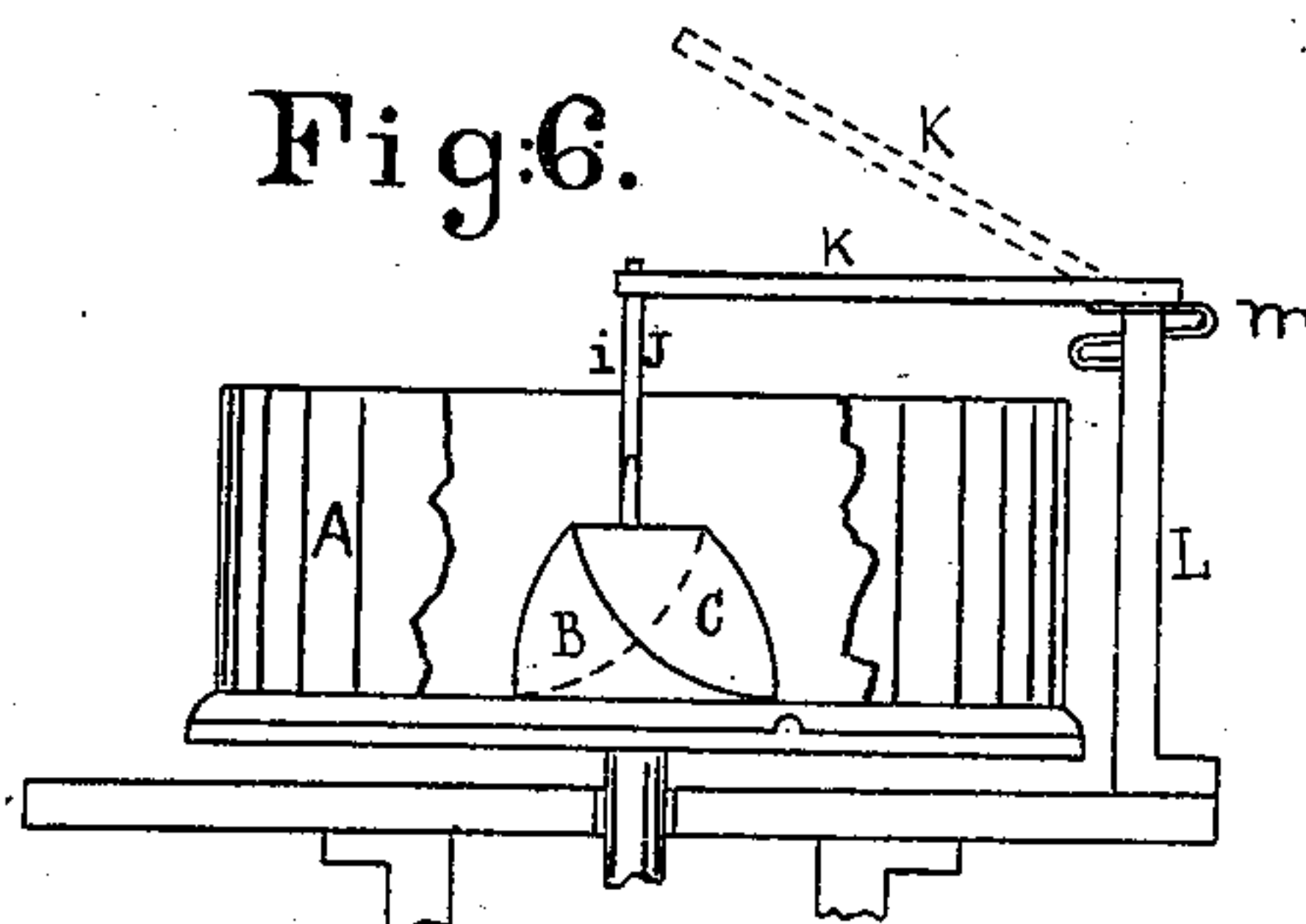
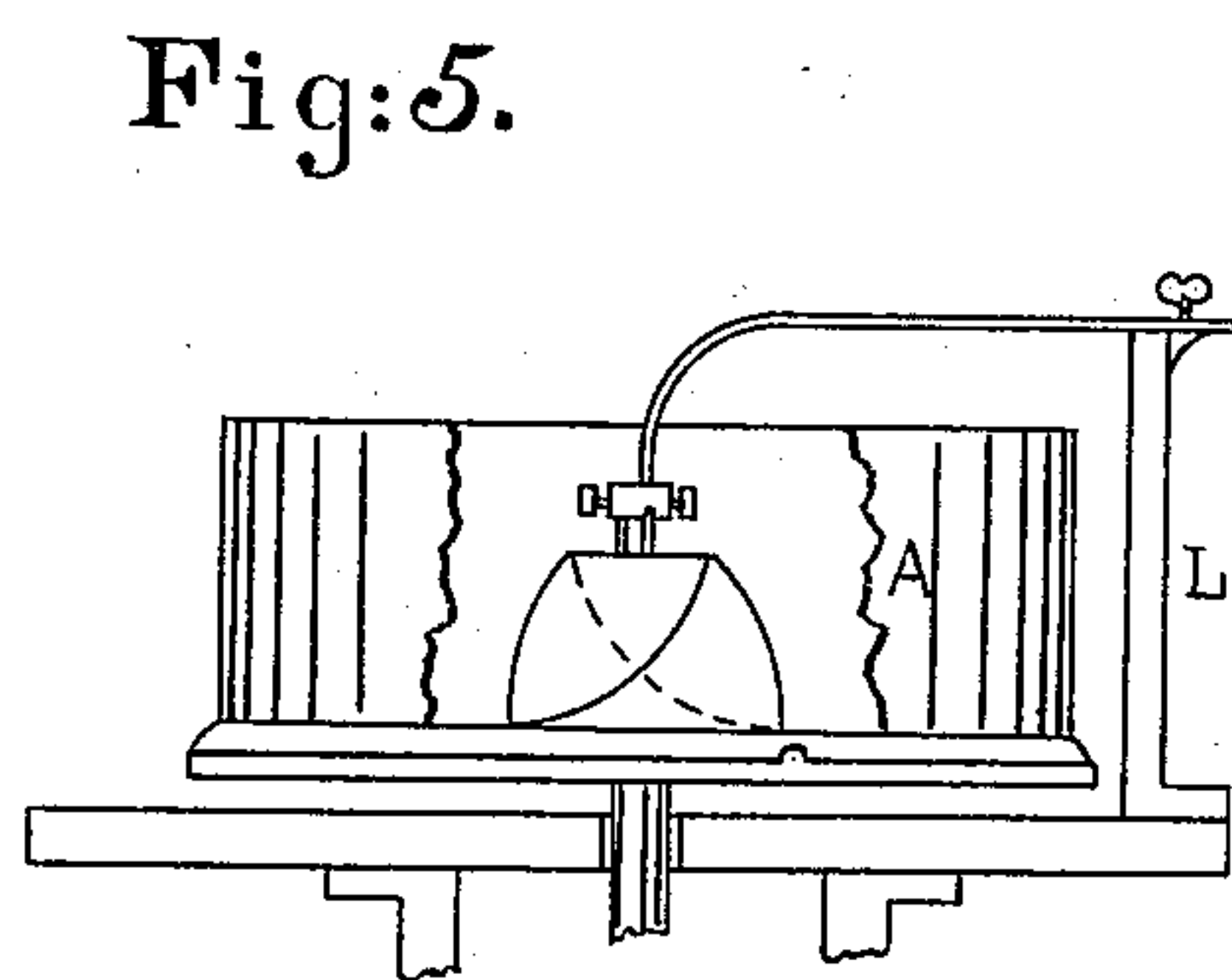
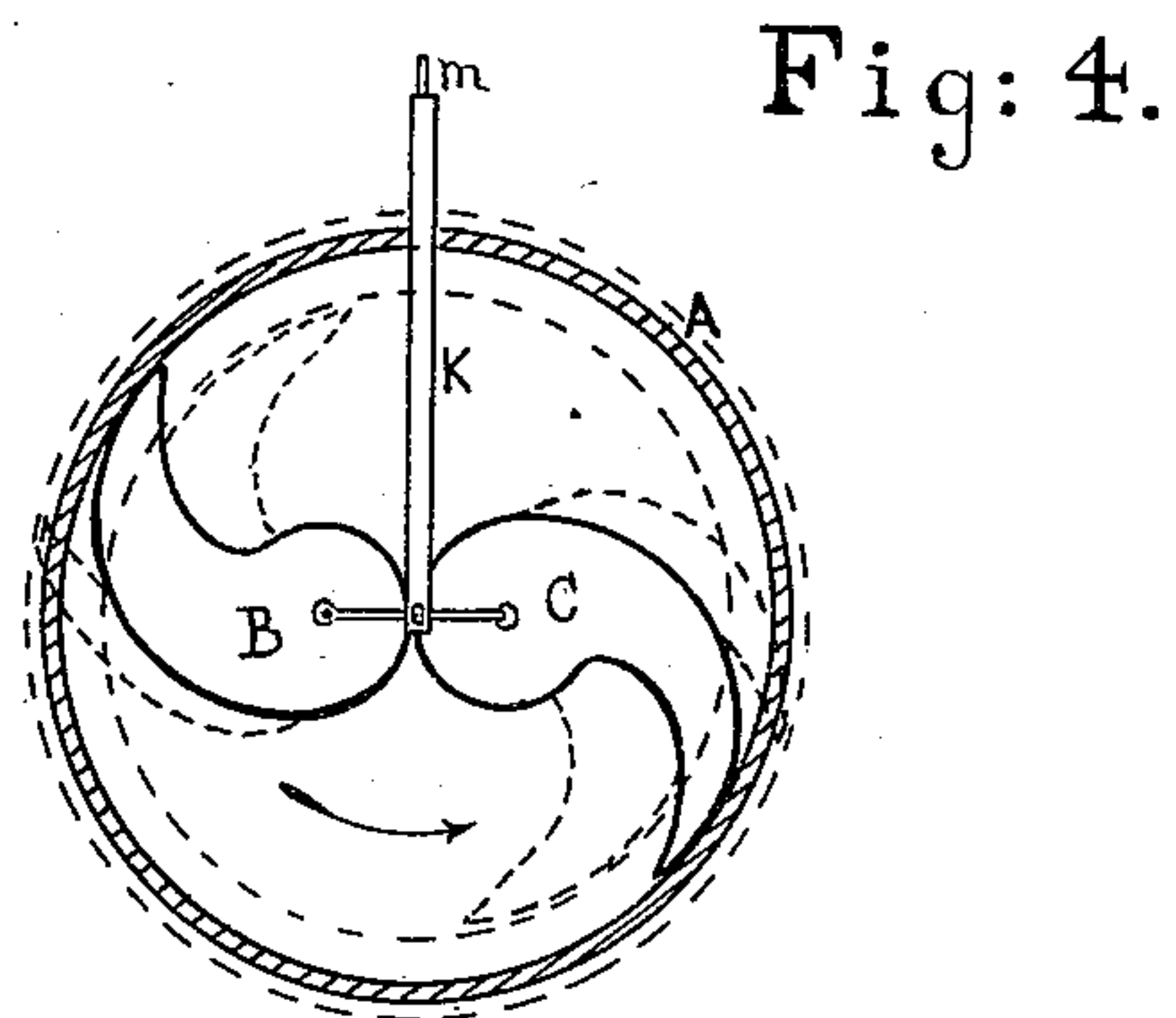
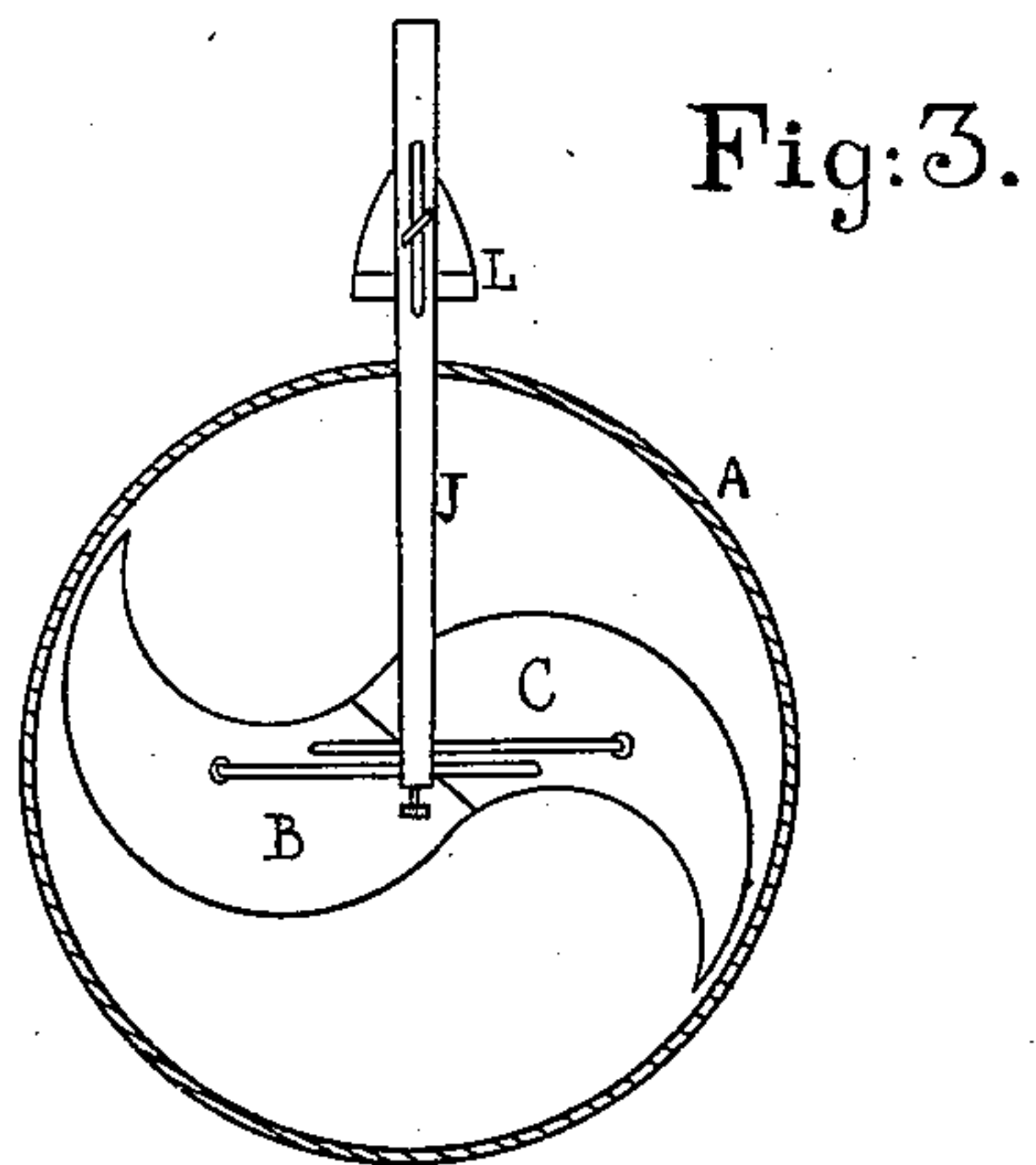
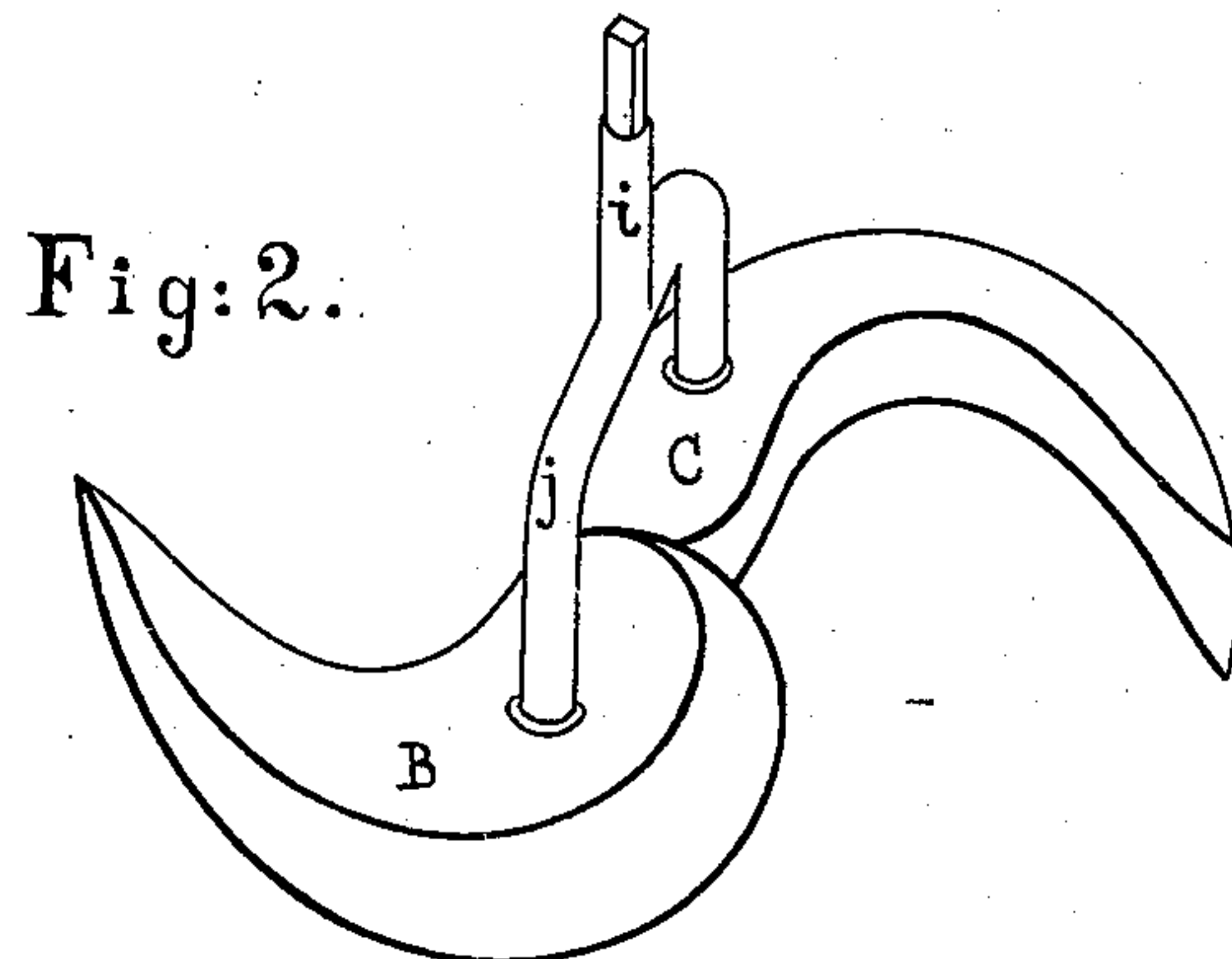
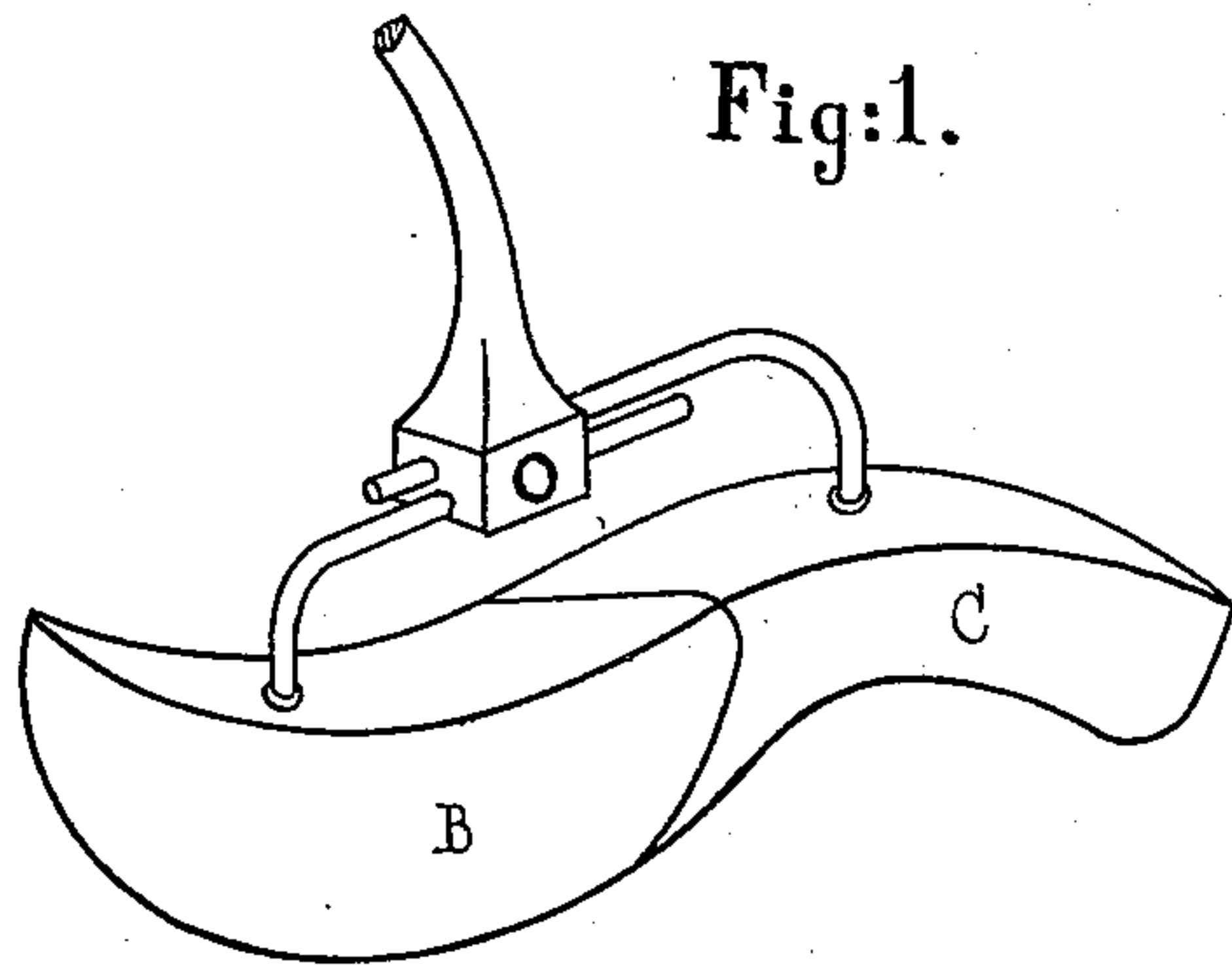


(No Model.)

W. B. COWAN.  
TRITURATING AND EMULSIFYING MACHINE.

No. 545,456.

Patented Sept. 3, 1895.



Witnesses:- *H. H. Sprague.*  
*J. C. Inland.*

*W. B. Cowan*  
Inventor.

# UNITED STATES PATENT OFFICE.

WILLIAM B. COWAN, OF GUELPH, CANADA.

## TRITURATING AND EMULSIFYING MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,456, dated September 3, 1895.

Application filed May 9, 1894. Serial No. 510,585. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM B. COWAN, physician, a subject of Her Majesty Queen Victoria, residing at Guelph, in the county of Wellington, Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Triturating and Emulsifying Machines, of which the following is a specification.

10 My invention relates to improvements in the triturating and emulsifying machine for which I obtained a patent in the United States, dated the 2d day of January, A. D. 1894, and numbered 511,755, and has for its ob-  
15 ject the automatic regulation of the grinding-stones so as to enable one set to fit any sized pan, and also by means of a spring holdback-hinge joint to enable the fork-holder to be thrown back out of the way when not in use.

20 Figure 1 is a perspective view of the old grinding-stones and regulating-fork. Fig. 2 is a similar view of the new grinding-stones and fork. Fig. 3 is a plan of the old grinding-stones and fork. Fig. 4 is a similar view of the  
25 new stones with fork and holder. Fig. 5 shows the old method of securing the fork-carrier to the fixed post outside the revolving pan. Fig. 6 shows the new spring-hinge joint by which the fork-holder swings on the fixed post.

30 In my first machine the butt-ends of my grinding-stones were cut off on a flat vertical bevel, so that they would fit together as one S-shaped stone, Fig. 1, and any regulation had to be done by the stems of the fork-tangs on  
35 which they swung, being slid in or out of horizontal holes bored in the lower end of the fork-carrier, and which, by moving the stones in or out from the center, increased or reduced the diameter of the circle they de-  
40 scribed, and after being adjusted to fit the pan the stems were secured in position by set or thumb screws.

My present improvement consists in having a fork with plain tangs far enough apart to  
45 allow the bases of the stones to swing easily past each other, Figs. 2 and 4, with a vertical stem *i*, squared at the top, to prevent rotation when the holder is placed on it. The fork socket or hole is placed vertically in the mid-

dle of the thick butt or base of the grinding-  
stones B and C and the butt rounded verti-  
cally into a true half-circle round the socket-  
hole, into which the fork-tang projects, thus  
forming a pivot round which the stone easily  
swings.

When the machine is in operation, the fric-  
tion of the pan and the pressure of the ma-  
terial being operated upon throw the points  
of the grinding-stones out till they touch the  
sides of the revolving pan A, against which  
60 they slide during the operation, their rounded  
bases being free to swing round the fork-  
tang as centers without interfering and yet  
practically close together.

The fork-carrier J was attached to the fixed  
post L by means of a slot and thumb-screw,  
Figs. 3 and 5, and had to be removed bodily  
whenever the pan had to be filled, fixed, or  
emptied. I now obviate this by using a plain  
fork J with two tangs, the upward stem *i* of  
70 which is formed square at the top. A fork-  
holder K is hinged to the fixed post L, Fig. 6,  
and provided with a holdback-spring *m* of  
any suitable form, which will hold it either  
down to its work or up out of the way while  
75 the pan is being fixed, as may be required.  
A square hole at the other end fits down over  
the fork-stem *i*, thus holding it firm in place  
and preventing any rotation of the stones  
when the machine is in operation.

What I claim is the improvement in tritu-  
rating and emulsifying machines, consisting  
of—

1. The grinding stones B and C with base  
or butt rounded in a semi-cylindrical form  
85 about a vertical axis formed by the fork tangs  
which project into them, thus forming a pivot  
upon which they swing till their points touch  
the edge of the revolving pan, actuated auto-  
matically by the friction of the revolving pan  
90 and the pressure of the material being oper-  
ated upon in connection with a revolving pan  
and means for operating the same substan-  
tially as hereinbefore described and illus-  
trated in the drawings.

2. The fork J (upon which the grinding  
stones swing) with upright stem (*i*) square at  
the top and the fork holder K fitting on to



and holding it firm in position; said fork holder being attached at its other end to the fixed post L by means of a hinge controlled by a spring or springs of any suitable form, 5 for the purpose of holding the fork holder either down on the fork stem or up out of the way, the whole in connection with a revolving

pan and means for operating the same as hereinbefore described and illustrated in the drawings.

W. B. COWAN.

Witnesses:

W. W. SPRAGGE,

J. C. IRELAND.