

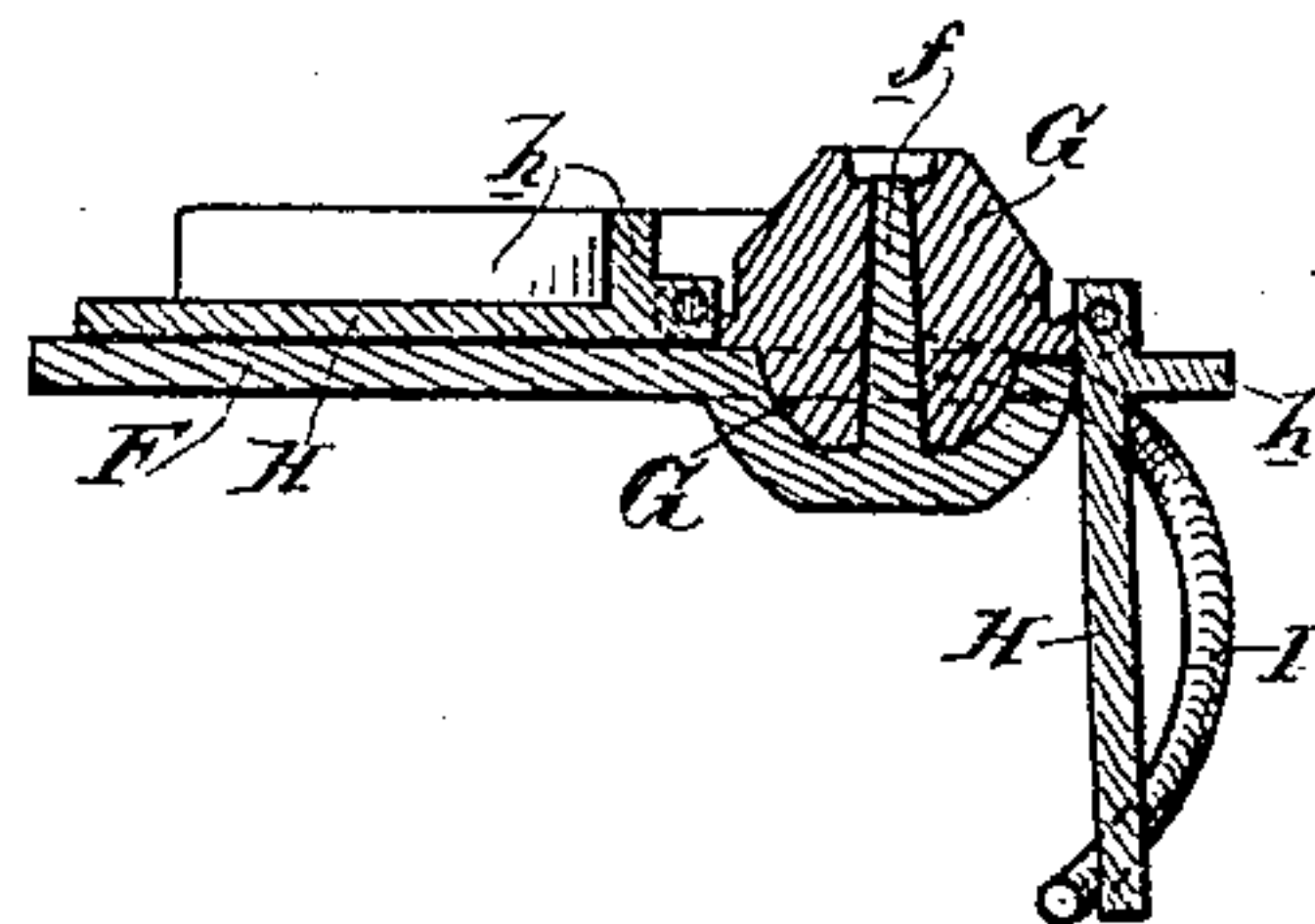
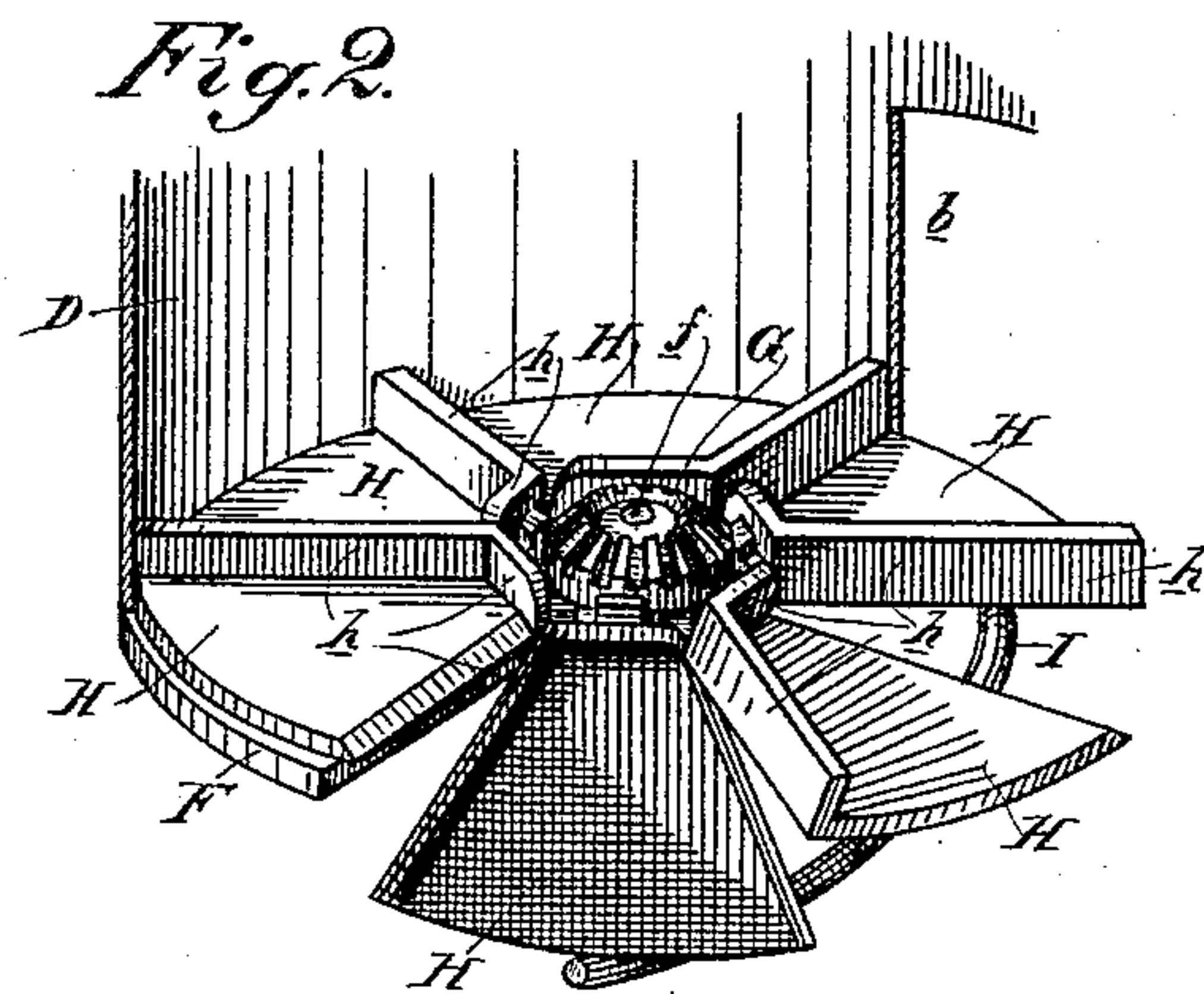
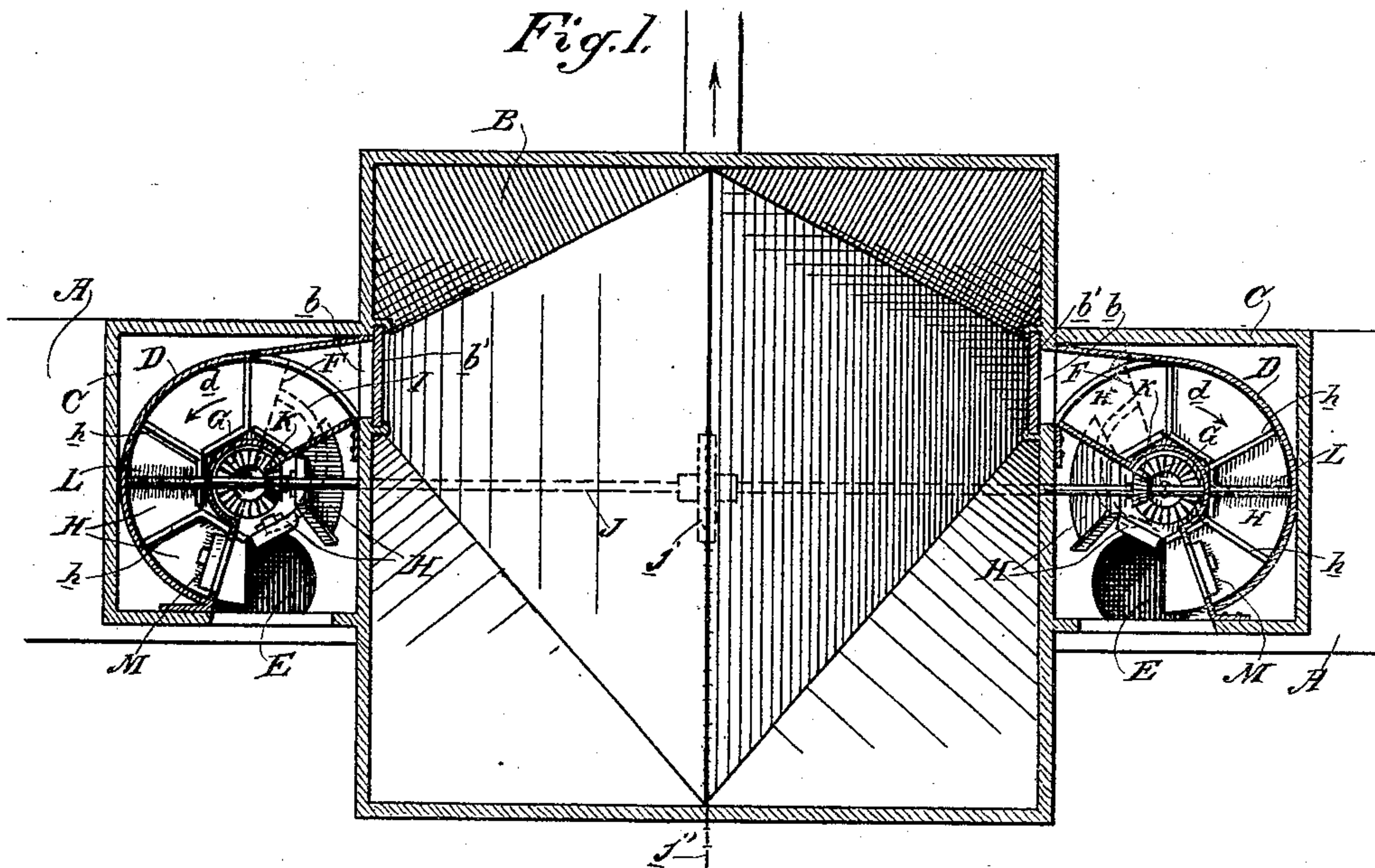
(No Model.)

2 Sheets—Sheet 1.

D. M. BALDWIN.
SEEDING MACHINE.

No. 444,573.

Patented Jan. 13, 1891.



Witnesses,
H. C. Lee.
J. A. Bayless

Inventor,
Daniel M. Baldwin
By Devey & Co
attys

UNITED STATES PATENT OFFICE.

DANIEL MERRILL BALDWIN, OF FLORENCE, CALIFORNIA.

SEEDING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 444,573, dated January 13, 1891.

Application filed July 15, 1890. Serial No. 358,818. (No model.)

To all whom it may concern:

Be it known that I, DANIEL MERRILL BALDWIN, a citizen of the United States, residing at Florence, Los Angeles county, State of California, have invented an Improvement in Seeding-Machines; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to the general class of seeding-machines; and it consists in the novel dropping device hereinafter described, and specifically pointed out in the claims.

The object of my invention is to provide a simple and accurately-operating dropping device for attachment to any form of seeding-machines.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a plan view showing the attachment of my device to a seeder-hopper. Fig. 2 is a perspective view, the inner wall of the passage *d* of shell D being absent to show clearly the rotary series of drop-plates. Fig. 3 is a section of plate F, hub-pinion G, series of drop-plates H, one of which is shown supported and another dropped, and the cam-track I for returning the dropped plate. Fig. 4 is a plan view of the dropping mechanism. Fig. 5 is a perspective of shell D, showing its passage *d*, the partial supporting-plate F, cam-track I, and brush M.

A is a portion of the frame of the machine. It is not necessary herein to describe the remaining portion, as this may be of any suitable form mounted upon wheels and having power-transmitting mechanism therefrom.

Upon the frame portion A is mounted a hopper B, having within it inclined chutes by which the material is directed to each side of the hopper, where there is an opening *b*, controlled by gates *b'*.

Extending from each side of the frame portion A are the casings C. Within these casings are mounted the vertical and approximately semicircular guide-shells D, the passage *d* of which is a curved one, extending through approximately one hundred and eighty degrees. At its inlet end this passage communicates with the opening *b* in the hopper side, and at its outlet end it communicates with the dropping-tube E. The bottom of this

shell is formed by a fixed semicircular plate F, which lies under but separated from the lower edges of the shell-passage. A central pin *f* rises from this plate.

G is a hub the upper portion of which is formed as a pinion. This hub is journaled on pin *f* of the partial supporting-plate F. To the rim of this hub are hinged the independent drop-plates H in complete circular series, and each sector-shaped and having flanges *h* on one side and back, by which it is separated from the other and forms a receptacle for the seed. These lie above and are adapted to travel and rest upon the partial supporting-plate F, and to travel through the semicircular passage *d* of shell D, so that while in said passage they are completely inclosed.

Extending from the semicircular or partial supporting-plate F at that side of it at the entrance of the passage *d* is a curved cam-track I, which is also inclined downwardly.

A rotary motion is imparted to the series of drop-plates by means of a transverse shaft J, the ends of which extend into the casings C on each side and through the passages *d* of shells D. This shaft is driven by means of a central sprocket-pulley *j* and a chain *j'*, which may be supposed to extend to the driving mechanism of the machine.

Upon the shaft J are the pinions K, which mesh with the hub-pinions G, whereby the circular series of drop-plates are rotated. Brushes L are formed upon or secured to the ends of shaft J within the shell-passages *d*, and rotate just above the tops of the drop-plate flanges *h*.

In the passages *d*, near their exit ends, are the vertical brushes M, one in each passage.

The operation is as follows: The seeds in hopper B pass down to the hopper-openings *b* on each side. They then drop upon the several plates H, as each comes around into the beginning of passage *d*, at which time they are lying and traveling horizontally upon the partial supporting-plate F. As each drop-plate H receives its portion of seed and advances farther into the passage it passes under brush L, which, serving as a scraper, prevents any but the proper quantity from advancing with the plate and keeps back the

surplus, thus regulating the incoming feed and the quantity of seed on each drop-plate. As the plates pass through passage *d*, being entirely inclosed therein, the seed is confined properly. Now as each plate reaches the brush M at the exit end, said brush, serving as a guard, keeps the seed from falling out from the plate prematurely; but the drop-plate having now reached the edge of the partial supporting-plate F, and having nothing to support it, drops down from its previous horizontal position to approximately a vertical position, and the seeds drop off into the tube E. The dropped plate now rests upon the cam-track I, and traveling upon it is gradually raised until it reaches a horizontal position, at which time it has arrived at the edge of supporting-plate F, by which it is supported and once more enters passage *d* and receives a fresh supply of seed. Thus also with each drop-plate of the series, and it will readily be seen that by properly timing the rotation of the series the dropping of the seed can be made to take place at any suitable intervals.

It is not essential that the passage *d* be semicircular, as this does not affect the dropping of plates H; but I make it as shown so that its back may be open to permit the operator to see the discharge of the seed, for which purpose I also leave the back of casing C open. In this way seed may be accurately fed and positively dropped at proper intervals.

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

1. In a seeding-machine, the semicircular guide-shells located within suitable casings and having a fixed plate with an opening therein, a series of swinging seed-carrying plates connected with a common hub and supported on the fixed plate for a portion of its movement and unsupported when aligned with the opening in the fixed plate, and a cam-track below the opening adapted to return said plate from its dropped position to the plane in which it receives and carries the seed, substantially as herein described.

2. In a seeding-machine, the dropping mechanism consisting of the combination of the rotary hub, the series of independent plates hinged to said hub, the brush operating over said series of plates, the partial supporting-plate under a portion of the series of hinged plates, and the cam-track secured to said underlying plate, substantially as herein described.

3. In a seeding-machine, the combination of the partial supporting-plate and the cam-track secured thereto, the rotary series of independent hinged plates operating upon said partial supporting-plate and cam-track, as described, and a scraper operating over the series of hinged plates, substantially as herein described.

4. In a seeding-machine, the combination

of the partial supporting-plate and the cam-track secured thereto, the rotary hub-pinion having the series of independent drop-plates hinged to and about its circumference and operating over the supporting-plate and cam-track, as described, the rotary shaft having the pinion engaging the hub-pinion, and the brush on the end of the shaft operating over the hinged drop-plates, substantially as herein described.

5. In a seeding-machine, the combination of the partial supporting-plate and the cam-track secured thereto, the rotary series of independent drop-plates operating upon the supporting-plate and cam-track, as described, and a fixed guard located over the series of plates at a point just before they drop to prevent premature discharge of the seeds, substantially as herein described.

6. In a seeding-machine, the combination of the partial supporting-plate having the cam-track, the rotary series of independent hinged drop-plates operating upon said supporting-plate and cam-track, as described, and an inclosing shell in the passage of which the series of drop-plates travel, substantially as herein described.

7. In a seeding-machine, the combination of the partial supporting-plate having the cam-track, the rotary series of independent hinged drop-plates operating upon said supporting-plate and cam-track, as described, and the inclosing casing having a semicircular passage through which the drop-plates travel over the supporting-plate, substantially as herein described.

8. In a seeding-machine, the combination of the feed-hopper, the fixed shell having a curved passage, with a portion of which the hopper communicates, and the drop-tubes communicating with another portion of said passage, the partial supporting-plate under said passage, the cam-track carried by said plate, and the rotary series of independent hinged drop-plates operating upon said supporting-plate and cam-track, as described, and traveling through the passage, substantially as herein described.

9. In a seeding-machine, the combination of the shell having the curved passage *d*, the partial supporting-plate thereunder, the cam-track of said plate, the hub-pinion having the series of independent drop-plates hinged to its rim and operating upon the supporting-plate and cam-track and traveling through the passage, as described, the rotary shaft having the pinion engaging the hub-pinion, and the brush on the end of the shaft within the passage and operating over the drop-plates, substantially as herein described.

10. In a seeding-machine, the combination of the shell having the curved passage *d*, the partial supporting-plate with cam-track, the rotary series of independent hinged drop-plates, and the vertical brush in the passage *d*, operating over the drop-plates, substantially as herein described.

11. A dropping mechanism for seeding-machines, consisting of a fixed shell having a curved passage communicating with the feed-hopper and with the drop-tube of the machine, the partial supporting-plate under said passage, the cam-track of said plate, the rotary series of independent hinged drop-plates operating upon said supporting-plate and cam-track and traveling through the passage, as described, the hub-pinion of said series, the rotary shaft with pinion for driving the

hub-pinion, the brush on the end of the shaft within the passage, and the fixed brush within said passage, all arranged and adapted to operate substantially as herein described. 15

In witness whereof I have hereunto set my hand.

DANIEL MERRILL BALDWIN.

Witnesses:

S. H. NOURSE,

H. C. LEE.