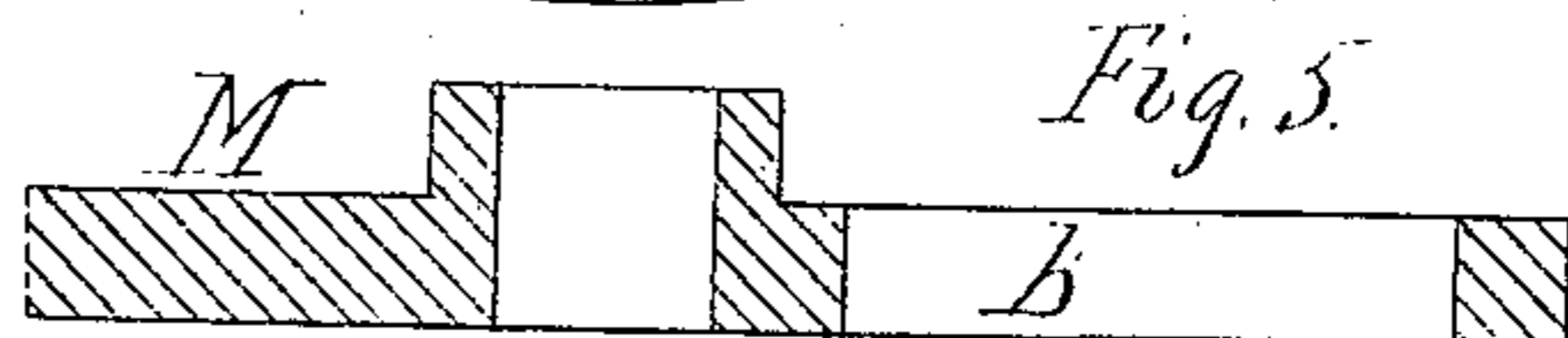
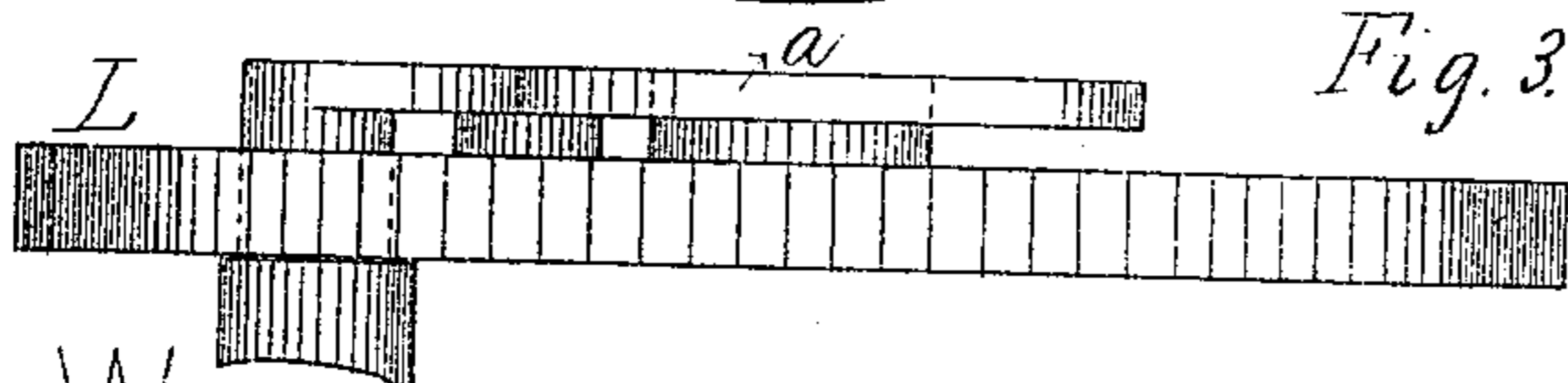
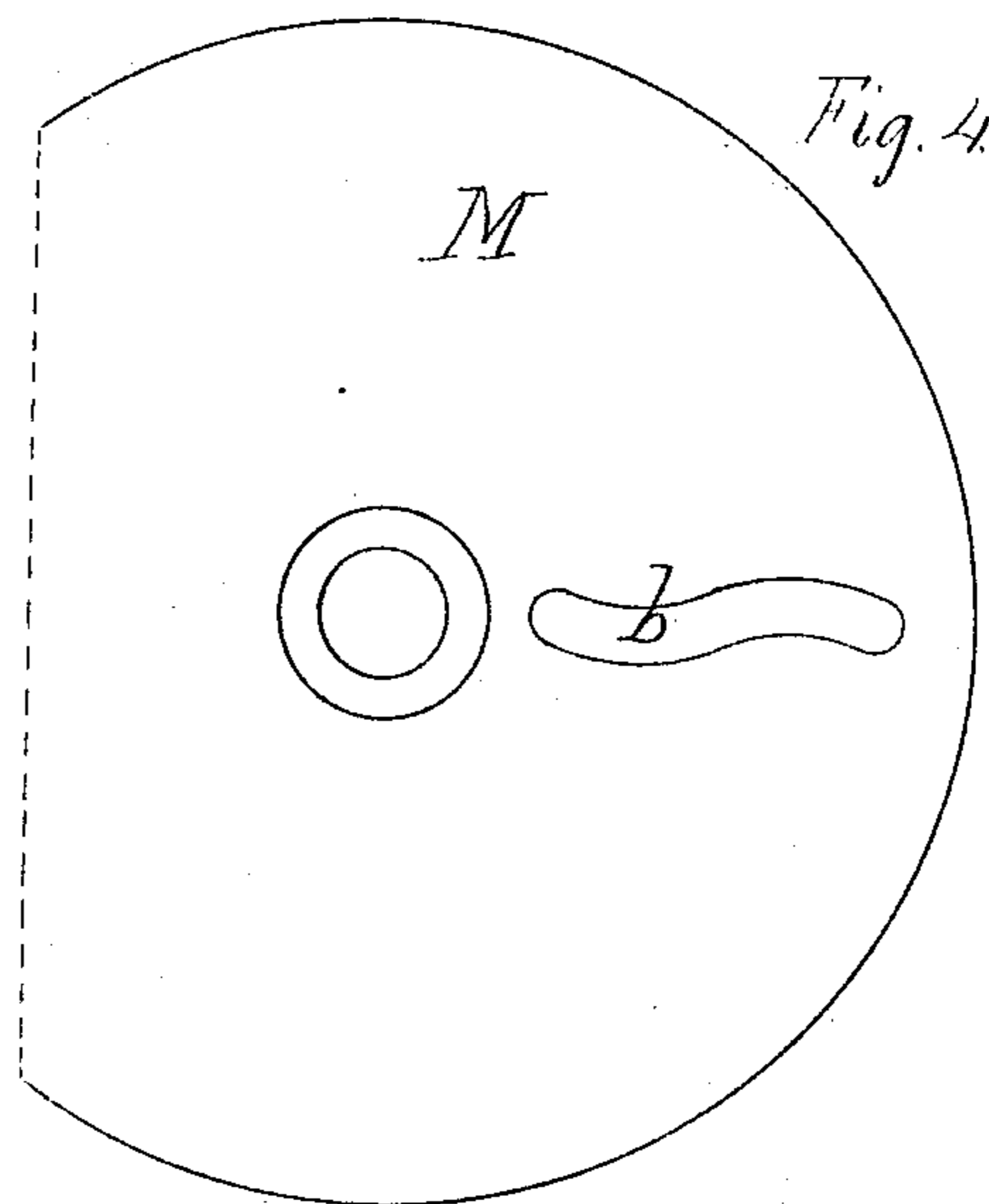
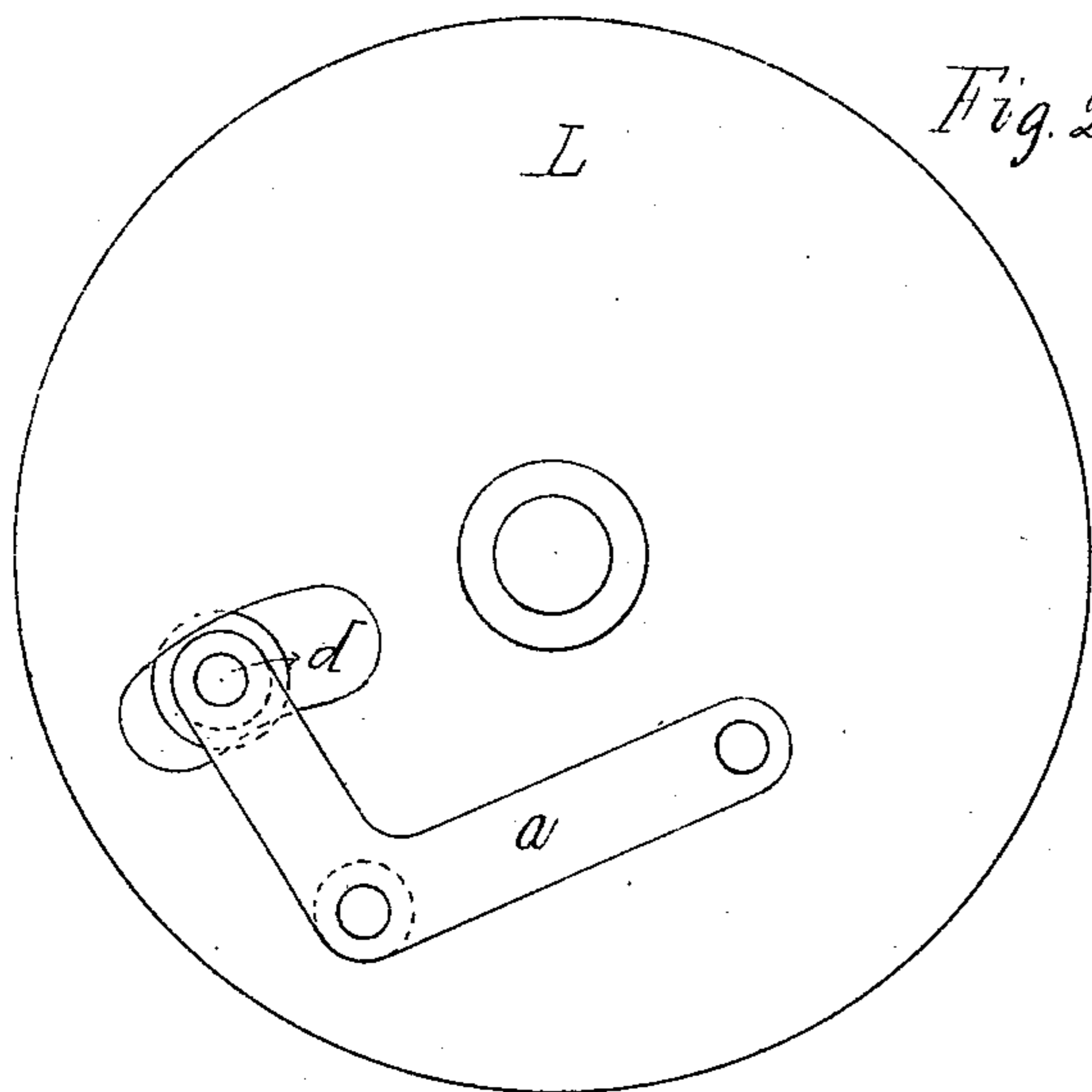
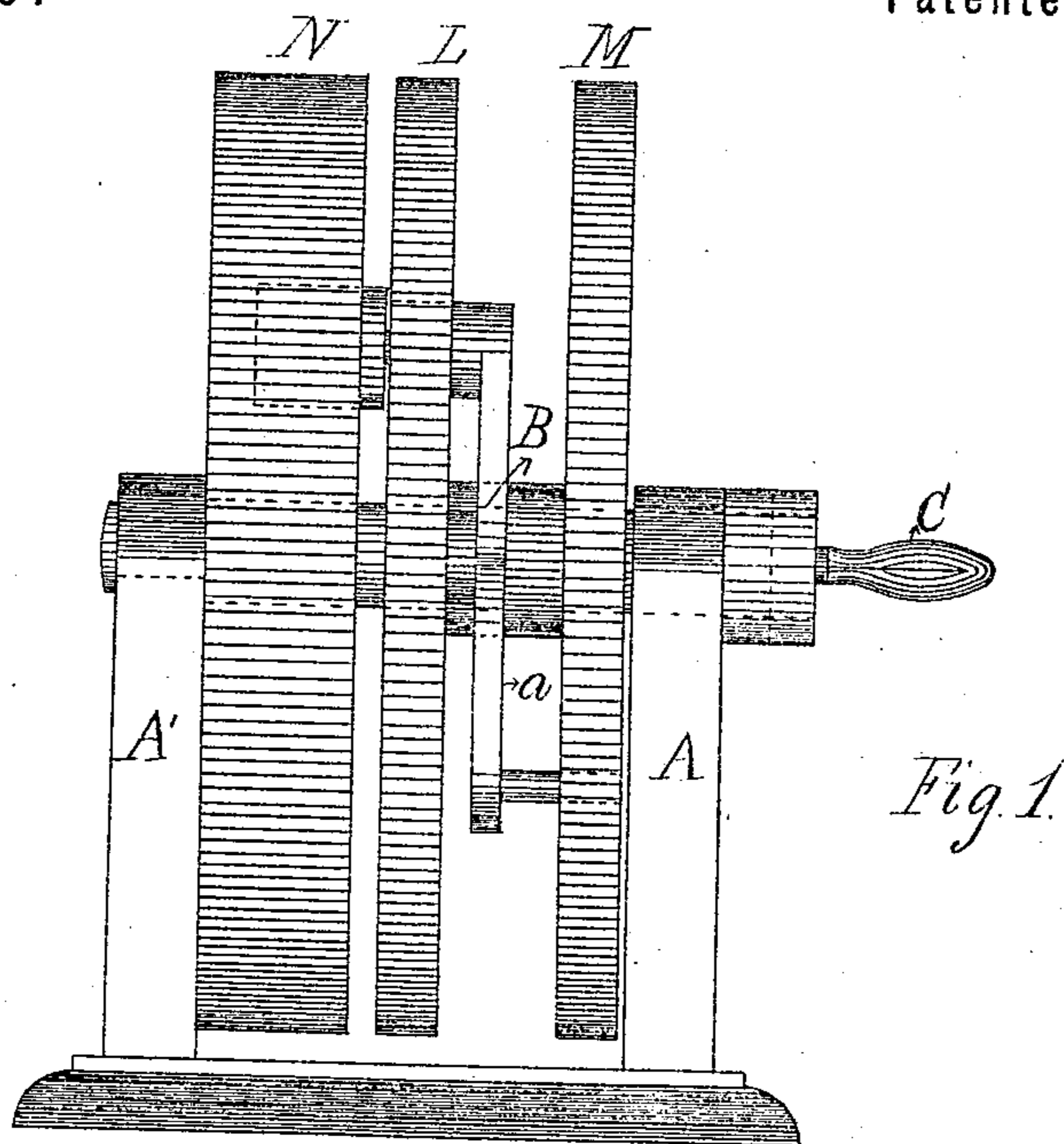


C. MONTAGUE.
Mechanical Motions.

No. 151,500.

Patented June 2, 1874.



WITNESSES
Frank D. Witherell.
Walter L. Montague

INVENTOR
Charles Montague

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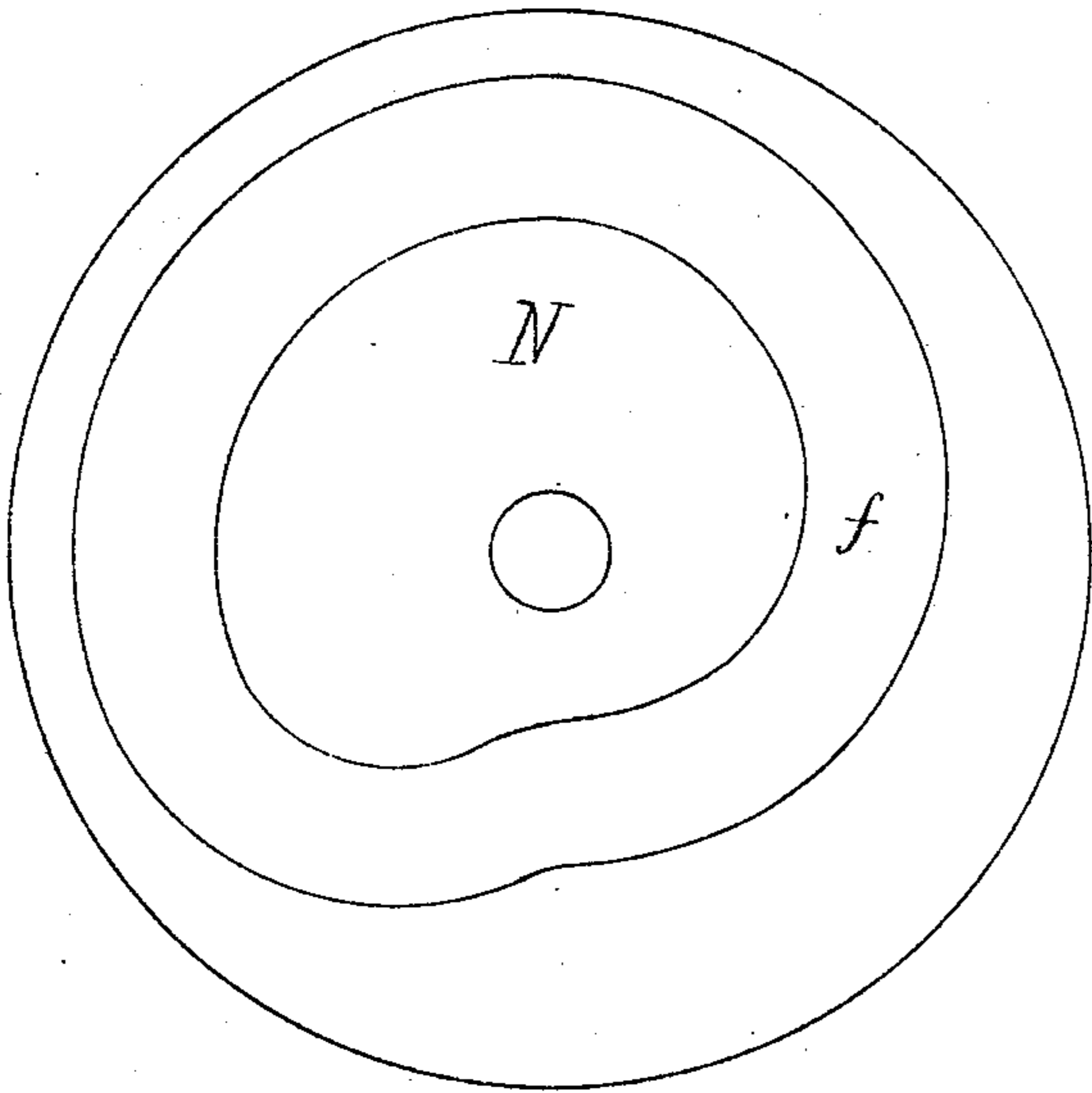


Fig. 6.

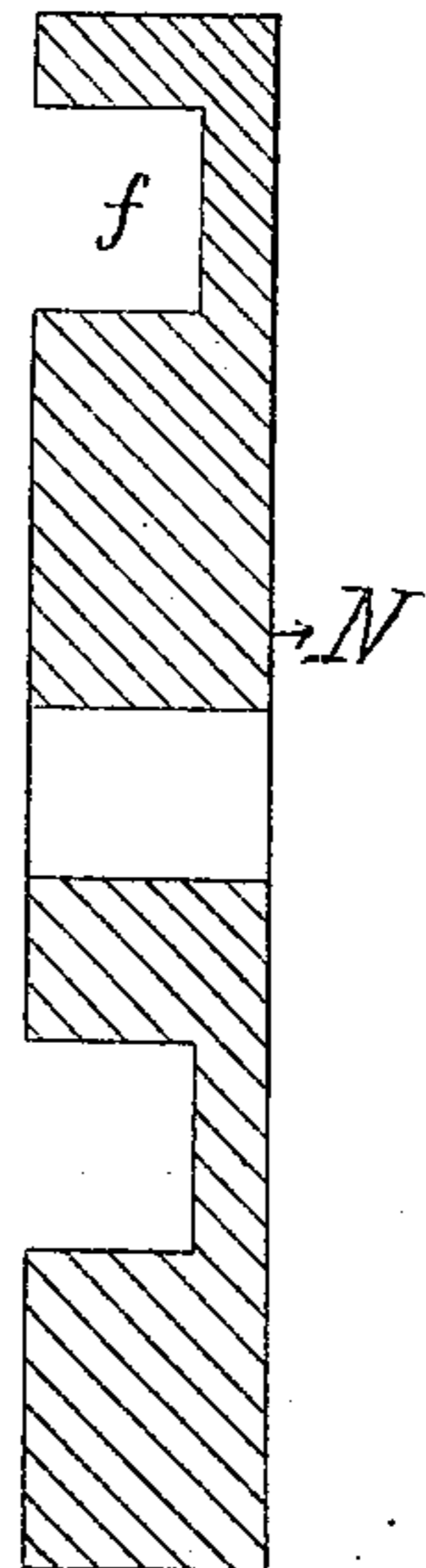


Fig. 7.

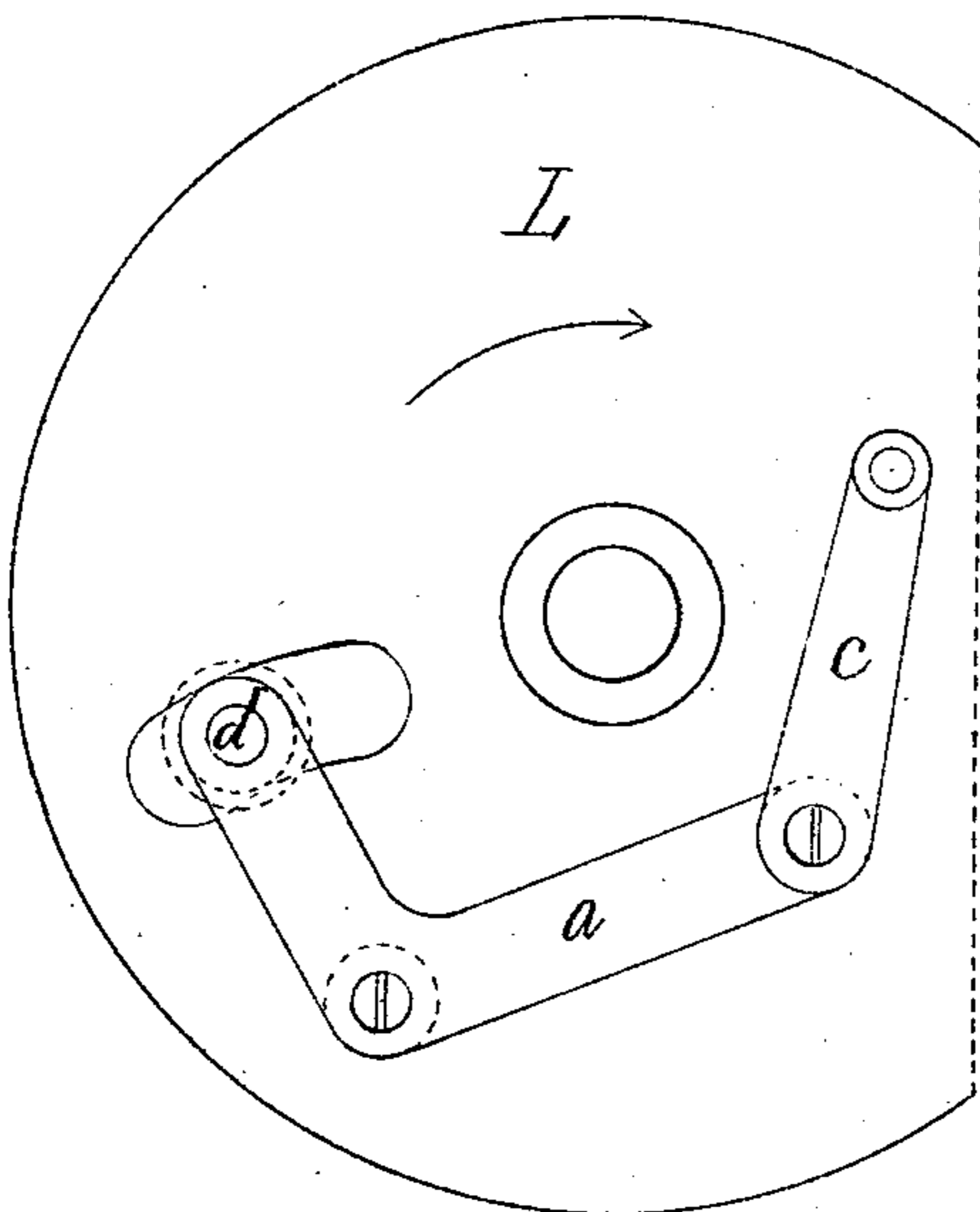


Fig. 8.

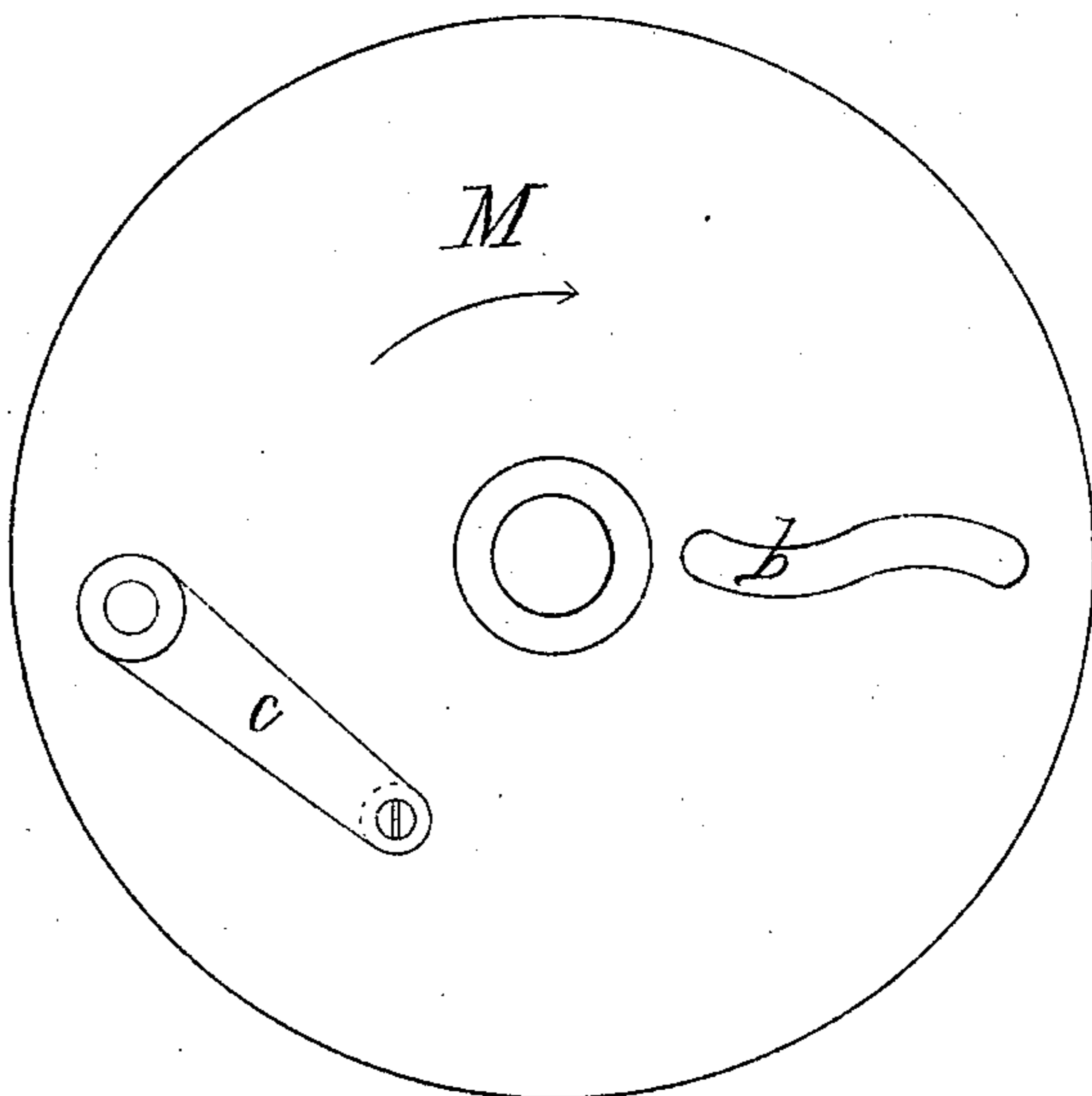


Fig. 10.

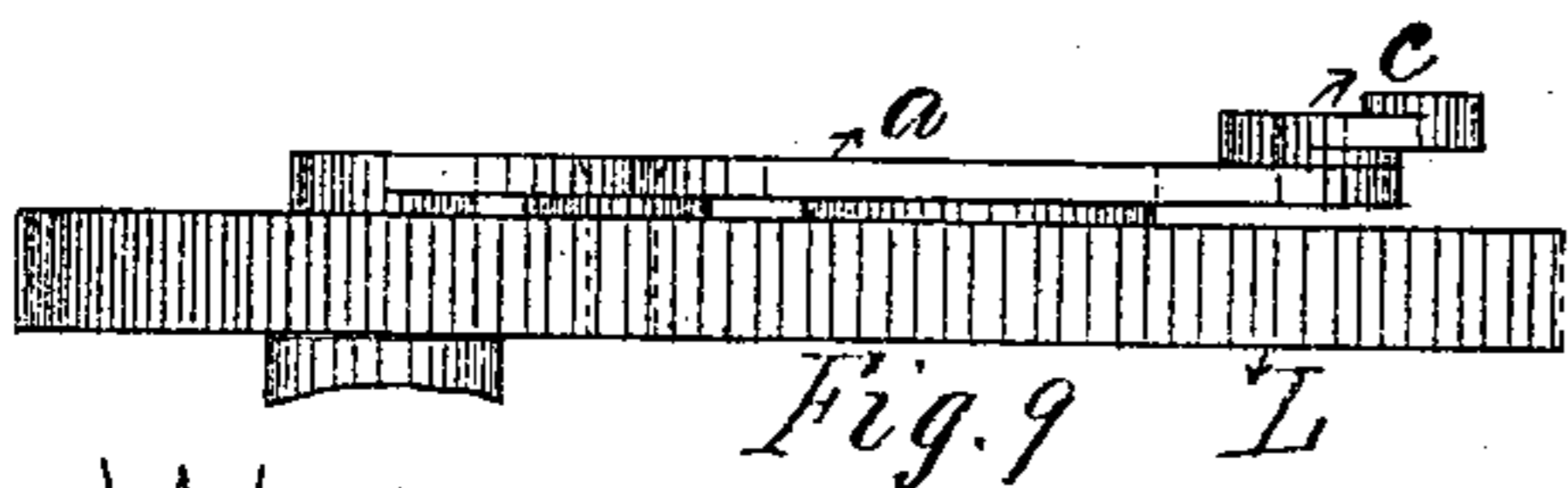


Fig. 9.

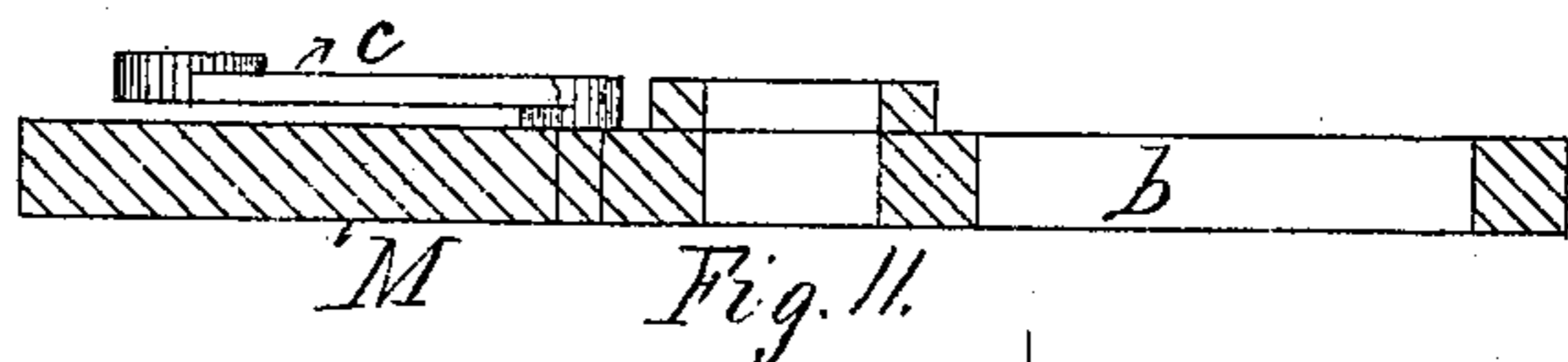


Fig. 11.

WITNESSES
Frank G. Withersell.
C. Watts & Montague.

INVENTOR
Charles Montague

UNITED STATES PATENT OFFICE.

CHARLES MONTAGUE, OF BOSTON, MASSACHUSETTS, ASSIGNOR TO CYRIL C. CHILD, OF SAME PLACE.

IMPROVEMENT IN MECHANICAL MOTIONS.

Specification forming part of Letters Patent No. 151,500, dated June 2, 1874; application filed February 12, 1874.

To all whom it may concern:

Be it known that I, CHARLES MONTAGUE, of Boston, Massachusetts, have invented a Mechanical Motion, of which the following is a specification:

The nature and object of my invention consist in converting regular into irregular or intermittent rotary motion.

Figure I is an end elevation. Fig. II is a plan view of the face of disk L, nearest wheel M, with connections attached. Fig. III is an end elevation of same. Fig. IV is a plan view of the face of wheel M. Fig. V is an end elevation of wheel M. Fig. VI is a plan view of fixed cam N. Fig. VII is a cross-section of fixed cam N, showing guide or groove *f*. Fig. VIII is a plan view of disk L, showing a variation in the arrangement of connections. Fig. IX is an end elevation of disk L. Fig. X is a plan view of wheel M, showing variation in the arrangement of connections. Fig. XI is an end elevation of wheel M.

A A' are standards supporting a crank-shaft, B, on which is fastened disk or crank L. Loose on the same shaft is a wheel, M, which is connected with disk L by a lever, *a*, pivoted on disk L, one end of the lever having a stud which operates loosely in a slot, *b*, in wheel M, while the other end of the lever has a stud, *d*, which passes through a hole in disk L and enters a groove *f* in fixed cam N attached to standard A', the hole in disk L being merely to allow the stud to enter groove *f*, and no contact existing between the stud and disk. On wheel M, Figs. VIII, IX, X, XI, is a link, *c*, pivoted at one end to the wheel, while the other end extends to and is connected by a pin to one end of lever *a*, the other end of the lever having the stud *d* extending, as before described, into the groove *f* in fixed cam N, the parts comprised in the Figs. VIII, IX, X, XI showing a variation in the arrangement of connections, by which a modification in the character of the motion imparted to wheel M is obtained.

The operation of these parts is as follows: Motion is communicated to crank-shaft B, causing the revolution of the disk L, which is fastened thereto. Pivoted to disk L, and revolving with it, is the lever *a*, the stud at one end of which projects inwardly to groove *f* in the fixed cam N, by which it receives a vibrating movement during its revolution with the

shaft. The other end of the lever, having a stud which has a loose or working fit in the slot of wheel M, produces upon the wheel a rotary motion, which is faster at some portions of the revolution and slower at other portions than the speed of rotation of disk L, the variability of motion depending on the shape of the slot in wheel M, and that of the groove *f* in fixed cam N.

By the addition to the mechanism described of link *c*, as represented in Figs. VIII, IX, X, XI, one end of the link being pivoted to wheel M, and the other end extending to and pivoted to that end of lever *a* whose stud operates in the slot of wheel M, and which last-mentioned stud is in these figures dispensed with, the revolution of disk L causes a different amount and character of variability in the rotating speed of wheel M, which at some part of its revolution stops entirely.

This device is adapted to all mechanism in which it is desired to produce a rotary motion at varying speed during each revolution.

A large number of modifications may be made in the form of the connections between the disk and wheel, and it is not essential that they should be placed exactly on the same line of axis, the principle of the invention consisting in the use of a guide or cam which operates upon suitable connections between two or more wheels or disks revolving in the same direction, whereby a completed rotation of one wheel or disk causes a completed rotation of the other wheel or disk at a different speed during a portion or portions of its revolution.

In an application for patent for an improved printing-press, filed March 19, 1873, I have shown a combination of this device, with different form of connections between the wheel and disk from those herein shown, with the cylinder of a printing-press.

I claim as my invention—

The instrumentality of a fixed guide, groove, or cam in vibrating connections between two wheels or disks, whereby the regular rotation of the driving-wheel is converted into irregular or intermittent rotation in the driven wheel, substantially as described.

CHARLES MONTAGUE.

Witnesses:

FRANK D. WITHERELL,
C. WATTS L. MONTAGUE.