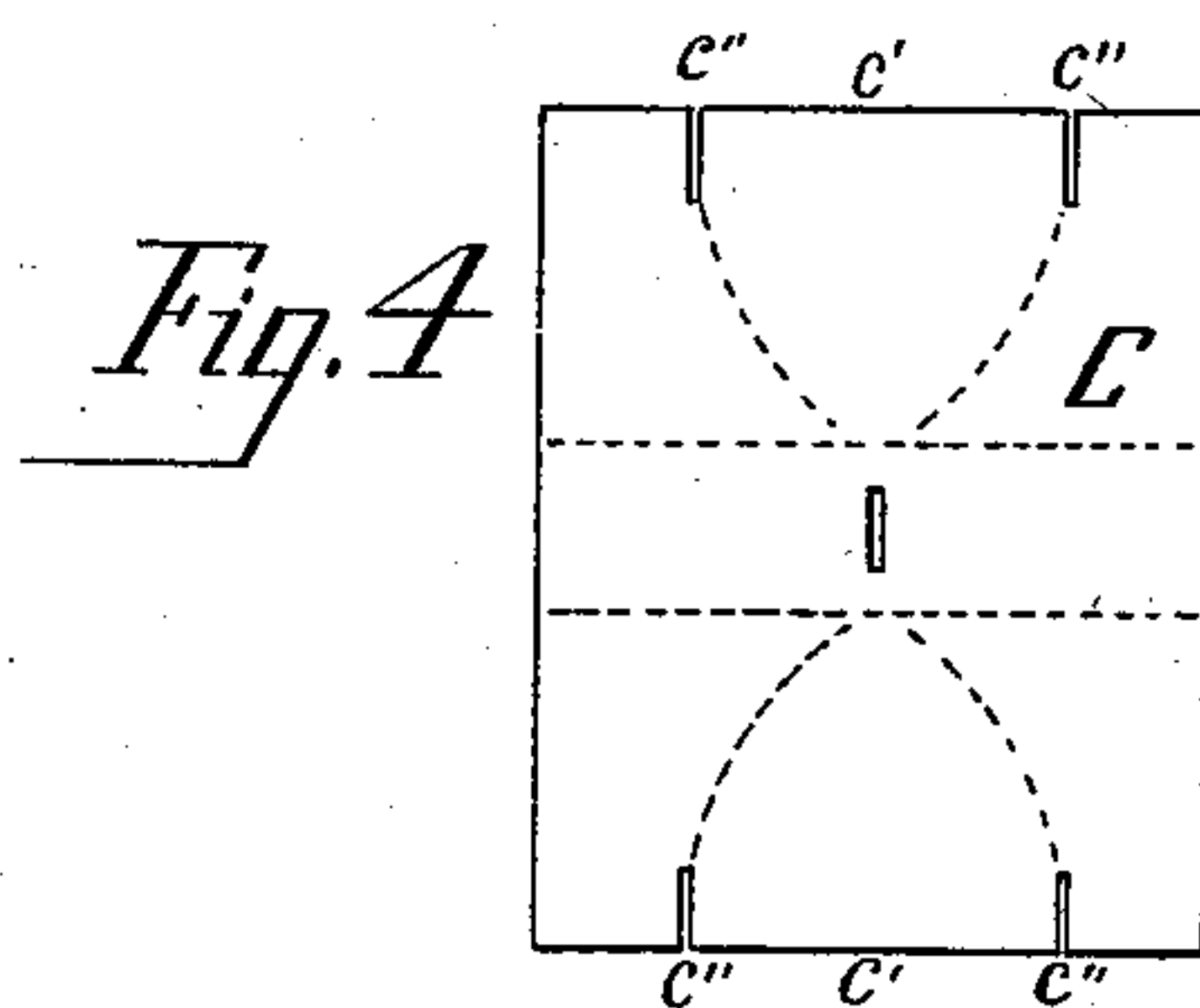
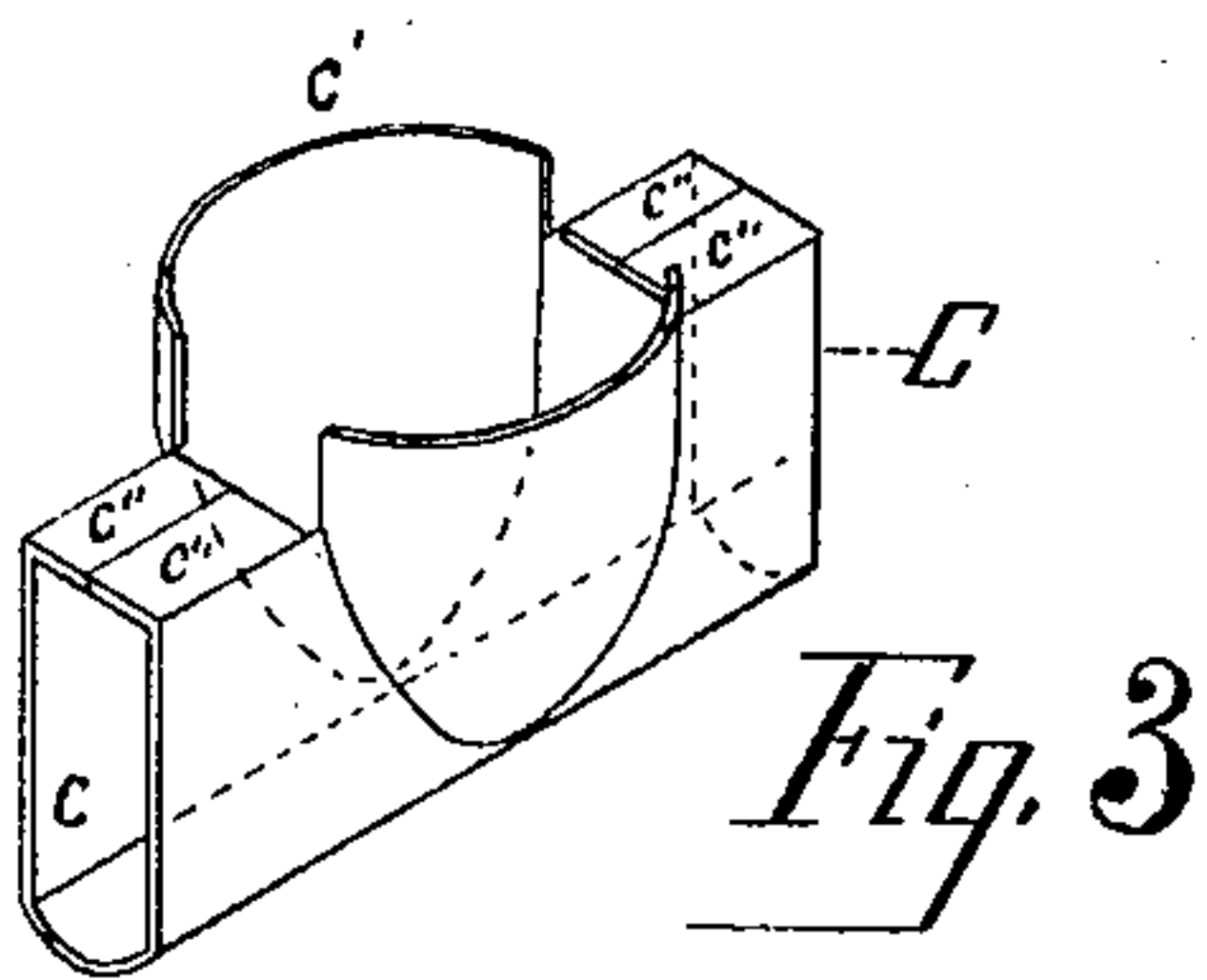
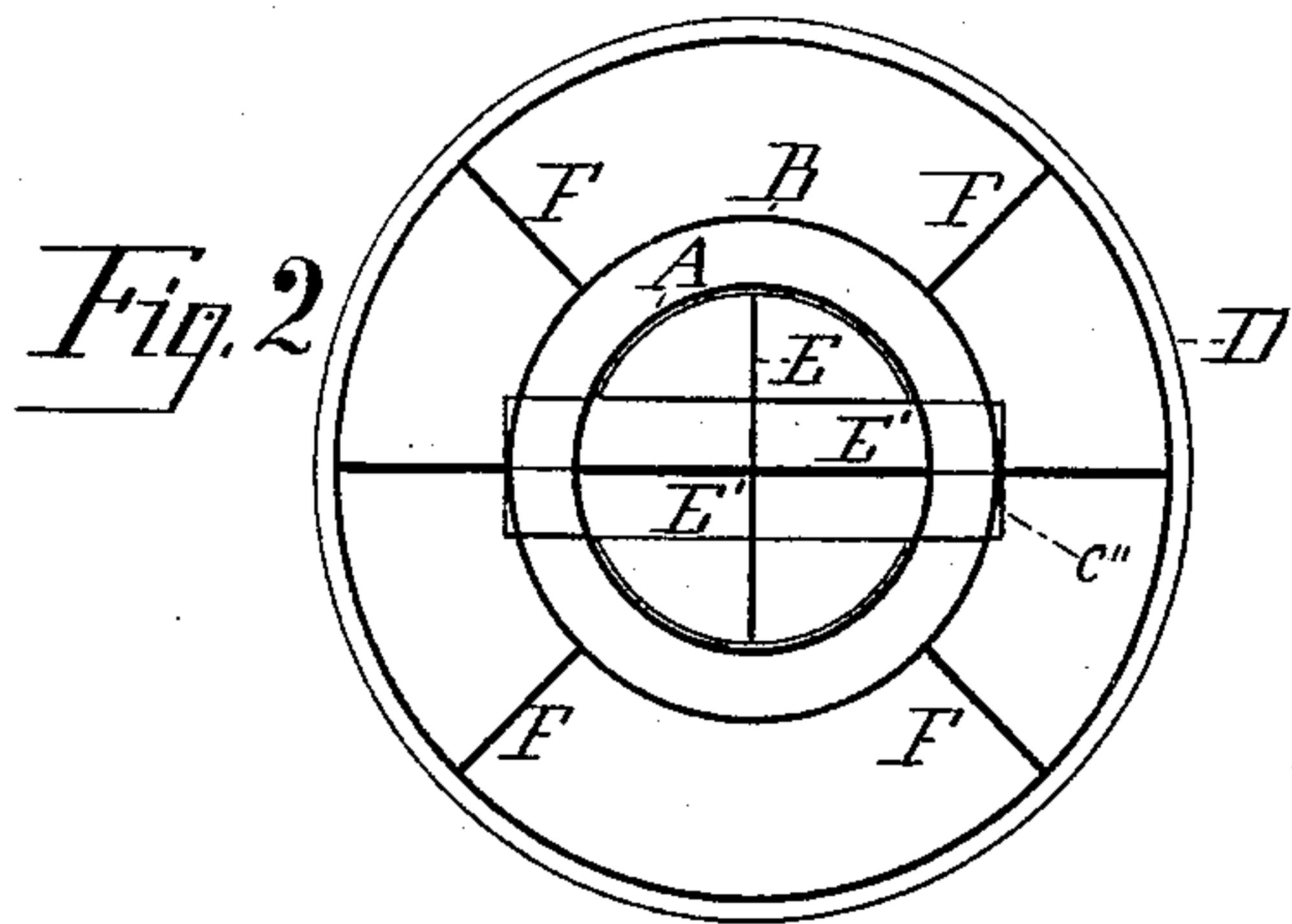
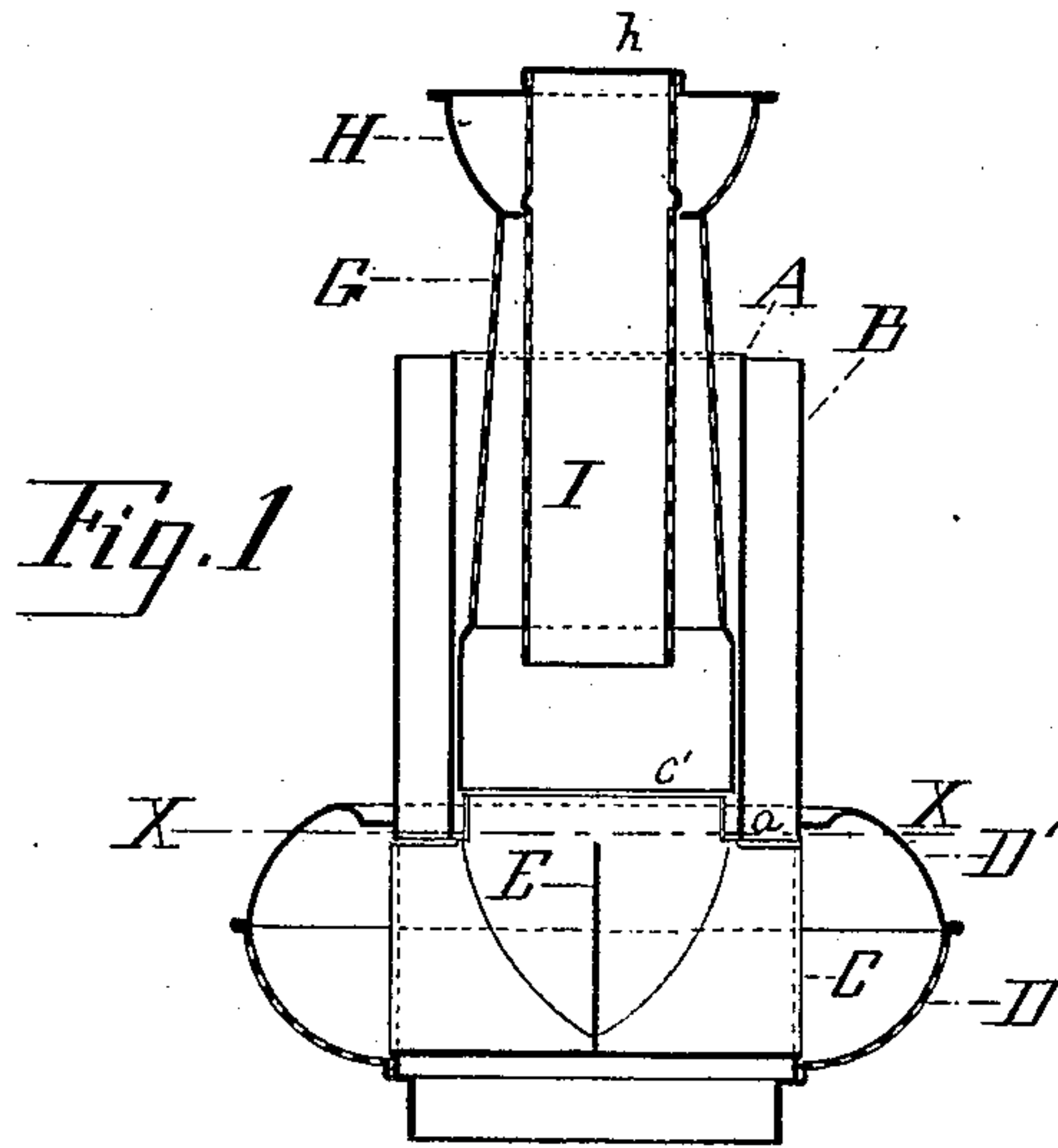


(No Model.)

F. RHIND.
ARGAND LAMP BURNER.

No. 407,492.

Patented July 23, 1889.



WITNESSES

Sidney J. Roky
E. C. Curtiss.

Frank Rhind
INVENTOR
per Geo. L. Cooper Atty.

UNITED STATES PATENT OFFICE.

FRANK RHIND, OF MERIDEN, CONNECTICUT, ASSIGNOR OF ONE-HALF TO
CHARLES S. UPTON, OF NEW YORK, N. Y.

ARGAND LAMP-BURNER.

SPECIFICATION forming part of Letters Patent No. 407,492, dated July 23, 1889.

Application filed June 27, 1887. Serial No. 242,569. (No model.)

To all whom it may concern:

Be it known that I, FRANK RHIND, a citizen of the United States, residing at Meriden, county of New Haven, and State of Connecticut, have invented a new and useful Improvement in Argand Lamp-Burners, of which the following is a specification.

My invention relates to that class of burners which have a tubular wick, and is intended to simplify and cheapen such burners, and at the same time to improve their light-giving qualities.

In the accompanying drawings, Figure 1 represents in vertical section a burner embodying my improvements. Fig. 2 is a horizontal section in outline through the line $x x$ in Fig. 1. Fig. 3 shows in perspective a detached portion of the burner. Fig. 4 is a plan view of the blank from which the portion shown in Fig. 3 is made.

Similar letters refer to similar parts in the several views.

A designates the inner and B the outer wick-tube of a burner.

In the example of my invention shown in the drawings the construction and operation of the inner air-distributor are as follows:

D is the lower and D' the upper shell of the body or skirt of the burner. One or both of these shells are perforated to admit air through the ports c to the interior of the flame.

G is the conical portion, and H the button-shaped upper portion, of a perforated air-distributor. h is a circular projection from the upper disk of such air-distributor. I is a cylindrical perforated tube within the air-distributor.

My invention is constructed and operated as follows: G H is an inner air-distributor, such as is shown and claimed in a patent granted to me December 29, 1885, and numbered 333,338, and need not be here described. The cylindrical tube I is formed from perforated sheet metal, and is of a size to pass snugly through the upper end of the cone-frustum G and fit in the recess h on the under side of the disk which forms the top of the air-distributor. This tube I is open at its lower end within the cone-frustum G, and

closed at its upper end by the disk H, so that all the air which impinges against the upper edge of the flame passes through the perforations in the upper end of the tube I, as well as through those in the button-shaped distributor H. The result is a flame with a smooth even upper edge.

September 29, 1886, I made application for a patent on a burner resembling in general construction the one here shown and described, which application has received Serial No. 222,125. I therefore disclaim anything described or claimed therein.

In the various forms of construction shown in the above-named application the inner perforated portion is shown as secured at its lower end to the outer foraminous portion or air-distributor proper, so that all the air supplied to the inner surface of the flame is drawn through two foraminous shells. It is sometimes advantageous, in order to secure a larger supply of air at the base of the flame, to suspend the inner perforated portion from above, so that a portion of the air is permitted to impinge upon the base of the flame after passing through one foraminous shell only. I believe the suspension of an inner foraminous shell from the top or cap of a perforated air-distributor to be new, and as many different forms of air-distributors are well known in the art, I do not wish to be limited to the particular shape of either inner perforated shell or air-distributor, or to the mode of supporting the inner shell here shown.

What I claim as my present invention, and desire to secure by Letters Patent of the United States, is as follows:

1. In an Argand burner, the combination of a foraminous inner air-distributor and a foraminous shell within said distributor, the lower end of said shell being of a diameter less than that of said distributor, so as to leave an annular opening between said shell and said distributor, substantially as described.

2. In an Argand burner, the combination of a foraminous inner air-distributor and a concentric foraminous portion of substantially cylindric form within said distributor, said concentric portion being of a less diameter

than the lower end of said distributor, and so as to leave an annular opening between said concentric portion and said distributor, substantially as described.

- 5 3. In an Argand burner, the combination of a foraminous inner air-distributor provided with an imperforate top and a concentric foraminous portion of substantially cylindric form within said distributor, the lower end of
10 said concentric portion open, its upper end closed by said cap, said concentric portion being of less diameter than said distributor, and so as to leave an annular opening between the lower end of said concentric portion and
15 said distributor, substantially as described.

4. In an Argand burner, the combination of an inner air-distributor consisting of a foraminous cone-frustum surmounted by a foraminous button-shaped portion covered by an imperforate cap and a foraminous open- 20 ended cylinder within said distributor, the upper end of said cylinder being closed by said cap, the lower end of less diameter than said distributor, and so as to leave an annular opening between said cylinder and said distributor, substantially as described.

FRANK RHIND.

Witnesses:

S. J. ROBY,
GEO. L. COOPER.