

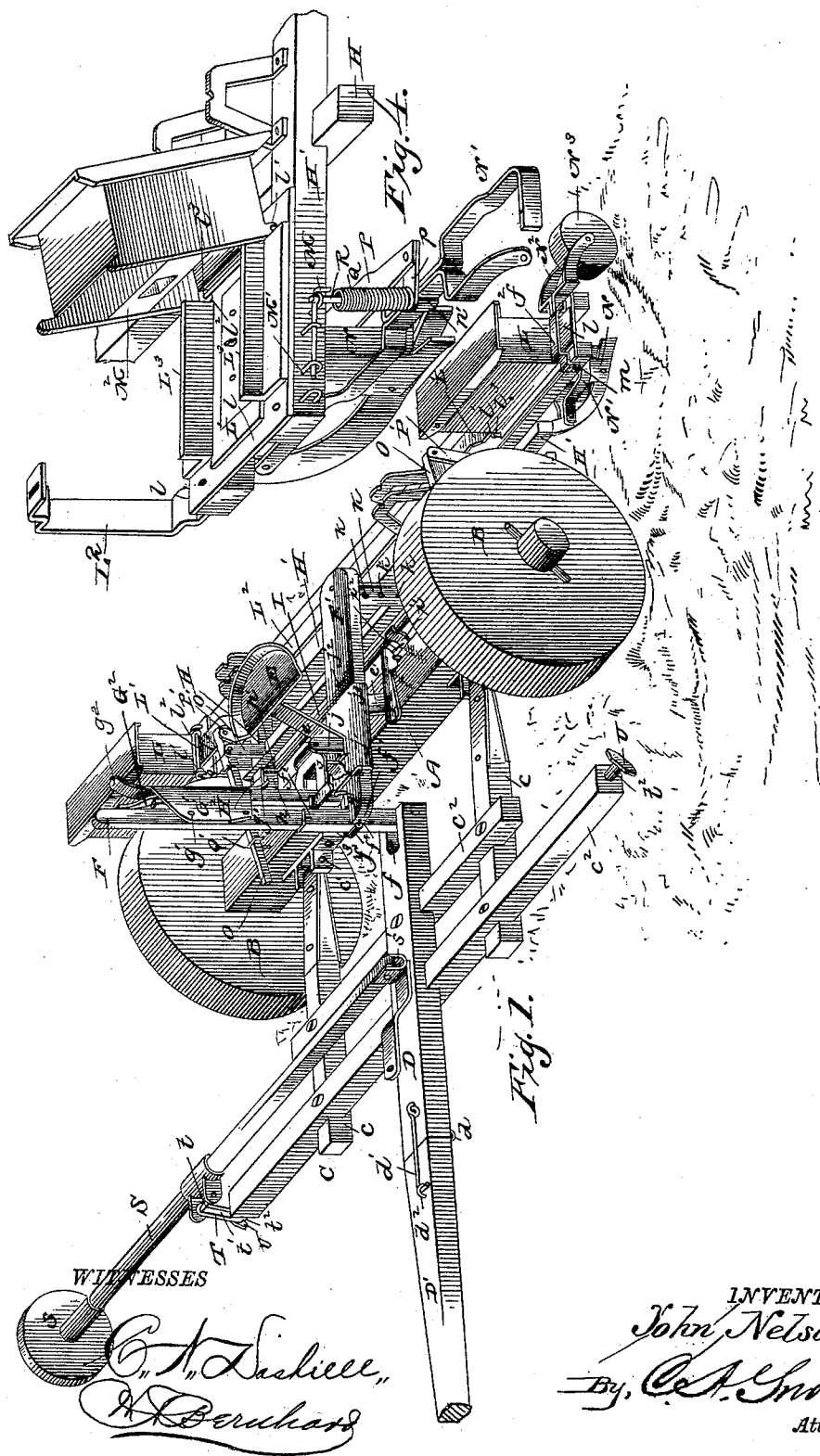
(No Model.)

2 Sheets—Sheet 1.

J. NELSON.
CORN PLANTER.

No. 339,203.

Patented Apr. 6, 1886.



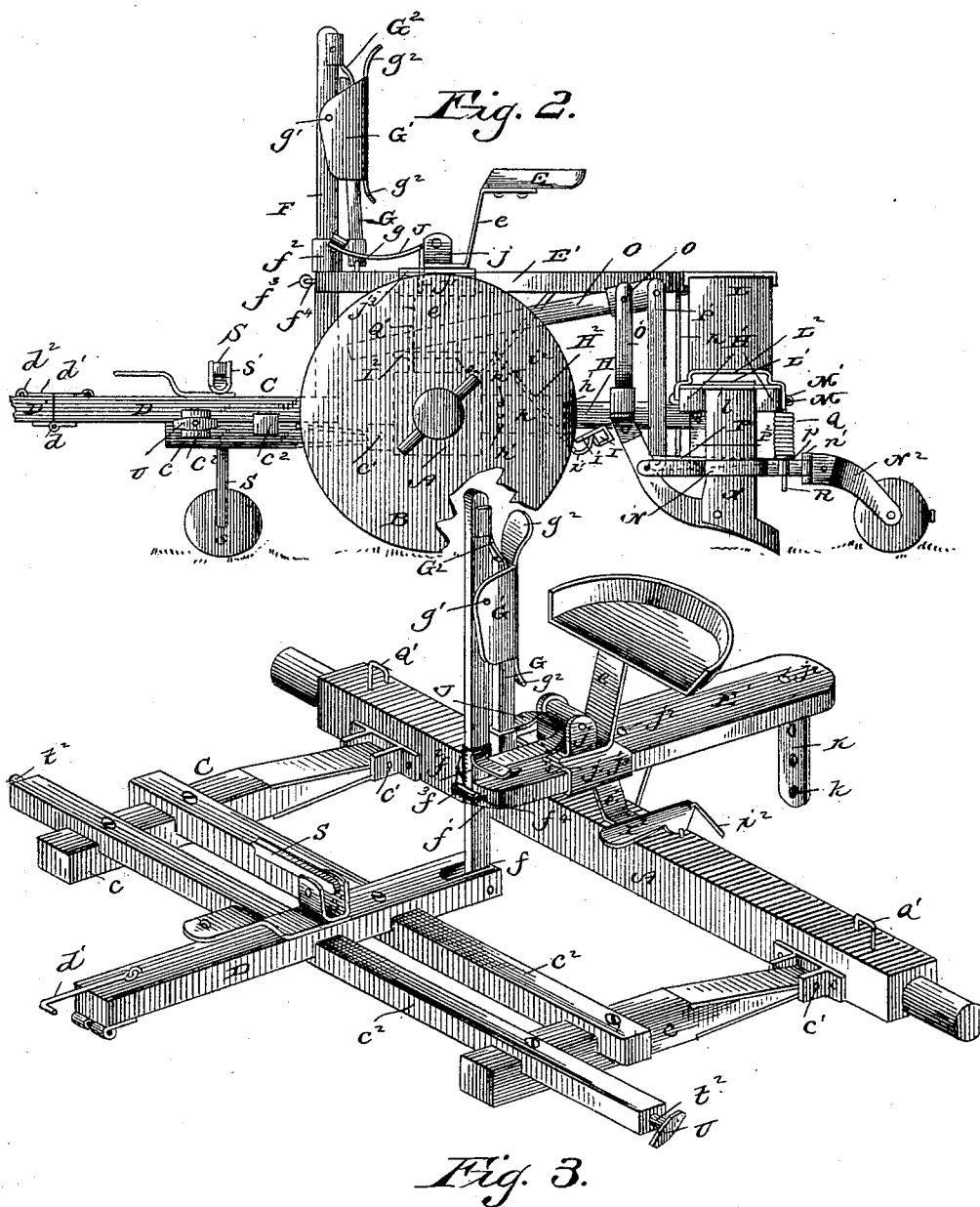
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WITNESSES

C. H. Lashlee
H. Beruhard

INVENTOR

John Nelson.

By *C. H. Snow & Co.*

Attorneys

UNITED STATES PATENT OFFICE.

JOHN NELSON, OF SANDWICH, ILLINOIS.

CORN-PLANTER.

SPECIFICATION forming part of Letters Patent No. 339,203, dated April 6, 1886.

Application filed August 27, 1885. Serial No. 175,489. (No model.)

To all whom it may concern:

Be it known that I, JOHN NELSON, a citizen of the United States, residing at Sandwich, in the county of De Kalb and State of Illinois, have invented a new and useful Improvement in Corn-Planters, of which the following is a specification, reference being had to the accompanying drawings.

My invention has relation to improvements in seeding-machines of the class known to the art as "corn-planters;" and the novelty consists in the construction, combination, arrangement, and adaptation of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

It is the especial object to provide a machine of the class described the weight of which will be taken off the horses and supported by the machine-frame, in lieu of throwing the weight of the driver and the frame on the horses' necks, to provide means which shall pulverize or crush the ground in advance of the planting devices, which shall accommodate itself to unevenness in the surface of the soil, to prevent liability of the parts breaking, to provide for the adjustment of the frame and shoes at various heights from the ground, to provide for the convenient and ready removal of the slides and to cleanse the hopper, and to combine simplicity, strength, and durability of construction with thorough effectiveness, and automatic in operation.

In the drawings, Figure 1 is a perspective of a corn-planter embodying my invention. Fig. 2 is an elevation. Fig. 3 is a detail perspective view of a portion of the frame and tongue. Fig. 4 is an enlarged detail view of the shoes and covering devices, showing one of the seed-hoppers and a portion of the hopper-frame.

Like letters of reference indicate corresponding parts in the several figures of the drawings, referring to which—

A designates the front beam or axle, upon the ends of which are mounted bearing-wheels B, which are provided with broad faces adapted to pulverize or crush the soil to prepare the same for the corn-planting.

C designates the tongue-frame, comprising parallel side bars, *c*, pivotally connected to the axle or beam A, as at *c'*, and connected at

their forward ends by parallel cross-bars *c''*, upon which are secured a tongue-section, D, by bolts or otherwise, the tongue-section D' being hinged or pivotally connected to the tongue-section, as at *d*. A fastening bolt or hook, *d'*, is adapted to engage an eye or hook, *d''*, of the section D', to hold the same rigidly as desired.

E designates the driver's seat, mounted on a standard, *e*, connected or bolted to the seat-platform E', supported upon brackets *e'*, bolted to the axle or beam A. A vertical lever, F, is pivoted to the bifurcated end *f* of the tongue-section D, and arranged or passed through the front cut-away end, *f'*, of the seat-platform, a sheath or protection-plate, *f''*, being secured to the lever F, and adapted to bear against a friction-roller, *f'''*, mounted on a bracket, *f''''*.

G designates an arm, pivoted at its lower end to the seat-platform, as at *g*, and adapted to bear against the lever F at its upper end. A pressure-plate, G', embraces the lever and arm F G, and is pivoted at its upper forward end to the lever F, as at *g'*, and provided with hand pieces or tongues *g''* at its upper and lower ends. The lower end of the pressure-plate is kept in engagement with the arm G by means of a spring, G'', secured at one end to the lever F, and adapted to bear against the inner surface of said pressure-plate.

From the foregoing it will be observed that the tongue-frame is kept normally elevated by means of the spring-actuated pressure-plate and arm G bearing against the lever F, whereby the weight thereof will be taken off the necks of the horses, the tongue being pivotally connected together and adapted to permit free movement thereof, thus securing comfort and ease to the horses and imposing on them only the labor of drawing the machine.

H H designate parallel side bars of the machine-frame, and connected by parallel cross-bars H', preferably three in number and bolted together, the front ends of the side bars being secured in brackets H'', having side plates, *h*, provided with a series of apertures, *h'*. The brackets are rigidly secured to the axle or front beam, and the front ends of said side bars are secured between the plates *h* by pins or bolts fitting in said apertures,

thus providing for the vertical adjustment of the hopper-frame.

I designates a scraper-bar, journaled in bearings *i*, to the undersurface of the forward cross-bar H', and free to vibrate back and forth therein. The ends of the scraper-bar are provided with scraper-blades I', adapted to bear against the periphery of the pulverizing-wheels B. The shaft or bar I is operated by means of a foot-treadle, I², pivoted on the front beam or axle, A, and connected to said bar I by means of a link, *i'*, and an arm, *i''*.

J designates a treadle, having two arms and connected together at their rear ends and pivoted to a bracket, *j*, said treadle having a pin, *j'*, adapted to take into one of a series of apertures, *j''*, formed in the seat-platform E, said bracket *j* being secured upon a plate, *j'''*, secured to said seat-platform. The said platform is thus adjustable back and forth, and it is adjustable vertically at its rear end by means of an arm, K, having a series of apertures, *k*, through which passes a pin, *k'*, into one of the cross-bars H' of the hopper-frame.

L L designate hoppers, arranged at each of the rear parallel cross-bars H', said hoppers having perforated bottoms *l* secured to the parallel cross-bars, and over which reciprocate the seed-slides L', connected together by a bar, L², and adapted to be reciprocated alternately in the hoppers by any suitable mechanism, which, however, does not form a part of the present invention, and is not therefore shown herein. Each end of the hopper is provided with projecting lugs *l'* *l''* at its lower ends. The inner or projecting lugs, *l'*, are pivoted, as at *l'''*, to enable the hoppers to be thrown back and up, for the purpose of cleaning the same and for changing the slides to accommodate seed of different classes, as is obvious. The hopper is secured in position by means of a strap or band, L³, (shown in Figs. 1 and 3,) which is pivoted or hinged at one end, as at *m*, and adapted to be clamped or secured over the lugs *l'* *l''* by means of a bolt, M. The free end of the strap L³ is bent and slotted, and through the slotted end projects an eye or staple, *m'*, in which fits the free end of the bolt M, adapted to slide back and forth in bearings M', secured to the rear cross-bar H'.

The hopper M is provided with a scraping-block or cut-off, M², adapted to rest on the slide and scrape the seed into the apertures in the slide and bottom, and the lower edges of the side walls of the hopper are fitted to rest on cleats or plates L³, the vertical flange of which fits snugly against the inner surfaces of the side walls when the hopper is closed.

N N designate the shoes or conducting-tubes, connected or bolted to the cross-bars H' or the hopper-bottom, and having its cutting-blade pivoted to a bracket, *n*, on the front cross-bar H'.

N' designates the caster-frame, pivoted at its front end to the cutting-blade of the shoe N, and having a lug, *n'*, which is enlarged and re-

ceives the front end of the caster-bracket N², in which is mounted the presser-roller N³.

O designates the lifting-levers, pivoted on standards O', as at *o*, and connected to a lever, P, by means of a link, P', said lever P being pivoted in a bracket, P², secured to one of the rear cross-bars H' of the hopper-frame, beneath the same. The rear end of the lever P is pivotally connected to the lug *n'* of the 75
caster-supporting frame by means of a plate, *p*, and said frame and presser-roller are normally pressed downward against the earth or soil by means of a coiled or other spring or pressure device, Q, connected at one end to the 80
rear cross-bar H', and at the opposite end to the lug *n* of the bracket N² of the presser-rolls.

Each hopper is provided with the above-described construction and arrangement of presser-rolls and lifting-levers, and the front 85
ends of said levers are held down to keep the frame elevated by means of a catch or keeper, Q', secured upon the axle or front beam, A.

From the foregoing it will be observed that when the free ends of the levers are released 90
the rear ends thereof will be pressed downward and lower the front end of the pivoted lever P, and press the rear end thereof down and the roller-bracket against the earth; also, by disengaging the levers, the bars H H', 95
which constitute the hopper-frame, are lowered, to permit the shoes and cutter thereof to open the ground in rear of the pulverizing-wheels B.

To raise the frame H H', it is only necessary to depress the free ends of the levers and engage them with the catches on the axle. 100

It will be observed that the various operating levers and treadles are within easy reach of the operator seated on the seat E, and that 105
it requires only a minimum expenditure of power to operate the various parts.

The presser-rolls and seed-tubes are arranged in rear of the pulverizing-wheels and in alignment therewith, whereby the soil is 110
first prepared and the ground opened by the furrow-opener or cutting-blade of the seed-tubes N, the seed deposited at proper intervals in the furrow by means of the slides, and the furrow covered by means of the spring- 115
actuated covering-rolls N³.

It will be observed that the caster or presser rolls are swiveled and free to turn in or out of alignment with the line of movement of the pulverizing-wheels, and that they are free to 120
vibrate or move up and down to accommodate themselves to obstructions in their path and unevenness in the surface of the soil.

The coiled springs Q are arranged around a bolt, R, free to slide vertically through the 125
lug *n* of the presser-roll bracket.

S designates a marker, having a roll or wheel, *s*, thereon and secured pivotally to a swiveled bracket, *s'*. An elongated securing-plate, T, is pivotally connected to a pin, *t*, and is slot- 130
ted, as at *t'*, and adapted to engage a stud, *t''*, having a tapered plate, *u*, thus permitting the

outer end of the marker rod or bar to work or move up and down to accommodate itself to the surface of the ground.

From the foregoing description, taken in connection with the drawings, the operation of my invention will be readily understood.

Various changes in the form and proportion of parts can be made without departing from the principle of my invention, the essential features of which will be readily understood.

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

1. In a seeding-machine, and in combination with the front axle thereof, a tongue-frame pivoted to the axle and having a tongue-section rigidly secured thereto, and a draft-tongue yieldingly secured to one end of the tongue-section, substantially as and for the purpose herein described.

2. In a seeding-machine, the combination of the axle, a tongue-frame pivotally connected to the axle and having a tongue-section, a draft-tongue pivoted to the tongue-section, and a securing-bolt for rigidly securing the sections of the tongue together, substantially as described.

3. In a seeding-machine, the combination of the axle, a tongue-frame pivoted thereto, a sectional flexibly-connected draft-tongue secured to said frame, a vertical supporting-lever connected to the pivoted tongue-frame, and a spring-actuated lever pivoted to the main frame and bearing against the supporting-lever, to elevate the same and the tongue-frame, substantially as and for the purpose herein set forth.

4. In a seeder, the combination, with the axle, a tongue-frame pivoted thereto, a seat-platform, a vertical vibrating lever pivoted to the tongue-frame and moving in a bracket carrying a friction-roller, a pivoted lever in engagement with the supporting-lever, and a pivoted spring-actuated pressure-plate embracing said levers, substantially as described.

5. In a seeder, the combination, with the axle, a hopper-frame pivoted thereto, pivoted lever or levers Q, for elevating and depressing said frame, the seed-tubes suspended from the frame, and yielding pressure-rolls secured to the tube, and having a vertical and lateral swinging movement, substantially as described.

6. In a seeding-machine, the combination of the main frame, a pivoted frame, the seed-tubes, a vertically-yielding roller-frame pivoted to each tube, a roller-bracket carrying a pressure-roller pivoted to the roller-frame and having a lateral swinging movement, the pressure-springs bearing on the roller-frame, a pivoted operating-lever, O, for elevating and depressing the pivoted frame, a link, P, connected to the roller-bracket, and an intermediate link or lever, P, pivoted to the link P' and lever O, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN NELSON.

Witnesses:

ALF A. WILSON,
JOHN V. KEHL.