(No Model.) 2 Sheets—Sheet 1.

C. J. LE ROY & J. W. HENSON.

COMBINED COTTON PLANTER, CULTIVATOR, AND DOUBLE SHOVEL, SINGLE SHOVEL, AND TURNING PLOW.

No. 260,302. Patented June 27, 1882.

Fig. 1.

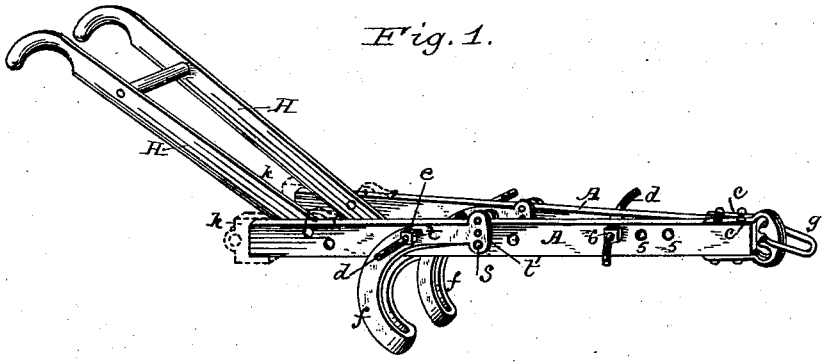


Fig. 2.

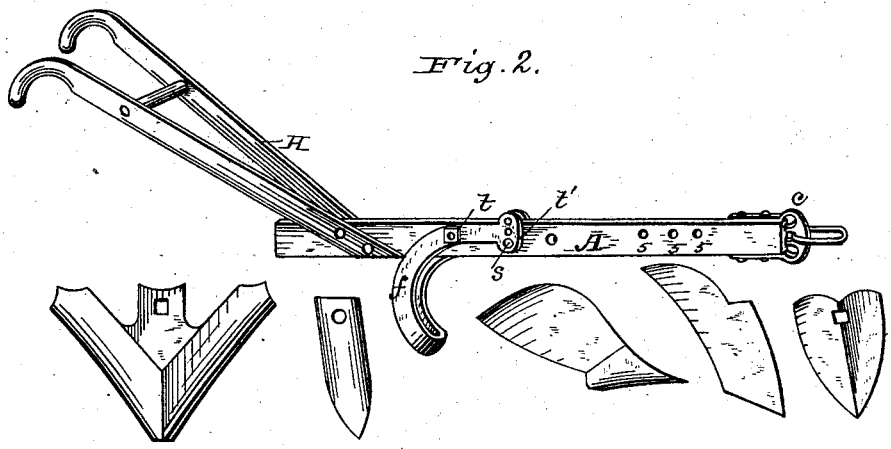
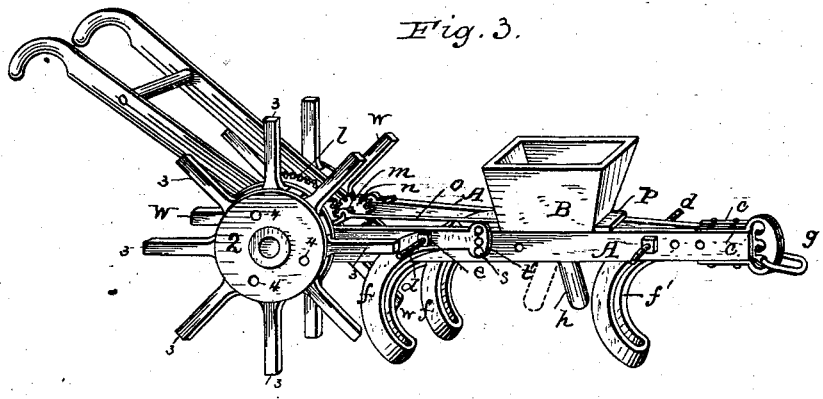


Fig. 3.



Witnesses:

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(No Model.) 2 Sheets—Sheet 2.

C. J. LE ROY & J. W. HENSON.

COMBINED COTTON PLANTER, CULTIVATOR, AND DOUBLE SHOVEL, SINGLE SHOVEL, AND TURNING PLOW.

No. 260,302. Patented June 27, 1882.

Fig. 4

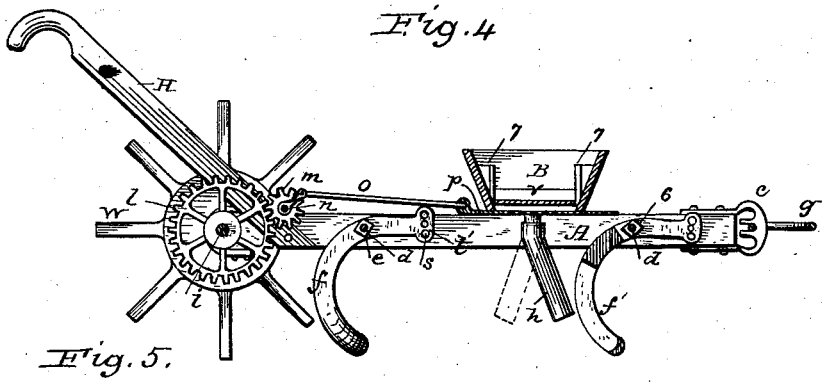


Fig. 5.

Fig. 8

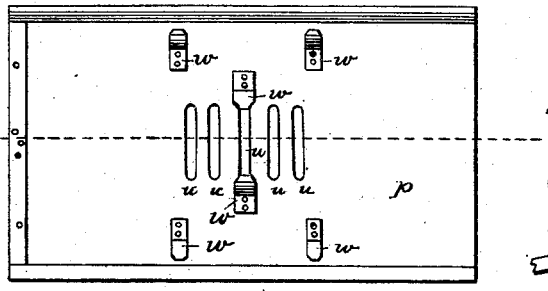


Fig. 6.

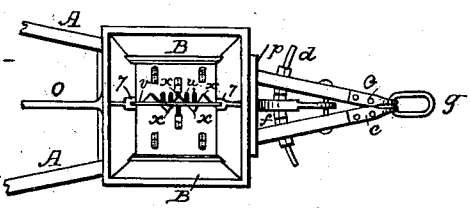


Fig. 9.

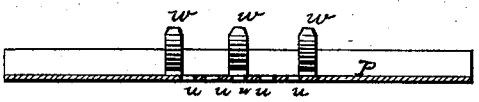


Fig. 7.

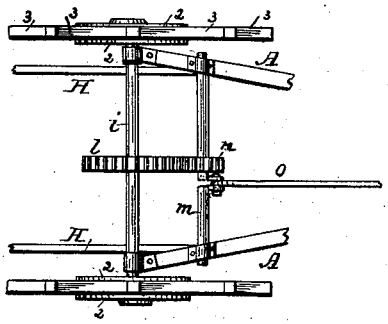
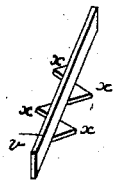


Fig. 10.

Fig. 11.



Witnesses:
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Attys.

UNITED STATES PATENT OFFICE.

CHARLES J. LE ROY AND JOHN W. HENSON, OF DALLAS, TEXAS, ASSIGNORS OF FOUR-FIFTHS TO SAMUEL J. ADAMS, JACK LEONARD, J. T. ODELL, SIDNEY SMITH, AND N. W. GODBOLD, OF SAME PLACE.

COMBINED COTTON-PLANTER, CULTIVATOR, AND DOUBLE-SHOVEL, SINGLE-SHOVEL, AND TURNING PLOW.

SPECIFICATION forming part of Letters Patent No. 260,302, dated June 27, 1882.

Application filed February 25, 1882. (No model.)

To all whom it may concern:

Be it known that we, CHARLES JEROME LE ROY and JOHN WESLEY HENSON, of Dallas, in the county of Dallas, in the State of Texas, have invented new and useful Improvements in a Combined Cotton-Planter, Cultivator, and Double-Shovel, Single-Shovel, and Turning Plow, of which the following, taken in connection with the accompanying drawing, is a full, clear, and exact description.

The nature of this invention consists in a novel combination of two plow-beams or shovel-stocks, each of which is provided respectively with a clevis for the attaching of the whiffletree, a standard adapted to have connected to it various styles of plowshares and analogous cultivating-tools, means for detachably connecting to the said beams or stocks the requisite handles for operating them either singly or jointly, and means for detachably and adjustably connecting the two beams or stocks for operating them jointly in the form of a cultivator.

It also consists in the combination, with the aforesaid plow-beams or shovel-stocks, of a removable hopper or seed-box and feed mechanism for dropping the seed from the hopper into the furrow, and thus converting the cultivator into a seed-planter; and it furthermore consists in certain other devices detachably connected with said plow beams and stocks, and in a novel construction and arrangement of the details of said devices, as hereinafter more fully described, and specifically set forth in the claims.

In the annexed drawings, Figure 1 is a perspective side view of the two plow-beams or shovel-stocks united to form a cultivator. Fig. 2 shows one of said beams or stocks singly and adapted for use as either a double-shovel plow or a single-shovel plow or a turning-over plow. Fig. 3 is a perspective view of our invention arranged for use as a seed-planter. Fig. 4 is vertical longitudinal section of the same. Fig. 5 is an enlarged top view of the plate which slides over the discharge-opening of the hopper and delivers the seed to the same. Fig. 6 is a longitudinal section of said plate; Fig. 7, an end view of the same. Figs. 8 and 9 are detached top views of the forward and rear ends, respectively, of our invention when arranged for use as a planter; and Figs. 10 and 11 are enlarged perspective and sectional views, respectively, of the feed-regulating plate used in connection with the hopper and the seed-delivering slide.

Similar letters of reference indicate corresponding parts.

A represents an ordinary plow-beam or shovel-stock, provided at its forward end with the usual clevis for the connection of the whiffletree, and having secured to its rear portion the so-called "standard" or pendent curved arm *f*, which is adapted to have connected to it any of the various styles of plow shares or points, or a shovel-blade or scraper-blade, as may be desired, said standard being made adjustable in its position on the beam A by the latter having transversely through it two or more holes for the reception of a bolt or rod, *d*, which passes transversely through the standard *f*, another bolt, *s*, passing through one of a series of holes in a vertically-elongated head, *f'*, on the upper end of the standard, and through the beam A, secures the standard in the desired angle to the beam.

H denotes the handle, detachably secured to the rear end of the beam.

The described plow-beam or shovel-stock is adapted to be adjustably coupled or connected to the side of another similar beam or stock divergent from their forward end rearward by providing said beams or stocks with two or more holes, 5 5, horizontally through the forward portion thereof.

A ring or shackle, *g*, passing through the clevis *c* of the respective beams A, couples the forward end of the two beams.

The rear portions of the two beams are connected adjustably divergent by means of two spread-rods, *d d*, one of which passes through one of the series of holes of 5 5 in each beam, and is provided at opposite sides of said beam with an adjusting-nut, 6. The other spread-rod, *d*, is used in lieu of the ordinary coupling-bolt which fastens the body of the rear standard, *f*, said spread-rod passing transversely through the two beams A A, and through an

eye, *i*, in the body of the standards *f f* on the respective beams, and being provided with nuts *e e* on the inner and outer sides of the said standards. When the two beams or shovel-stocks A A are thus united they constitute a cultivator-frame, the two standards *f f* being adapted for the reception of the requisite blade or share, according to the species of work to be performed.

When it is desired to use a three-toothed cultivator the spread-rods *d d* can be adjusted to hold the rear portion of the two beams A A farther apart, and another standard, *f'*, can be secured to the forward spread-rod *d* between the two beams, as illustrated in Figs. 3 and 4 of the drawings, and a suitable blade or share attached to said additional standard.

In converting the two single plows into a cultivator the handles H are removed from the former and a suitable handle detachably secured to the latter. The described cultivator is readily converted into a planter by detachably connecting to the top of the two beams A A, between the forward standard, *f'*, and rear standards, *f f*, a hopper or seed-box, B, which is provided in its bottom with a discharge-opening, from which depends a spout, *h*, which has a lateral deflection, and is pivoted so as to allow it to turn on its axis, and thus bring it either into a forwardly-inclined position and in proximity to the forward standard, *f'*, as shown by full lines in Figs. 3 and 4 of the drawings, or into a rearward inclination, as shown by dotted lines in the same figures. The former position of the spout *h* causes the seed to become deposited in the furrow made by the blade or point of the standard *f'* before any of the earth or soil has time to roll back into the furrow, thus planting the seed deeply in the ground. By reversing the spout *h* so as to bring it in a rearwardly-inclined position the seed falls on top of the soil, which generally falls back into the furrow after the clearance of the furrowing-tool, thereby producing shallow planting.

Longitudinally through the hopper B, directly over the bottom thereof, slides a plate, *p*, which is provided over the discharge-opening of the hopper with a series of transverse slots, *u u*, of proper width to allow the seed to pass through them. This plate is designed chiefly for planting cotton, and is provided with a series of upward projecting spurs, *w w*, for the purpose of stirring and distributing the seed in the hopper. The side edges of the plate *p* are bent upward to conform to the sides of the hopper, and thus form guides for the movement of said plate.

Over the plate *p* is arranged a gage or feed-regulator, *v*, in the form of a metal plate extended longitudinally through the hopper and sliding in vertical grooves 7 in the ends of the hopper, thus being adjustable in its elevation above the plate *p*. The base of the gage *v* is formed with horizontal V-shaped projections *x x*, alternately on opposite sides, as best seen in Figs. 10 and 11 of the drawings. By setting the gage *v* at a greater or less distance from the plate *p* a greater or less quantity of seed is allowed to approach the discharge-opening of the hopper.

The plate *p*, which slides over the discharge-opening of the hopper, receives a reciprocating motion by the following instrumentalities detachably secured to the united beams A A: Two journal-boxes, K K, are adapted to be secured to the rear end of the beams, and in these boxes is journaled a shaft or axle, *i*, which extends across the rear end of the united beams and has fixed to each extremity a rimless wheel, W, of proper size to allow its spokes to enter the ground and partly support the rear end of the planting-machine. To the central part of the axle *i* is fixed a gear-wheel, *l*, which meshes in a pinion, *n*, fixed to a crank-shaft, *m*, extended across the machine intermediately between the axle *i* and hopper B and journaled in suitable bearings detachably connected to the beams A A. To the crank of the shaft *m* is connected one end of a pitman, *o*, the opposite end of which is connected with the before-described slide *p* in the hopper.

The rimless wheels W, penetrating the ground as aforesaid, receive a positive rotary motion when the machine is operated in the field. Said motion of the wheels W imparts to the slide of the hopper a rectilinear reciprocating motion by the medium of the gear *l*, pinion *n*, crank-shaft *m*, and pitman *o*.

In order to facilitate the construction and repairs of the traction or operating wheels W, and to also render them adjustable in their diameter, so as to cause them to penetrate the ground to a greater or less depth, we construct said wheels of a hub composed of two plates, 22, one of which is keyed or otherwise rigidly secured to the axle, and is provided in its outer face with recesses, in which are fitted the inner ends of the spokes. The other plate is bolted to the recessed face of the fixed plate and clamps the bolts in position, the diameter of the wheel being diminished or increased, as may be desired, by setting the spokes or radial arms a greater or less depth in the sockets of the plates.

Having described our invention, what we claim is—

1. The combination of two single-shovel stocks or plow-beams, each provided at its forward end with an independent clevis or means for attaching to it a single-tree or double-tree, a shackle for detachably connecting said two beams at their forward end, and a cross-bar detachably connecting the rear ends of said beams in a divergent position, substantially as described and shown, for the purpose specified.

2. The within-described convertible cotton-planter, cultivator, and double-shovel, single-shovel, and turning plow, consisting in the combination of the two beams A A, each provided with a clevis, *c*, and with a standard, *f*, the shackle *g*, adjustable spread-rod *d*, detachable handle H, the journal-boxes K, detachably connected to the beams A A, the shaft *i*, wheels W, and gear *l*, fixed to said shaft, the crank-shaft

m, detachably connected to the beams A A and provided with the pinion *n*, the pitman *o*, hopper B, provided with the slide *p* and with the spout *h*, and the forward standard, *f'*, detachably secured between the beams A A, all as shown and described.

3. The combination, with the beams A A, of the curved standards *f*, provided with the eye *t* and with the head *t'*, having a series of bolt-holes, the bolt *s*, and the spread-rod *d*, passing through the beams and through the eye *t* of the standard, and provided with the adjustable clamp-nut *e*, whereby said spread-rod is made to serve the double purpose of tying the rear ends of the beams and securing the standard, as shown and set forth.

4. In combination with the beams A A, wheels W, gear *l*, pinion *n*, crank-shaft *m*, and pitman *o*, the hopper B, provided with the spout *h*, the sliding plate *p*, provided with transverse slots *u u*, and a plate, *v*, extended across the aforesaid slots and adjustably secured in vertical grooves in opposite ends of the hopper, substantially as and for the purpose set forth.

5. In combination with the hopper B and with the pitman *o* and its actuating mechanism, the reciprocating plate *p*, having upward-turned side edges provided with slots *u u* and spurs *w*, and the gage *v*, having the horizontal V-shaped projection *x* alternately at opposite sides, and extended across the slots *u u* and adjustably secured in vertical grooves in opposite ends of the hopper, all constructed and combined in the manner specified and shown.

In testimony whereof we have hereunto signed our names and affixed our seals, in the presence of two attesting witnesses, at Dallas, in the county of Dallas, in the State of Texas, this 6th day of February, 1882.

CHARLES JEROME LE ROY. [L. S.]
JOHN WESLEY HENSON. [L. S.]

Witnesses:
WILFRID PALTER,
F. P. PHERLAN.