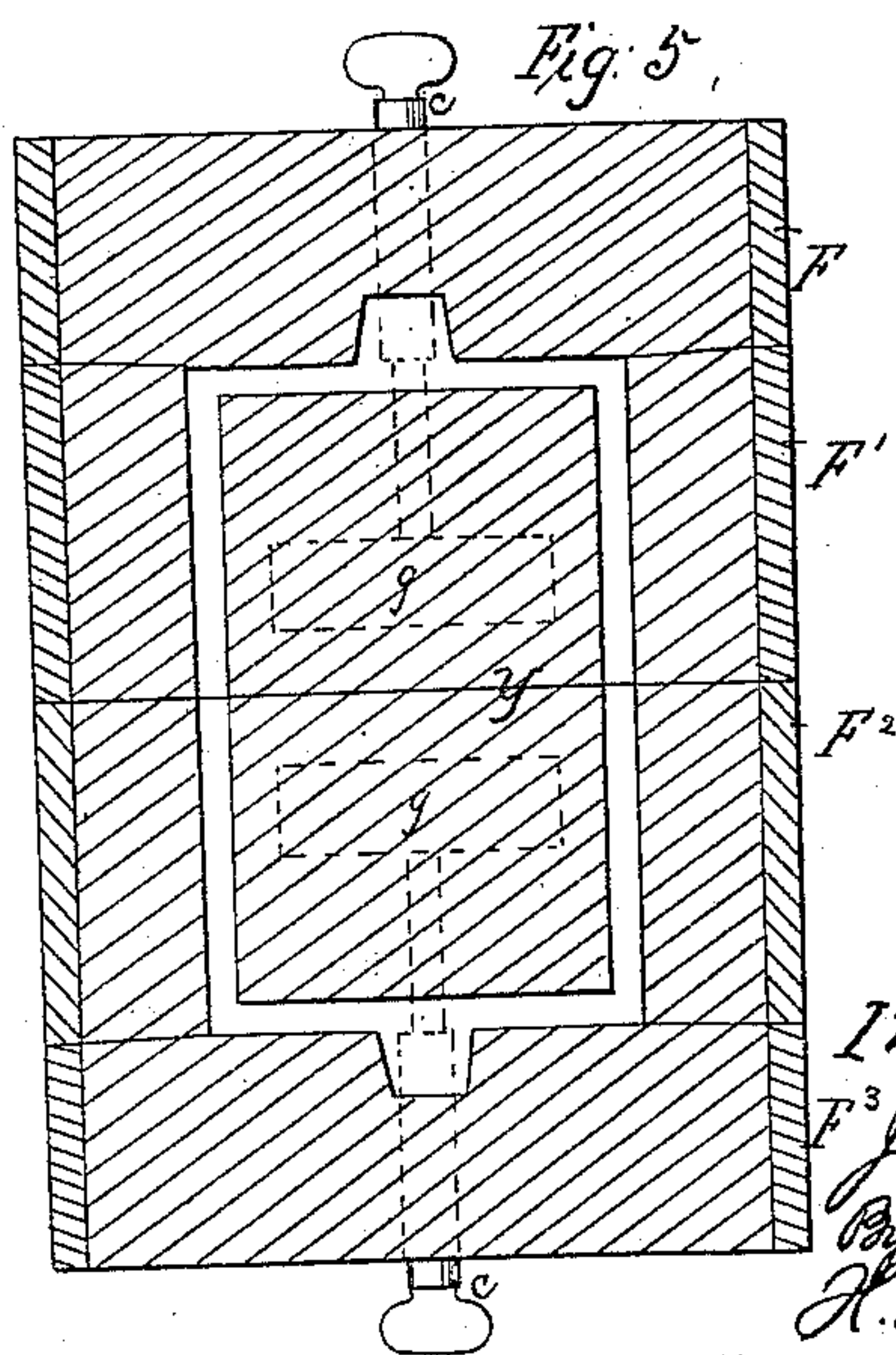
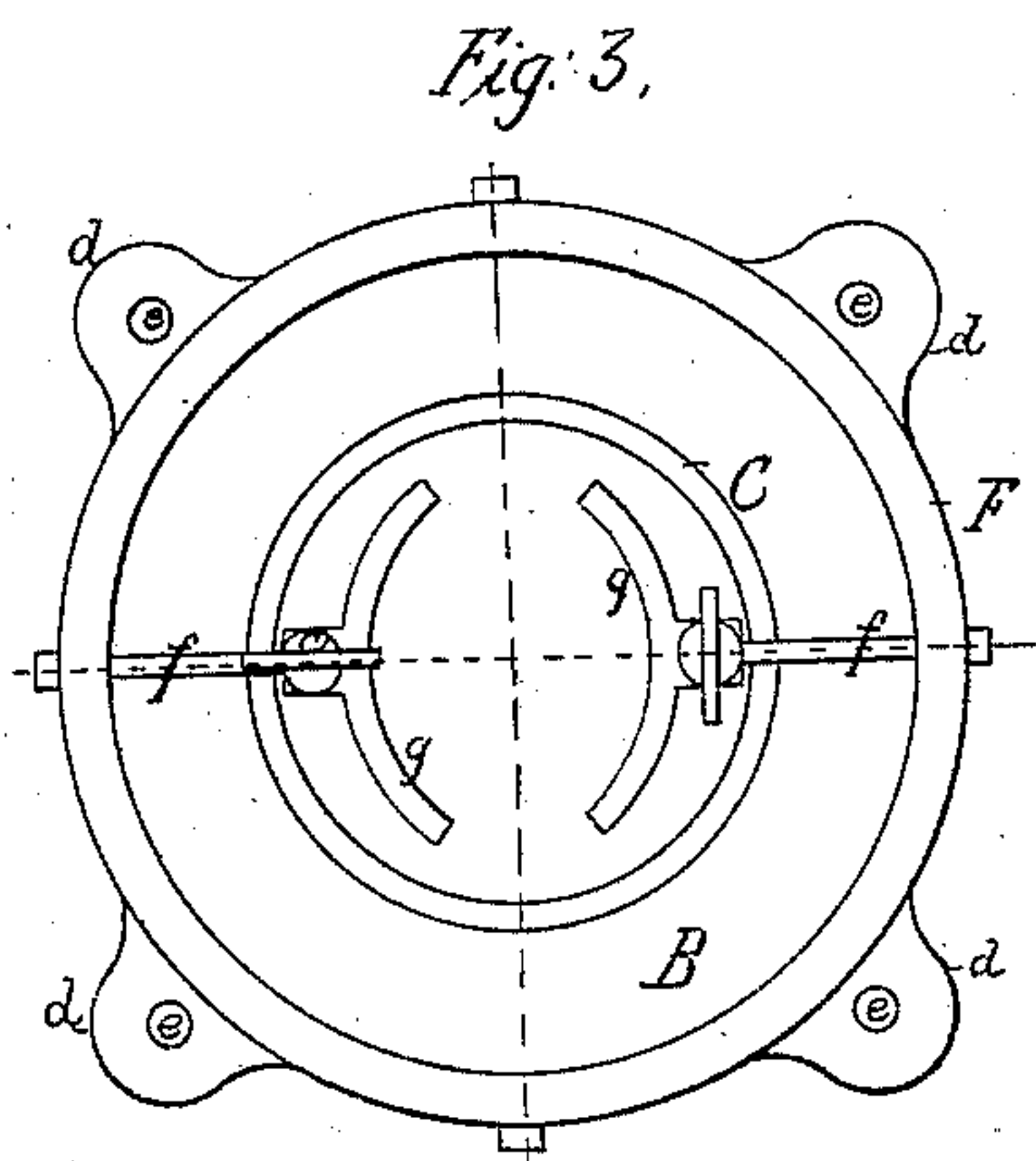
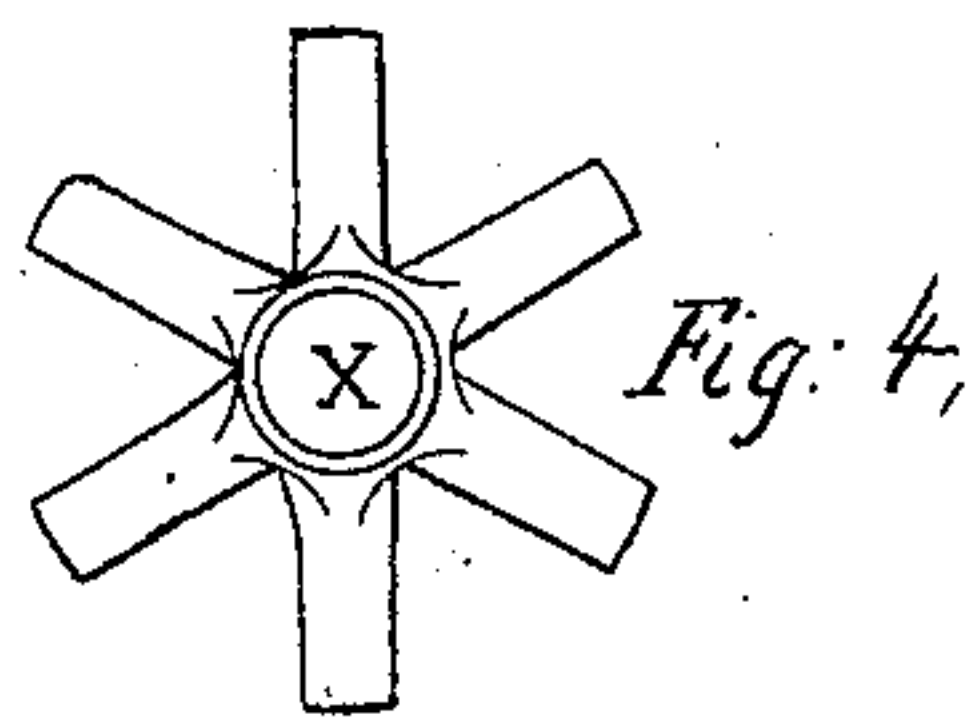
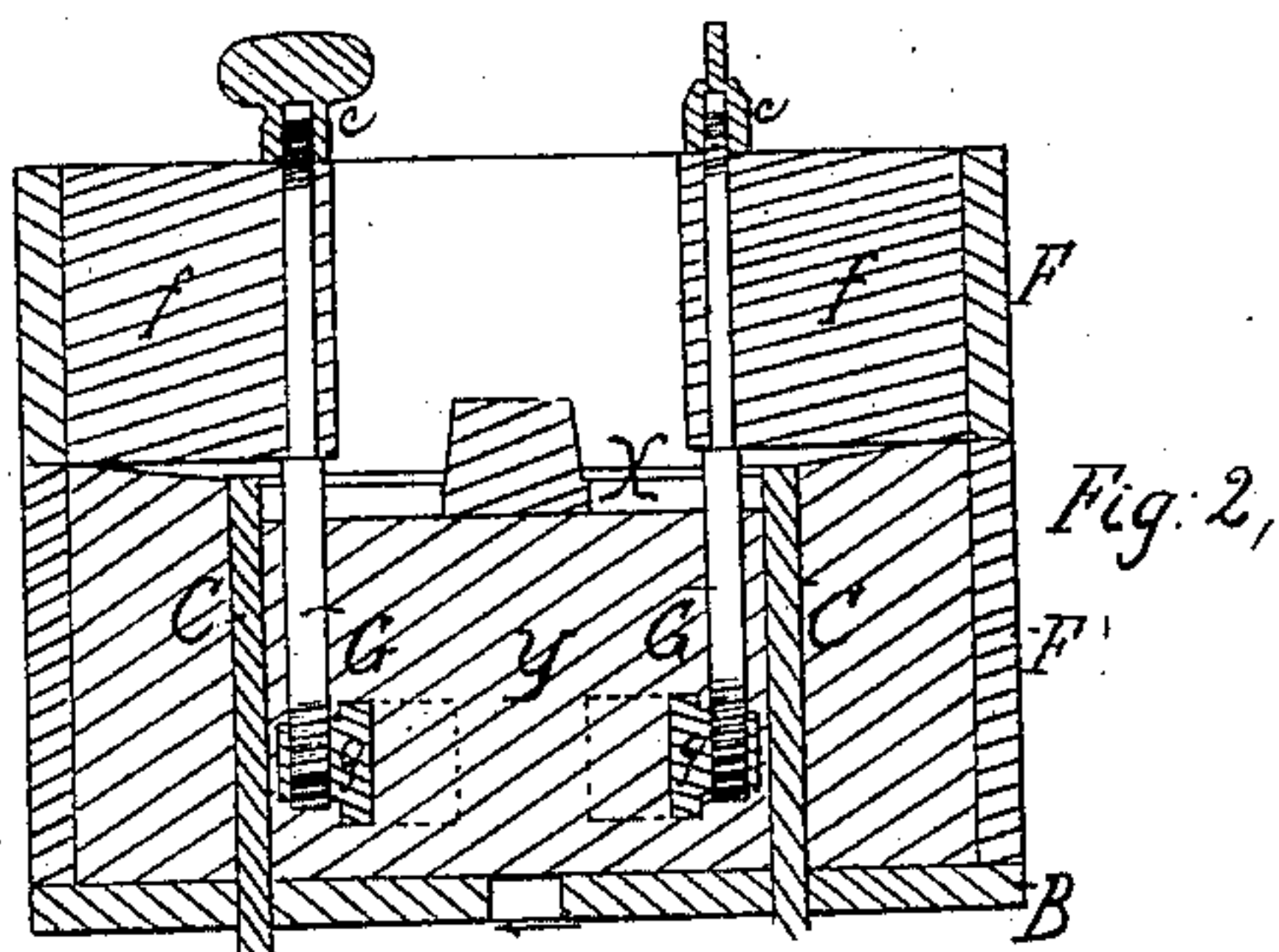
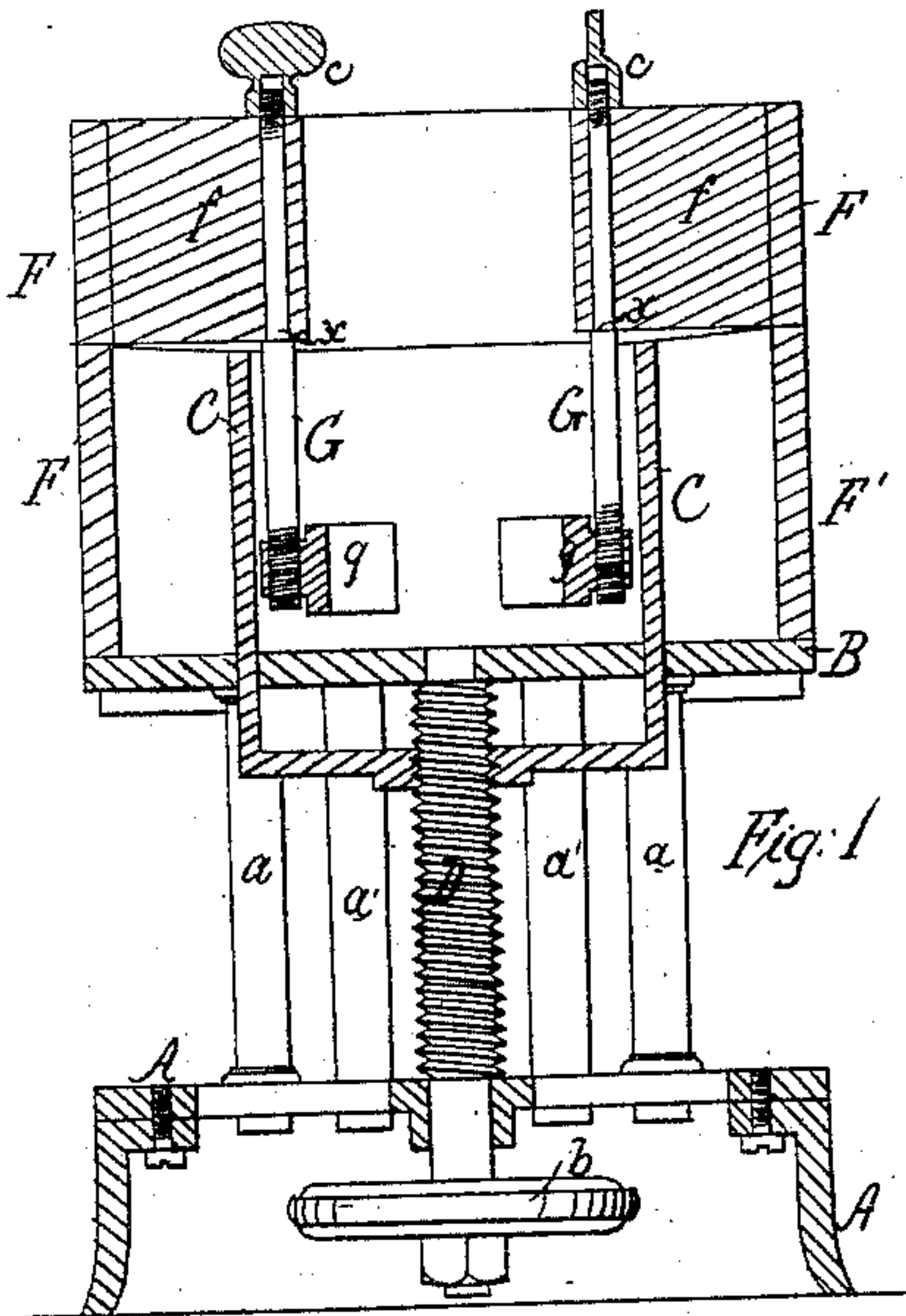


J. Yocom, Jr.

Molding Apparatus.

N^o 61,303.

Patented Jan. 15, 1867.



Witnesses:
Wm. Albert Stahl
John Parker

Inventor
F. J. Yocom Jr.
By his attorney
H. Houston

United States Patent Office

JAMES YOCOM, JR., OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 61,303, dated January 15, 1867; antedated January 5, 1867.

IMPROVEMENT IN MOULDING FLASKS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JAMES YOCOM, Jr., of Philadelphia, Pennsylvania, have invented an Improvement in Moulding Flasks; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

My invention consists of certain detachable bars, having enlargements or arms at their lower ends, in combination with a moulding flask, the whole being constructed and operating as fully described hereafter, so that the "core" may be formed at the same time as the mould, and may be retained in its proper position within the latter, the loss of time and the labor required to form separate cores and secure them within the mould being thus avoided.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation. On reference to the accompanying drawing, which forms a part of this specification—

Figure 1 is a sectional elevation of part of a moulding flask, with my improvement.

Figure 2, the same, showing the flask partly filled with moulding sand.

Figure 3, a plan view of fig. 1.

Figure 4, a detached view, showing a portion of a pattern used in moulding pulleys or drums; and

Figure 5, a sectional view of the flask, filled with moulding sand, from which the pattern has been removed.

Similar letters refer to similar parts throughout the several views.

To a base-plate, A, supported on suitable feet, are connected the lower ends of pillars, *a a'*, and on the upper ends of the latter rests a plate, B, through an annular opening in which slides a hollow cylinder, C, which is opened at the top. Through the lower closed end of the cylinder passes a screwed rod, D, which turns in bearings in the plates A and B, and has at its lower end a hand-wheel, *b*.

As the devices above alluded to are the same as those in an apparatus for moulding pulleys, for which Letters Patent of the United States were granted to me on the 19th day of April, A. D. 1864, a more particular description of the same will be unnecessary.

F and F¹ are two metal sections or boxes, which in the present instance form one-half of a moulding flask; and from lugs *d d* on the box F project pins *e*, which fit into recesses in lugs on the box F¹. At the inner side of the upper box F are two brackets, *f f*, through each of which passes a rod, G, a shoulder, *x*, on the rod bearing against the under side, and a thumb-nut, *c*, which screws on to the upper end of the rod, bearing on the upper side of the bracket. To the lower end of each rod G, which extends nearly to the bottom of the case F¹, is secured an adjustable curved arm, *g*, for a purpose described hereafter. From the box F¹ project pins, which fit into recesses in the plate B, so that the box may be secured on the said plate in a position concentric with the cylinder C.

When a cylinder or roller has to be moulded, the rod D is turned until the cylinder C projects above the surface of the plate B a distance equal to one-half the length of the roller to be formed. The boxes F and F¹ are then secured together and placed on the plate B, the rods G, with their arms *g*, projecting into the cylinder C, as shown in fig. 1. The interior of the cylinder, and the space between the latter and the box F¹, is now closely packed with moulding sand, and a pattern, X, of the hub and spokes or arms of the cylinder to be formed is placed on the surface of the sand within the cylinder, near the upper end of the same, as shown in fig. 3. The thumb-nuts *c* are now removed, and the box F is raised, so as to detach it from the box F¹ and from the rods G, which are held in their position by the body of sand, Y, packed round them. The sand is now levelled on its upper surface, and covered with parting sand; the box F is then placed in its first position, and is filled with sand in the usual manner. The box F is then removed, and the pattern X withdrawn; after which the box is replaced, the thumb-nuts are again secured to the rods G, and the shaft D is turned so as to move the cylinder C downwards until its edge is level with the plate B. The boxes are now removed from the plate B, the cylinder is again raised, and two other boxes, F² F³, (fig. 5,) precisely similar to the boxes F F¹, are placed on the plate, and filled with sand in the same manner. The edges of the boxes F¹ and F² are now brought together, and the boxes are all secured in the position shown in fig. 5. The casting is then made in the ordinary manner, a hollow metal cylinder, with a hub and spokes, or arms, at each end, being thus formed.

It will be seen that the body, Y, of sand which is retained in its place by the rods G, forms a "core," which is moulded simultaneously with the moulding of the exterior of the cylinder, and that the labor and time required to form the core, when the usual flask is employed, are thus saved, while there is more certainty of producing a perfect casting, inasmuch as the core will always occupy a position central with the interior of the mould. It will be apparent that other objects beside cylinders may be cast with much more facility by the use of the above-described flask, than with those of the ordinary construction, and that although I have shown and described the flask as being used in connection with the apparatus patented by me April 19, 1864, it may be employed in connection with the ordinary moulding boards.

Without confining myself to the precise construction and arrangement of parts herein described, I claim as my invention, and desire to secure by Letters Patent—

The detachable bars G, with their arms or enlargements *g*, in combination with a moulding flask, the whole being constructed and operating substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JAMES YOCOM, JR.

Witnesses:

CHARLES E. FOSTER,
JOHN WHITE.