

No. 74,085.

PATENTED FEB. 4, 1868.

B. G. H. HATHAWAY.
HARVESTER.

3 SHEETS—SHEET 1.

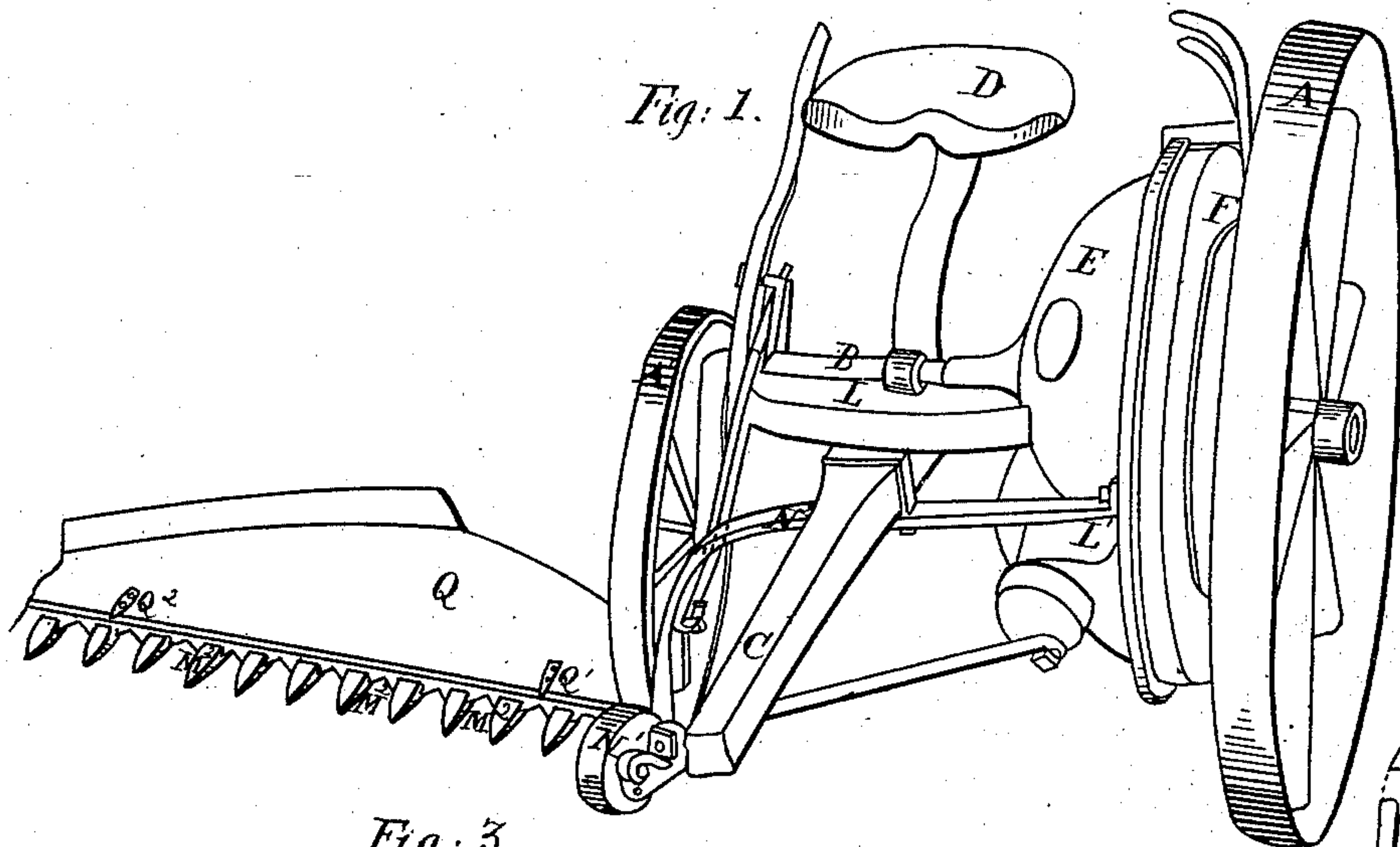


Fig. 3.

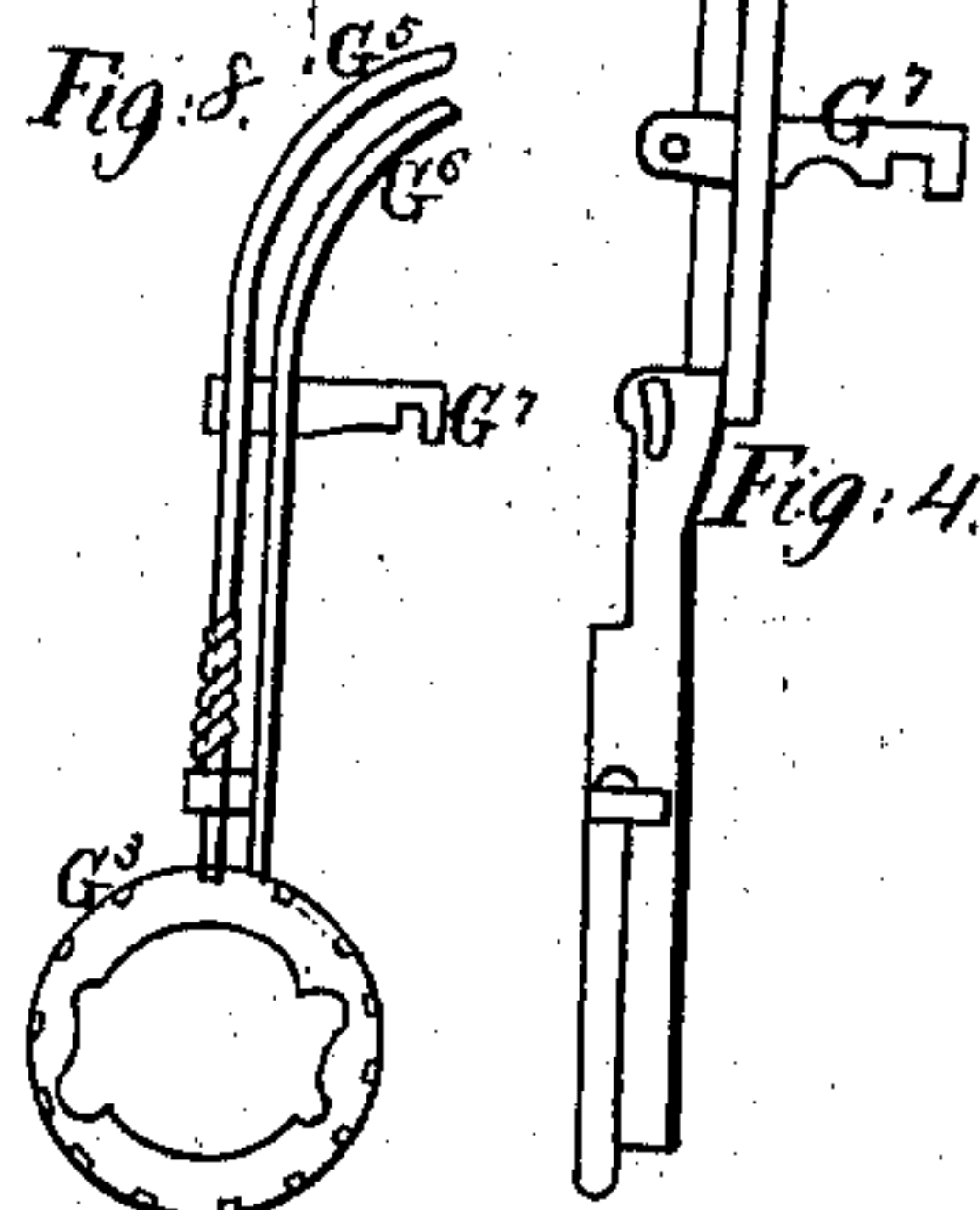
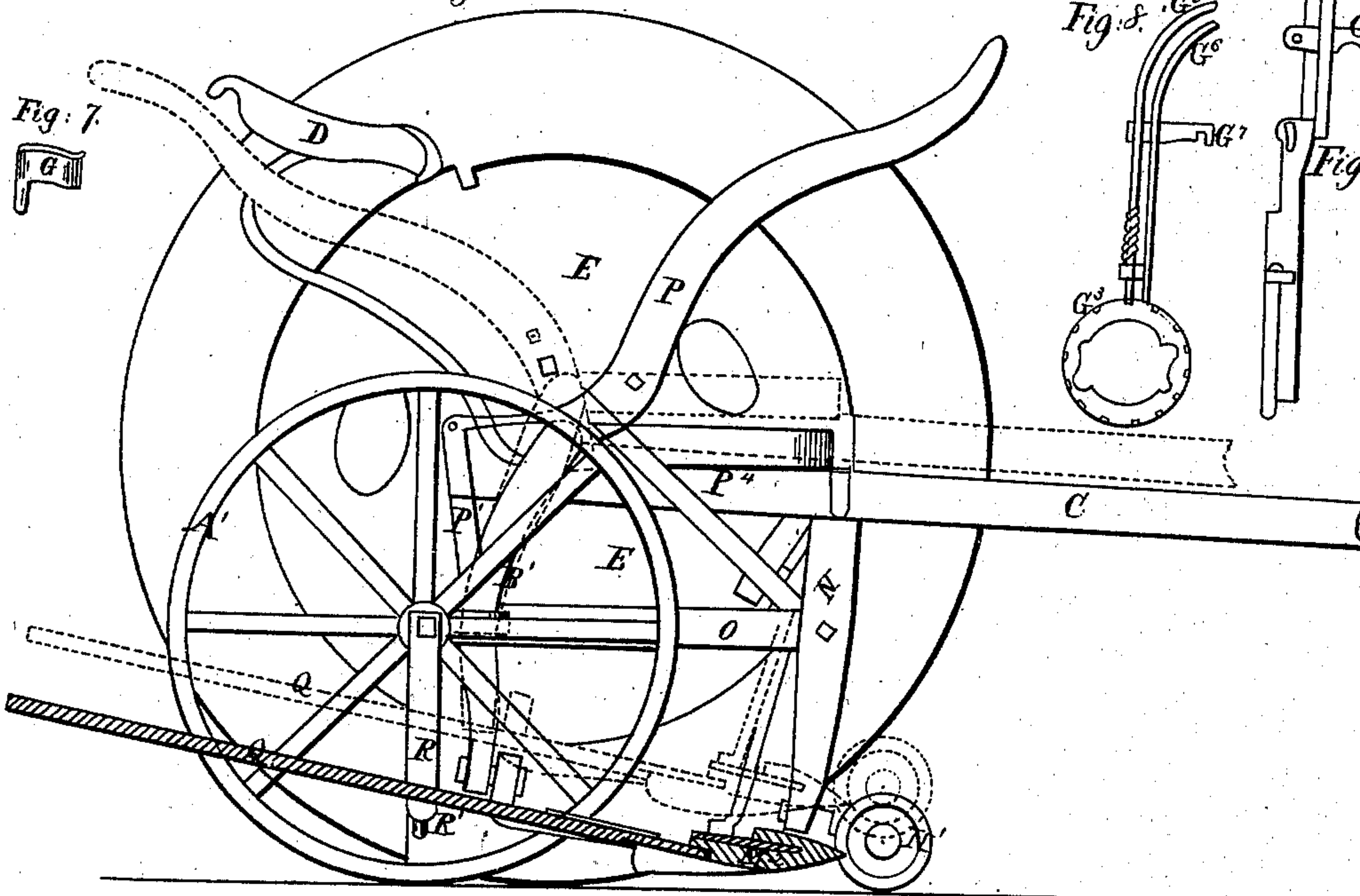
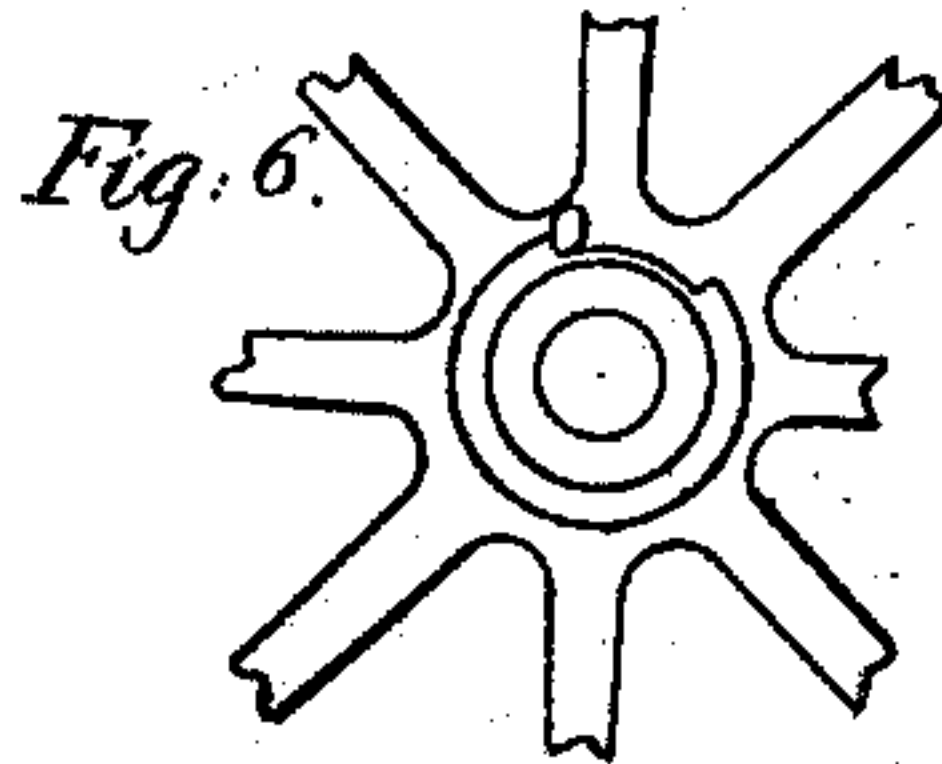


Fig. 4.



Witnesses:
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3 SHEETS—SHEET 2.

Fig. 2.

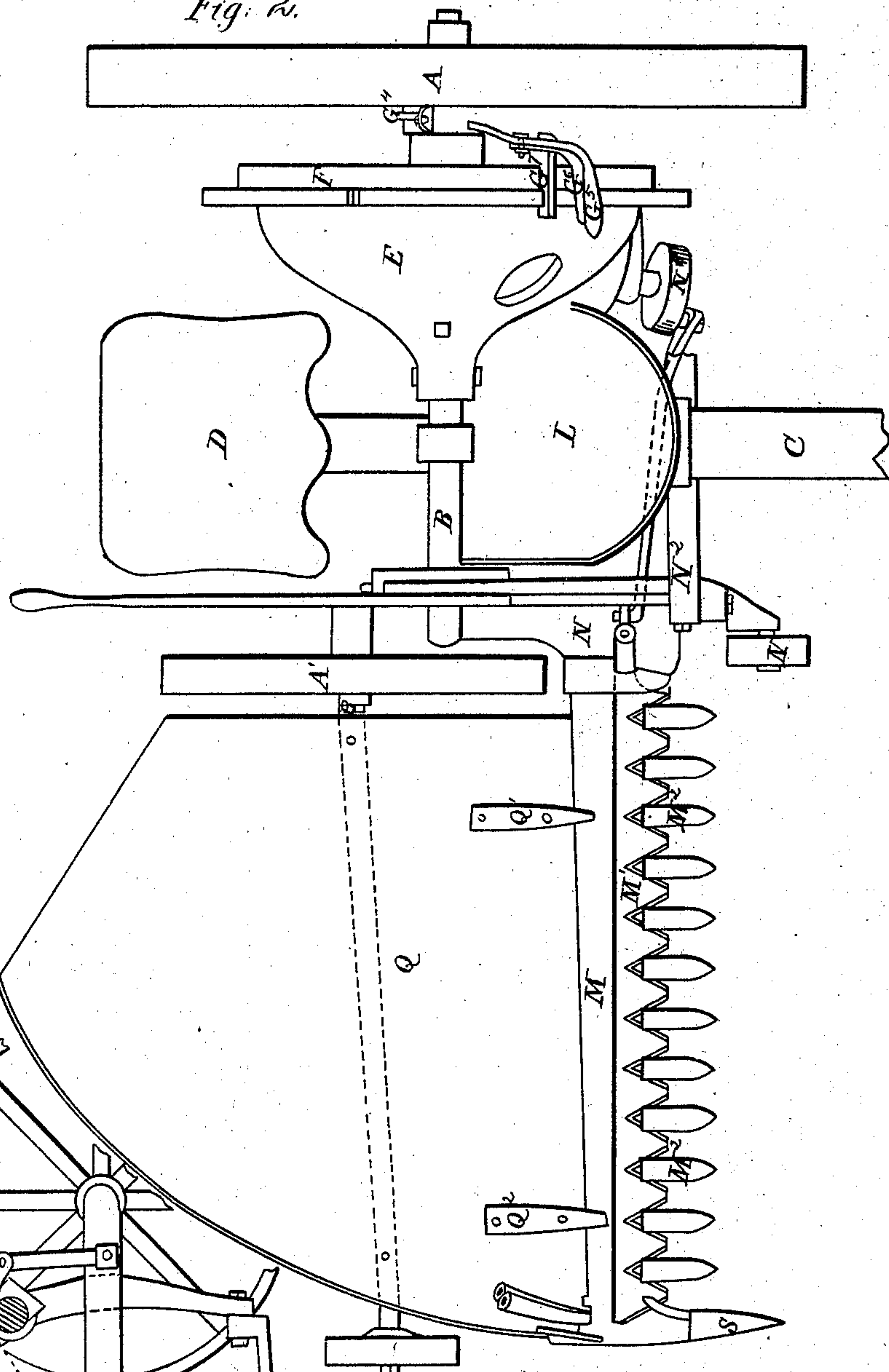


Fig. 15.

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3 SHEETS—SHEET 3.

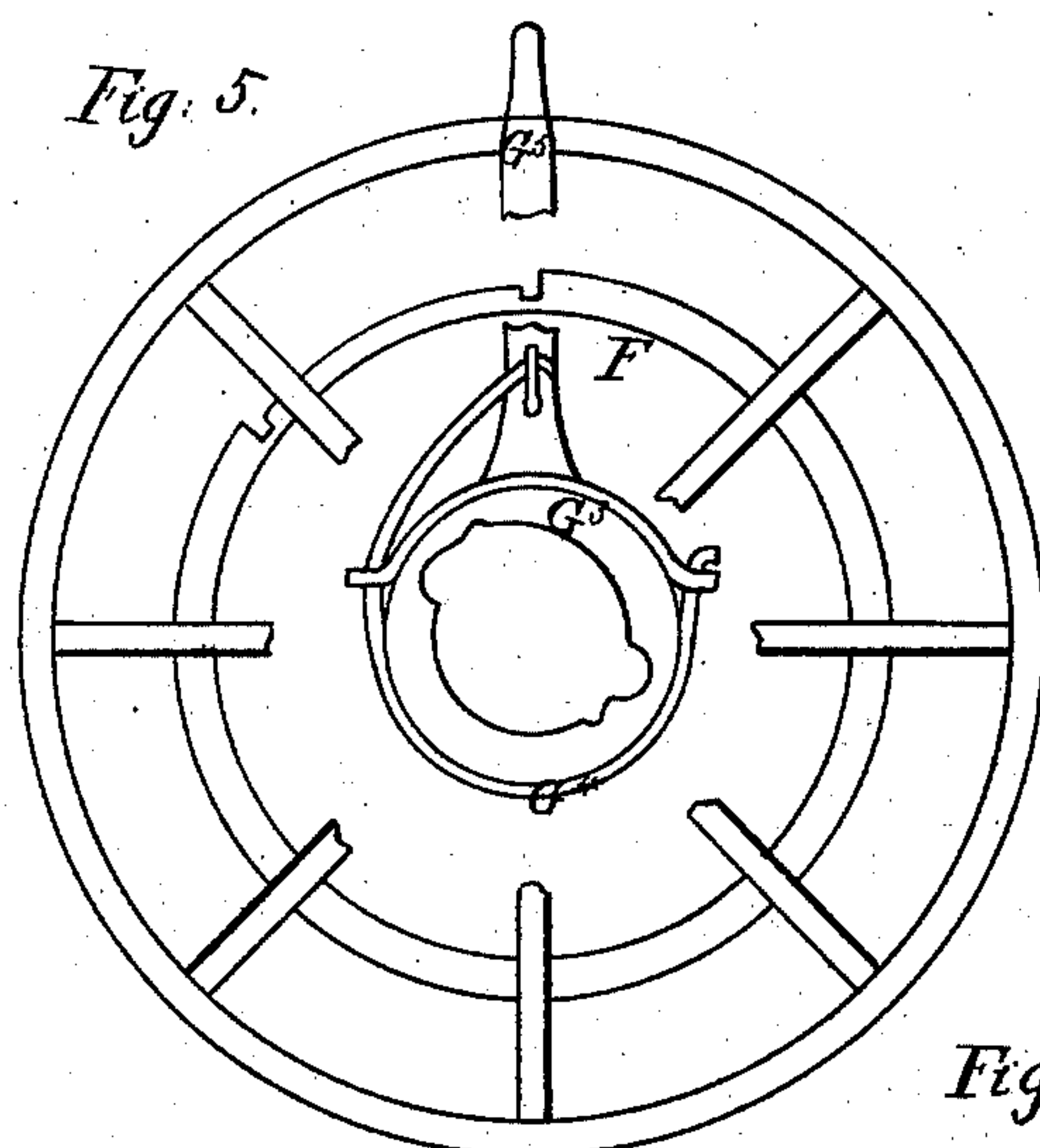


Fig. 9.

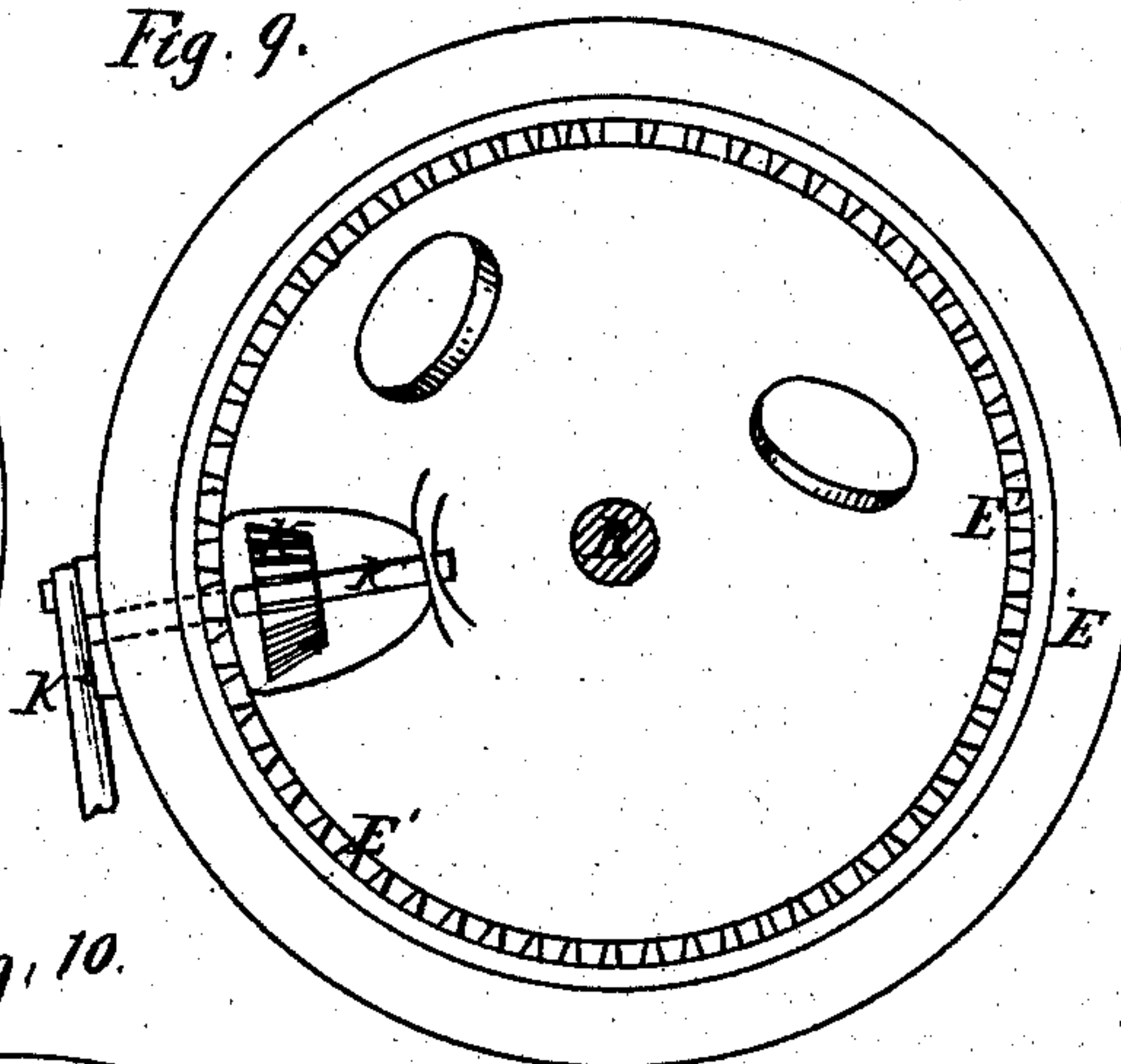


Fig. 10.

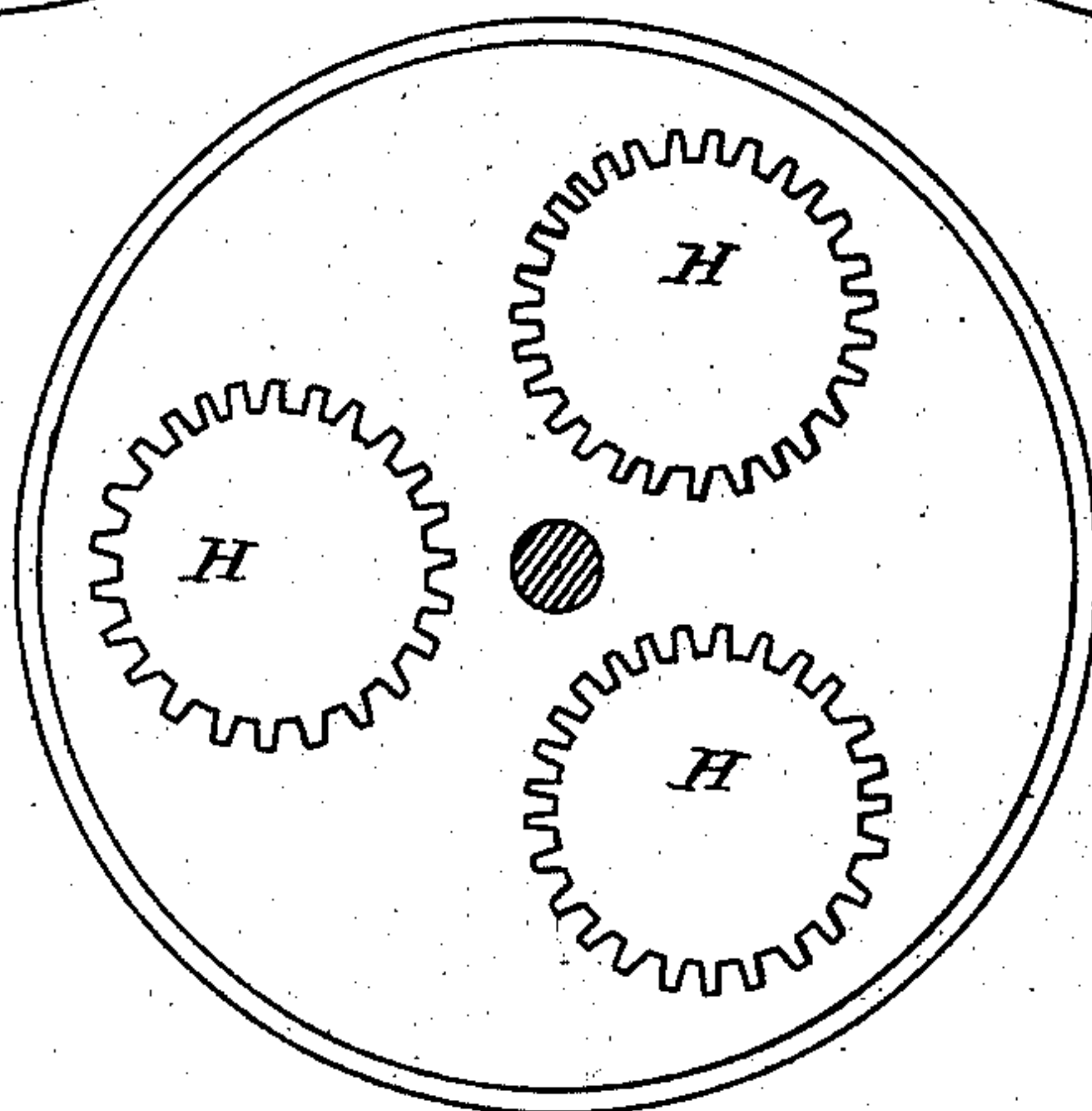


Fig. 11.

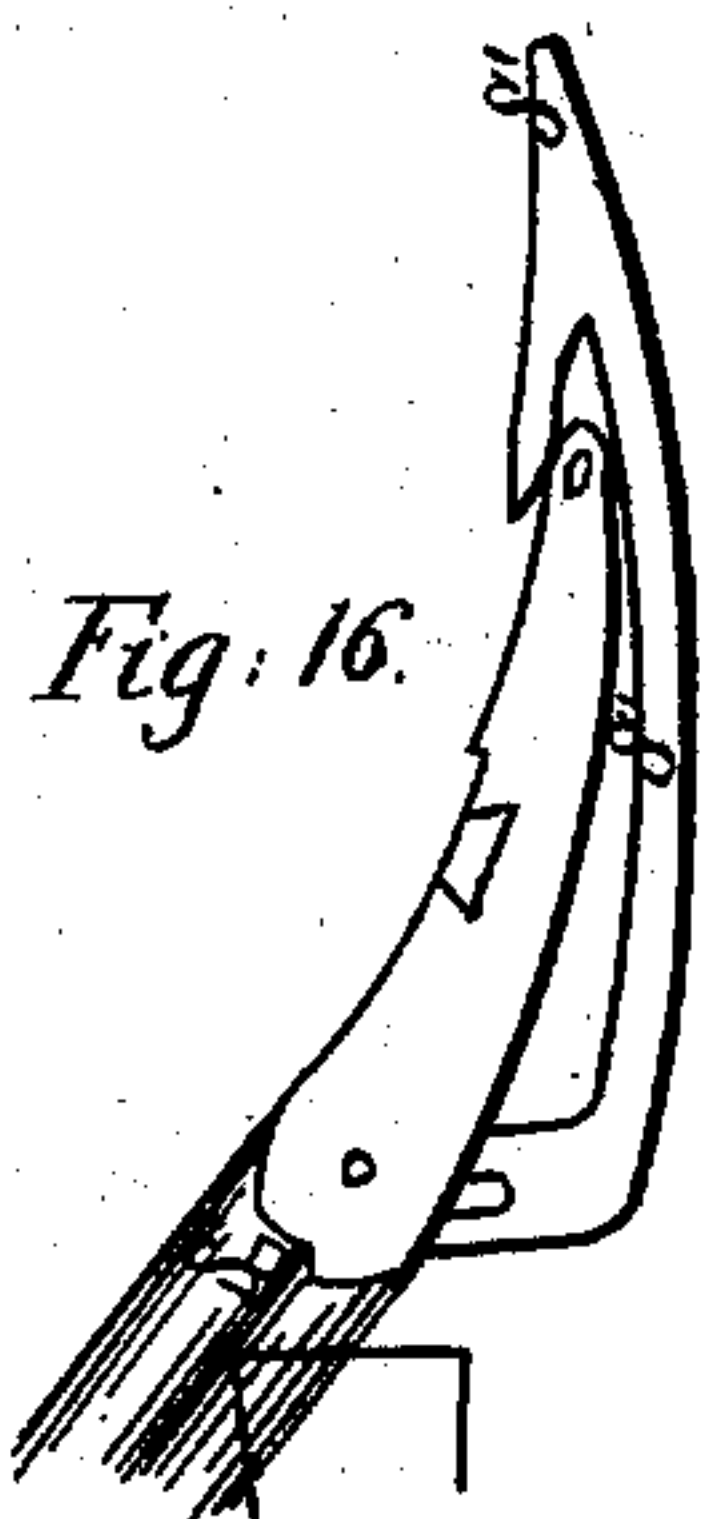
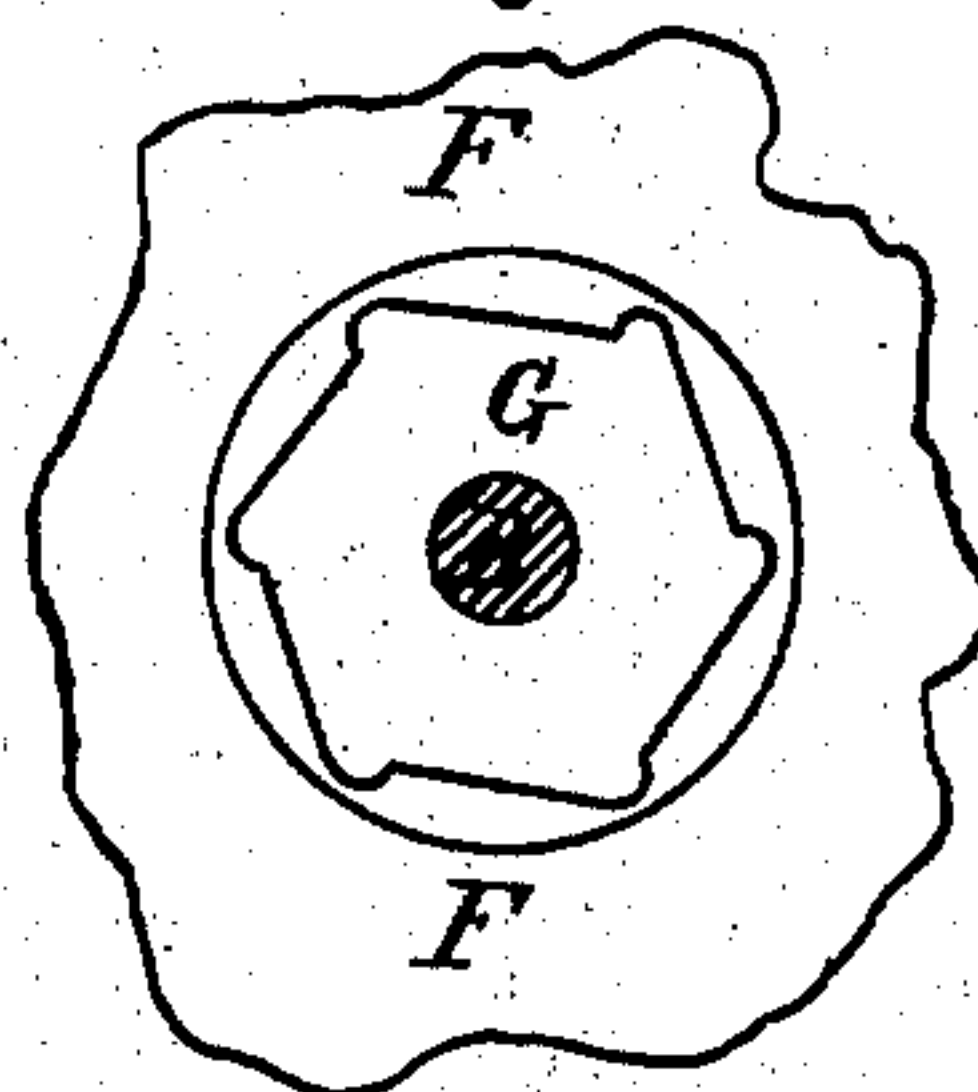


Fig. 12.

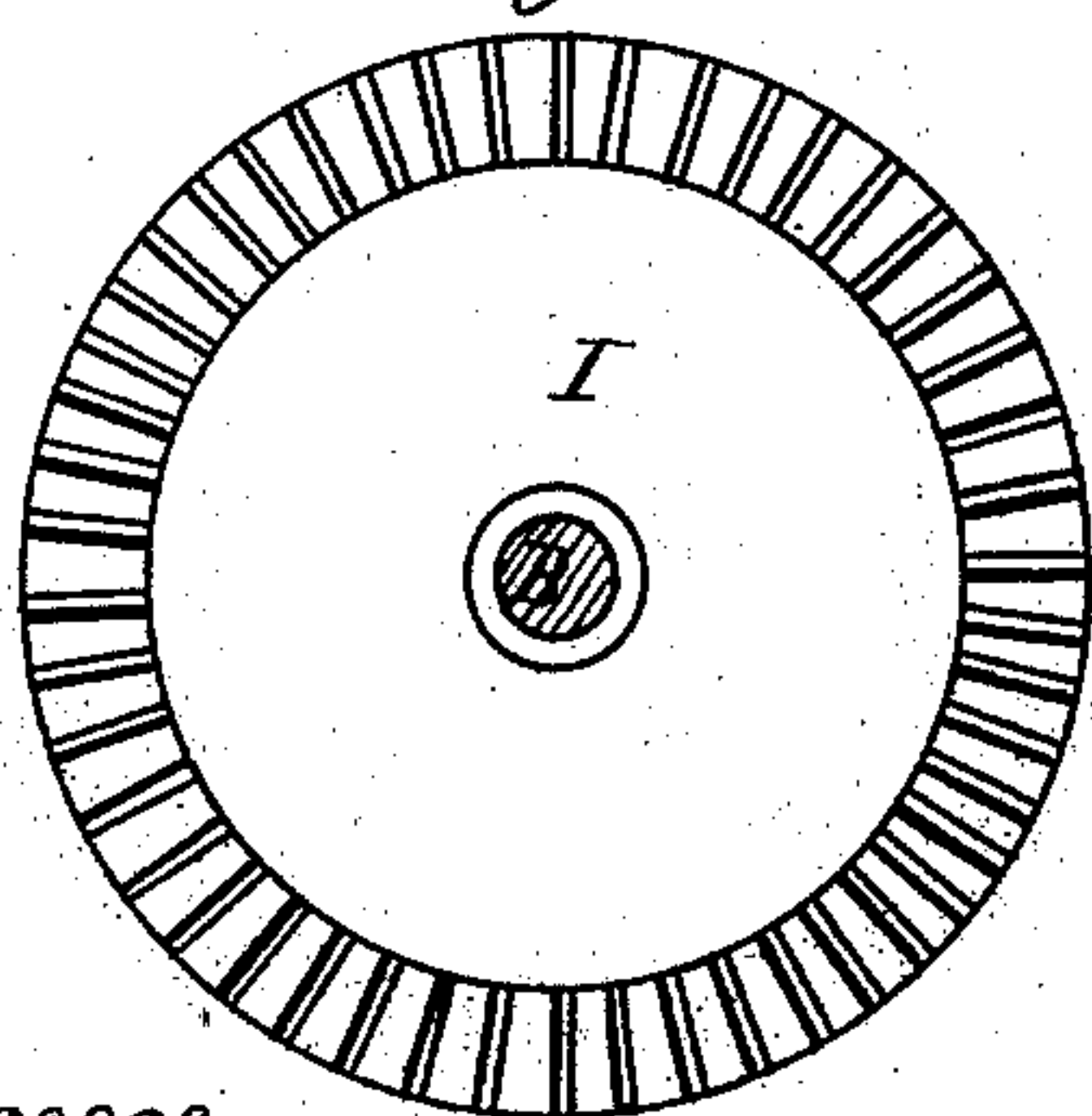


Fig. 13.

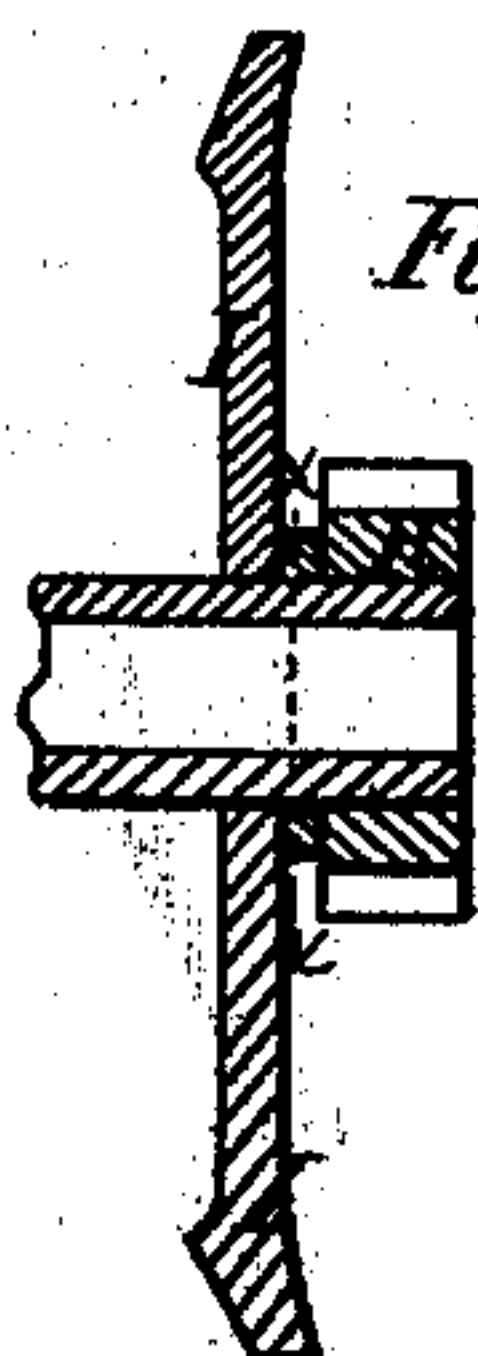


Fig. 14.



Witnesses:
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*The drawing in this patent
is not in print.*

United States Patent Office.

BRADFORD G. H. HATHAWAY, OF ROCK STREAM, NEW YORK.

Letters Patent No. 74,085, dated February 4, 1868.

IMPROVEMENT IN HARVESTERS.

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, BRADFORD G. H. HATHAWAY, of Rock Stream, in the county of Yates, and State of New York, have invented a new and useful Improvement in Harvesters; 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 part of this specification, in which—

Figure 1 is a perspective view.

Figure 2 is a top view.

Figure 3 is a vertical longitudinal section.

Figure 4 is a side elevation of the shifting-lever.

Figure 5 is a side elevation of the driving-wheel and plate-wheel.

Figure 6 is a section through the hub of the wheel.

Figure 7 is a perspective view of the pawl.

Figure 8 is an elevation of the shifting-lever, showing a different device.

Figure 9 is a side elevation of the inside of the hemisphere.

Figure 10 is an inside view of the plate-wheel.

Figure 11 is an elevation of part of the outside of the same plate-wheel.

Figure 12 is a side elevation of the inner bevel-wheel.

Figure 13 is a section through the same.

Figure 14 is a section through the hub of the same.

Figure 15 is a longitudinal section through the adjusting-lever

Figure 16 is a side elevation of the outer shoe.

The same letters, wherever employed in any of the figures, are used in the designation of the same parts.

These improvements relate to the class of harvesting-machines set forth in Letters Patent granted to G. M. Hathaway and myself, on the 28th day of May, A. D. 1867, and consists in certain improvements in the construction of the same, as will be fully set forth in the following specification and claims.

The machine is intended for use either in reaping or mowing. In either case the driving-mechanism remains unchanged. The machine is supported upon two wheels, A A'. These wheels are neither of the same size, nor on the same transverse line. The wheel A is the driving-wheel, the revolution of which actuates the cutting-mechanism; it runs upon the axle B, which is bent at right angles at B', and extending downwards, supports in part the cutting-apparatus, in a manner to be hereinafter described. The tongue C is rigidly attached to the axle B. A brace extending from the tongue, at its junction with the axle, supports the driver's seat D, which is so placed that the weight of the driver shall assist in counterbalancing the mechanism placed in the front axle. The driving-mechanism giving motion to the cutter is enclosed within a hemispherical case, E, surrounding and attached to the axle. The open end of the hemisphere is covered by a revolving plate, F, turning around the axle. This plate is caused to revolve by the wheel A, which is connected with it, by means of a pawl or pawls, G, shown in fig. 7. The stem is inserted in a hole drilled into the hub of the wheel, and when the wheel is revolving forward, the point of the pawl catching into notches in the rim of a recess, G¹, in the hub of the plate-wheel F, into which it is pressed by a spring placed behind it, will cause the plate-wheel F to revolve with the driving-wheel; but when the driving-wheel is revolving backwards, the pawl slipping over the inclined sides of the notches, does not actuate the plate-wheel. It is sometimes desirable to stop the cutters when the wheel is moving forward. This I accomplish in the following manner: A collar, G², is placed on the end of the hub, with a flange extending over the end of the hub, and notched to receive the point of the pawl at the same time with the notches in the recess G¹. When the machine is in action, the hub and the collar will revolve together. There are two notches in the inclined surface, on which the pawl rests against the collar, the one already referred to, and another nearer the centre of revolution, so placed that when the point of the pawl rests in it, it will not come in contact with the notch in the hub. It will therefore depend on which of the two notches in the collar the pawl is held in, whether the plate-wheel will revolve with the driving-wheel or not. In order to give this control to the collar, it is surrounded by a yoke, G⁴, attached to the lever, G⁵. One end of the yoke is carried around the collar, and attached to a rod, G⁶, having lugs, which pass through slots in the lever G⁵, and permit a play to the rod, sufficient to tighten or loosen the yoke on the collar, so that the collar may

either revolve around the hub or be so confined that the hub shall revolve with the collar. I have shown, in fig. 8, another arrangement for attaining this end, when the lever G^6 is extended down so that its point may be set in holes in the collar, or be raised above them. By shifting the lever when the collar is connected with it, by either of these or any similar devices, from the lower to the upper notch in the edge of the case E , the pawl may be drawn back out of the notch in the hub, and held in the inner notch in the collar, when the wheel will revolve without actuating the plate-wheel. Three planet spur-wheels, H , are attached to bosses, projecting from the inner face of the plate-wheel F . These wheels are driven by cogs E' , on the inner edge of the case E , and drive the central pinion I' , which is cast on the back of the bevel-wheel I , which turns on the axle within the case. The bevel-wheel drives the bevel-pinion K , on a shaft, K^1 , which, passing through the case, carries the crank, K^2 . The pitman L is attached to the crank, and extending down to the finger-bar M , drives the knives M^1 within the guards M^2 , all constructed in the ordinary manner. The finger-bar is attached to a shoe, N , which is supported in front by the wheel N^1 , and suspended from the brace N^2 , bolted to the case E , and fastened to the tongue C . This brace is attached to the shoe by a wrist, which, projecting from the brace, passes through a lug on the top of the shoe. The rear end of the shoe is in like manner attached to a wrist on the lower extremity of the bent end B' of the axle. The cutter-bar, turning upon these wrists, may be folded up by any of the devices in use for that purpose. O is a bar, fastened by a round bolt passing through the brace N^2 , and attached to the bent end B' of the axle, by a yoke, O' , passing around the latter. On the end of this bar is a wrist, which forms the axle for the wheel A' . This wheel may be arranged to run on either the outside or inside, by causing the wrist to project outwardly or inwardly. To raise or lower the cutter-bar, a lever, P , has its fulcrum on the axle B , the short end of the lever being connected by a rod, P^1 , with the bar O . By throwing the long end of the lever forward or back, the cutter-bar may be raised or lowered. A rod, P^2 , extending back from the brace N^2 , through a yoke on the lever near the axle, should be constructed with notches on its edge, to receive a pawl on the lever, by which the cutting-apparatus may be held at any required height between the extremes. Q is the platform, which is adjustably connected with the machine, by means of the points Q' , which rest upon the finger-bar, having pins projecting down into the bar, and by the stump R , which, hanging from the spindle of the wheel A' , is hooked at R' into the edge of the platform. The outer shoe S is a casting, attached to the end of the finger-bar, and a wrought-iron point, S' , bolted to the end thereof, on top, and extending forward, terminating in a sharp point. The lower part extends back to the rear of the shoe, where it is bent upward, and having a series of holes through it, is adjustably fastened by a pin, so that the outer end of the finger-bar may be raised or lowered.

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

1. The planet-wheels H , when attached to the inner face of a revolving plate, F , so adjustably connected with the driving-wheel, that it may be caused to revolve on the axle, or remain stationary, substantially as set forth.
2. The mode of throwing the driving-mechanism out of or in gear, by the pawl or pawls G , attached to the driving-wheel, notched recess G^1 , collar G^3 , lever G^5 , and rod G^6 , acting either by means of the yoke G^4 , or its equivalent, substantially as described.
3. The combination of the bent axle B , bar O , lever P , rod P^1 , and wheel A' , for regulating the height of the cutter-bar M , substantially in the manner set forth.
4. The mode of suspending the rear of the detachable platform Q , by means of the stirrup R , attached to the adjustable bar O , substantially as set forth.
5. The arrangement of the bent axle $B B'$, driving-wheel A , and wheel A' , attached to an adjustable bar, O , substantially as described.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

B. G. H. HATHAWAY.

Witnesses:

R. MASON,

JOHN S. HOLLINGSHEAD.