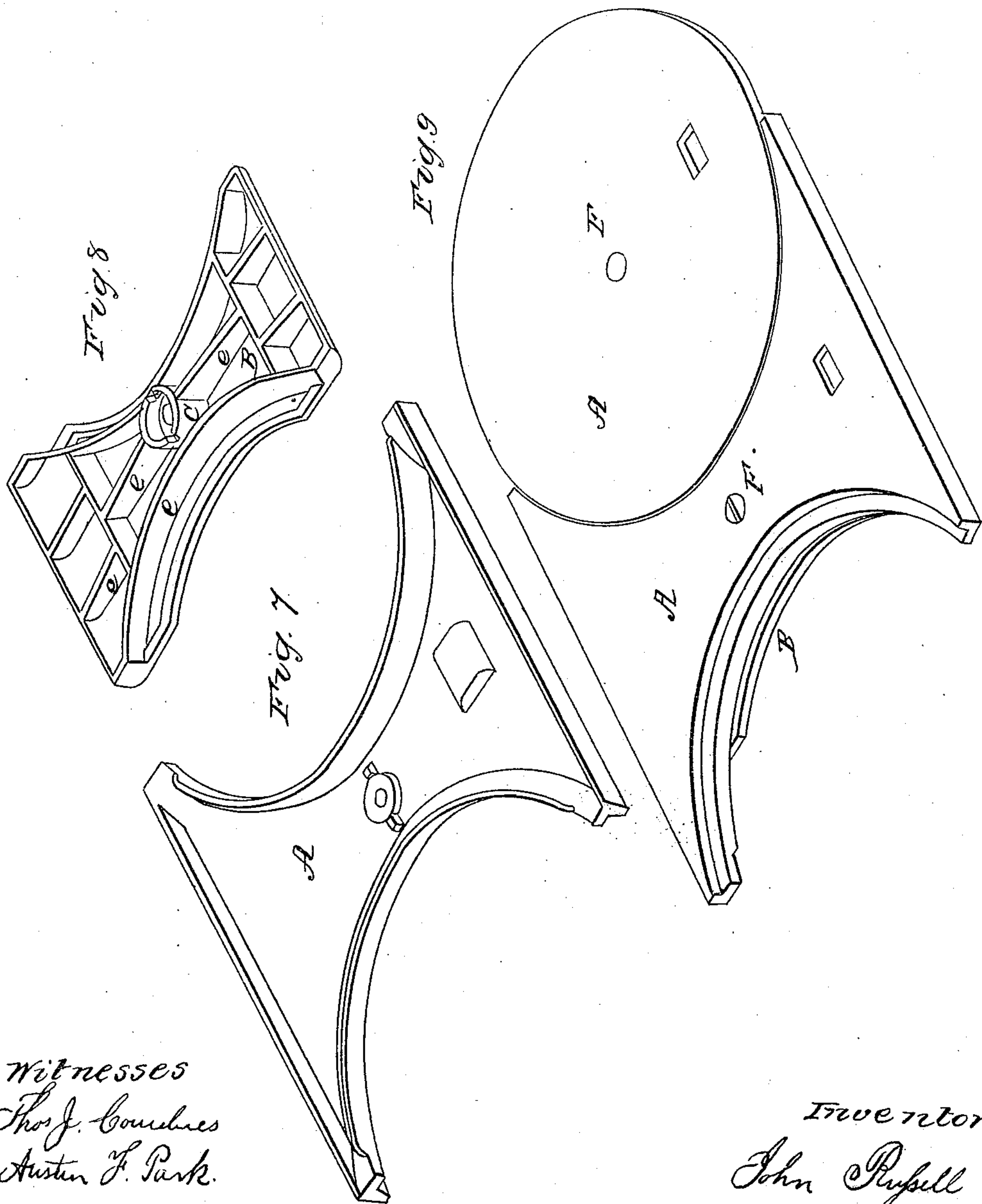
John Russell

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Witnesses
Thos J. Couches
Austin F. Park.

Inventor
John Russell

UNITED STATES PATENT OFFICE.

JOHN RUSSELL, OF TROY, NEW YORK.

STOVE-COVER.

Specification of Letters Patent No. 30,988, dated December 18, 1860.

To all whom it may concern:

Be it known that I, JOHN RUSSELL, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and Improved Cast-Iron Cover or Division-Piece for the Pot or Boiler Holes of Cooking Stoves and Ranges; and I do hereby declare that the following is a full and exact description of the same, reference being had to the annexed two sheets of drawings, which make a part of this specification, and in which—

Figure 1 is a central vertical section of one of my improved pot-hole covers; Fig. 3, a perspective view of the same turned bottom side up; and Figs. 5 and 6 are, respectively, perspective views of the inner sides of the upper and lower plates of one of my improved pot-hole covers. Fig. 2 is a central longitudinal vertical section of one of my improved division pieces; Fig. 4, a perspective view of the same turned bottom side up; and Figs. 7 and 8, Sheet 2, are, respectively, perspective views of the inner sides of the two plates of one of my improved division pieces. Fig. 9 is a perspective view of the upper side of the pot-hole cover and division piece placed together.

The same letters of reference indicate like parts in all the figures.

The improved stove-cover which constitutes the subject matter of my invention,—whether the cover is in the form of a pot-hole-cover or of the division-piece of a boiler-hole—consists of an upper cast-iron plate, A, and a lower cast-iron plate B; the upper plate A, being formed to rest at its periphery or ends upon a depressed flange in the top or pot-hole plate of a cooking stove or range; and the lower plate, B, having raised, radial ribs, *e*, on its upper side, and being rigidly secured to the upper plate so as to be supported by, but at a permanently uniform distance from the latter, by means of a single intervening block or projection, C, and a bolt or rivet, F, both located together at one and the same place at or near the middle of the two plates, all substantially as shown by the annexed drawings.

In my improved stove-cover the under plate, B, is secured to the upper plate, A, in the particular manner above described, in order that the under plate shall be entirely free to expand and contract, and warp and bend, in every direction under the in-

fluence of the greatly variable heat to which it is subject in use, without any interference whatever from the upper plate or any other part of the cover, and without tending to warp, bend, or fracture the upper plate, or to break or strain the bolt or fastening, E, by which the under plate is held to the upper one. And also, in order that the ignited or intensely heated gaseous products of combustion, in the fire-chamber over which the cover is to be used, may at all times in an equal degree freely circulate between, and in contact with the inner surfaces of both of the plates, so that the heated gases will thereby directly give sufficient heat to the upper plate, A, to make it hot enough for quickly heating smoothing-irons, for roasting and stewing, and for rapidly effecting all other heating and cooking operations that are generally required to be performed on the tops of cooking stoves and ranges, and, so that the heated gases, by circulating between the two plates, shall give out additional heat to the upper side of the lower plate, and thus in an important degree equalize the expansion of the upper and lower sides of that plate, and thereby lessen the liability of the under plate to fracture by reason of the unequal expansion caused by the most intense heat on its under side, next to the ignited coal in the fire-box of the stove or range.

I make the under plate, B, of my improved stove-cover with upright radial ribs, *e*, on its upper side, in order that it shall be so stiff in proportion to its weight that the plate will not sag down when heated to the highest degree to which it is subject in use; and also in order that the upper side of that plate shall absorb a greater amount of caloric from the over-passing gases—to equalize further the expansion of the upper and under sides of that plate—as well when the whole upper surface of the under plate is naked, as when the horizontal portion of the upper side becomes covered by lodging ashes, and only the upright sides of the ribs remain bare.

My improved stove-cover above described is therefore substantially different from a stove-cover having a plain, flat plate loosely suspended by a staple from a handle above the upper plate, so as to act as a weight to raise the handle of the cover,—there being an annular flange on the under side of the upper plate and extended around and below

the under plate, as shown in No. 25,466 of United States patents, and on page 176, vol. 2, new series, of the *Scientific American*. For, in such a stove cover, the flange that
 5 extends around and below the under plate will become much hotter than the other portions of the upper plate, so as to render the upper plate very liable to fracture from unequal expansion; and the flat under plate is
 10 liable to be tilted, and to have every part of its upper side covered by poorly-conducting ashes lodging thereon, and does not have enough strength in proportion to its weight to prevent it from sagging down when used
 15 over such intense fires of anthracite coal as are often had in cooking-stoves and ranges. My improved stove-cover shown by the annexed drawings is also substantially different from any stove cover that has the under
 20 plate rigidly secured to, but apart from, the upper plate, by means of two or more sets of fastenings, each set arranged at a distance from the other and consisting of an intervening block or projection and a bolt or
 25 rivet. For in the latter case the necessarily greater amount of expansion in the lower plate than in the upper one, and the consequent warping of the under plate, surely tends to bend or fracture the upper as well
 30 as the lower plate, and to break the fastenings that hold the two plates together. My improved stove-cover represented in the annexed drawings is also substantially different from any stove-cover which has its two
 35 plates secured together, but apart from each other, by means of a bolt through the middle of the plates and a ring all around and between the peripheries of the plates, as shown in No. 23,332 of United States patents; for

in the latter case the ring that keeps the plates apart prevents the circulation of the
 40 ignited or intensely heated gases of combustion through between the plates, and consequently the upper plate does not directly receive any heat from the gases of combustion and is therefore deficiently heated for
 45 rapid cooking thereon; and as the under plate is heated only on its under surface, that plate is very liable to become warped and broken by reason of the greater expansion
 50 on its under side which causes it to bow down in the middle and strain upon, and tend to bend down or fracture the upper plate, and to break the central bolt which holds the plates together.

Having thus described my improved stove-cover, to which, as a complete article of manufacture I limit my claim for protection, and having pointed out some substantial differences that exist between it and
 60 other stove-covers which appear to resemble it most nearly, I will here distinctly state that what I claim as new of my invention and desire to secure by Letters Patent is—

A stove-cover composed of an upper supporting and cooking plate, A, and a lower
 65 protecting plate B, the lower plate being made with ribs, *e*, on its upper side, and secured to but apart from the upper plate by means of an intervening block or projection,
 70 C, and a bolt or rivet, F, both arranged together at or near the middle of the plates, as herein shown and specified.

JOHN RUSSELL.

Witnesses:

THOS. J. CORNELIUS,
 AUSTIN F. PARK.