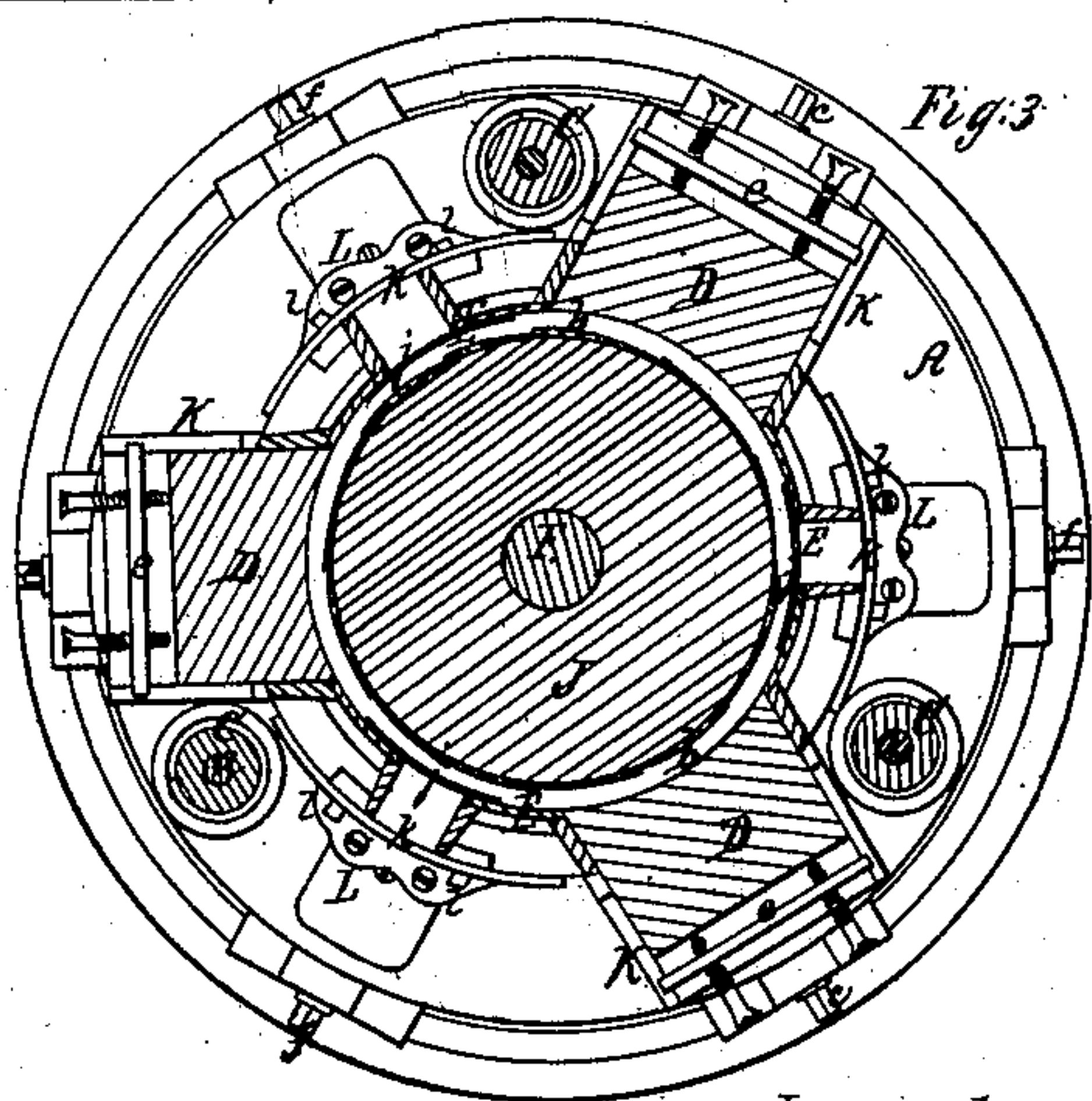
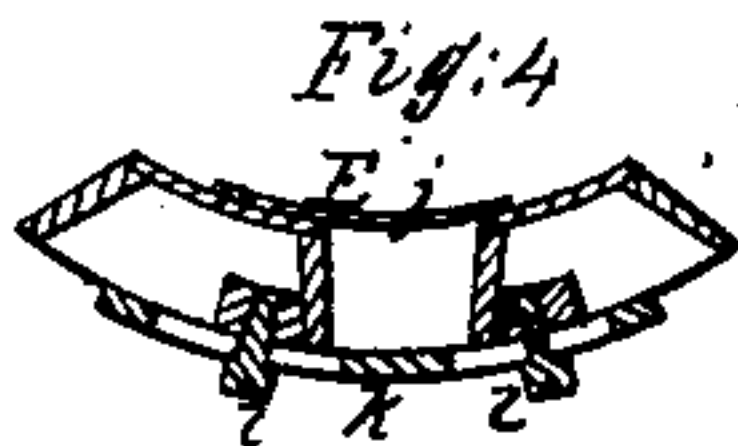
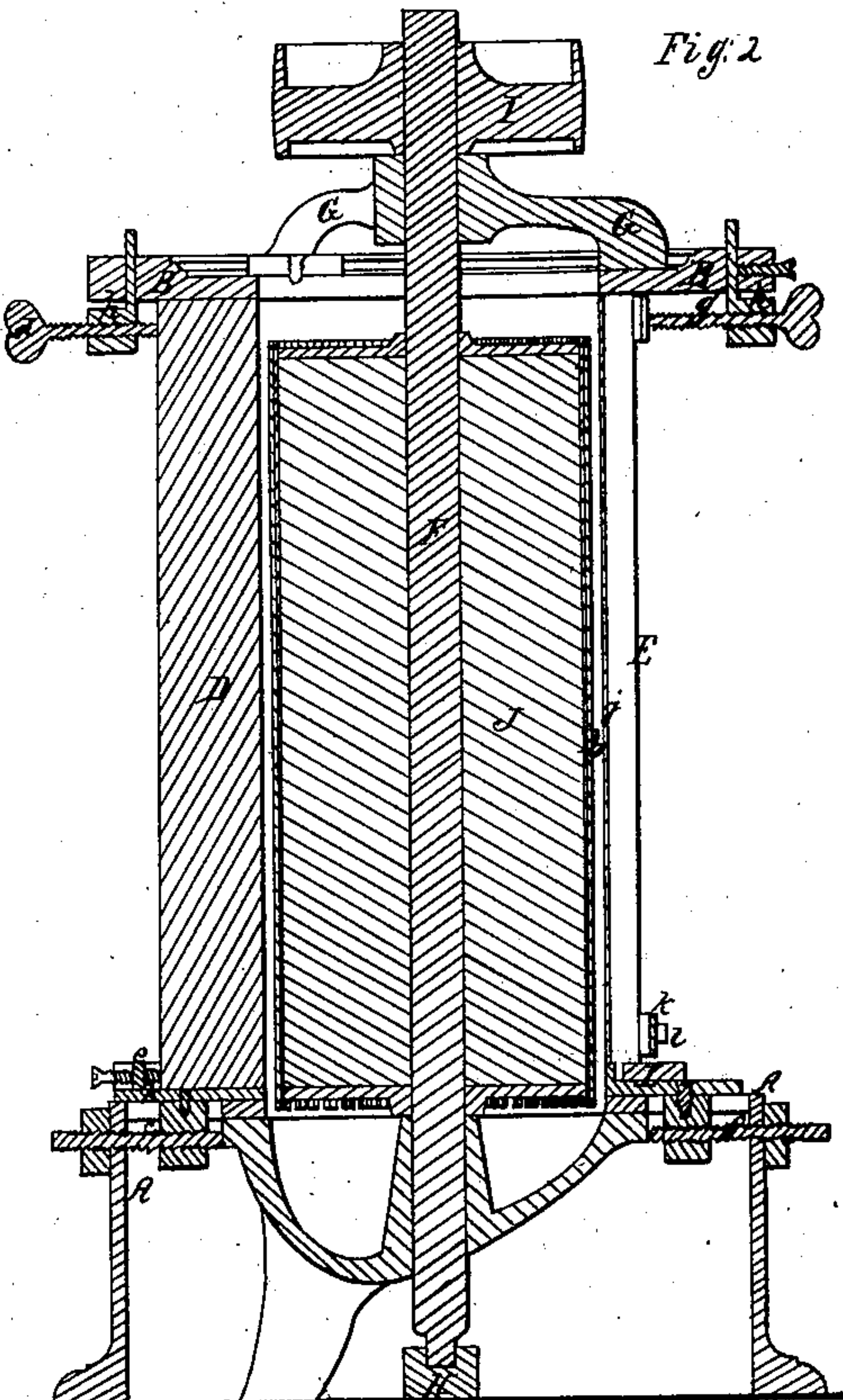
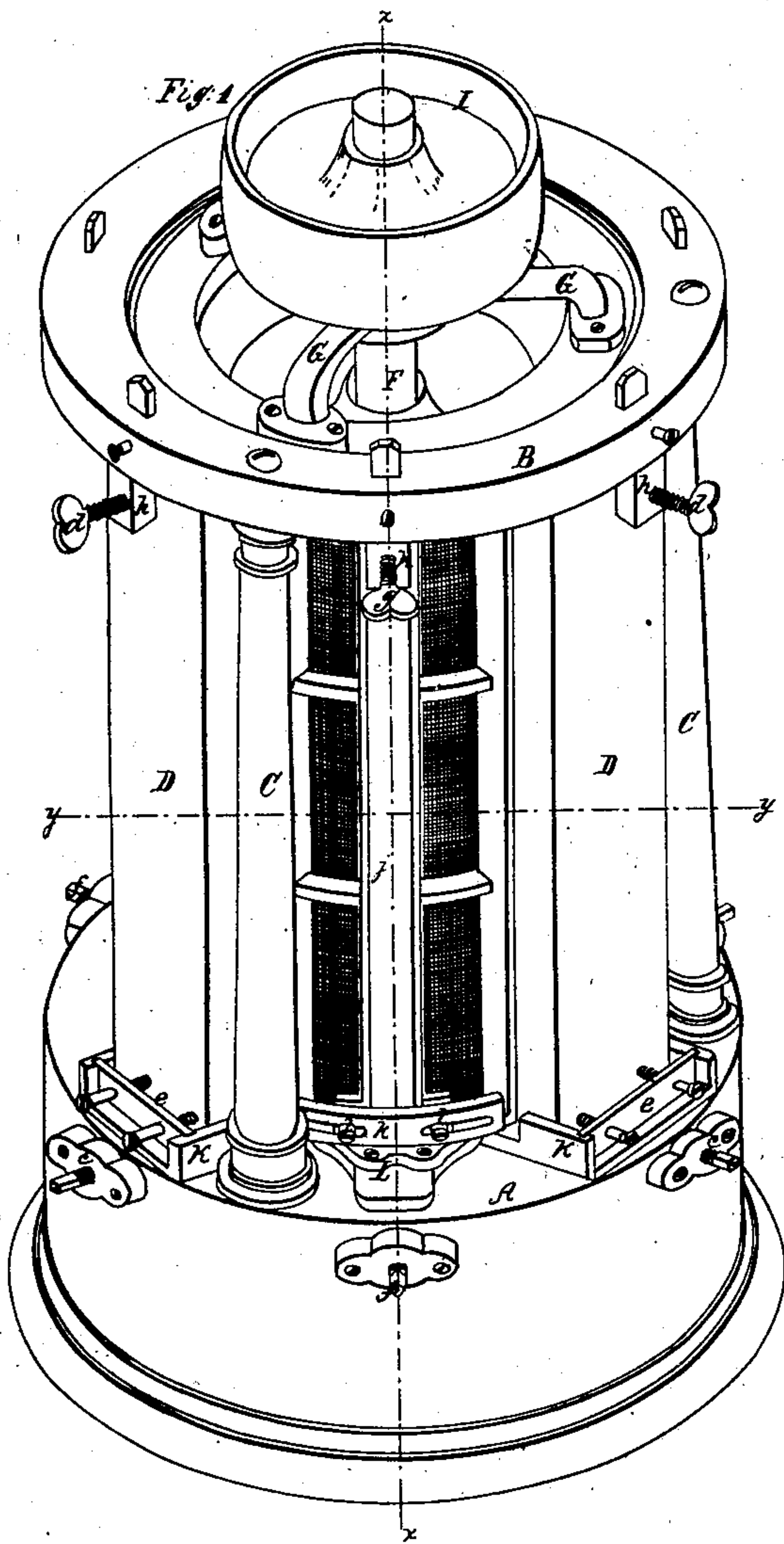


*L. D. Hawkins.*

*Rice Cleaner.*

*No. 39,255.*

*Patented Jul. 14, 1863.*



*Witnesses*  
*A. H. Harris*  
*O. B. Root*

*Inventor*  
*Alfred Peabody*



# UNITED STATES PATENT OFFICE.

LUCIUS D. HAWKINS, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO  
ALFRED PEABODY, OF SALEM, MASSACHUSETTS.

## IMPROVEMENT IN RICE-CLEANERS.

Specification forming part of Letters Patent No. 39,255, dated July 14, 1863.

*To all whom it may concern:*

Be it known that I, LUCIUS D. HAWKINS, of San Francisco, in the county of San Francisco and State of California, have invented a new and Improved Machine for Cleaning Rice, Coffee, and other Grains; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of my improved machine; Fig 2, a vertical section on the line *x x* of Fig. 1; Fig. 3, a horizontal section on the line *y y* of Fig. 1; Fig. 4, a section through the top of one of the screen-frames, showing the manner in which it is contracted and expanded.

My invention consists in the employment of screen-frames so constructed and arranged that they may be contracted and expanded when it is desired to alter the space between the rubbing-cylinder and the outer case, and so that these frames will at all times fit closely to the stone segments of the case, thus dispensing with the use of "chinks" covered with wool-skins, heretofore used between the stone segments and the frames. By the above arrangement a perfect circle is secured and much greater economy is gained in the longer and more uniform wear of the stone segments and in the saving of the skins formerly used to cover the chinks.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

The base A of the machine, and the upper plate, B, I propose to make of cast-iron, and unite them by hollow cast iron columns C, through which rods *a* pass, and these rods may also pass through the floor of the building to hold all firmly together and to the floor.

D are stone segments radially arranged on the base and top plates, and E are wire-gauze screens, also radially arranged upon said base and top plates, and interposed between the stone segments, so that the stone segments D and screen-frames or screens E form the outer case of the machine.

F is a shaft, supported in the bridge-trees

G H at the top and bottom, and having upon its upper end a pulley, I, around which the belt that is to drive it passes. Upon this shaft is placed a drum or cylinder, J, the perimeter of which is covered with sheep-skins or pelts *b*, having the wool upon them. This cylinder with its covering should be large enough to run in close proximity to the inner edges of the stone segments and screens. The stone segments D at their lower ends rest in shoes K, and by means of set-screws *c* these shoes, together with their stone segments, may be moved to or from the cylinder J to properly adjust their working-surfaces to each other, and set-screws *d*, which press against the stone segments at their tops, hold them to the cylinder at that point. For the purpose of renewing or replacing the segment D the shoe K has a sliding cleat or ledge, *e*, which can be removed, and the segment will then fall out, and when this ledge is replaced it holds the segment to the shoe. The screen-frames E are also adjustable. They rest at their base in shoes L, which can be moved toward or from the cylinder by set-screws *f*, and their tops are adjusted and held up to the cylinder by other set-screws, *g*, which, like those, *d*, above mentioned, pass through lugs *h*, said lugs being made removable, so that the segments, as well as the frames, may be removed and replaced when required. Each frame E is made in two perpendicular parts, which are set into a circular groove in the shoes L, and are moved toward or from each other, as the circle around the cylinder J is desired to be contracted or expanded, the parts of the frame being held at the required distance apart by means of the slotted straps *k* and set screws *l* at the top and bottom, Figs. 1 and 4, and thus kept close to the stone segments on each side of the frame, the sides of the frames being made at the proper angle to fit closely to the stone segments, thus dispensing with the wood chinks used to fill the space between the segments and frames, as heretofore constructed. In some cases, if desired, springs may be inserted between the two portions of the frame to keep them spread at the required distance apart. One of the two parts composing each frame has a strip of



sheet metal, *j*, secured perpendicularly upon the inner side and projecting about four inches in front of the wire-screen of the other part when they are contracted, and when they are expanded it prevents the escaping of any rice or other grain.

The grain to be cleaned is introduced into the machine at the top, and, passing down through the space between the drum and the outer cylinder formed by the stone segments and screen frames, it is thrown with great rapidity against the surface formed by the stones and the wire-cloth, by which the grain is severely rubbed against the said surface, so as to break or peel off the skin or hull which is on it, without pulverizing or breaking the grain itself, and at the same time the substance scraped or rubbed from the grain is thrown out through the wire cloth, which keeps the stones free from dirt and meal, and

the grain comes in direct contact with them during its passage through the machine.

I do not claim the revolving drum covered with skins or other substances, nor the stones, nor the frames covered with wire-cloth as my invention, these having been previously used. Nor do I claim the combination of the stones and screens and other inventions, for which a patent was granted to me on the 13th of August, A. D. 1861; but

What I claim as my invention, and desire to secure by Letters Patent, is—

The construction of the wire-cloth covered frames *E* in two or more parts and made adjustable, substantially as set forth, for the purpose specified.

LUCIUS D. HAWKINS.

Witnesses:

GEO. H. KELLOGG,  
EDWARD P. FLINT.