

(No Model.)

3 Sheets—Sheet 1.

R. B. SHELDON & A. R. PATTERSON.
FERTILIZER DISTRIBUTER.

No. 335,152.

Patented Feb. 2, 1886.

Fig. 1.

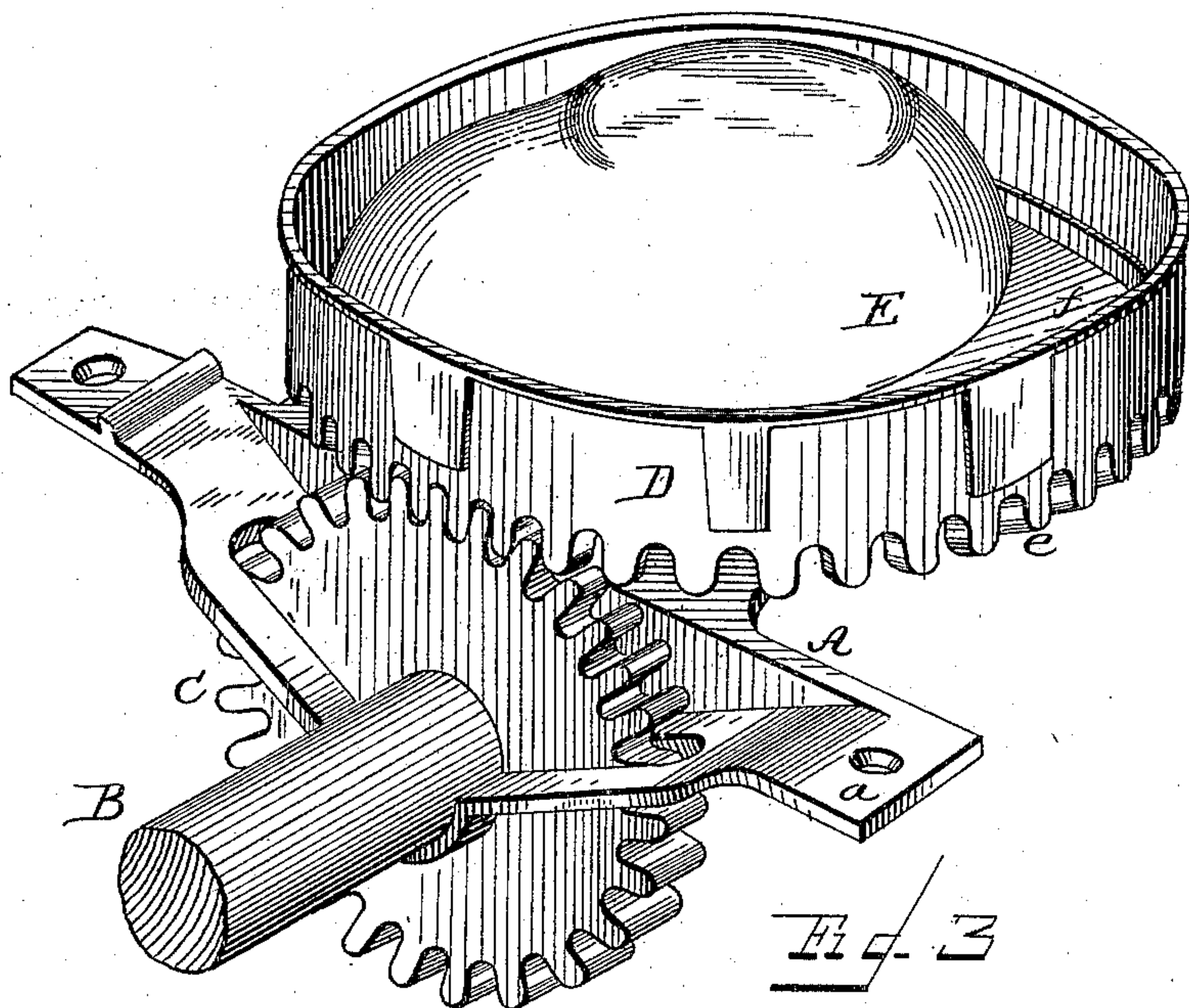
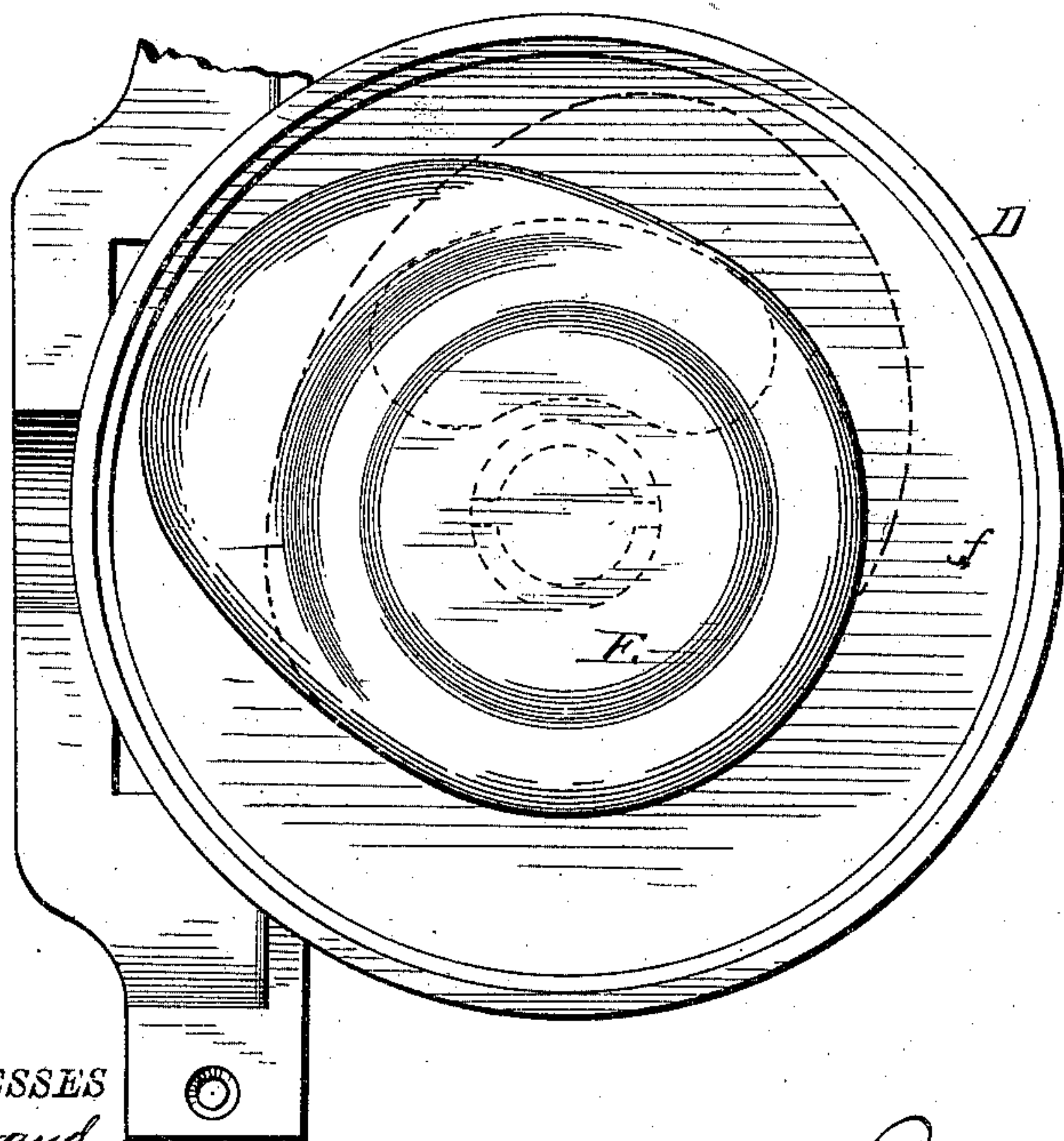


Fig. 3.



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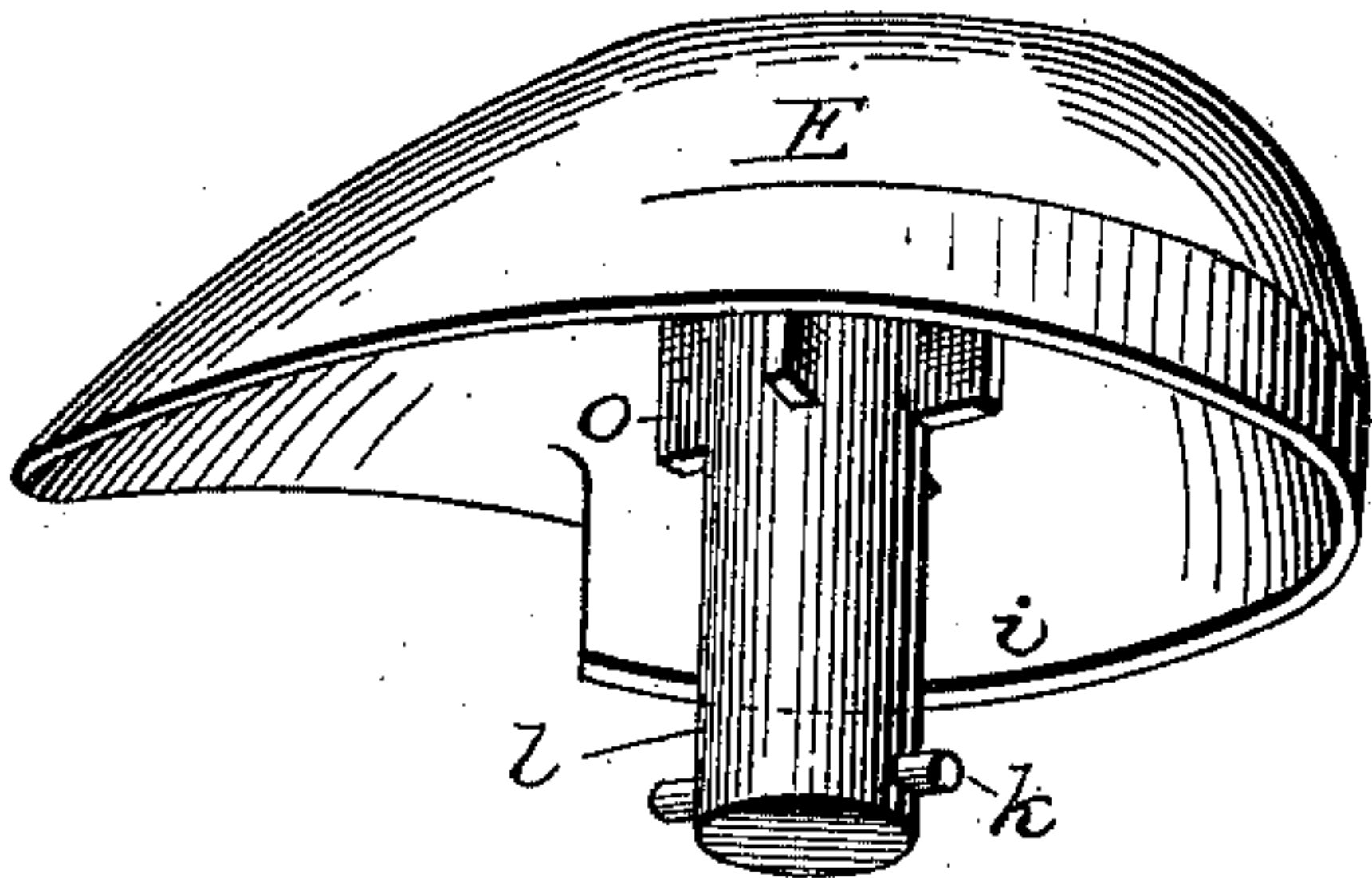
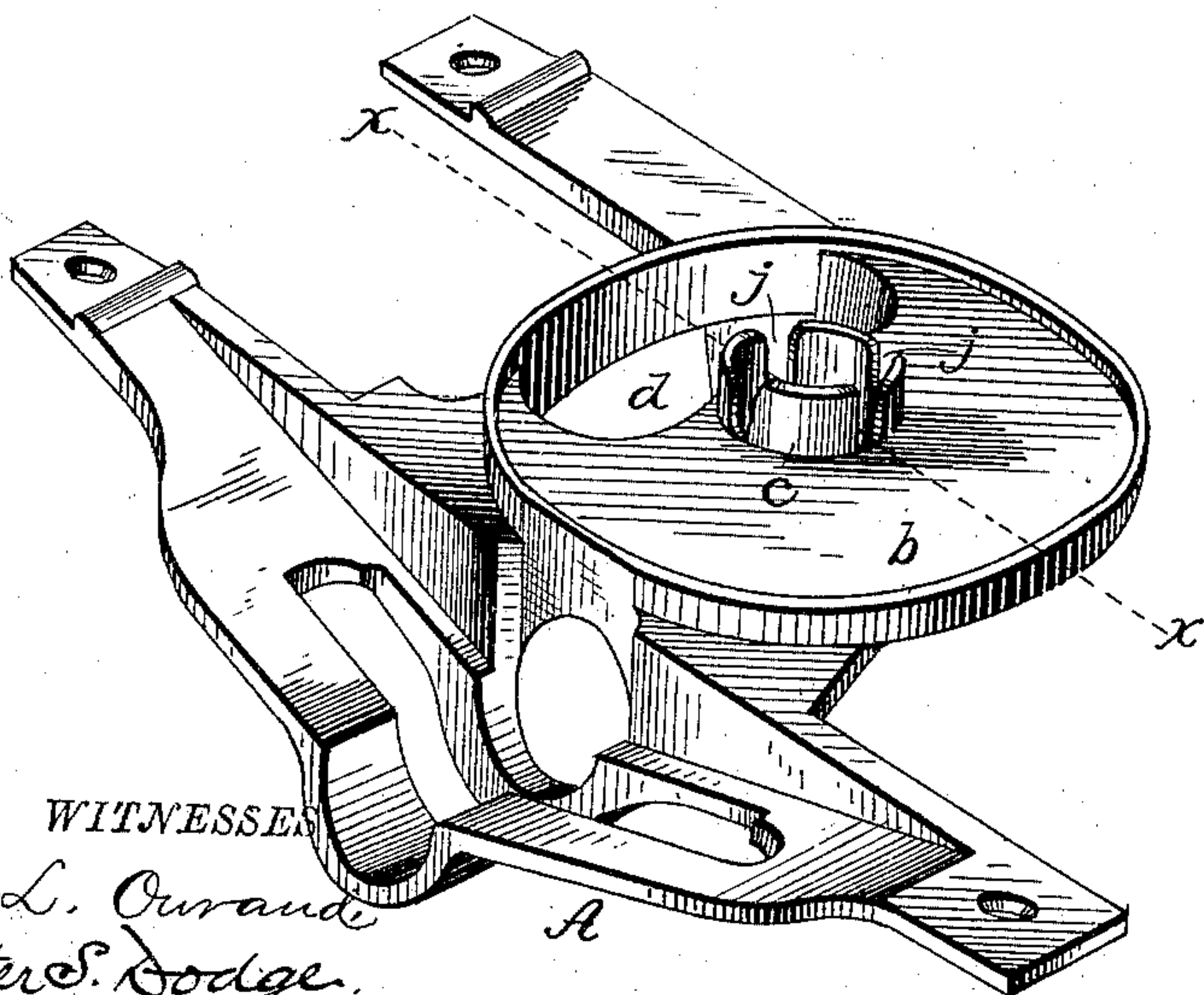
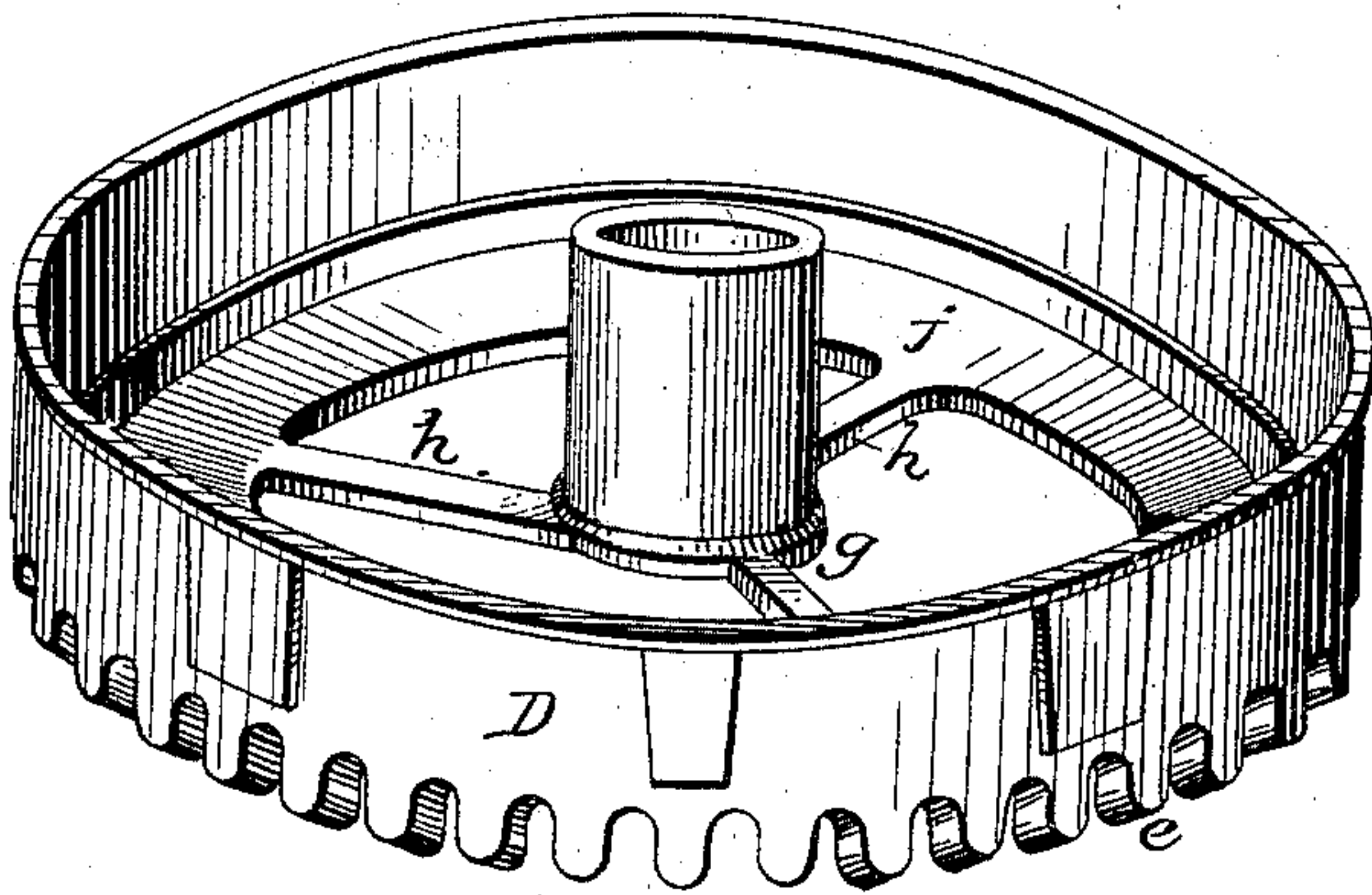


Fig. 2.



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Fig. 4.

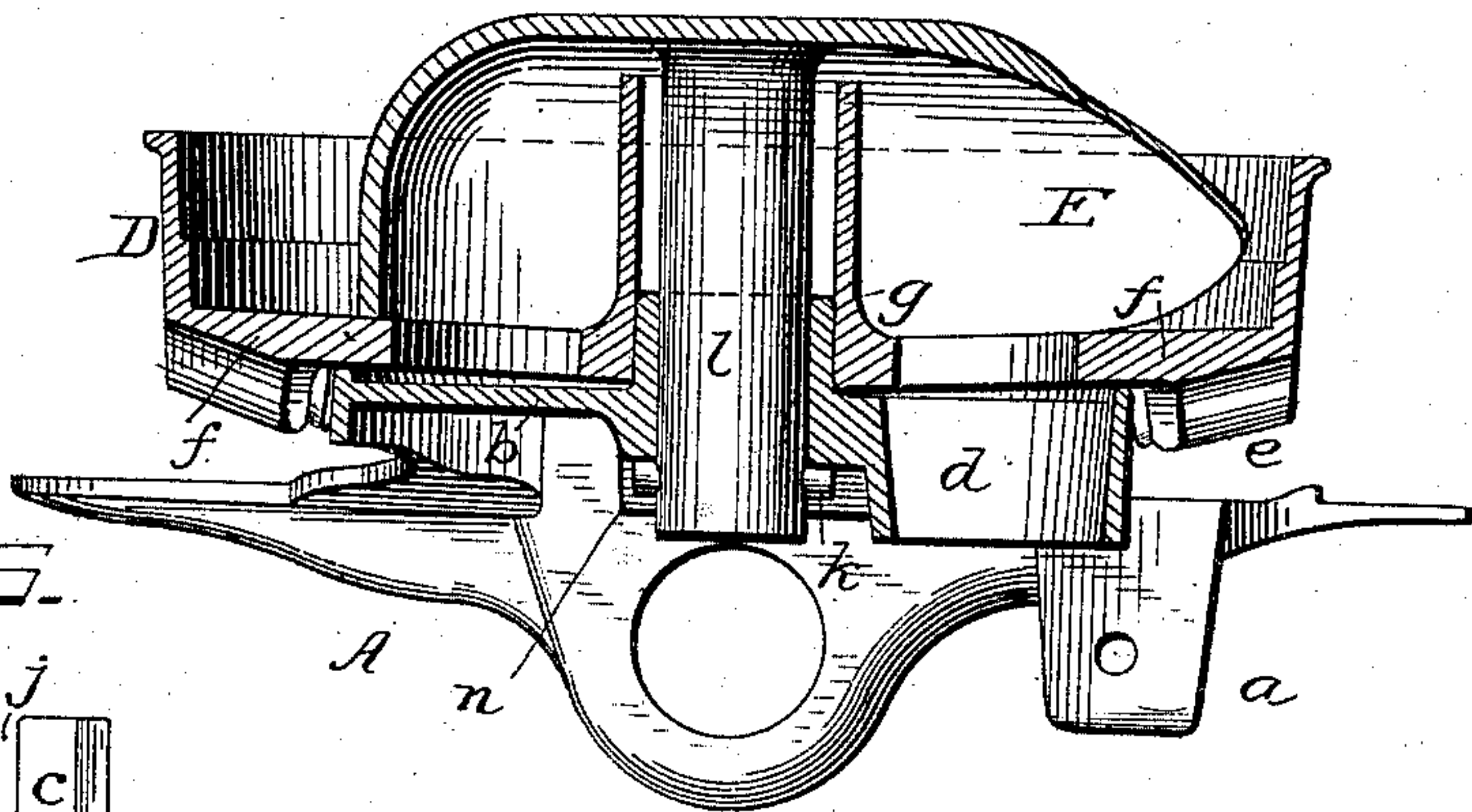


Fig. 6.

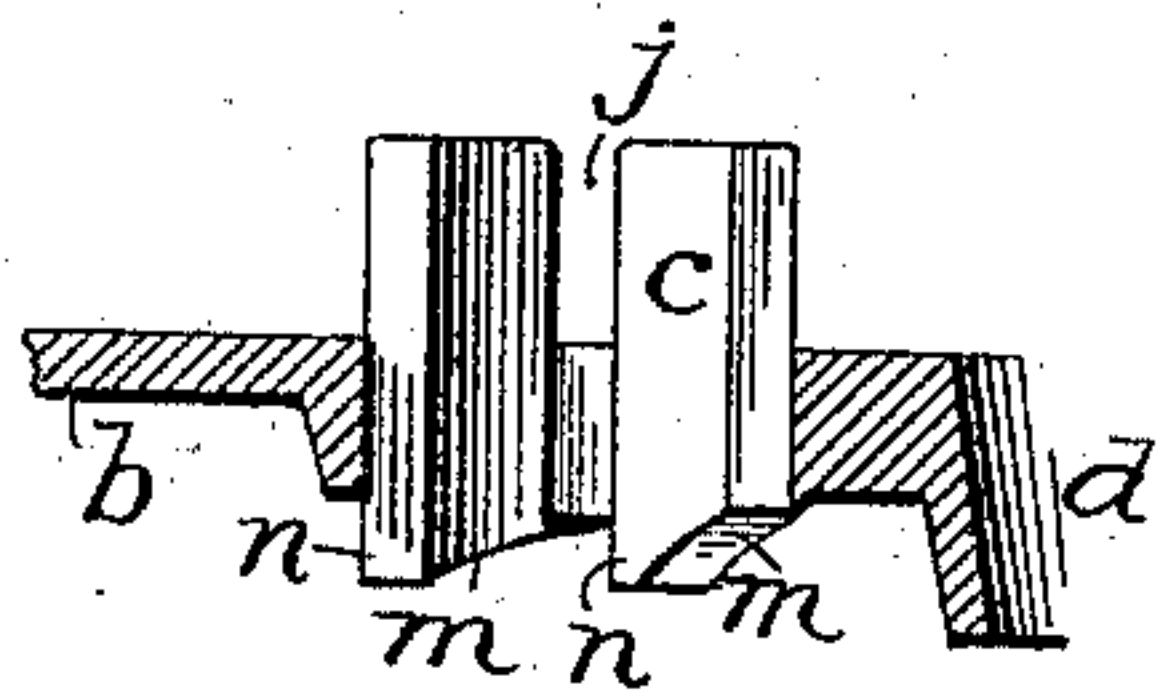
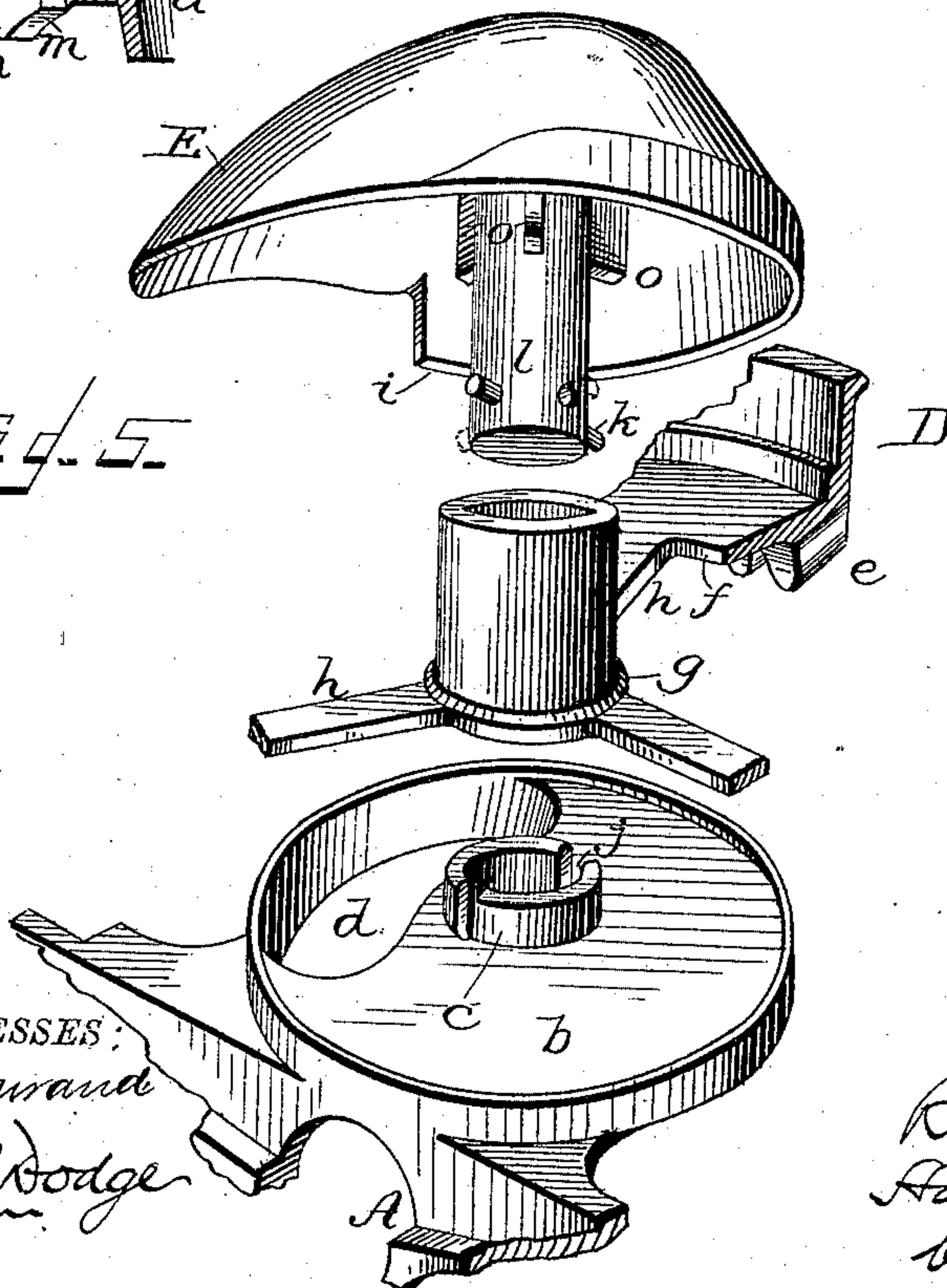


Fig. 5.



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UNITED STATES PATENT OFFICE.

RICHARD B. SHELDON, OF SHORTSVILLE, NEW YORK, AND AARON R. PATTERSON, OF ORANGEVILLE, PENNSYLVANIA, ASSIGNORS TO THE EMPIRE DRILL COMPANY, OF SHORTSVILLE, NEW YORK.

FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 335,152, dated February 2, 1886.

Application filed November 6, 1885. Serial No. 182,009. (No model.)

To all whom it may concern:

Be it known that we, RICHARD B. SHELDON and AARON R. PATTERSON, residing, respectively, at Shortsville, Ontario county, New York, and Orangeville, Columbia county, Pennsylvania, have invented certain new and useful Improvements in Fertilizer-Distributers, of which the following is a specification.

This invention relates to that class of fertilizer-distributers manufactured under Letters Patent granted to Walter Marks, dated and numbered, respectively, March 11, 1879, No. 213,053; July 15, 1879, No. 217,628, and January 25, 1881, No. 236,900.

The invention consists in a novel construction of the supporting-stem of the stationary feeding-shell and its socket, whereby the shell may be set to different positions relatively to the discharge opening or outlet, to insure proper feeding of the material, and to prevent its sifting or running out while the machine is at rest, or when in use on a side hill.

In the annexed drawings, Figure 1 is a perspective view of the feeder or distributor complete; Fig. 2, a perspective view showing the parts disconnected and separated; Fig. 3, a plan view showing the stationary feeding-shell in two different positions or adjustments, one by full and the other by dotted lines; Fig. 4, a vertical section; Fig. 5, a modified form of the device; Fig. 6, a detail view on the line *xx* of Fig. 2.

The distributor or feeder consists, essentially, of a stationary supporting-bed provided with ears, by which to attach it to the hopper or framing of the machine, and with a raised central hub or boss of tubular form, which forms both an axle for a rotary feeder and a socket for the reception of the supporting shank or stem of a stationary cap or shell, which latter parts complete the device.

Heretofore the socket has been formed with two notches or slots, to permit the insertion and passage of a cross-pin extending through the stem or shank of the stationary cap or shell, and said stem or shank has been formed with three radial wings or ribs to rest upon the upper end of the tubular boss, and to prevent the cap from falling below a given position. In the practical use of this class of feeders or distributers, notwithstanding their regu-

lar work under favorable conditions, certain difficulties have been met with under other circumstances, and it is to remedy these difficulties that the present invention is designed. In working upon a side hill it is found that the fertilizing material will, if dry and loose, sift or run out beneath the stationary cap or feeder and through the outlet-opening, and that the same sometimes occurs while the machine is at rest. It also happens that unless the cross-pin be set at the precise angle required one of the ribs or wings of the stem falls directly over a slot or notch of the tubular boss, and permits the stationary cap or shell to rock or tip, and sometimes causes the parts to bind. To overcome these difficulties, we provide, in addition to the usual slots or notches for the cross-pin, one or more additional notches, to receive said pin and to permit the placing of the stem or shank of the fixed cap or shell in a position different from that which it occupies when the machine is to be operated in the ordinary way upon level land; and we provide the stem with a series of wings or ribs of such number and arrangement relatively to the slots or notches of the central boss that at least three of said wings shall always have a bearing upon the upper end of the boss, and thus prevent the tipping or rocking of the cap. This construction will be readily understood upon referring to the drawings, in which—

A indicates the supporting-bed, provided with ears *a*, for attachment to the hopper or framing, and having a raised central platform, *b*, of circular form, from the center of which rises a tubular hub or boss, *c*, as usual. At one side is formed a support or bearing for a driving-shaft, B, in which is secured a pinion, C. Through the bed or platform *b* is formed an opening, *d*, to permit the fall of material brought to that point by a rotary distributor-shell, D, encircling the hub or boss *c*, and rotated by the pinion C. The rotary shell D is made with teeth *e*, on the lower surface, to mesh with the teeth of pinion C, and has its bottom made with a horizontal ledge or bed, *f*, extending from its outer wall inward about half-way to the central hub or band, *g*, which encircles the boss *c*, with which band it is connected by spokes *h*.

E indicates the stationary cap or shell, which is dome-shaped and smaller than the interior of rotary shell, so that a space or passage-way is left between the outer walls of the cap and the inner walls of the shell except at one side, where the stationary cap is extended outward and brought close to the inner face or wall of the rotary shell. The cap E is formed with a depending edge, *i*, through about two-thirds of its circumference and along the rear side of the lateral extension, but said edge is cut away or omitted along the forward side of said extension, as shown in Figs. 2 and 5. The opening thus formed permits material to be carried beneath the stationary shell or cap E to the outlet-opening *d* of the bed or platform. Thus far the construction is the same as heretofore.

As shown in Fig. 2, the tubular hub or boss *c* is provided with four slots, *j*, at right angles to each other, which slots extend through the central opening from top to bottom, and serve to permit the cross-pin *k* of stem *l* of the stationary cap E to pass through the central opening, the stem being made of a diameter to accurately fit said opening, and the cross-pin being of a length greater than the diameter of said central opening.

Between each slot and the next there is formed an incline, *m*, at the under side of the plate or bed A, terminating in a stop or shoulder, *n*, as shown in Fig. 6, so that when the stem *l* is inserted and turned slightly the pin riding upon the inclines draws the stem downward, and causes the ribs or wings *o* thereof to bear firmly upon the upper end of the hub or boss *c*. The cross-piece being in line with one set of wings or ribs, and the ribs, as also the slots *j*, being at right angles to each other, it follows that when the stem is thus turned no one of the wings can register with any one of the slots; hence there is no liability or possibility of the cap E rocking, tipping, or binding.

When working upon a hillside, or when the machine is at rest, it is only necessary to turn cap or shell E until its cross-pin registers with the slots through which it entered the socket, withdraw its stem from said socket, turn it a quarter or half way around and replace it in the socket. When this is done, the relative positions of the opening through which material passes beneath cap or shell E and outlet-opening *d* are so changed that the material cannot sift or run out, but can only find its way to the outlet through the action of the rotary shell or feeder D.

It will be seen that by drilling a second hole through shank or stem *l* at right angles to the first, the cross-pin and consequently the cap or shell can be changed from one position to another, and the shell thus set for any particular work with only two slots or notches

instead of four. This is of course a mere modification of what we have above described, and is considered as falling clearly within the scope of this invention. Such a construction is illustrated in Fig. 5; or a stud projecting from one side only of the stem *l* may be used in connection with two slots or notches at right angles to each other, or nearly so.

As shown in Figs. 2, 4, and 5, the hub *g*, encircling the hub *c* and stem *l*, extends nearly to the top of the stationary cap or shell E, so that the material is prevented from working its way out through the slots *j*.

Having thus described our invention, what we claim is—

1. The herein-described fertilizer-distributor, consisting of parts A, B, C, D, and E, combined and arranged to operate as set forth, the part A being formed with four notches, *j*, and part E having its stem *l* provided with cross-pin *k*.

2. In a fertilizer-distributor, the combination of a supporting-bed, as A, provided with an outlet, as *d*, a rotary shell or feeder, as D, a cap or guard, as E, adapted to cover the outlet of the supporting-bed, provided with an opening to permit material to pass beneath it, and adapted to be set and secured at different working adjustments relative to the outlet of the bed, whereby the device is adapted for use on level ground and on hillsides.

3. The combination, with a supporting-bed having an outlet-opening, and with a rotary shell or feeder, of a dome-shaped cap above said feeder, having an inlet at one side to permit passage of material beneath the cap, said cap being adapted to be turned about its center and secured in different positions, whereby the passage for material from the feeder to the outlet may be made more or less direct, as required.

4. The combination of bed A, having outlet-opening *d*, and tubular boss *c*, provided with four slots, *j*, rotary shell D, and cap E, having stem *l*, provided with four wings, *o*, and cross-pin *k*.

5. The combination, with bed A, having outlet *d*, and tubular boss *c*, having slots *j*, shaft B, gear-wheel C, rotary plate D, provided with upwardly-extending hub *g*, and cap E, provided with stem *l*, pins *k*, and wings *o*, all arranged as shown.

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