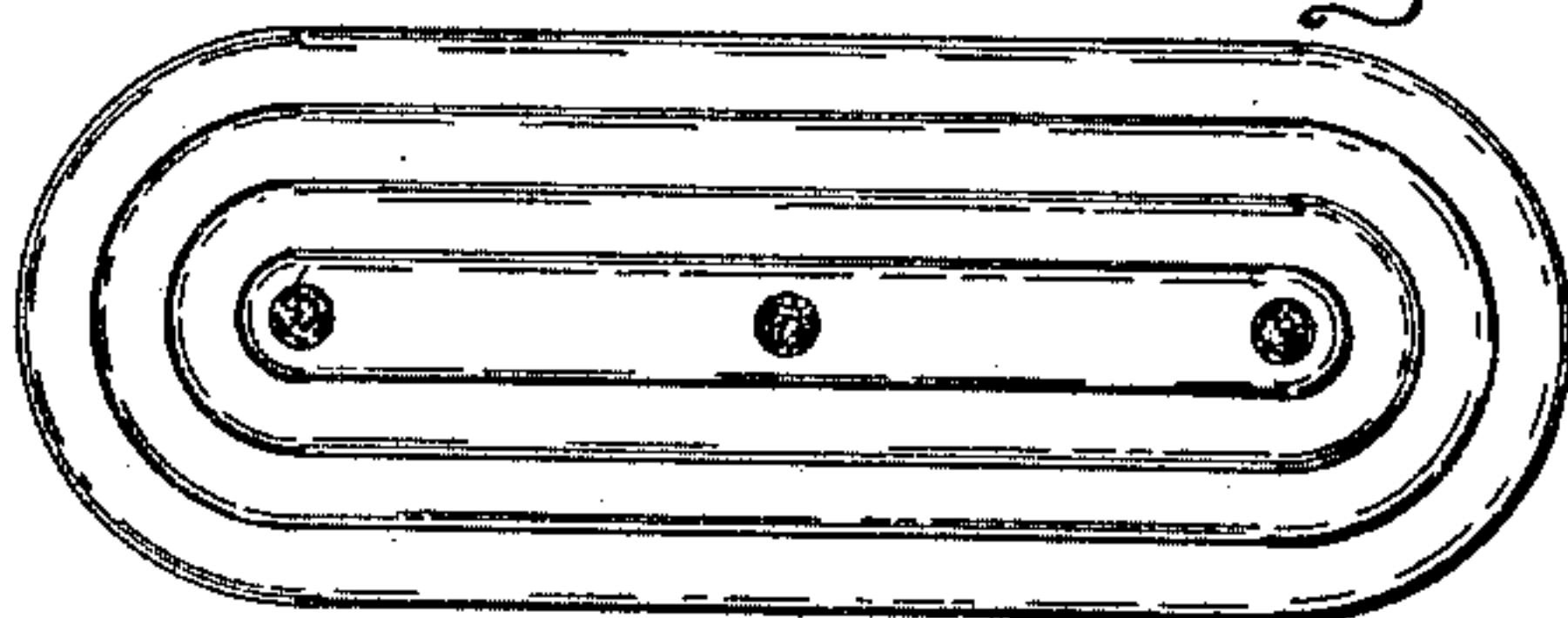
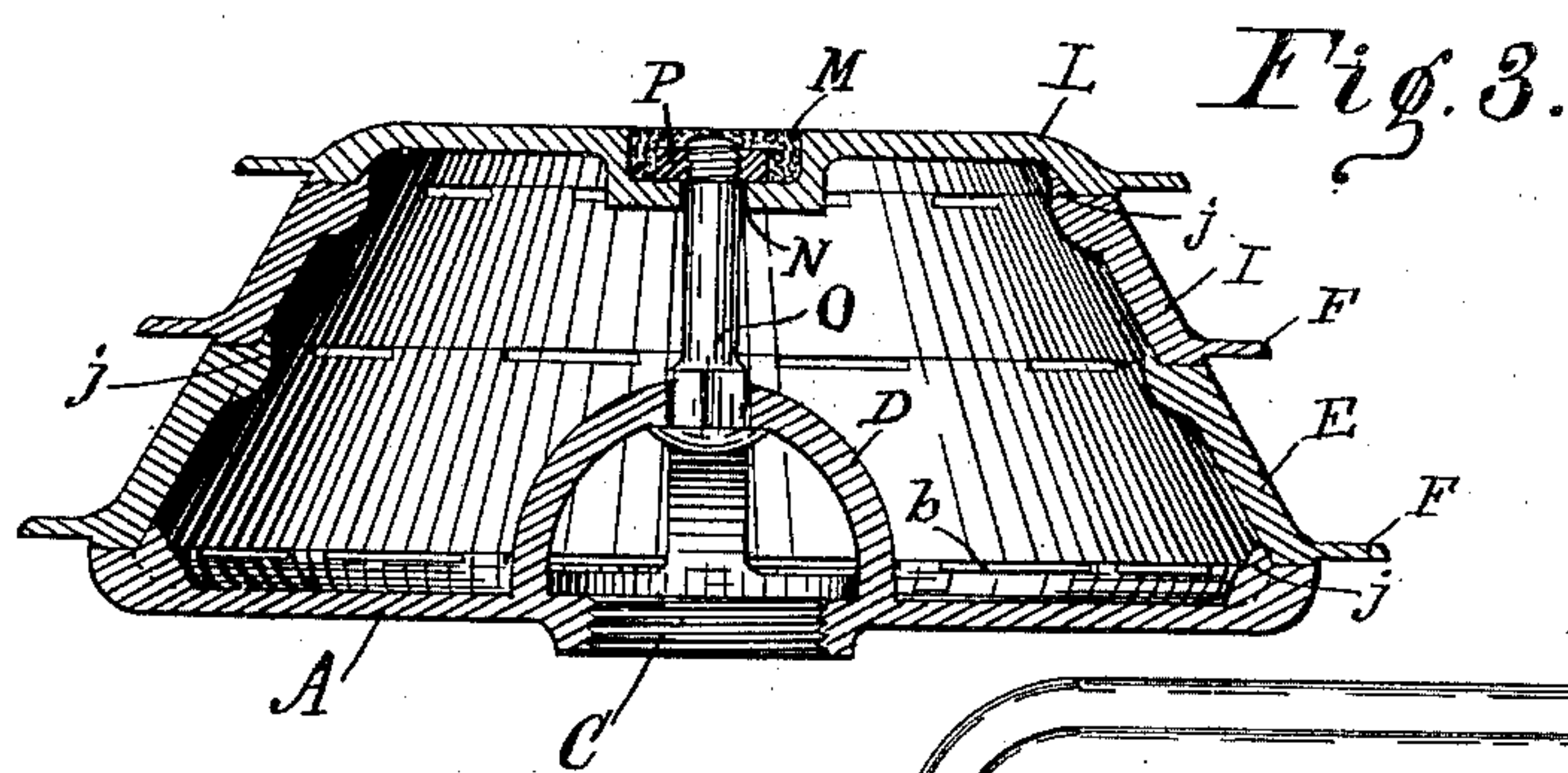
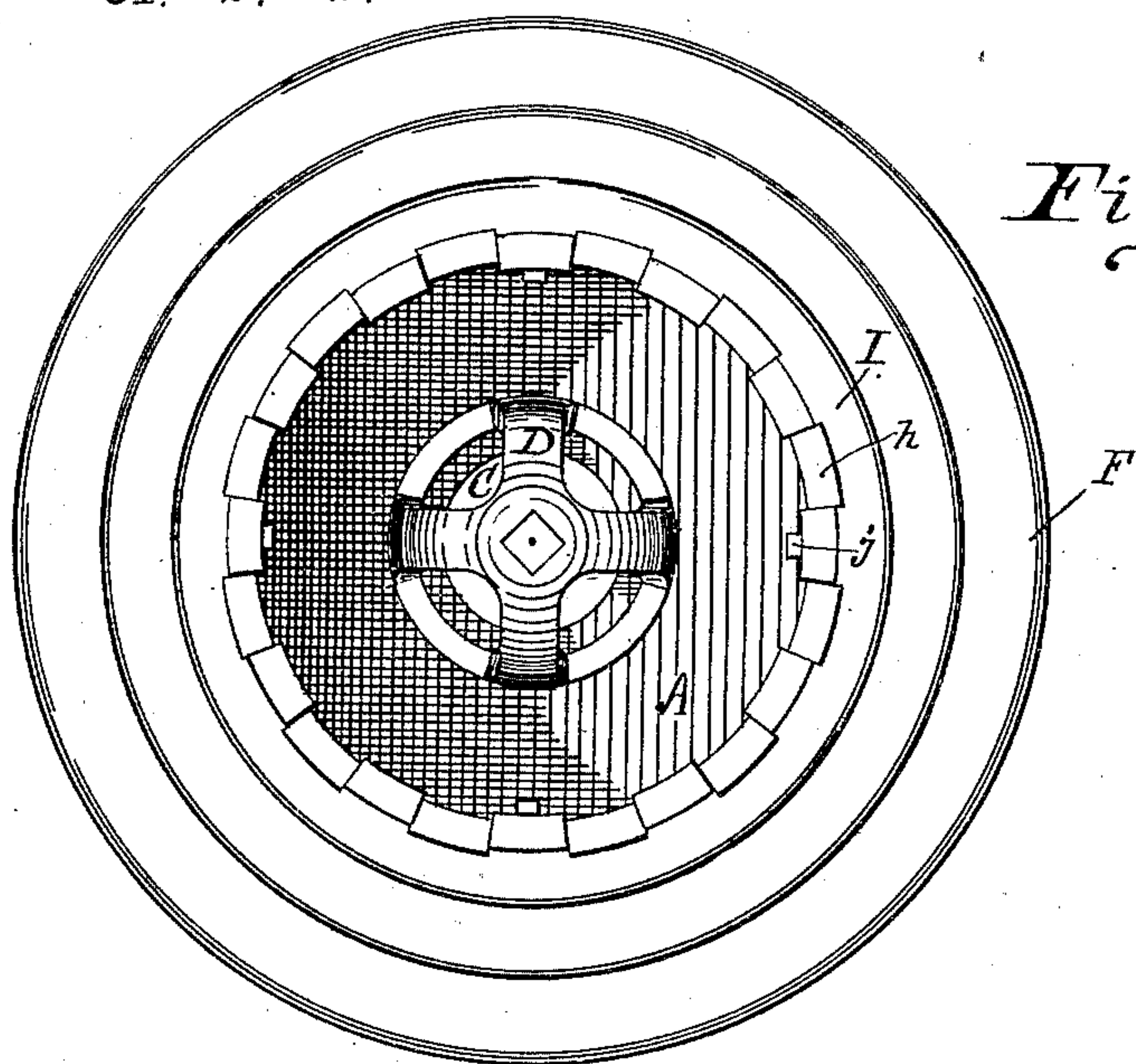
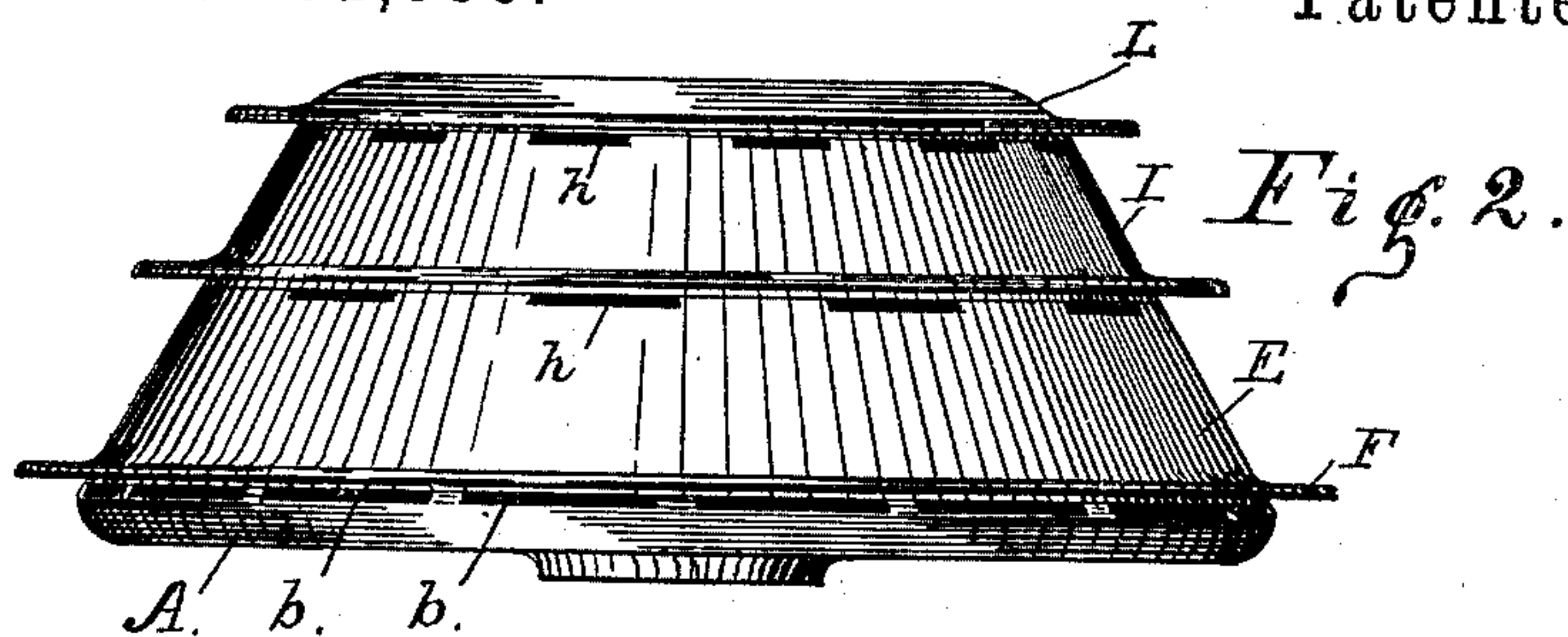


(No Model.)

J. F. MAINS.
FUEL GAS BURNER.

No. 461,886.

Patented Oct. 27, 1891.



Witnesses
H. P. Hood
A. M. Hood.

Inventor:
John F. Mains

UNITED STATES PATENT OFFICE.

JOHN F. MAINS, OF INDIANAPOLIS, INDIANA, ASSIGNOR OF THREE-FOURTHS
TO BRUCE CARR, HARVEY M. LA FOLLETTE, AND EDWARD I. ROBISON,
ALL OF SAME PLACE.

FUEL-GAS BURNER.

SPECIFICATION forming part of Letters Patent No. 461,886, dated October 27, 1891.

Application filed January 2, 1891. Serial No. 376,482. (No model.)

To all whom it may concern:

Be it known that I, JOHN F. MAINS, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented a new and useful Improvement in Fuel-Gas Burners, of which the following is a specification.

My invention relates to an improved fuel-gas burner.

10 The object of my improvement is, first, to so construct the burner that its several parts may be easily molded, and will, when placed together, provide means for the egress and proper distribution of the gas in different vertical planes without drilling or the use of
15 other machine-work, and, second, to provide means for holding the several parts of the burner together, which shall be concealed from view and protected from the action of the fire.

20 The accompanying drawings illustrate my invention.

Figure 1 is a plan having the top plate removed; Fig. 2, a side elevation, and Fig. 3 a central vertical section. Fig. 4 is a plan of a
25 modified form of the burner.

A is a cast plate having a slightly-raised peripheral edge, in which is a series of shallow notches *b b*, and having also at its center an opening C for the ingress of the gas, which
30 opening is spanned by a raised open bridge D. Plate A is preferably circular in shape; but it may be oblong, as in Fig. 4, or any other suitable shape. Arranged above and resting upon plate A is an annular tapered ring E, having at its lower edge a radially-projecting
35 flange F and having in its upper edge a series of shallow notches *h*, similar to the notches *b* in plate A. Arranged above ring E is a ring I of similar construction but smaller in diameter. Any desired number of rings like E and
40 I may be mounted on plate A, the rings forming the symmetrically-tapered side walls of the burner, in which the notches *b* and *h* form the openings for the egress of the gas, which is caused to spread outward by the flanges F.
45 The rings are held in position concentric with each other and with the plate A by

short lugs *j*, formed upon one and engaging the inner surface of the other. The upper ring is surmounted by a top plate L, having
50 a central recess or socket M and a central opening N. The base-plate A and top plate L are clamped together, thus holding the rings E and I in place between them by an ordinary carriage-bolt O, which is passed upward
55 through the interior bridge D on plate A into the recess M in the top plate L, where it receives the nut P. The recess is then filled with a fire-proof cement. By this construction the bolt is concealed and is protected
60 from the action of the fire. The separate tapered annular rings having openings between them form the side walls of the burner, having outlets in different vertical planes for the egress of the gas, so that one does not interfere
65 with the other, and they are easily and cheaply molded, so that any machine-work on them is rendered unnecessary.

I claim as my invention—

1. The above-described fuel-gas burner, consisting of the base-plate having an inlet-opening spanned by the open bridge D and on its upper side the notches *b*, the series of annular tapered rings, each having at its base a horizontally-projecting continuous flange and
75 a series of notches formed in its upper edge, said rings forming together the inwardly-inclined walls of the burner, having a series of gas-outlets arranged in different vertical planes, the top plate covering the uppermost
80 of said rings and projecting radially beyond it, and the binding-bolt, all constructed and arranged as shown and described.

2. In a fuel-gas burner, the combination of the base-plate having the interior open bridge
85 D, the annular notched rings forming the side walls of the burner, and the top plate having the recess M, bolt O, and nut P, all arranged to co-operate substantially as set forth.

JOHN F. MAINS.

Witnesses:

H. P. HOOD,
A. M. HOOD.