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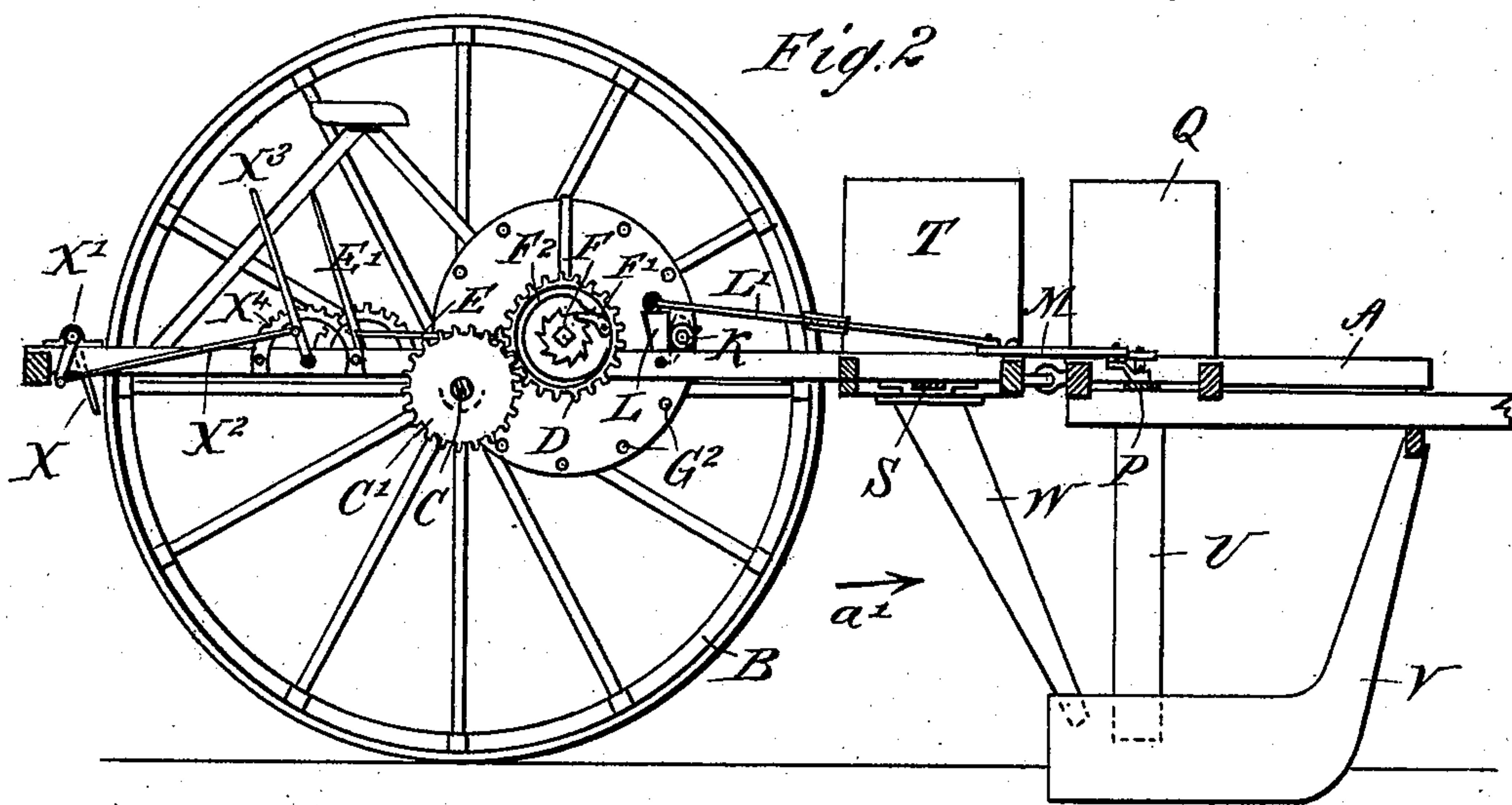
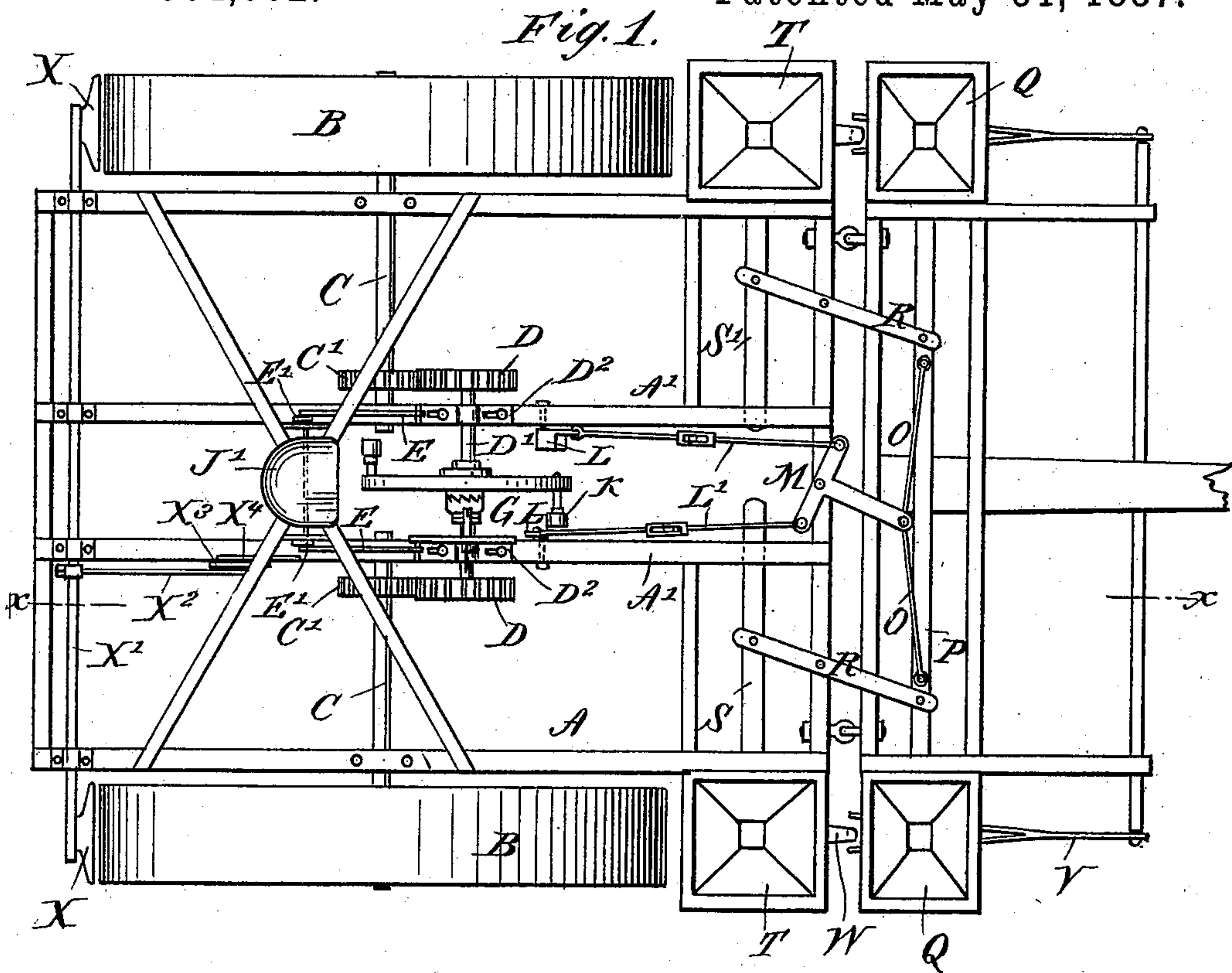
2 Sheets—Sheet 1.

I. N. FRANKLIN.

COMBINED SEEDER AND FERTILIZER DISTRIBUTER.

No. 364,002.

Patented May 31, 1887.



WITNESSES:

Down Twitchell.
W. Sedgwick

INVENTOR:

I. N. Franklin

BY *Munn & Co*

ATTORNEYS.

(No Model.)

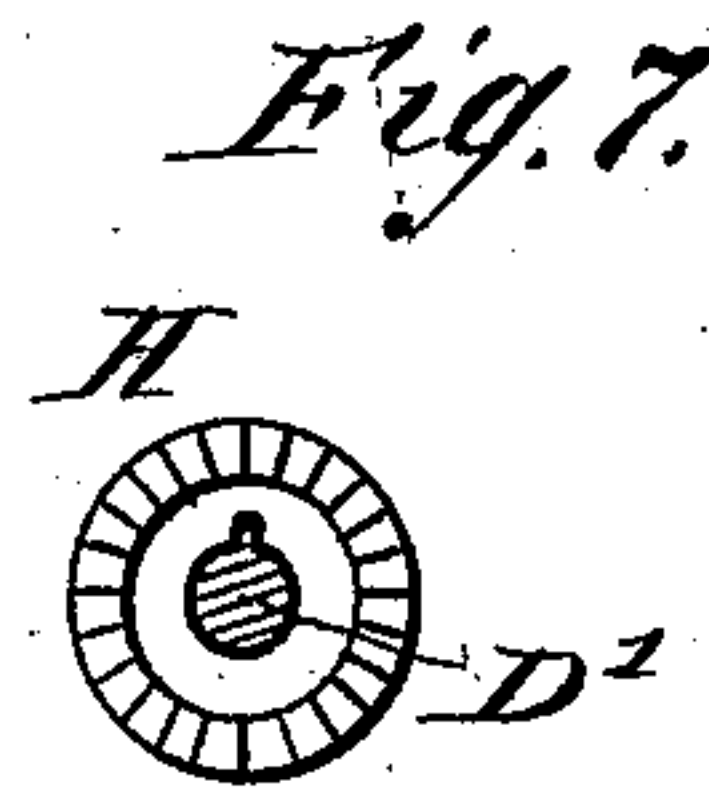
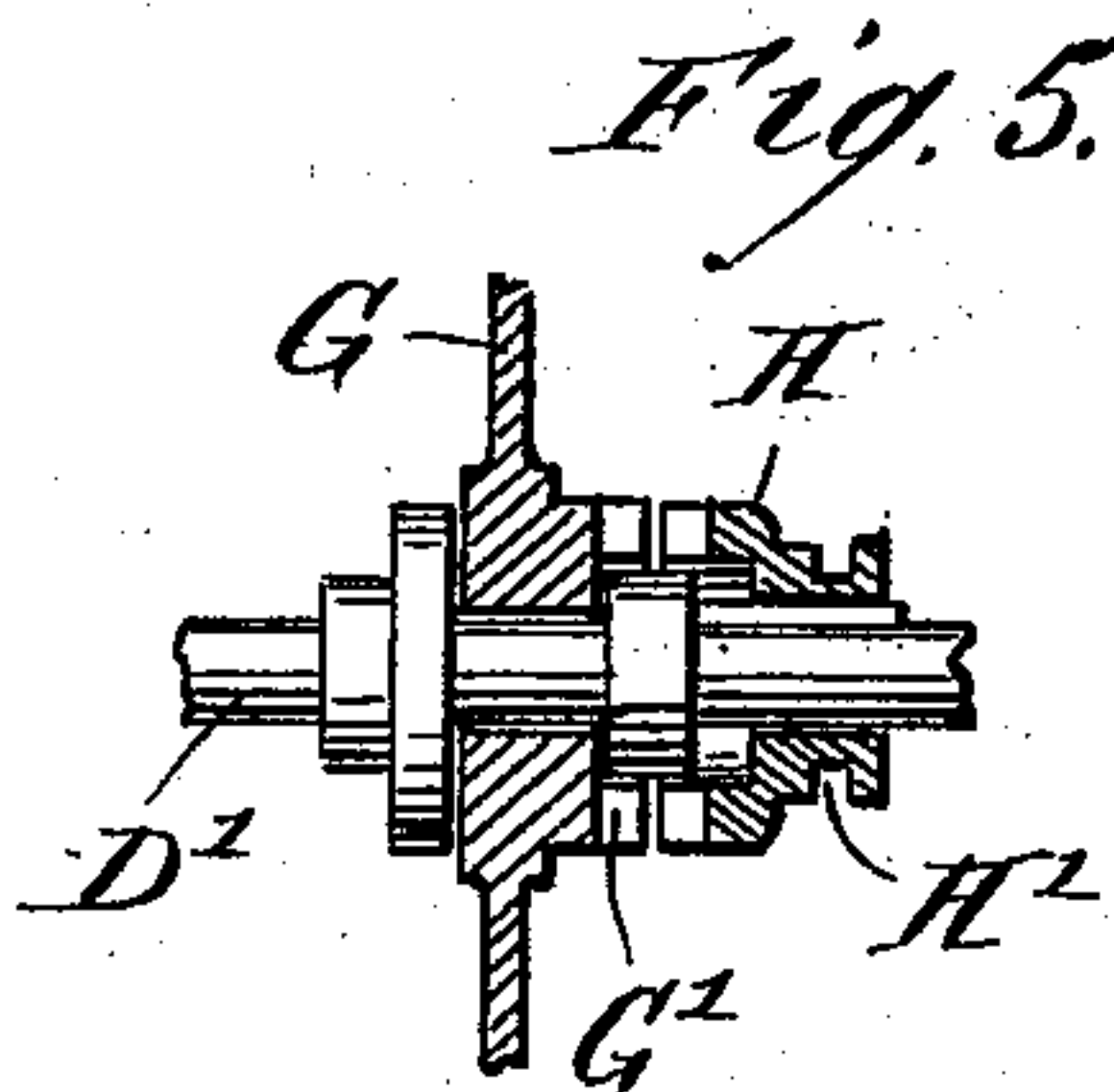
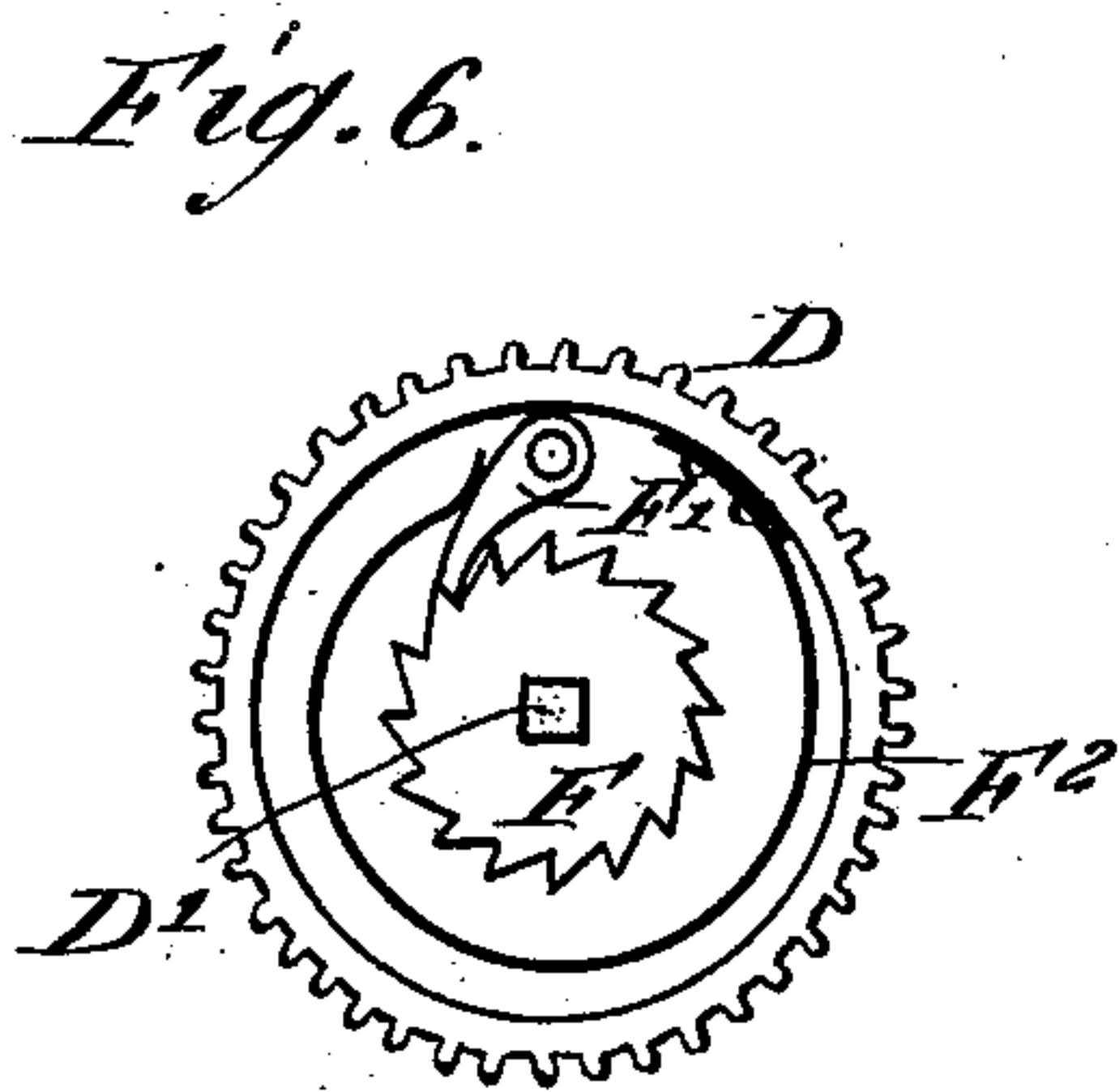
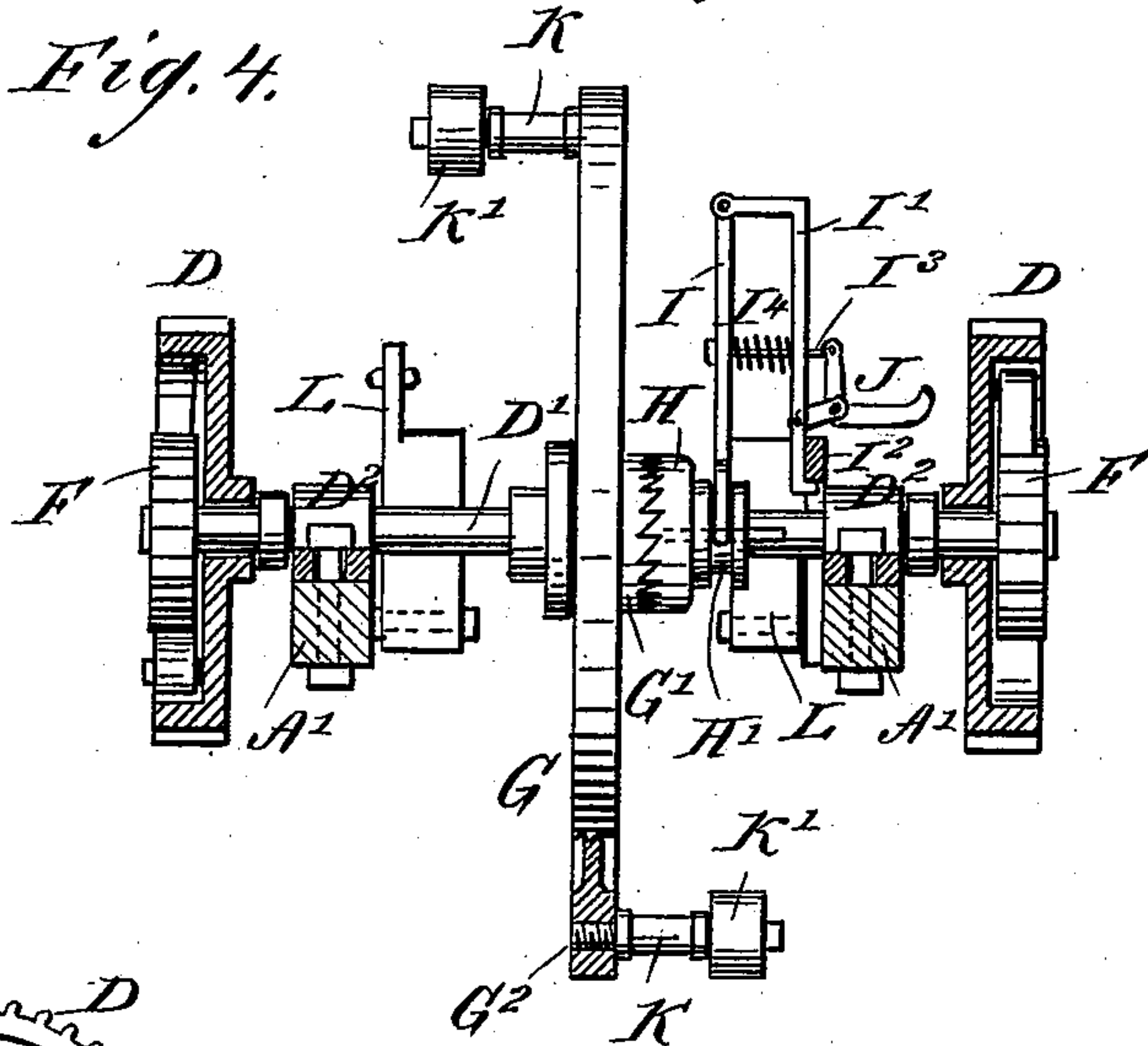
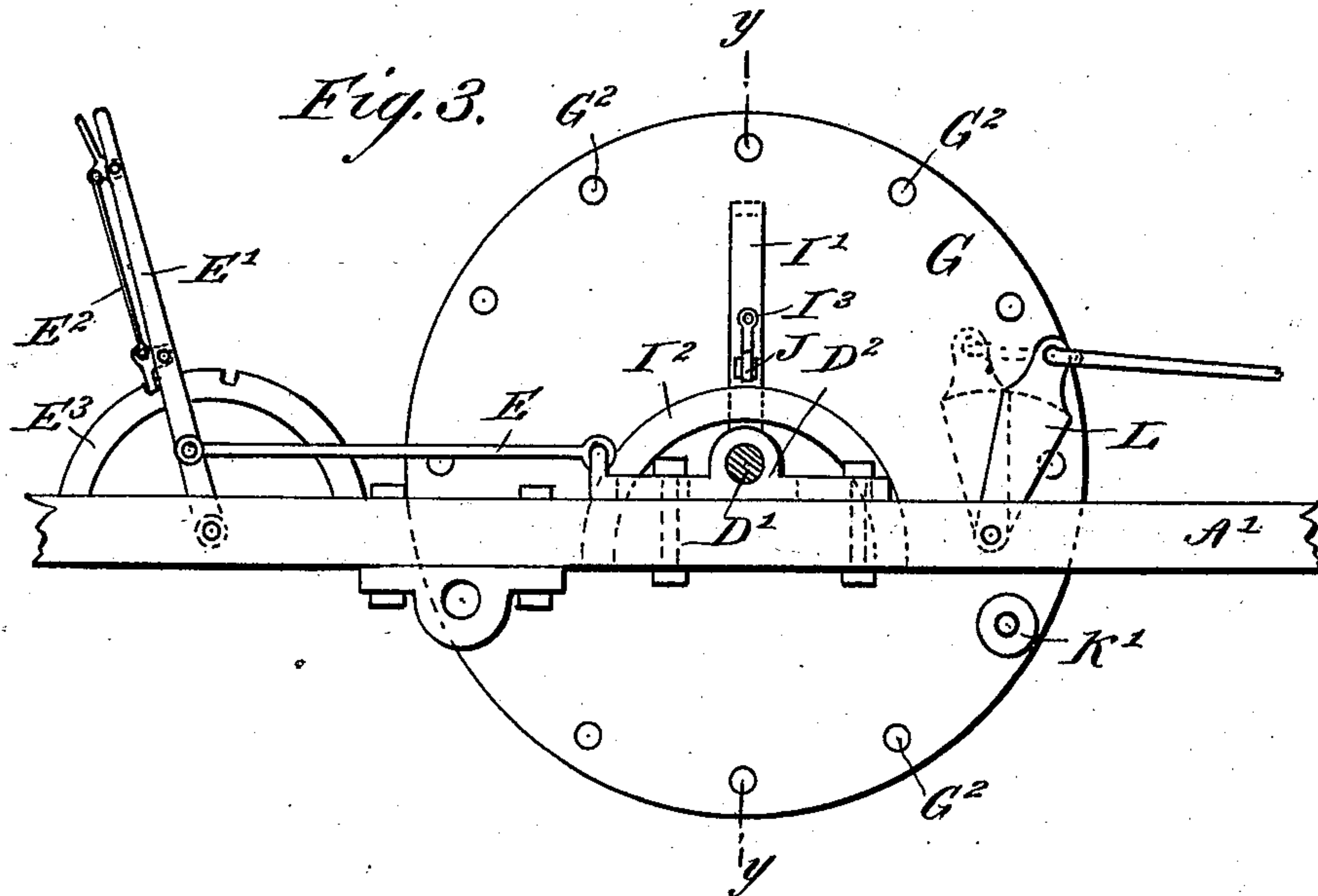
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WITNESSES:

Donn Switchell.
W. Hedgwick

INVENTOR:

I. N. Franklin

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UNITED STATES PATENT OFFICE.

ISAAC N. FRANKLIN, OF LAKE VIEW, CHICAGO, ILLINOIS.

COMBINED SEEDER AND FERTILIZER-DISTRIBUTER.

SPECIFICATION forming part of Letters Patent No. 364,002, dated May 31, 1887.

Application filed October 16, 1886. Serial No. 216,420. (No model.)

To all whom it may concern:

Be it known that I, ISAAC N. FRANKLIN, of Lake View, Chicago, in the county of Cook and the State of Illinois, have invented a new and Improved Combined Seeder and Fertilizer-Distributor, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved seeder and fertilizer-distributor which is simple and durable in construction and very effective in operation.

The invention consists of various parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of my improvement. Fig. 2 is a sectional side elevation of the same on the line *xx* of Fig. 1. Fig. 3 is a side elevation of the wheel for operating the dropping device. Fig. 4 is a vertical cross-section of the same on the line *yy* of Fig. 3. Fig. 5 is a vertical cross-section of the clutch mechanism. Fig. 6 is a side elevation of one of the gear-wheels, and Fig. 7 is a side elevation of the clutch-wheel.

The frame A, of suitable construction, is mounted, at the rear, on the main driving-wheels B B, each secured to an axle, C, carrying on its other end the gear-wheel C', which meshes into the gear-wheel D, placed loosely on the axle D', mounted in movable bearings D², having longitudinal slots, through which pass bolts which hold the said bearing D² to the beams A' A' of the frame A, but permit of a sliding motion lengthwise. Each of the bearings D² is connected by a link, E, with the upright lever E', pivoted on the corresponding beam, A', and provided with a spring-catch, E², engaging the notched segment E³ when the lever E is moved forward or backward, which causes the gear-wheels D to engage or disengage the gear-wheels C'.

In a recess in each of the gear-wheels D is placed a ratchet-wheel, F, fastened to the shaft D' and operated upon by the pawl F', pivoted to the gear-wheel D, and held in contact with

the ratchet-wheel F by the spring F², secured to the gear-wheel D.

On the middle of the shaft D' turns loosely, between two collars, the disk or wheel G, having on one side a hub, G', provided with clutch-teeth, which engage similar teeth on the collar H, turning with and sliding on a key on the shaft D'. In the annular groove H' of the collar H operates the forked end of the upright lever I, fulcrumed on the bracket I', secured to the arm I², attached to one of the beams A'. The rod I³ is secured to the lever I, passes through the bracket I', and connects at its outer end with the bell-crank lever J, the horizontal arm of which is operated by the foot of the operator seated on the seat J' in the center of the machine. A spring, I⁴, is coiled on the rod I³, between the lever I and the bracket I', and holds the collar H engaged with the toothed hub G' of the wheel G.

The wheel G is provided with a series of apertures, G², arranged in a circle, and each aperture is adapted to receive a stud, K, on which turns loosely a roller, K'. The studs K are arranged so as to project alternately from opposite sides of the wheel G, as shown in Figs. 3 and 4, and act alternately on the blocks L, pivoted on the beams A', and connected by the adjustable rods L' with the T-lever M, the center arm of which is connected by the links O with the cross-bar P, which slides sidewise under the center openings of the seed-hoppers Q, mounted on each side of the frame A.

The bar P is provided with an aperture near each end, which apertures come alternately in register with the bottom openings of the seed-hoppers Q. The bar P is connected by the pivoted arms R with the cross-bars S and S', which slide under the central openings of the respective fertilizer-hoppers T, arranged one on each side of the frame A and in line with the said seed-hoppers and the main driving-wheels B.

The cross-bars S and S' operate alternately under their respective hoppers, and the outer end of each cross-bar is provided with an aperture, which comes directly under the center opening of its hopper at the same time that the aperture in the cross-bar P comes under

the central opening of the seed-hopper Q, located in front of the said fertilizer-hopper T. The seed and the fertilizer are thus dropped simultaneously on the respective sides of the machine.

Each aperture in the cross-bar P opens into a chute, U, secured to the seed-hopper Q, and leading to the forked end of the opening cutter or plow V, one of which is secured to the frame A on each side in line with the seed-hopper and the main driving-wheel B. Into the forked end of the said cutter V also discharges the spout W, which is connected with the fertilizer-hopper T in the same manner as the chute U is connected with the hopper Q.

On each of the driving-wheels B operates a scraper, X, secured to the shaft X', mounted in suitable bearings on the rear of the frame A, and connected by a link, X², with the lever X³, having a spring-catch operating on the notched segment X⁴.

The operation is as follows: When the machine moves forward in the direction of the arrow a', then the driving-wheels B impart a rotary motion to the shaft D' by means of the gear-wheels D and C' and the ratchet-wheel F; but when the machine travels in the inverse direction of the arrow a', then the shaft D' does not rotate, as the gear-wheels D rotate in an opposite direction and cause the pawls F' to slip over the teeth of the ratchet-wheels F, attached to the shaft D'. The rotation of the shaft D' is transmitted to the wheel G by the clutch-collar H on the shaft D' as long as the operator does not press upon the bell-crank lever J, and the movement of the wheel G causes its rollers K' to act alternately on the pivoted blocks L, which operate the T-lever M and cause a sidewise motion of the bars R, whereby the seed and fertilizer are simultaneously dropped in one spot on one side of the machine and into the furrow made by the opening cutter or plow V. The furrow made by the latter is closed after the seed and fertilizer are dropped by the driving-wheel B. If only two rollers are secured to the wheel G on opposite sides and in opposite directions, as shown in Figs. 3 and 4, then the machine drops the seed and fertilizer at considerable distances apart; but when a number of studs with rollers are arranged on each side alternately, then the machine drills short distances apart. The operator is enabled to stop the operation of the wheel altogether by pressing with his foot on the bell-crank lever J, which disengages the toothed collar H from the toothed hub G' of the wheel G, and the rotation of the latter is interrupted. The operator can also turn the wheel G forward by hand, so as to increase its speed when the same is revolving, as described. The ratchet-wheel F permits such a forward motion without acting on the revolving gear-wheels D, as the latter travel in the same direction.

The operator can scrape off the dirt accumulating on the rims of the wheels B by mov-

ing the lever X³ forward, so as to throw the scrapers in direct contact with the rims of the wheels B.

The gear-wheels C' and D are disengaged by throwing the lever E' forward, which moves the bearings of the shaft D' sufficiently to disengage the said gear-wheels.

It will be noticed that the fertilizer is placed on the hill of seed, and thereby effectually marks the same, so as to enable the driver to see where the hills are, and thus keep always in check and straight rows.

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

1. In a combined seeder and fertilizer-distributer, the main driving-wheels B, the opening cutter or plow V, and the hoppers T and Q, each having a spout leading to the forked end of said cutter V, and all arranged in line on each side of the machine, in combination with a cross-bar operating centrally under the seed-hoppers Q, a bar operating centrally under each of the fertilizer-hoppers T and connected by a pivoted lever to the said cross-bar P, and a mechanism, as described, for imparting a sliding motion to the said cross-bar P on the forward motion of the machine, substantially as shown and described.

2. In a combined seeder and fertilizer-distributer, the hoppers T and Q, the cross-bar P, extending centrally under the seed-hoppers Q, the cross-bars S and S', one for each fertilizer-hopper T, and each connected with the said cross-bar P by a lever, R, in combination with the T-lever M, connected by the links O with the said cross-bar P, the adjustable links L', connected with the T-lever M, the pivoted blocks L, connected with the said links L', and the wheel G, acting alternately on the said blocks L, and means for operating said wheel, substantially as shown and described.

3. In a combined seeder and fertilizer-distributer, the main driving-wheels B, the shafts C, and the gear-wheels C', in combination with the gear-wheels D, the shafts D', on which rotate loosely the said gear-wheels D, the ratchet-wheels F, secured on the said shaft D', the pawls F', pivoted on the gear-wheels D and operating on the said ratchet-wheels F, and the wheel G, mounted loosely on the said shaft D', but connected with the clutch-collar H, sliding on a key on the said shaft D', substantially as shown and described.

4. In a combined seeder and fertilizer-distributer, the combination, with the wheel G, mounted loosely on the shaft D' and provided with the toothed hub G', of the toothed collar H, sliding on a key on the said shaft D', the forked lever I, operating on the said collar H, the rod I³, attached to the said lever I, the bell-crank lever J, pivotally connected with the said rod I³, and the spring I⁴, coiled on the said rod I³, substantially as shown and described.

5. In a combined seeder and fertilizer-distributer, the wheel G, provided with studs car-

rying friction-rollers K', in combination with the pivoted blocks L, operated by the said rollers K', the adjustable links L', connected with the said blocks L, the pivoted T-lever M, connected with the links L', the links O, connected with the center arm of the said lever M, the cross-bar P, connected with the links O, and the cross-bars S and S', connected by the levers R with the said cross-bar P, substantially as shown and described.

6. In a combined seeder and fertilizer-distributor, the main wheels B, the shafts C, and the ratchet-wheels C', in combination with

the gear-wheels D, the shaft D', carrying the said gear-wheels D, the bearings D², on which the said shaft D' is mounted, the links E, connected with the said bearings D², the levers E', connected with the said links E, the spring-catch E², attached to the said lever E', and the segment E³, on which operates the said spring-catch E², substantially as shown and described.

ISAAC N. FRANKLIN.

Witnesses:

LORIN BARNUM,
BARDIN B. WEST.