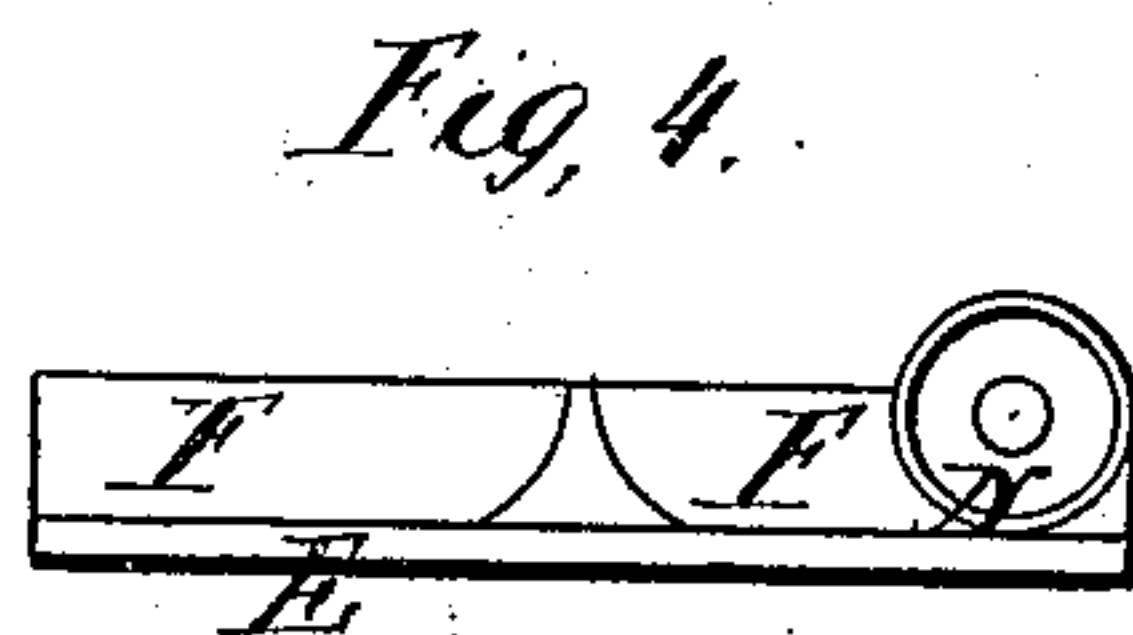
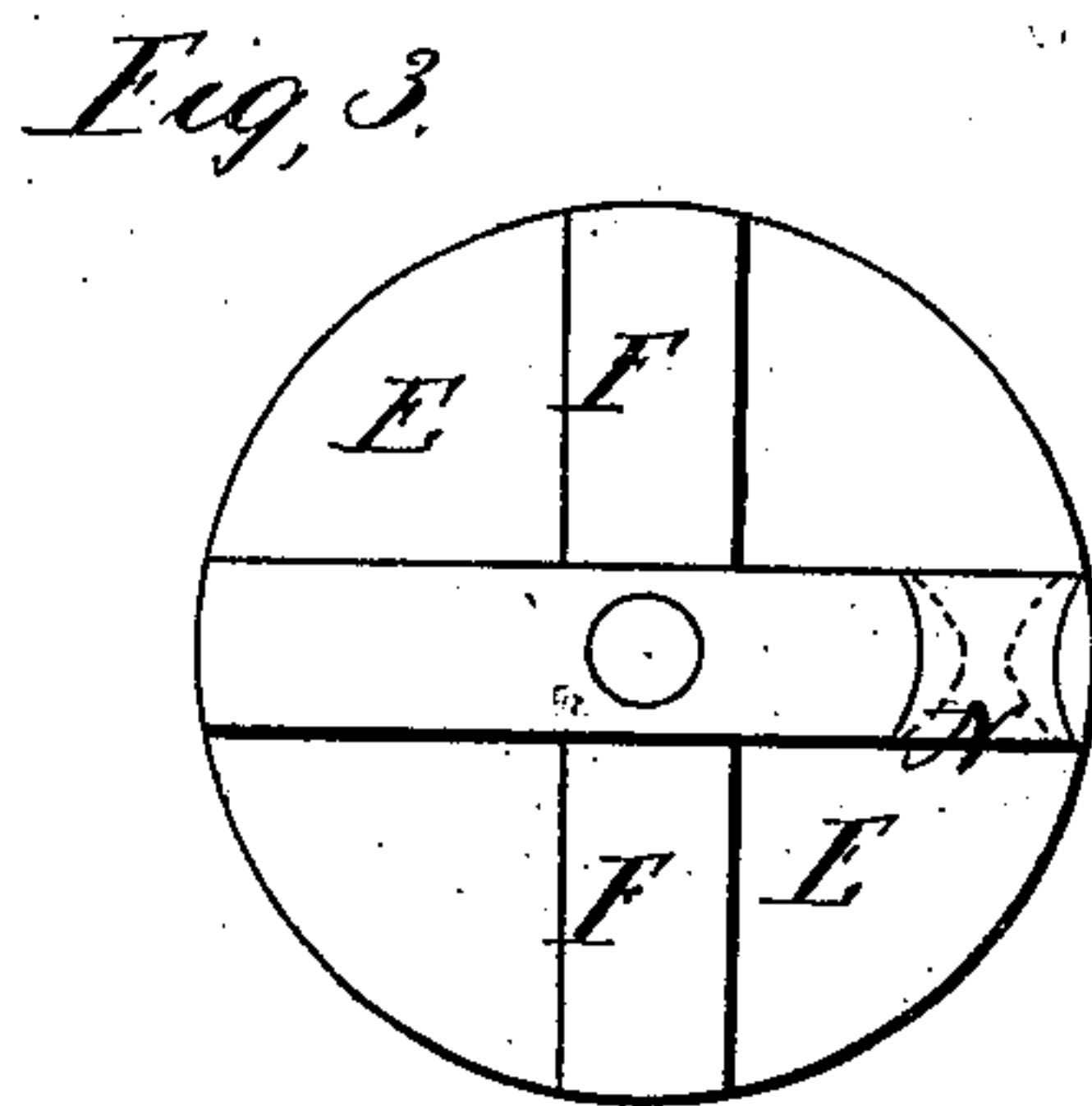
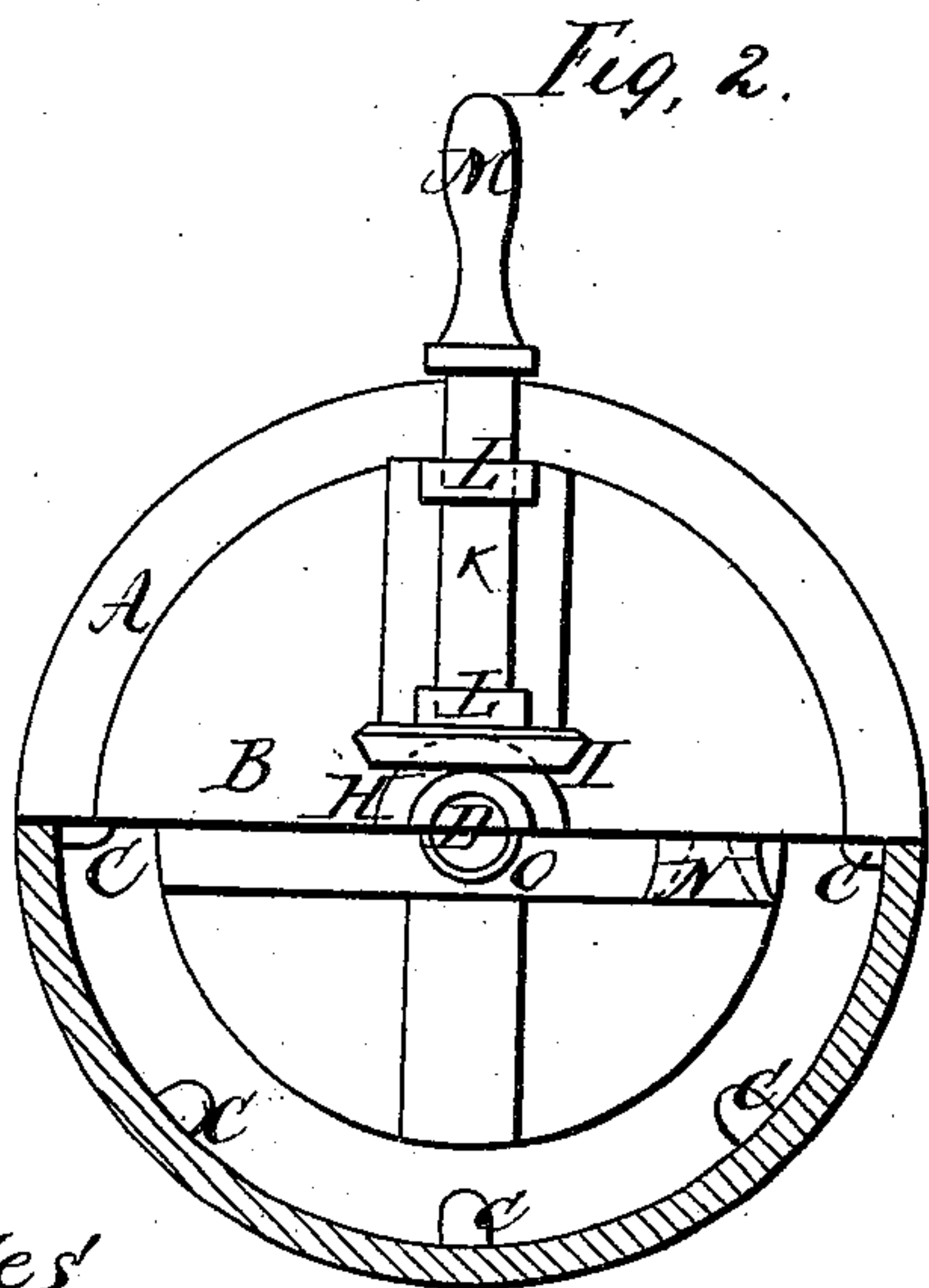
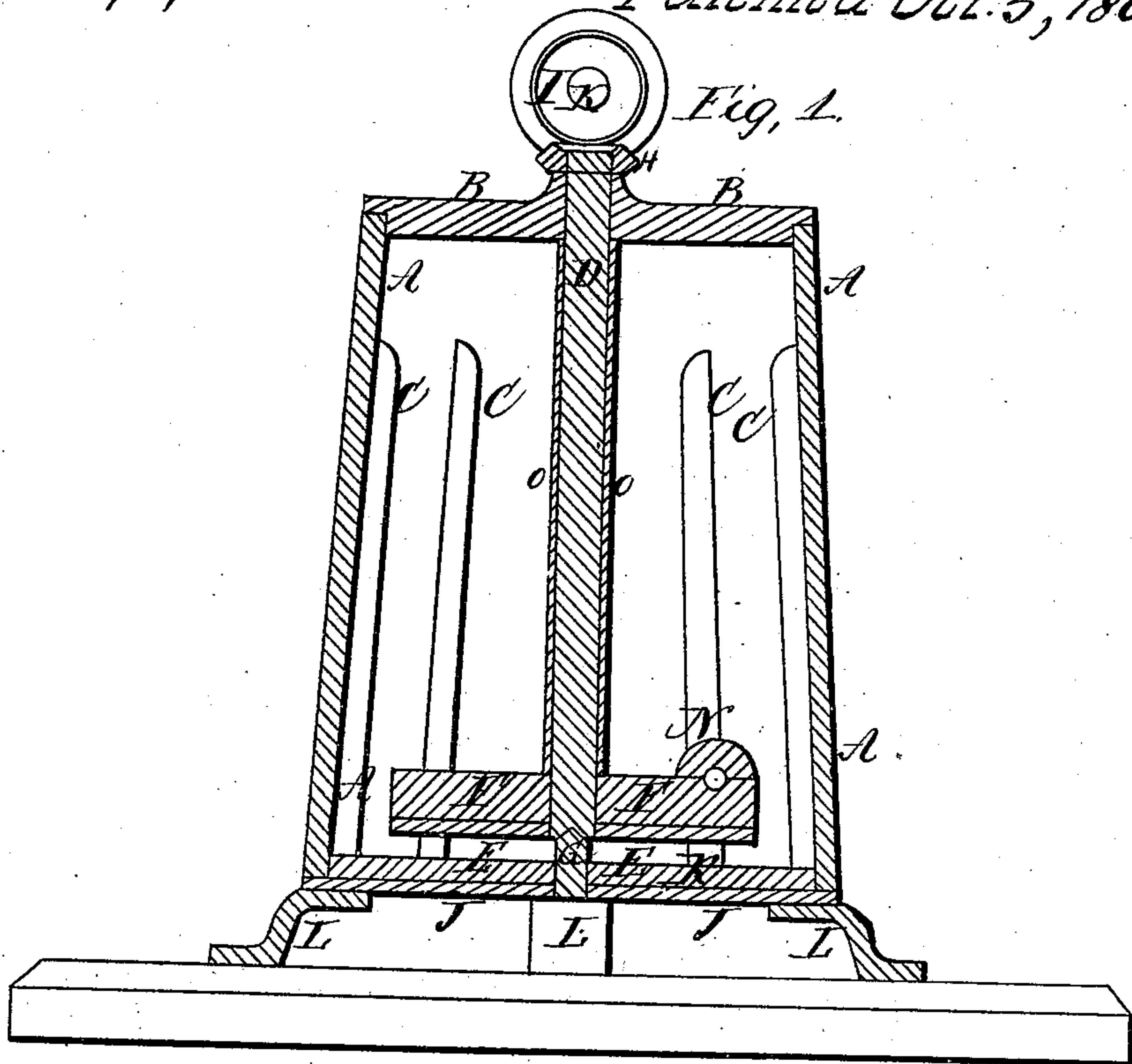


E. H. Covel.

Washing Mach.

N^o 95,565.

Patented Oct. 5, 1869.



Witnesses,
Kate A. Jones
John A. Anderson

Inventor,
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United States Patent Office.

E. HALL COVEL, OF NEW YORK, N. Y.

Letters Patent No. 95,565, dated October 5, 1869.

IMPROVED WASHING-MACHINE.

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, E. HALL COVEL, of the city, county, and State of New York, have invented a new and improved Washing-Machine; and I do hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a vertical section of a machine embodying my invention.

Figure 2, a plan view, with part broken away, showing the vertical ribs.

Figure 3, a plan view of the dashers, removed.

Figure 4, a view showing the funnel-shaped thimble.

Like letters of reference indicate corresponding parts in all of the figures.

My invention has for its object the cleansing of clothing without the laborious process of rubbing, by the agitation of currents of water, produced by a suitable rotary device, as hereinafter described.

As represented in the drawings—

A is a vessel, made of a cylindrical or any other suitable form, having a removable top or cover, B.

Around the interior sides of the vessel are affixed four or more vertical ribs *c c c c*.

Upon a suitable step or bearing, C, in the centre of the bottom, is arranged a shaft, D, which passes through the cover B, and is provided upon its upper end with a bevelled pinion, H, which gears with the driving-wheel I, having a crank, M, on its axis K, by which motion is imparted thereto.

This shaft is surrounded by a sleeve, *o*, which is affixed to a cross-piece at the top of the vessel, so as to maintain it in a fixed position, thus preventing the tendency of the clothing to follow the current of the water, and become wound around the shaft during its revolution.

At the lower extremity of the shaft D is affixed a disk, E, and upon this, extending radially from the shaft, are four, or any desirable number of dashers, F F.

These dashers are concavely formed at their sides or faces, or so inclined as to elevate or force the water upward in a vertical direction during their revolution. Being alike on both sides, the same result will follow if the dashers are rotated in either direction, but if preferred, they may be made with one side only curved

or inclined, with the same effect if rotated always in the same direction.

Attached to the dashers, or to the upper side of the disk, are one or more double-mouthed funnels or thimbles N.

The operation of my invention is as follows:

The vessel being partially filled with suds or water, the shaft D is put in motion by revolving the crank M.

The curved or inclined surfaces of the dashers, in their revolution through the water, force upward that portion of the liquid that they meet in their course, while those portions which are immediately in front of the aperture of the funnel or thimble, pass through it, producing a horizontal current.

By this arrangement, two diverse and opposite currents, one vertical, and the other horizontal, are produced, while the fixed ribs *c c c c* arrest the circulatory current, and maintain a counter or reverse horizontal one.

The effect of these three agencies is to cause a violent agitation of the liquid, which effectually removes all impurities from the fabrics subjected to its operation in a rapid manner, and with a slight expenditure of labor.

I construct the cylinder of the vessel with a compound bottom, consisting of the part K' and the sub-disk or supporting part J.

The legs L are secured to the latter piece by bolts or otherwise, when the vessel is placed upon it, and may be attached, if desired, by nails, driven into the staves or sides, from the under side of the part J.

This invention is simple in construction, and the operation of cleansing is more rapid and effectual than the ordinary means, while clothing of the most delicate texture can be washed without liability of injury.

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

1. In combination with the shaft D, disk E, and inclined dashers F, the stationary sleeve *o*, substantially as and for the purpose hereinbefore described.

2. In combination with the dashers F F and disk E, the funnel-shaped thimbles, substantially as shown and described.

Witnesses:

E. HALL COVEL.

JOHN A. WIEDERSHEIM,
KATE N. JONES.