

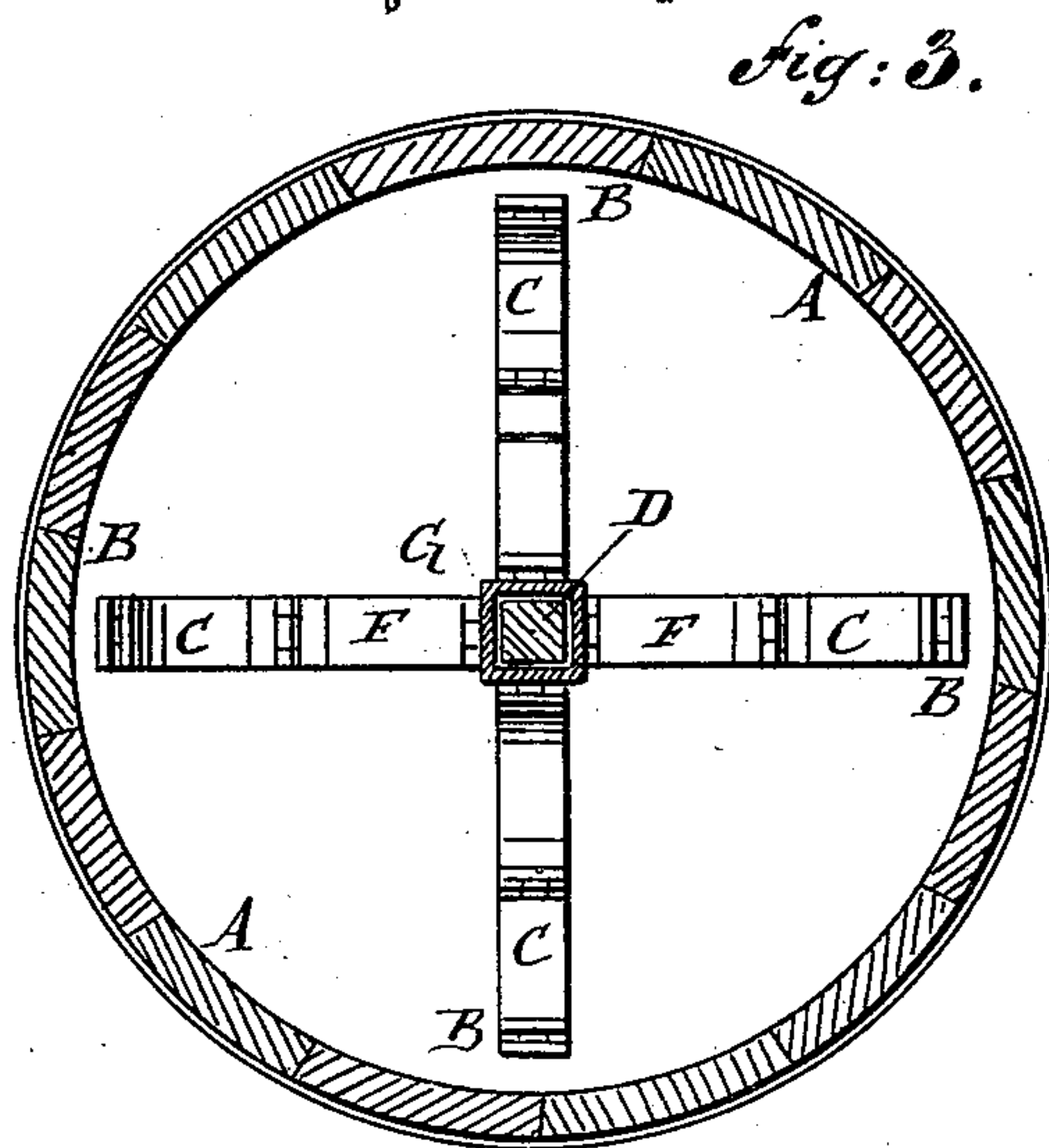
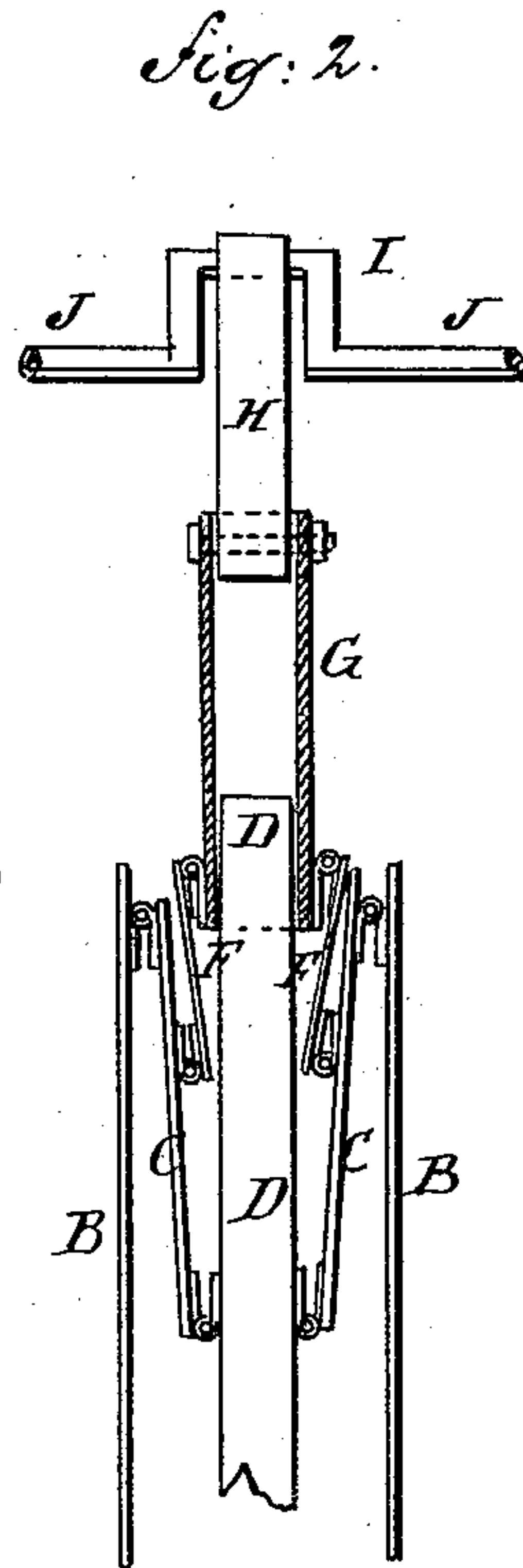
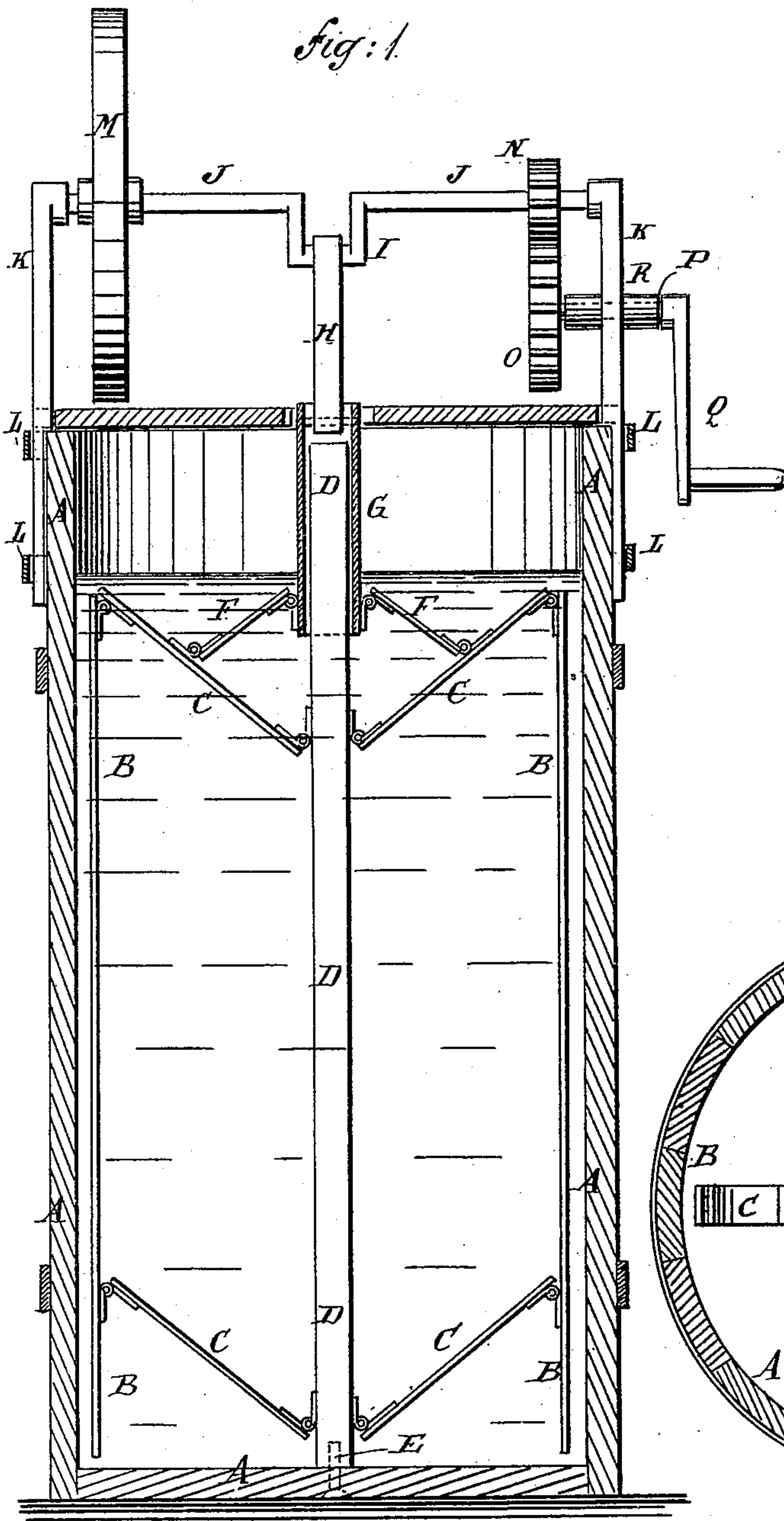
(No Model.)

A. M. OTIS.

CHURN.

No. 297,535.

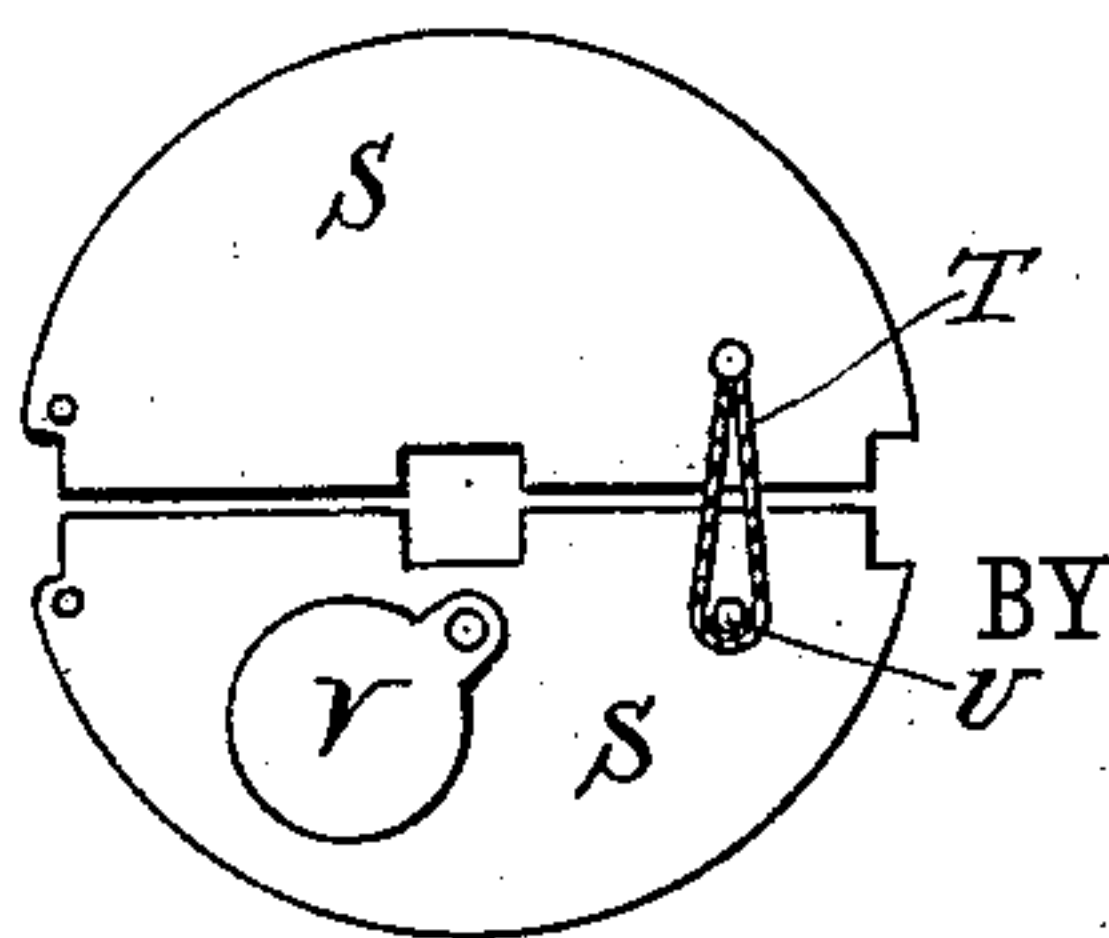
Patented Apr. 22, 1884.



WITNESSES:

Chas. Hida.
C. Sedgwick

Fig: 4.



INVENTOR:

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UNITED STATES PATENT OFFICE.

ANSON MELVIN OTIS, OF YORK, NEBRASKA.

CHURN.

SPECIFICATION forming part of Letters Patent No. 297,535, dated April 22, 1884.

Application filed September 22, 1883. (No model.)

To all whom it may concern:

Be it known that I, ANSON MELVIN OTIS, of York, in the county of York and State of Nebraska, have invented a new and useful Improvement in Churns, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a sectional side elevation of my improved churn. Fig. 2 is a sectional side elevation of a part of the same, showing the paddles closed. Fig. 3 is a sectional plan view of the same. Fig. 4 is a plan view of the churn-cover reduced in size.

The object of this invention is to facilitate the operation of churning and promote convenience in operating churns.

The invention consists in a churn constructed with a churn-body having a projecting screw at the center of its bottom, and a stationary shaft provided with a radially expanding and contracting dasher connected by hinged bars, a sliding tube, and a pitman with a crank-shaft, gear-wheels, and a hand-crank, whereby the said dasher will be expanded and contracted radially by the revolution of a crank-shaft, as will be hereinafter fully described.

A represents the churn-body, which may be of any desired size, and which I prefer to make in cylindrical form.

B are four (more or less) upright paddles, which are made narrow and of a length less than the height of the churn-body in which they are to be used. The upright paddles B are hinged at their upper ends, and at a little distance from their lower ends to the outer ends of short paddles C, which are made of a length about equal to or a little less than the length of the radii of the churn-body in which they are to be used. The inner ends of the short paddles C are hinged to the sides of a square stationary shaft, D, the lower end of which is screwed upon a screw, E, attached to the center of the bottom of the churn A, or is otherwise detachably secured to the said churn-bottom.

To the middle part of each upper short pad-

dle C is hinged the lower end of a short connecting-bar, F, the upper end of which is hinged to the lower end of a short tube, G, which fits and slides upon the upper end of the shaft D.

To the upper end of the tube G is hinged, by a pin or other suitable means, the lower end of a short pitman, H, the upper end of which is pivoted to a short crank, I, formed upon the central part of the shaft J. The ends of the crank-shaft J revolve in bearings in the upper ends of standards K, the lower ends of which are inserted in sockets or keepers L, attached to the opposite sides of the upper part of the churn-body A.

To the crank-shaft J, near one end, is attached a fly-wheel, M, to give steadiness of motion to the churn mechanism, and to the said crank-shaft J, near its other end, is attached a small gear-wheel, N, the teeth of which mesh into the teeth of the larger gear-wheel O, attached to the inner end of the shaft P of the crank Q. The crank-shaft P revolves in a long or tubular bearing, R, attached to or formed upon one of the standards K. With this construction, by turning the crank Q, the crank-shaft J will be revolved, sliding the tube G up and down upon the upper end of the shaft D, and expanding and contracting the paddles C B. The gear-wheel O is made twice the size of the gear-wheel N, so that each revolution of the crank Q will revolve the crank-shaft J twice and twice expand and contract the paddles or dashers C B. The radial expansion and contraction of the paddles or dashers C B will throw the cream into violent agitation and bring the butter in a very short time.

The cover S is made in two equal or semi-circular parts, which are hinged at one end of their straight edges to pivots attached to the top of the churn, and are held in place when closed by a rubber band or strap, T, attached to one of the said parts and passed over a pin or knob, U, attached to the other part, or by other suitable fastening. The cover S has a square opening through its center for the passage of the tube G, and is provided with a small sliding or swinging cover, V, to close

the said opening when the dasher is removed and the churn is used as a vessel to hold cream or other substance.

Having thus described my invention, I claim
5 as new and desire to secure by Letters Patent—

1. A churn constructed substantially as herein shown and described, and consisting of a churn-body having a center screw at its bottom, and a stationary shaft provided with a
10 radially expanding and contracting dasher connected by hinged bars, a sliding tube, a hinged connection attached to said tube and dasher, and a pitman with a driving mechanism, as set forth.

15 2. In a churn, the combination, with the churn-body A, having a screw, E, attached to its bottom, of the stationary shaft D and the hinged paddles B C, provided with connecting-bars F, a sliding tube, G, and a pitman for
20 connecting the said dasher with a driving mechanism, substantially as herein shown and

described, whereby the churning will be done by the successive expansion and contraction of the said dasher, as set forth.

3. In a churn, the combination, with the
25 churn-body A, the radially expanding and contracting dasher B C D, and the bars, tube, and pitman F G H, of the crank-shaft J, the gear-wheels N O, and the crank Q, substantially as herein shown and described, whereby the said
30 dasher can be readily and rapidly expanded and contracted, as set forth.

4. In a churn, the dasher constructed substantially as herein shown and described, and consisting of the stationary shaft D, the radial
35 hinged paddles C, and the upright hinged paddles B, as set forth.

ANSON MELVIN OTIS.

Witnesses:

N. P. LUNDEEN,
A. J. BELL.