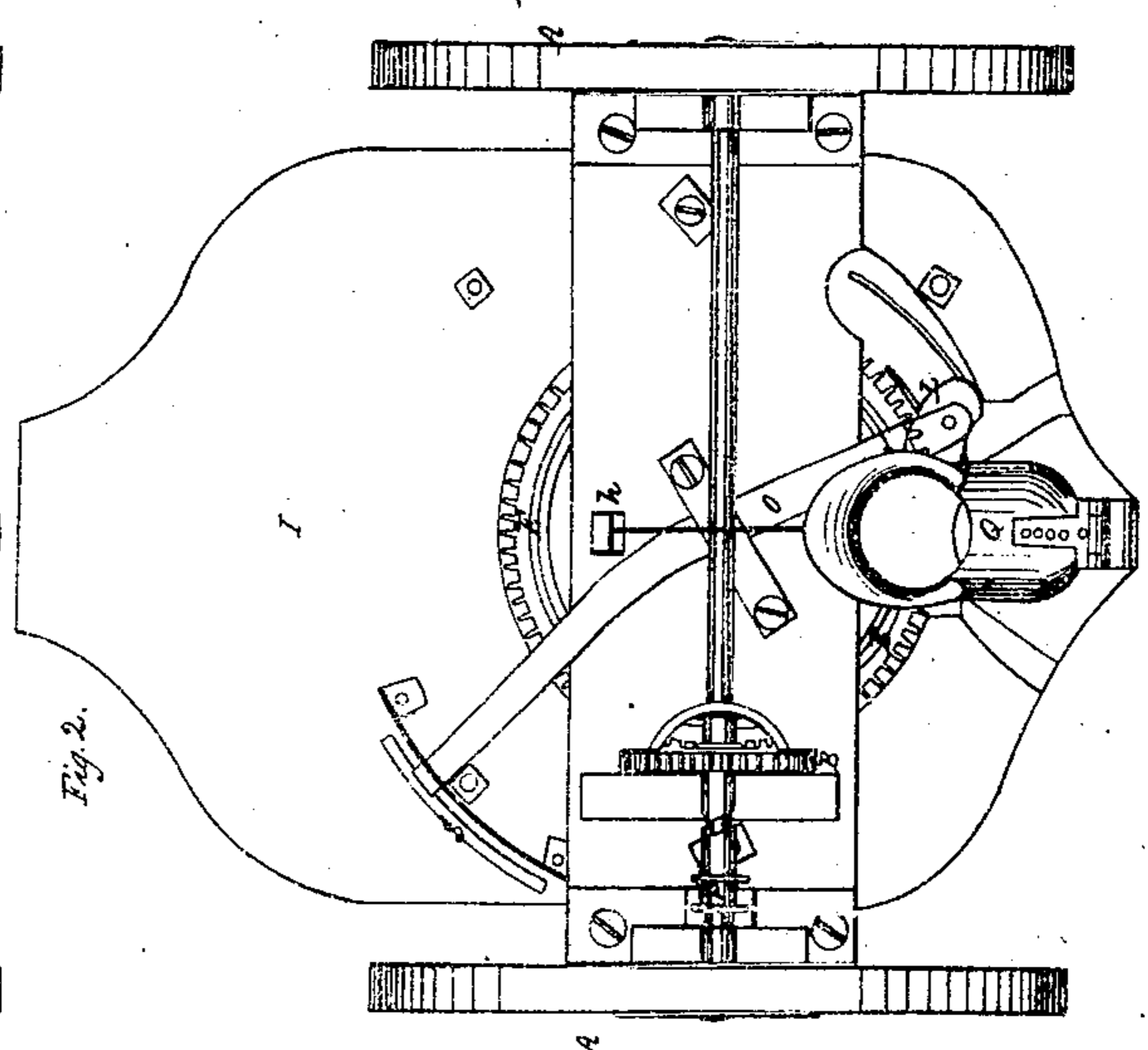
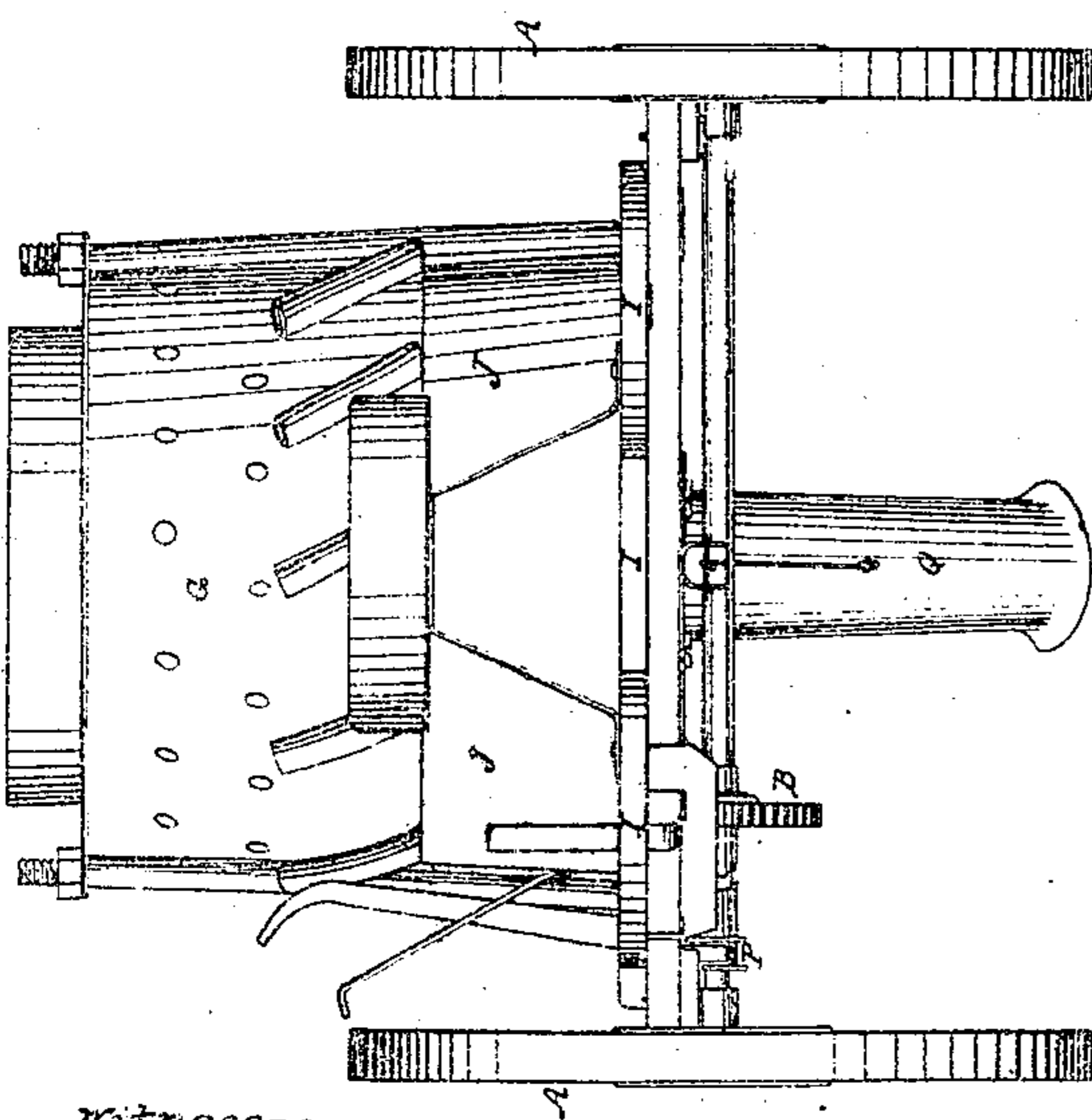
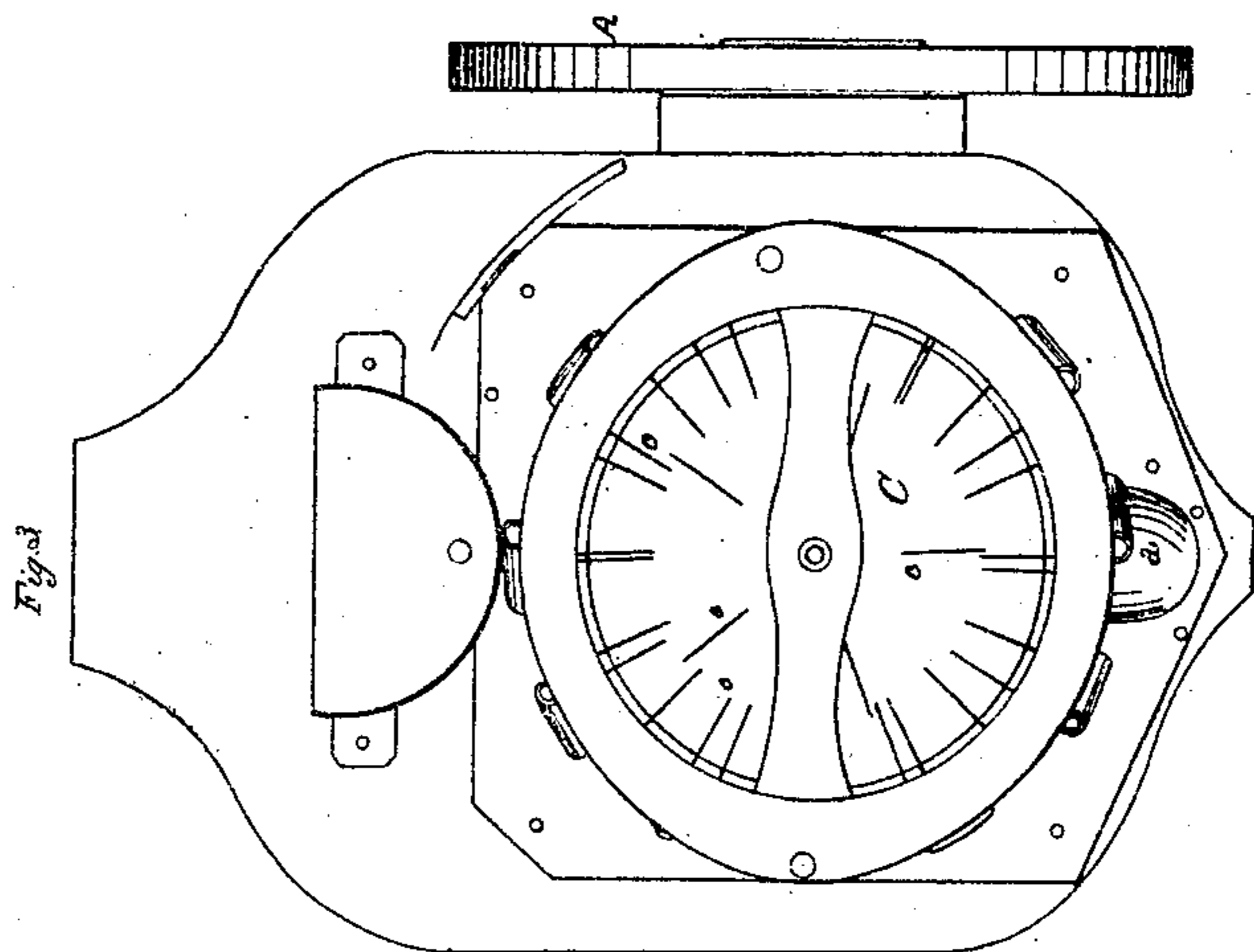
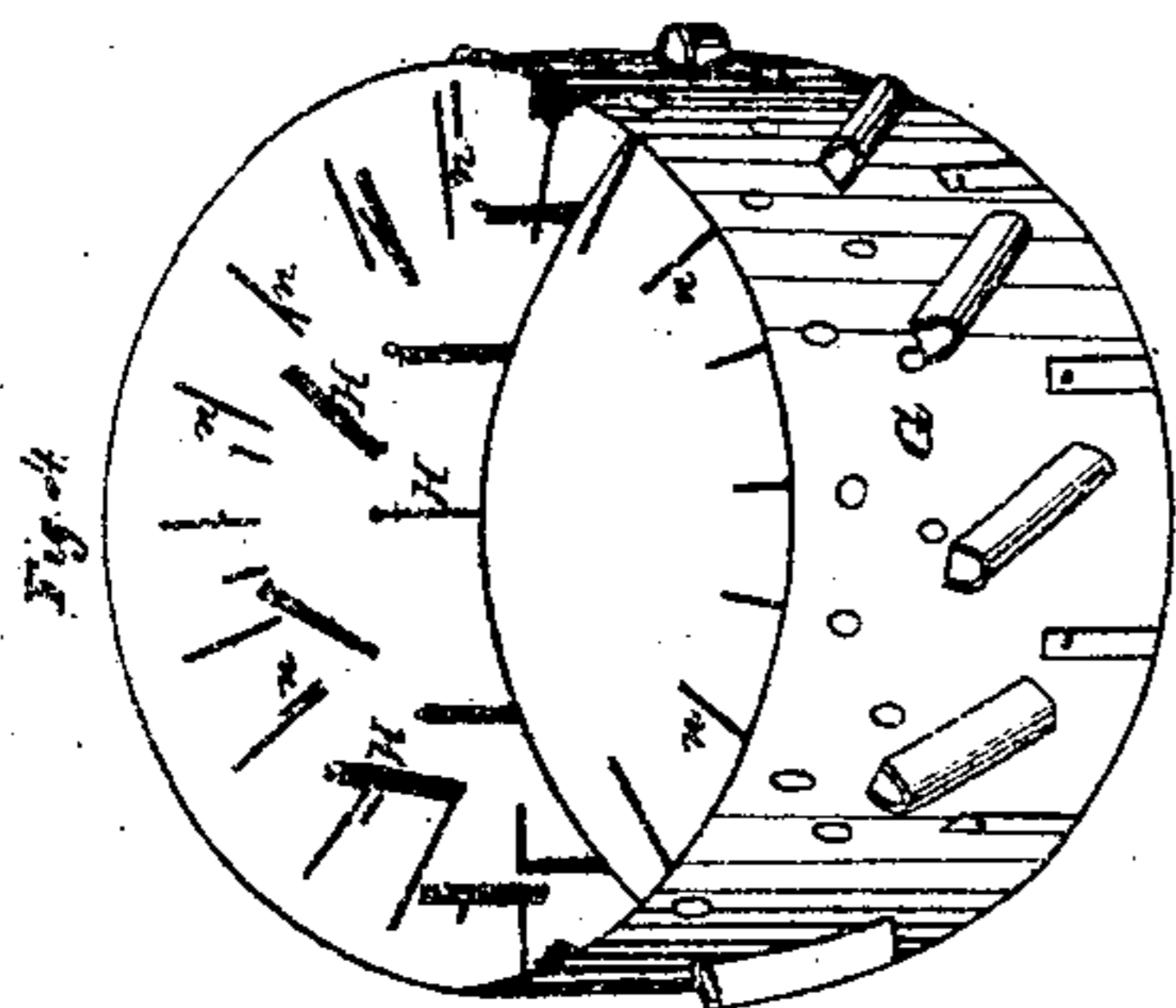
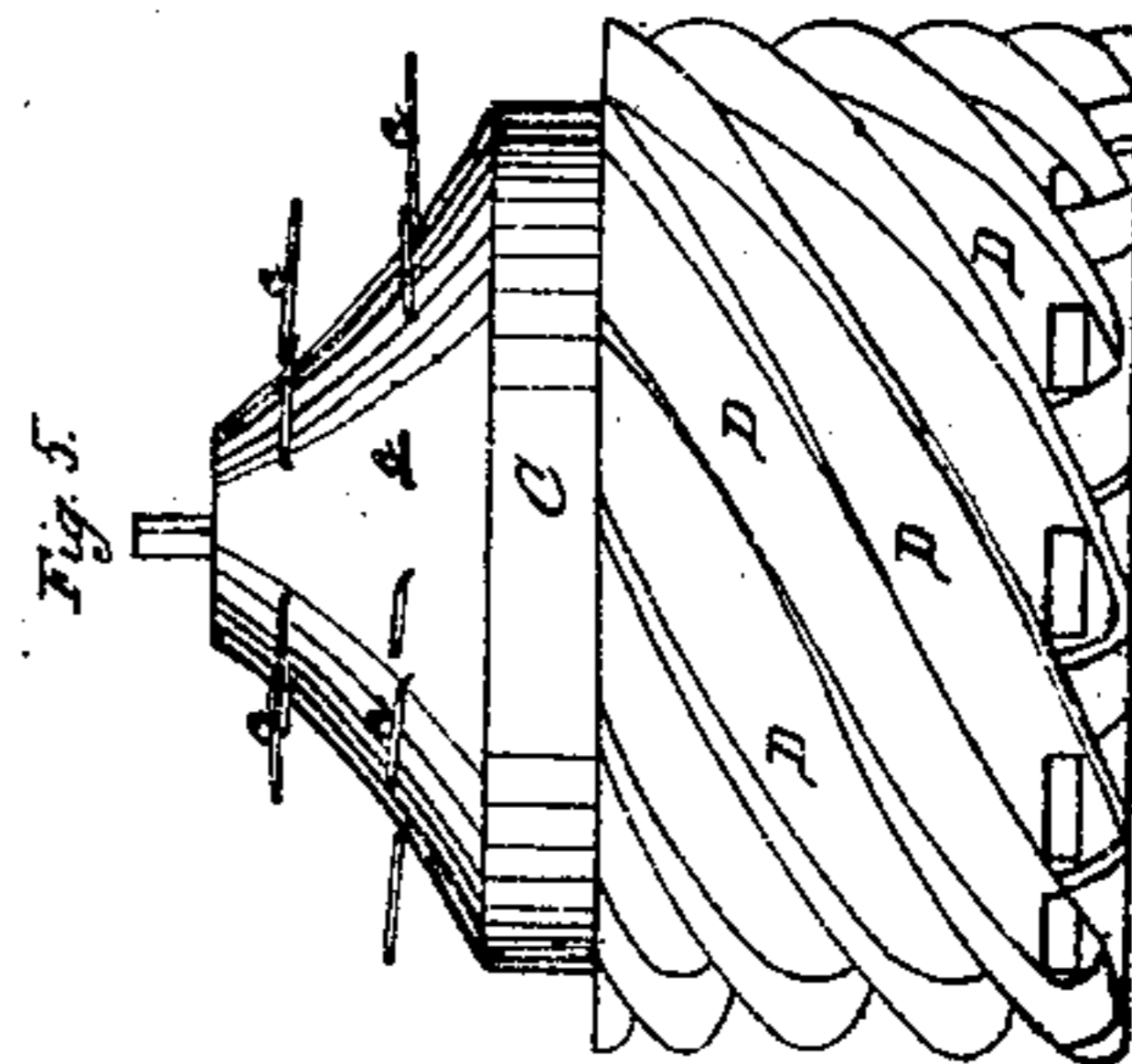
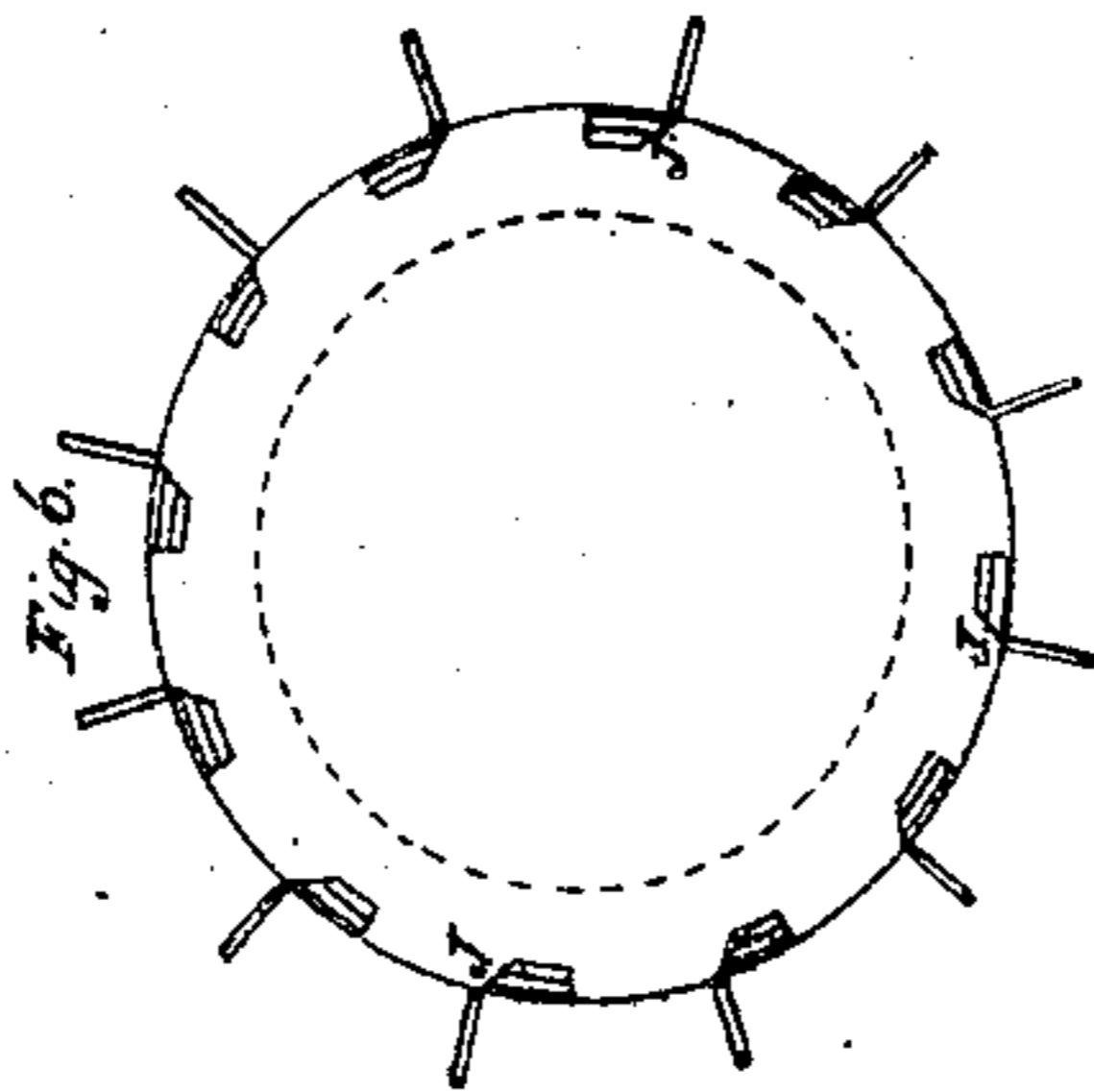
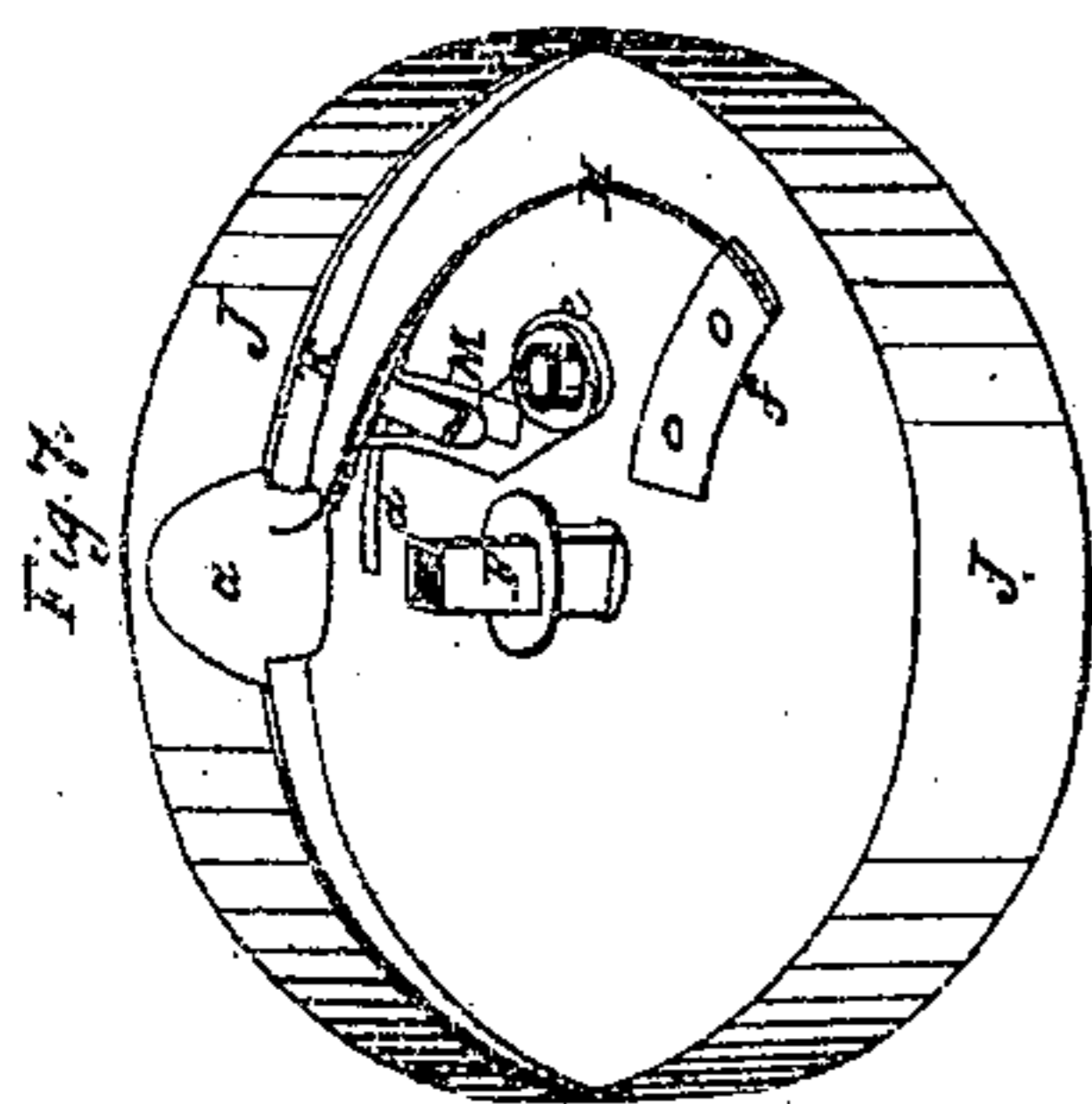


J. Armstrong.

Planting Cotton Seed.

N^o 71263

Patented Nov. 26, 1867.



witnesses
C. L. Harris
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United States Patent Office.

JAMES ARMSTRONG, OF BUCYRUS, OHIO.

Letters Patent No. 71,263, dated November 26, 1867.

IMPROVEMENT IN MACHINE FOR PLANTING COTTON-SEED.

The Schedule referred to in these Letters Patent and making part of the same.

Be it known that I, JAMES ARMSTRONG, of the town of Bucyrus, in the county of Crawford, and State of Ohio, have invented a new and useful Machine for Planting Cotton-Seeds; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification.

Figure 1 is a front view of the cotton-planter.

Figure 2 is a bottom view of the same.

Figure 3 is a top view of the same.

Figure 4 is a perspective view of the interior and exterior of the box or case the spikes, and brushes.

Figure 5 is a view of the cylinder-grooves and spikes.

Figure 6 is a view of the bottom of the cylinder and small inclined planes.

Figure 7 is a perspective view of the sides and bottom of the rim or lower part of the case, the spring-lever, and upright shaft.

A A are the driving-wheels, which are connected by an axle underneath the machine, the wheels being fastened rigidly to the axle, which revolves. Near the right wheel, to the right hand of the operator, and attached to said axle, is a small wheel or pinion, B, revolving, or, rather, stationary on the axle when the machine is moving backward, but which moves forward with the driving-wheels when they move forward, in the manner hereinafter described. C, figs. 3 and 4, is a cylinder, which may be of wood, with an iron covering, of the shape hereinafter described, on the lower portion of the same, or, what I prefer, is all iron, the inside being tubular. On the upper portion of the cylinder C, which is of a conical shape, or slightly curved, are set iron spikes *c c c c c*, fig. 5. There are grooves on the outer surface of the lower portion of said cylinder C, being *D D D D*, fig. 5, similar to the threads of a screw or auger, of the proper size to admit between them a row of cotton-seeds lying longitudinally, and which will pass therein, *seriatim*, as hereinafter described. The grooves *D D*, &c., are open above, and closed at the lower end, and incline at an angle of about forty degrees, circling around the cylinder, but the inclination may be varied by increasing or diminishing the same, as experience may dictate. At the lower end of each of the grooves *D D D D* are oblong apertures through the hollow cylinder C, which, at this point, is quite thin, and these apertures are of the proper size to admit a spring, N, fig. 7, hereinafter described, to strike and expel the cotton-seeds. On the inner side and lower edge of said cylinder C, and attached to the same, between each of said apertures, are inclined planes *J J J*, fig. 6, with the slopes in the same direction of said grooves *D D*, fig. 5, and terminating squarely and abruptly at the opposite end at the beginning of the next aperture aforesaid. Above these inclined planes *J J* and said apertures, and contiguous thereto, is a flange or inner rim, which serves to keep the spring N to its place. The cylinder C is so constructed in its interior as to be revolved horizontally by a horizontal shaft, driven by the main driving-wheels A A, fig. 1. E, fig. 2, is a master-wheel, attached to the lower end of the shaft F, fig. 7, which passes upward into cylinder C, and revolves the same. The master-wheel E is turned by the pinion B, and so revolves the cylinder, which rests on said shaft, and pivoted at its upper end. G, fig. 4, is a circular box or case, which sets over the cylinder C, and having an intervening space of about one-sixteenth of an inch outside the flanges of said grooves *D D*. Across the upper end of this case is a brace, having a circular aperture, in which the upper end of the cylinder is pivoted and revolves. On the upper part of said case, and inside thereof, are spikes of iron *n n*, corresponding to the spikes *c c c* on the cylinder C, but so set as not to interfere with said spikes *c c c*, and to admit the free passage of cotton-seeds between the spikes of the cylinder and those of the case without breaking or injuring said seeds. On the lower portion of the inside of case G are brushes *h h*, which may be round or longitudinal, and these brushes may be of hair, but should be soft and pliant. Woollen cloth barely projecting inside the case will serve the same purpose. I prefer pieces of dried raw hide with the hair on, so set that the hair may project inside the case. The brushes *h h*, or their equivalent, may be set in the case, or may be set in a circular aperture by a screw or pin. I, figs. 1 and 2, is the base or platform of the machine, having a narrow rim, J, in which the case G fits, and which is a lower section of said case. At the rear of rim J is an opening at *a*, and slots *d*, to operate the cut-off. K is a slide or cut-off, to open or close the opening at *a*, which fits against the inner side of rim J. The slide K has a projection or small arm on its lower edge, which passes through the slot at *d*, where it is attached to a

small slide, L, fig. 2, which lies against and is moved on the under side of the bottom of the lower section of said case, resting on said platform I. This small slide L extends from its said connection with slide K over slot *d*, where there is attached to it, through said slot *d*, a flat arm, resting against the bottom of the lower section of the case, and which arm works in the forked end of a lever, M, which is flat, and is held by a pivot at one end at *e*, and at the forked end thereof, aforesaid, has a perpendicular pin or arm, which pushes back and controls a spring, N, as hereinafter described. N is a metallic spring, having the larger and inner end attached to the bottom of said case at *f*. The outer and smaller end of said spring terminates at said opening in the lower side of said case at *a*, and rests against the perpendicular arm of said pivoted and forked lever M. O, fig. 2, is a long lever, pivoted near its centre, on the lower side of the machine, having an arm turned up, and passing through a slot in the platform I at *g*, and terminating above the machine to the right of the operator's seat, and having a handle, by which he may operate said lever. The other end is hinged or pivoted to the small slide L, and operates the slide K, the pivoted lever M, and consequently at the same time controls the spring N. P, figs. 1 and 2, is a clutch of the ordinary kind, which is kept to its place by a lever and spring, and operates to throw the machine out of gear, and suspend its work when a backward motion is given; and the operator may also throw it out of gear when moving forward by pulling the upper end of the lever laterally toward him as he sits on his seat. Q is a tube, extending from the opening at *a* on the lower side of the bottom of the cylinder-case downward into the surface of the ground. The lower end of said tube is shaped as a ground-cultivator or shovel-plough of the ordinary kind. It is hinged at the upper end, and is braced by a rod hooked to a staple in the front side of said tube, and extending to an eye-fastening on the under side of the machine at *h*, where it is fastened by a wooden pin, so that in the event of the tube striking a stone or other obstruction, the pin may break in preference to other parts of the machine, and permit the tube P to swing back by its hinges if such obstacle be immovable. The tube may also be raised and lowered by the devices now in use in ordinary seed-drills. The lower section of the cylinder-case is firmly attached to and incorporated into the platform, and the upper section of said case is set into the lower section, and fastened to its place by rods.

To enable others skilled in the art to make and use my invention, I will proceed to describe the operation of my cotton-planter.

It is designed to be operated by horse-power. The horses are hitched to the shafts or tongue in front of the machine. The operator takes his seat; the case G is filled with cotton-seeds as they come from the gin. As the machine is driven forward, the driving-wheels A A turn the pinion B, which turns the master-wheel E, attached by a shaft, as aforesaid, to the cylinder C, and thus said cylinder is turned forward. The spikes *c c c* in said cylinder, and the corresponding spikes *n n n* in the cylinder-case G, serve to pick apart the fibre-covered cotton-seeds, and the spikes, aforesaid, are so adjusted in reference to the grooves D D D that said seeds must fall in such position as to pass longitudinally into said semi-tubular grooves, and the brushes H H H will sweep the seeds into said grooves, so as to fill them respectively. If it be desired to fill said grooves with seed before moving the machine bodily, it may be accomplished by hand, using a crank on the upper pivot of cylinder C, or, omitting the crank, the operator's hand may readily turn the cylinder by using the upper spikes *c c c* for handles instead of a crank, being careful, in either method, to have the cut-off or slide K closed at *a* until planting commences. I then commence planting the seeds by opening the slide K by pushing backward from my seat the handle of the lever O, which also liberates the spring N, and permits it to do its work. As the machine is driven over the ground, and the cylinder revolves, as aforesaid, the grooves D D D are kept filled with seeds, and, as a consequence, a seed lies in the lower end of each groove opposite said apertures at the outer end of spring N. As the cylinder C revolves, said spring N rises on said inclined planes J J, and, at the end of each of them, strikes therefrom, through said oblong apertures, against the several cotton-seeds there lying, and in turn as they are presented flips or throws them through said opening at *a* into said tube P, through which they fall into the ground, and are covered by the shovel-like lower point of said tube as a drill covers seed.

The machine drops the seed at intervals of about two and a half inches apart, but may be arranged to plant them farther apart by diminishing the circumference of the pinion-wheel B, and closer by enlarging the same.

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

1. The principle of planting cotton-seeds in the condition they come from the gin by a machine conveying said seeds from the upper part of a hopper or case in longitudinal rows to the place of delivery at the lower end of said case, by means of brushes, picks, and inclined grooves circling around a revolving cylinder, as herein described, or any other substantially the same, and which will produce the same ends herein intended.
2. The principle of expelling cotton-seeds from the case or hopper of a cotton-planter singly by the percussion of a spring raised on and striking from inclined planes, substantially as herein shown.
3. The construction and combined method of operating the slide or cut-off K and the spring N by means of the lever O and the pivoted and forked lever M, substantially as herein shown.
4. The construction of the entire "cotton-planter" machine, as herein described, for the purposes set forth.

JAMES ARMSTRONG.

Witnesses:

S. R. HARRIS,
J. S. MCCARRELL.