

(No Model.)

2 Sheets—Sheet 1.

J. A. RODEN & N. C. MORGAN.

SEED PLANTER.

No. 334,897.

Patented Jan. 26, 1886.

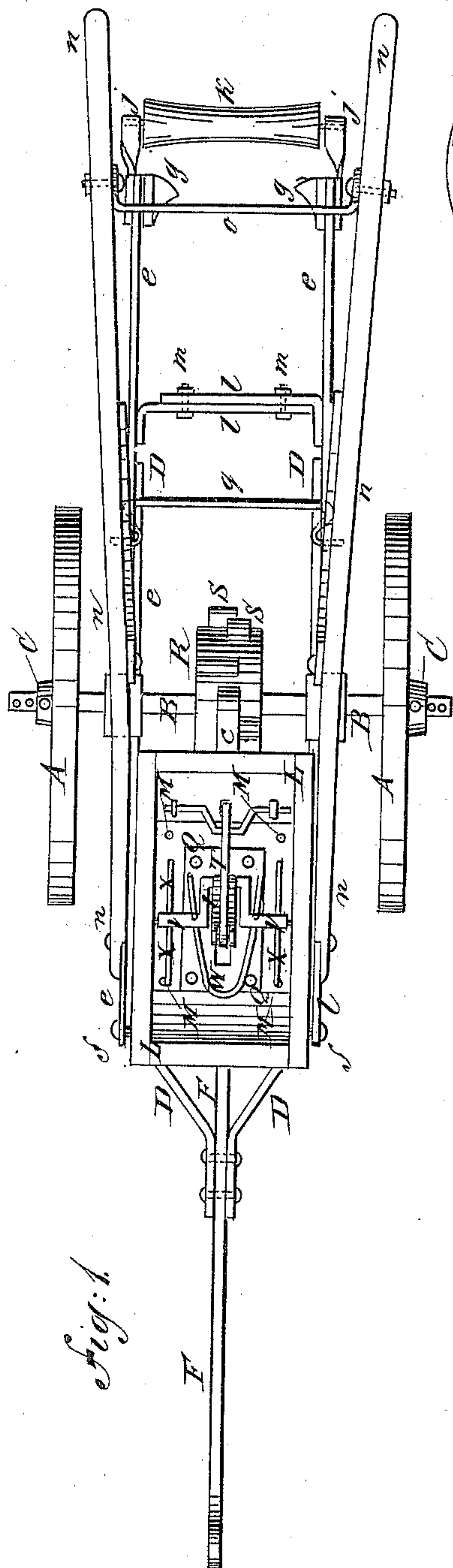


Fig. 1.

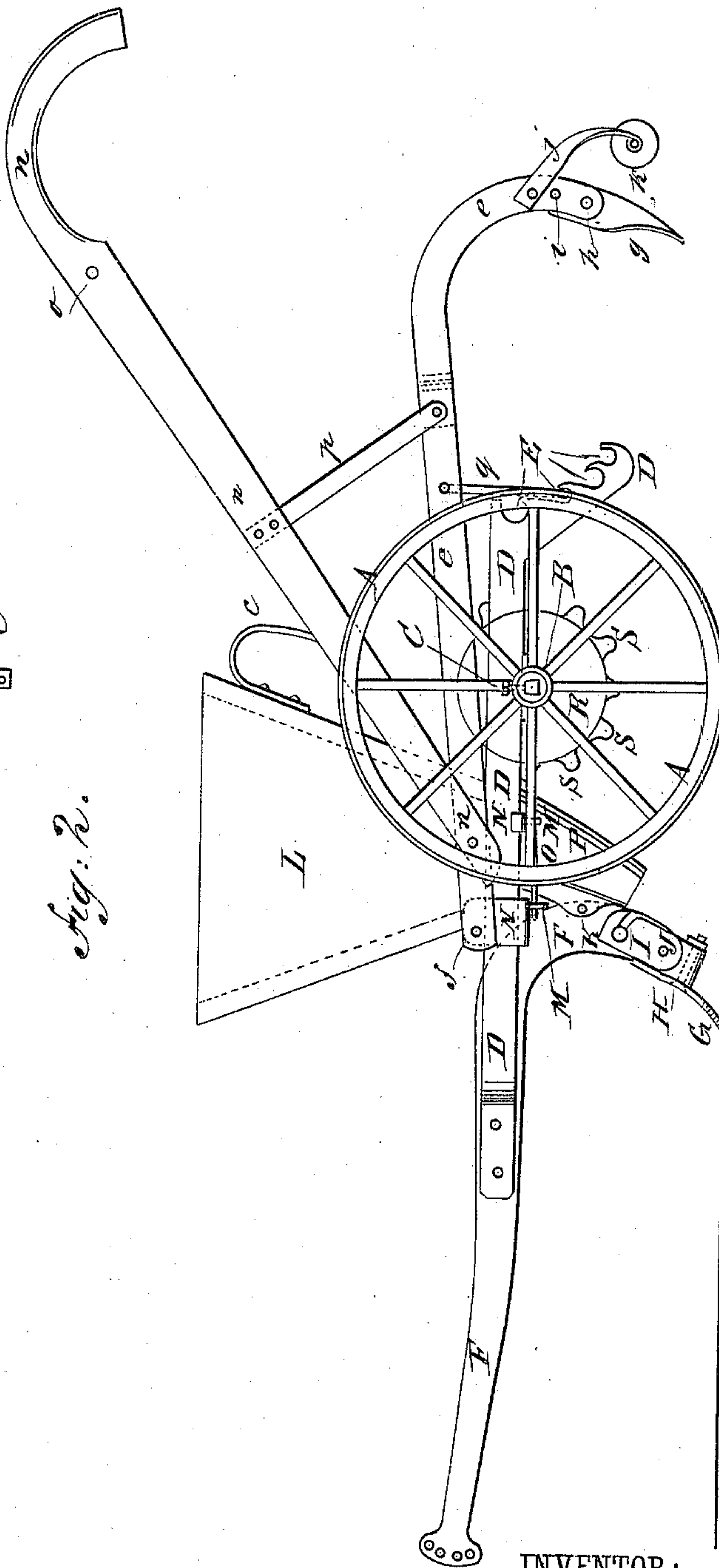


Fig. 2.

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ATTORNEYS.

(No Model.)

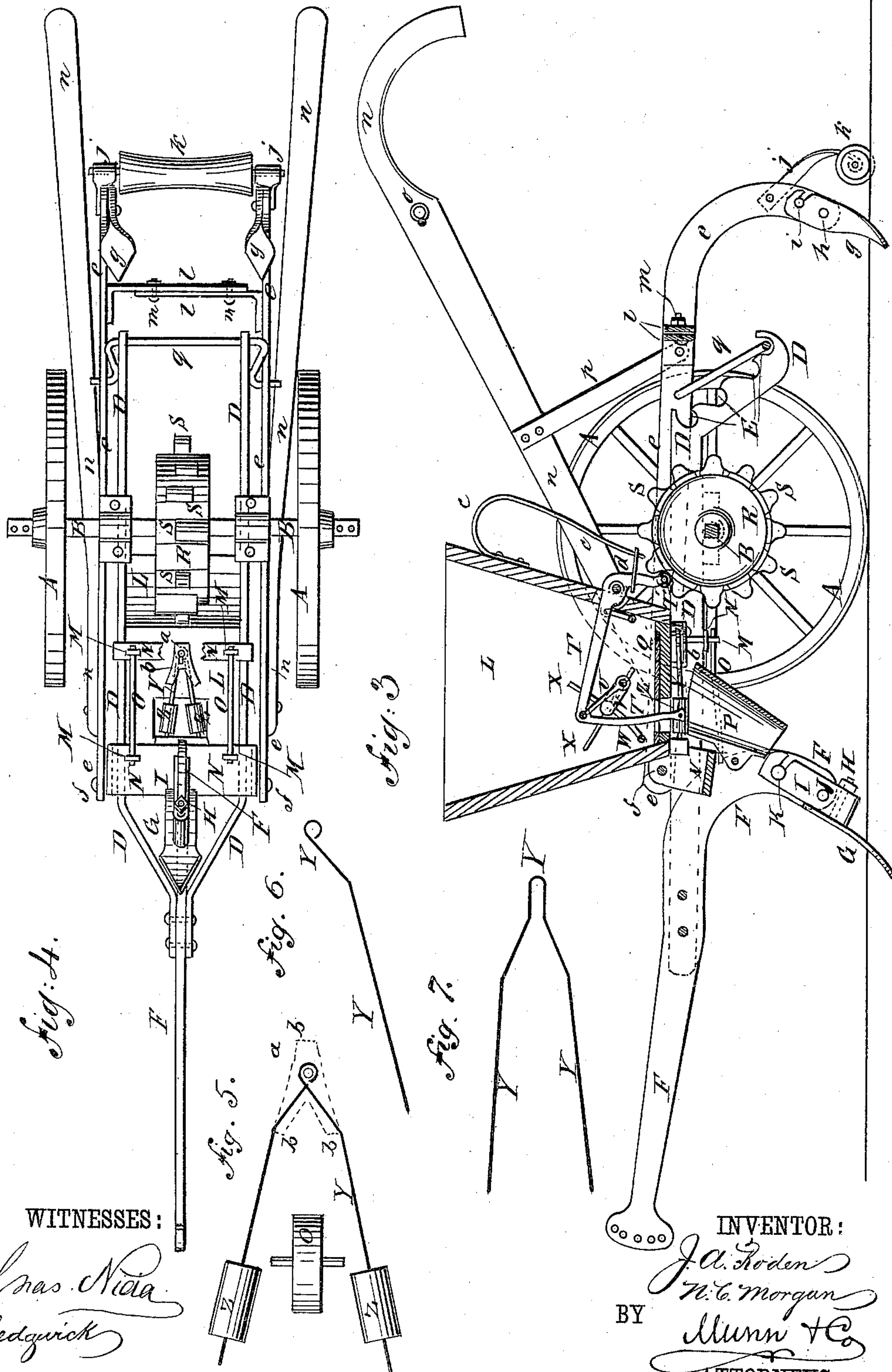
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WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES AIKIN RODEN AND NICHOLAS CASS MORGAN, OF DEERBROOK, MISS.

SEED-PLANTER.

SPECIFICATION forming part of Letters Patent No. 334,897, dated January 26, 1886.

Application filed July 20, 1885. Serial No. 172,123. (No model.)

To all whom it may concern:

Be it known that we, JAMES AIKIN RODEN and NICHOLAS CASS MORGAN, of Deerbrook, in the county of Noxubee and State of Mississippi, have invented certain new and useful Improvements in Seed-Planters, of which the following is a full, clear, and exact description.

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

Figure 1 is a plan view of one of our improved seed-planters. Fig. 2 is a side elevation of the same. Fig. 3 is a sectional side elevation of the same. Fig. 4 is a bottom view of the same. Fig. 5 is a plan view of the seed-dropping wheel and the feed-regulating rollers and spring, the spring being shown expanded to admit the wheel. Fig. 6 is a side elevation of the spring. Fig. 7 is a plan view of the spring, showing a modified form.

The object of this invention is to provide machines for planting cotton-seed, constructed in such a manner that they can be readily controlled and adjusted to drop the seed at any desired distance apart.

The invention consists in the construction and combination of various parts of the seed-planter, as will be hereinafter fully described, and then pointed out in the claims.

A are the wheels, the hubs of which are secured to the axle B by set-screws C, pins, or other suitable means. The axle B revolves in bearings attached to the lower sides of the rear parts of the bars D, the rear ends of which are inclined downward and rearward, and have recesses E formed in their upper edges to receive a bail, hereinafter described.

The forward ends of the bars D are bent inward and then forward, and are bolted to the opposite sides of the forward plow-beam, F, a little in front of its bend.

G is a plow to open a furrow to receive seed, and which is secured by a bolt, H, to the bend of a U-shaped shoe, I, placed upon the lower end of the beam F, and secured to it by the bolts J K. The bolt J passes through holes in the plow-beam F and the arms of the shoe I, and the bolt K passes through a hole in the plow-beam F and curved slots in the arms of the shoe I, as shown in Figs. 2 and 3, so that the shoe will be clamped to the beam and held

in place by friction. With this construction, should the plow G strike an obstruction the said plow will swing back, and will thus be prevented from being broken.

Upon the forward parts of the bars D is placed the seed-box L, which is secured in place by four bolts, M, passing down through the corners of the bottom of the said seed-box and through the bars N, placed upon the lower edges of the said bars D. The bolts M are secured in place by pins O, passed through their lower ends, or by other suitable means. The ends of the bars N are bent upward to overlap the outer sides of the bars D, and prevent the said bars N from having any longitudinal movement. The center of the forward bar, N, has a recess formed in it to receive the bend of the plow-beam F, as indicated in dotted lines in Figs. 2 and 3.

To the rear part of the bend of the plow-beam F is attached a flaring tube, P, to receive the seed from the discharge-opening in the bottom of the seed-box L and guide the said seed into the furrow opened by the plow G.

In the bottom of the seed-box L is formed a rectangular discharge-opening, and to the upper side of the said bottom is attached a metallic plate, Q, having a rectangular discharge-opening having the same length as the discharge-opening in the said hopper-bottom, but narrower and concentric therewith.

To the center of the axle B is secured, by a set-screw or other suitable means, a wheel, R, having twelve rounded teeth, S, the first one of which extends entirely across the face of the said wheel, and which are intended to operate a feed-lever, T.

Beginning at the left-hand side of the wheel R, the first and sixth teeth extend to the said side; the fourth and tenth extend to within a distance equal to one-fifth of the width of the wheel from the said left-hand side; the second, third, fifth, sixth, eighth, ninth, eleventh, and twelfth extend to a distance equal to two-fifths of the width of the wheel from the said left-hand side; the second, fourth, sixth, eighth, tenth, and twelfth extend to within a distance from the right-hand side of the wheel equal to two-fifths of the wheel; the third, seventh, and eleventh extend to within a distance from the right-hand side of the wheel equal to one-

fifth the width of the said wheel; and the first, fifth, and ninth extend to the right-hand side of the wheel. With this construction when the feed-wheel R is adjusted to bring the rear end of the feed-lever T in line with the first or left-hand fifth of the wheel R the feed-lever will be operated twice at each revolution of the said wheel R. When the feed-lever is in line with the second fifth of the wheel, it will be operated four times at each revolution of the wheel. When the lever is in line with the third or central fifth of the wheel, it will be operated twelve times at each revolution of the wheel. When the lever is in line with the fourth fifth of the wheel, it will be operated six times at each revolution of the wheel, and when the lever is in line with the right-hand fifth of the wheel the said lever will be operated three times at each revolution of the said wheel, so that by adjusting the said toothed wheel the seed can be dropped at distances apart equal to one-half, one-third, one-fourth, one-sixth, or one-twelfth the circumference of the drive-wheels A.

The lever T is pivoted to a support attached to the lower rear part of the rear side of the seed-box L, and its rear arm is bent downward into such a position that its end will be struck and the said lever operated by the teeth of the wheel R.

To the rear end of the lever T is pivoted a small wheel or roller, T', to work in contact with the teeth S of the wheel R and lessen the friction between the said lever and teeth.

The forward arm of the feed-lever T passes through a slot in the rear side of the seed-box L and extends forward with a slight upward inclination to a point over the discharge-opening in the bottom plate, Q, where it is bent downward, extends down to the said discharge-opening, and has its lower end enlarged or provided with a foot, so that at each vibration of the said lever the said end or foot will force seed down through the said discharge-opening.

To the feed-lever T at its inner or forward angle is pivoted the upper end of a short connecting-bar or link, U, the lower end of which is pivoted to a crank formed upon the center of the agitator-shaft V, so that the said agitator-shaft will be rocked by the vibration of the said feed-lever T.

To the agitator-shaft V, upon the opposite sides of its crank are attached the ends of a U-shaped finger, W, the bend of which, as the said shaft is rocked and the foot of the feed-lever T rises, swings back and forth above and close to the discharge-opening in the bottom plate, Q, so as to push the seed into the said opening, ready to be pushed through by the descent of the said foot of the feed-lever.

To the end parts of the agitator-shafts V are attached radial fingers X, to keep the seed in the lower part of the seed-box L stirred up, so that it will pass down readily to the discharge-opening.

Directly below the discharge-opening in the

bottom of the seed-box L, and upon the arms of a V-shaped spring-rod Y, are placed two rollers, Z, between which the seed is forced out by the foot of the feed-lever T. The bend of the V-spring Y is secured to the lower side of the bottom of the seed-box L by a bolt, a, which also passes through the guard-plate b, and secures the said guard-plate in place. The forward end of the guard-plate b is flared and forked, and the ends of its prongs are bent upward to rest against the outer sides of the arms of the V-shaped spring-rod Y, and thus limit the outward movement of the feed-rollers, and consequently the amount of seed discharged. The guard-plate b is slotted to receive the fastening-bolt a, so that the said plate can be readily adjusted to allow more or less seed to be discharged, as may be desired, and to prevent the seed from being discharged in wads or bunches. The spring Y can be made of different shapes, as illustrated in Figs. 10, 11, and 12.

When the rear end of the feed-lever T is released from a tooth, S, of the feed-wheel R, it is drawn back, throwing the forward end of the said feed-lever downward, and discharging seed by the bent spring c, the upper end of which is secured to the upper part of the rear side of the seed-box L. The lower end of the spring c is connected with the rear arm of the feed-lever T by a link, d, as shown in Fig. 3.

e are the rear plow-beams, the forward ends of which are pivoted by a rod, f, to the upwardly-projecting ends of the forward cross-bar N, so that the rear ends of the said plow-beams can move up and down freely.

The rear parts of the plow-beams e are curved downward, and to the inner sides of their lower ends are secured the covering-plows g by the bolts h i. The bolts h pass through the plow-beams e and the lower parts of the shanks of the plows g. The bolts i pass through holes in the plow-beams e and through curved slots in the upper parts of the shanks of the plows g, so that the said plows will be held in place by friction under ordinary circumstances, but will swing back should they strike an obstruction, and will thus be protected from being broken.

The covering-plows g are made with a quarter-twist to bring them into proper position for throwing soil into the furrow and covering the seed.

To the lower parts of the plow-beams e are attached the upper ends of spring-arms j, which are curved downward, and to their lower ends are journaled the ends of a concaved roller, k, to press the soil down upon the seed and round up the top of the row.

To the plow-beams e, a little in front of their bends, are attached the outer ends of two bars, l, which bars overlap each other and are slotted to receive the bolts m, that fasten them together, so that by loosening the said bolts the rear ends of the plow-beams e and the plows g, can be adjusted farther apart or closer together, as may be required.

To the forward parts of the rear plow-beams, *e*, are bolted the forward ends of the handles *n*, the rear parts of which are connected by a round, *o*. To the middle parts of the handles *n* are bolted the upper ends of the connecting brace-bars *p*, the lower ends of which are bolted to the rear parts of the plow-beams *e*, so that the said plow-beams can be raised and lowered by and with the handles *n*. To the middle parts of the plow-beams *e* are pivoted the ends of a bail, *q*, the horizontal middle part of which rests in the recesses *E* in the downwardly-inclined rear parts of the side bars, *D*, so that by adjusting the said bail in the said recesses the plow-beams *e* can be adjusted to allow the covering-plows *g* to enter the ground to any desired depth, and by adjusting the said bail *q* in the highest recesses of the said side bars the plow-beams *e* will be supported in such a manner that the plows *g* will be raised above the ground, so that by pressing the handles *n* downward the forward plow, *G*, will be raised above the ground, and the machine can be drawn from place to place upon the wheels *A* in the manner of a cart.

When the bail *q* is turned up, so as to be out of contact with the bars *D*, the wheels *A* can pass over uneven ground without affecting the opening of the furrow or the covering of the seed, the forward ends of the plow-beams *e* being hinged in front of the axle *B*. The bail *q* is designed to be used only when planting narrow rows and when passing from place to place.

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

1. In a seed-planter, the toothed wheel *R* for operating the feed-lever, made substantially as herein shown and described, with teeth of different lengths, and with the teeth

of the same length at equal distances apart, whereby by the adjustment of the said wheel the feed-lever can be operated at longer or shorter intervals, as set forth.

2. In a seed-planter, the combination, with the bottom of the seed-box *L*, of the rollers *Z*, the V-spring *Y*, carrying the said rollers, and the forked gage-plate *b*, applied to the said spring, substantially as herein shown and described, whereby the amount of seed discharged at a time can be regulated, as set forth.

3. In a seed-planter, the combination, with the rear plow-beams, *e*, and the covering-plows *g*, of the spring-arms *j*, and the concaved roller *k*, substantially as herein shown and described, whereby the soil thrown by the covering-plows will be packed upon the seed and the top of the row rounded, as set forth.

4. In a seed-planter, the combination, with the side bars, *D*, having downwardly inclined and recessed rear parts, and the rear plow-beams, *e*, of the hinged bail *q*, substantially as herein shown and described, whereby the covering-plows can be adjusted to work at any desired depth in the ground or supported above the ground, as set forth.

5. In a seed-planter, the combination, with the side bars, *D*, and the wheels and axles *A* *B*, of the beams *e* of the covering-plows, hinged to the said side bars in front of the said axle, substantially as herein shown and described, whereby the said wheels can pass over uneven ground without affecting the said plows, as set forth.

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Witnesses:

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