(No Model.)

R. THOMSON.

COTTON PLANTER.

No. 330,440. Patented Nov. 17, 1885.

Fig 1

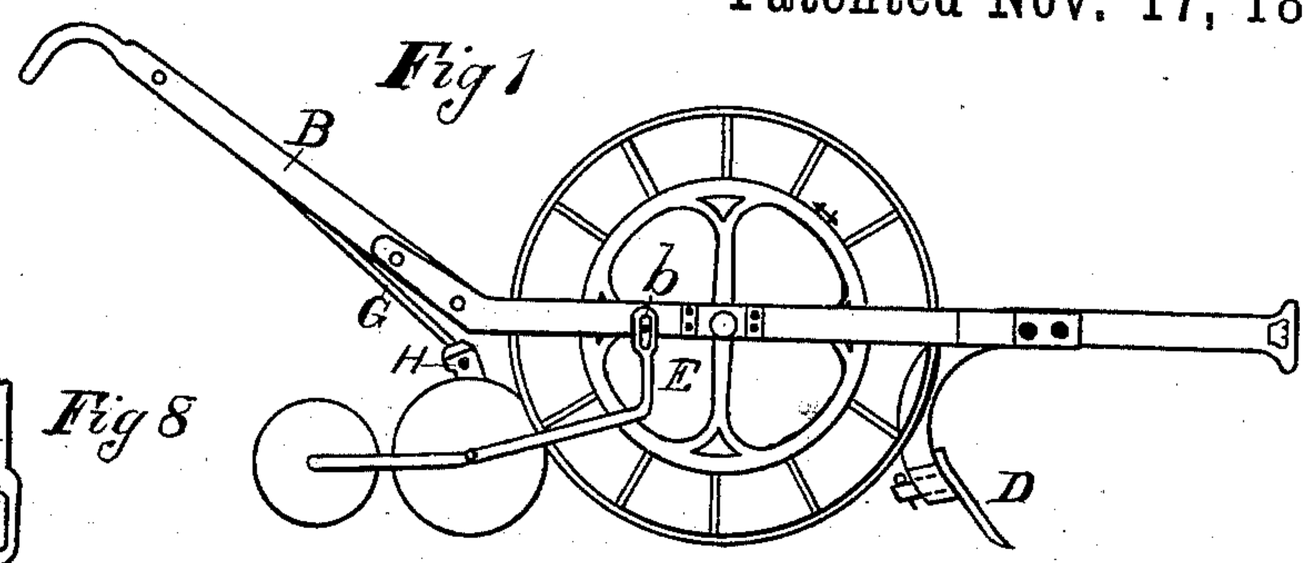


Fig 8

Fig 2

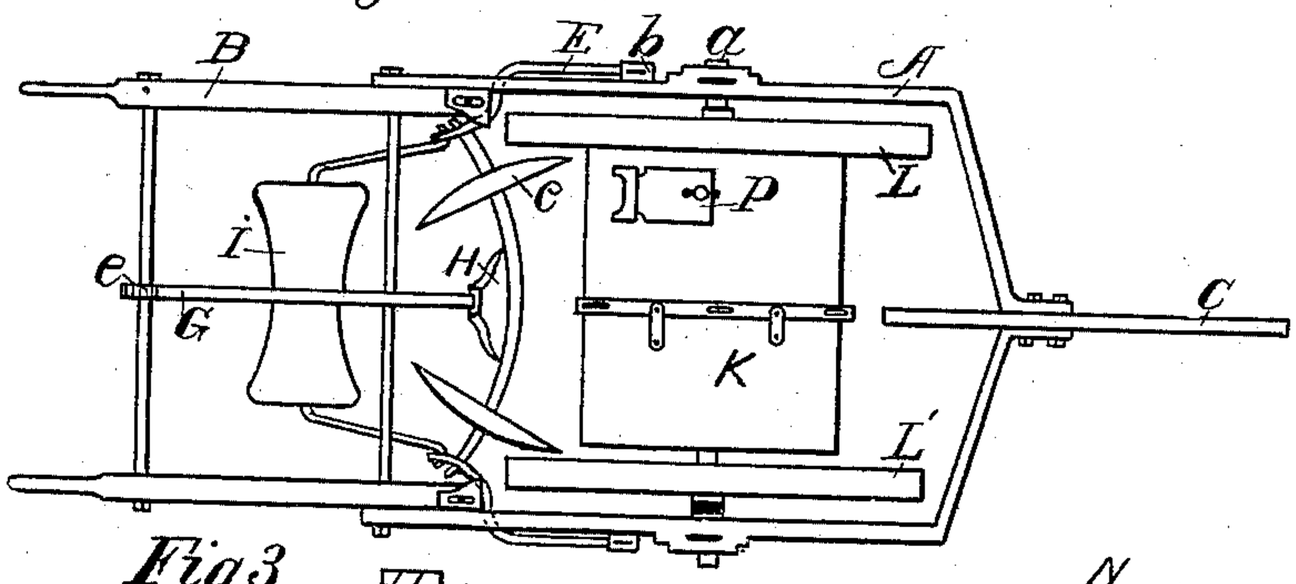


Fig 3

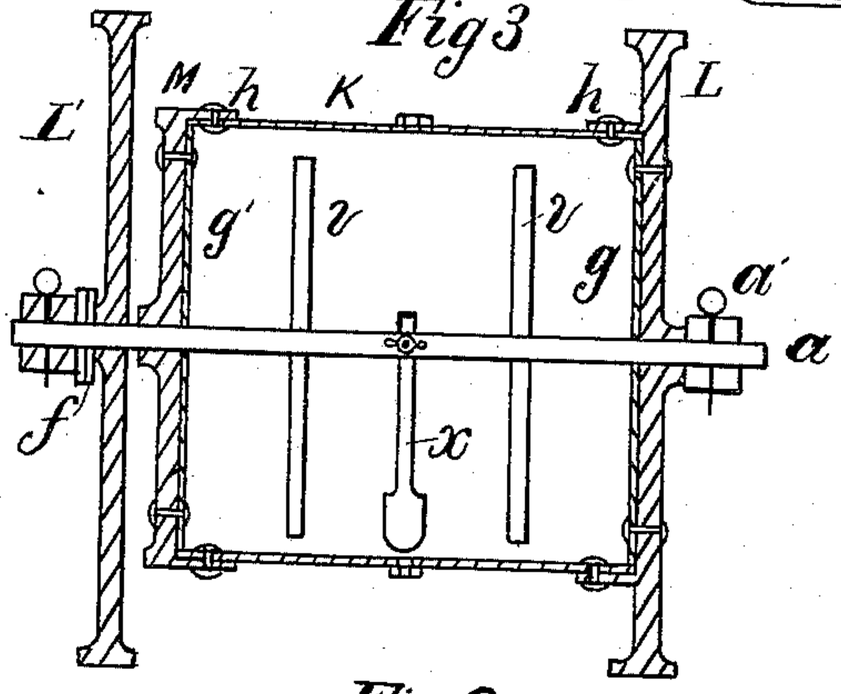


Fig 5

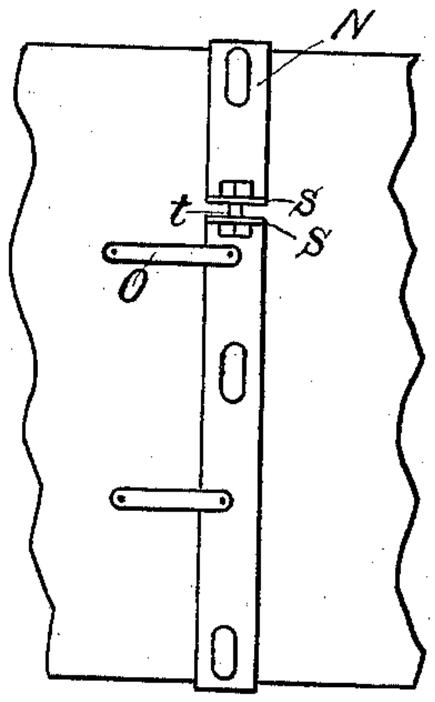


Fig 6

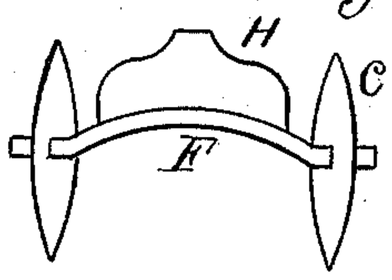


Fig 7

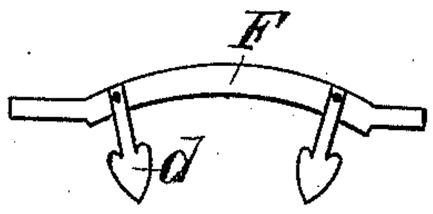
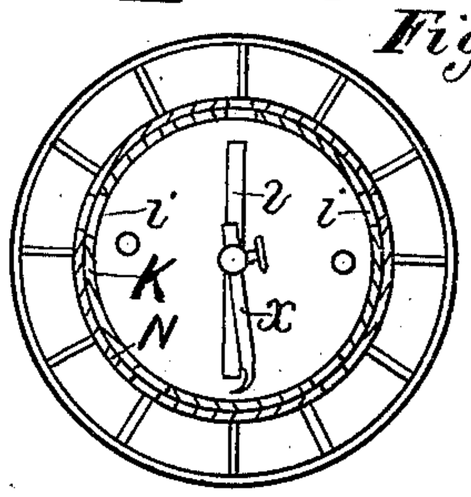


Fig 4



WITNESSES

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UNITED STATES PATENT OFFICE.

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COTTON-PLANTER.

SPECIFICATION forming part of Letters Patent No. 330,440, dated November 17, 1885.

Application filed December 27, 1884. Serial No. 151,289. (No model.)

To all whom it may concern:

Be it known that I, RUSH THOMSON, a citizen of the United States, residing at the city of Atlanta, in the county of Fulton and State of Georgia, have invented certain new and useful Improvements in Cotton-Planters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in cotton-planters, by means of which their action is rendered certain, they being free from defects that have hitherto rendered them at times unreliable, and by which their construction is simplified, so that an effective cotton-planter is produced at a cheaper rate than the best machines heretofore manufactured; and it relates to certain combinations and arrangements of parts for the production of a cheaper and more easily-operated implement, all as hereinafter fully described.

In the accompanying drawings similar letters of reference indicate like parts in the different figures.

Figure 1 is a side elevation of the complete machine. Fig. 2 is a plan of the same. Fig. 3 is a longitudinal section of the seed-drum, showing its construction and the arrangement of its carrying-wheels and internal fittings. Fig. 4 is a transverse section of the same. Fig. 5 shows upon an enlarged scale a portion of the central part of the seed-drum with the band by which the openings in the drum for the passage of seed are enlarged or diminished. Fig. 6 is a plan of the covering wheels or disks with their axle and the removable weight by which the amount of earth thrown upon the seed is increased or diminished. Fig. 7 shows the bar or axle with covering-plows attached. Fig. 8 is an enlarged detail view of the lower end of the beam, showing the elongated opening.

In the several figures, A indicates the side pieces of the frame, which are made preferably of ordinary flat bar-iron bent to the desired form, as indicated in Fig. 2, each being provided with a piece of metal secured to the bar at a proper point by bolts or rivets, which forms the bearing to receive the opposite ends of the axle *a*. If desired, these enlarged parts of the bar may be made by welding an additional piece to the bar at these points, or by forging them in any suitable manner, the object being to strengthen the bars at the point where they receive the axle. The rear portions of the bars A are inclined upward and attached by suitable bolts or rivets to the handles B, by which the machine is guided, suitable cross-pieces being used to connect the handles and stiffen the rear of the frame. The forward portions of the bars A are bent toward each other at nearly a right line to the longitudinal axis of the machine, and when nearly meeting are again turned to a line parallel with said axis, extending for a short distance upon either side of said axis, at which point they are securely fastened to the metallic beam C by suitable bolts. This beam C extends forward from its junction with the side bars, and terminates in a proper clevis-opening for the attachment of the whiffletree or other draft devices. In the rear of its point of attachment to the side bars the beam is curved downward, and terminates at a point near the surface of the earth (when the machine is in use) in a forwardly-projecting end, which is pierced by a slot, through which passes the bolt or other fastening device of the point or plow D, used to open the furrow for the reception of the seed. It will be observed that the position of this plow may be varied by means of the slot to suit the depth of furrow required, as may also the angle of inclination, and, further, that the whole strain of the plow in operation comes directly upon the beam, no part of it being taken by the side bars or other parts of the machine, thus remedying a defect that has been common and of much consequence in the machines having wooden beams as heretofore constructed.

Pivoted to the side bars, A, in the rear of their point of attachment to the axle *a*, are two L-shaped bars, E, their upper ends at the point of attachment to the bars A being provided with a slot, *b*, which allows a free vertical movement to that end of the bars E upon the pivot, enabling the covering disks or plows, which are carried by said bars E, to readily adjust themselves to inequalities of the ground. Suitable orifices in these bars E,

near their rear ends, receive the extremities of a curved cross-bar, F, upon which are placed the covering-disks *c*, or, when the nature of the soil makes them preferable, the plows *d*. These covering-disks have been heretofore used for this purpose, but not, so far as my knowledge extends, in connection with arms having a free vertical motion upon the side bars of the machine, by which their efficiency is greatly increased.

To the cross-bar F is attached a rod, G, which passes upward and through a loop, *e*, upon the upper cross-piece connecting the handles, and terminates in a suitable hand-hold, by means of which the operator may at will raise the covering disks or plows from the ground, they being retained in that position when desired by a pin in the cross-piece within the loop, which enters a hole in the rod G, or any other suitable retaining device may be substituted for these that will accomplish the desired result.

As it sometimes happens in heavy or clay ground that the covering devices themselves have not sufficient weight to cause them to take a proper hold of the earth, I have devised a removable block or weight, H, which is secured to the rod G by a single bolt, resting when in use upon the bar F, to which it conforms in shape. Thus by having blocks of different weights the operator may give to the covering devices just that hold upon the earth needed to cover the seed to a proper depth.

Attached by links or a swinging bail to the rear ends of the bars E is a roller, I, which slightly compresses the soil upon the seed, and by its concave form leaves the ridge rounded or convex, which form experience has taught to be the best for the germination and growth of the young plant, as it is prevented from receiving injury from an accumulation of water in the furrow, which would be the case were it left in the opposite condition or hollow. The ends of the axle *a* pass through enlargements of the side bars, as heretofore stated, and are secured therein and held from rotation by the pins *a'*, which pass through the bars and axle, holding the latter firmly in place, but yet allowing it to be readily removed when desired for any purpose.

Upon the axle *a* revolves the seed-drum K and carrying-wheels L and L'. These wheels are of greater diameter than the drum, and thus carry the latter at a suitable distance above the ground to prevent contact therewith. Both wheels are loose upon the axle, the wheel L' being held in position by its hub coming in contact upon one side with the end of the seed-drum K, and at the other with one of the side bars A. Washers *f* may be inserted on either side of the hub to adjust its position and relieve friction, if desired. The wheel L has its hub against one of the side bars on the outer side, but to the other is secured by bolts or rivets the head *g* of the seed-drum. The drum is still further secured to this wheel by rivets which pass through projecting lips *h* on the side of the wheel and the periphery of the drum. This periphery is a band, preferably of sheet-iron, and is pierced circumferentially by a series of elongated openings, *i*, through which the seed is emitted. The opposite end, *g'*, of the drum is secured by rivets to a strengthening-plate, M, which is also provided with ears *h*, and attached to the periphery by rivets passing through both. This strengthening-plate is provided with an elongated hub upon the outer side, which forms the bearing for one end of the seed-drum upon the axle, the opposite end being carried by the wheel L. As it often becomes necessary to partly close the openings *i* in the drum to prevent the too free emission of seed, a band, N, is provided, which encircles the drum, and is connected therewith by a series of bars, *o*, pivoted at one end to the periphery of the drum, and at the other to the band. By this means a perfectly parallel movement is secured for the covering-band N in adjusting it to cover more or less of the openings *i* in the drum, thus insuring an equal size to all the openings and an equal distribution of seed without loss of time in adjusting the covering-band.

In order to hold the covering-band firmly in position when adjusted, the ends of the band are provided with projecting ears *s*, through which passes a bolt, *t*, by means of which the two ears, and consequently the two ends of the band, are drawn toward each other, causing the band to tightly embrace the drum and be held firmly in any desired position. A suitable door, P, is formed in the side of the drum, which gives admission to its interior for the purpose of introducing the seed and arranging the devices within. These devices within this seed-drum K are as follows: Secured to the stationary axle *a* are rods *v*, which keep the cotton-seed stirred up and prevent it from matting together, which renders it liable to revolve with the drum and not pass out of the apertures, as it should, to properly deposit the seed. In order to compel its emission at the proper time, an ejector-rod, *x*, of peculiar form, is adjustably attached to the axle, which forces the seed through the orifices of the drum; but as this ejector-rod and the revolving drum form the subject of a separate application for patent a more minute description of their construction and operation is here considered unnecessary.

It will be apparent that the whole forms an excellent apparatus to accomplish the purpose for which it is designed, possessing great strength at the points needed, and that its general design is such as to insure simplicity and cheapness of construction.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, the following:

1. In a cotton-planter, the beam C, having a downwardly-curved rear end provided with

an elongated slot to receive the bolt which secures the adjustable plow D, and a transverse opening at its forward end to serve as a clevis, in combination with side bars, A, fixed axle-wheel L, attached to and carrying drum K, and wheel L′, revolving independently on the axle, all arranged and operating as set forth.

2. In a cotton-planter, the side bars, A, and arms E, provided with slots *b*, sliding upon studs secured to the side bars, in combination with the curved bar or axle F, covering-disk, adjusting-rod, and movable weight H, arranged and operating substantially as shown and described.

3. In a cotton-planter, the wheel L, attached to and carrying the seed-drum K, in combination with the independently-revolving wheel L′, and fixed axle *a*, all constructed and arranged as and for the purpose shown and described.

4. In a cotton-planter, the combination of the stationary axle secured to the side bars by pins *a′*, with the wheels L and L′, the latter secured to the seed-drum and revolving therewith, all arranged and operating in the manner and for the purpose set forth.

5. The seed-drum, in combination with the adjustable band and the bars pivoted to said band and to the drum, which cause the band to move upon the drum in parallel lines, substantially as set forth.

6. The revolving seed-drum K, pierced with holes *i*, in combination with the band N, having ears *s* and tightening-bolt *t* and the pivoted bars *o*, all arranged to enlarge or diminish the area of said openings *i*, substantially as specified.

In testimony whereof I affix my signature in presence of two witnesses.

RUSH THOMSON.

Witnesses:

THOMAS L. COOPER,

H. P. BLOUNT.