3 Sheets—Sheet 1.

J. KLAR & H. S. DIXON.

CHECK-ROW PLANTER.

No. 169,361. Patented Nov. 2, 1875.

Fig. 1.

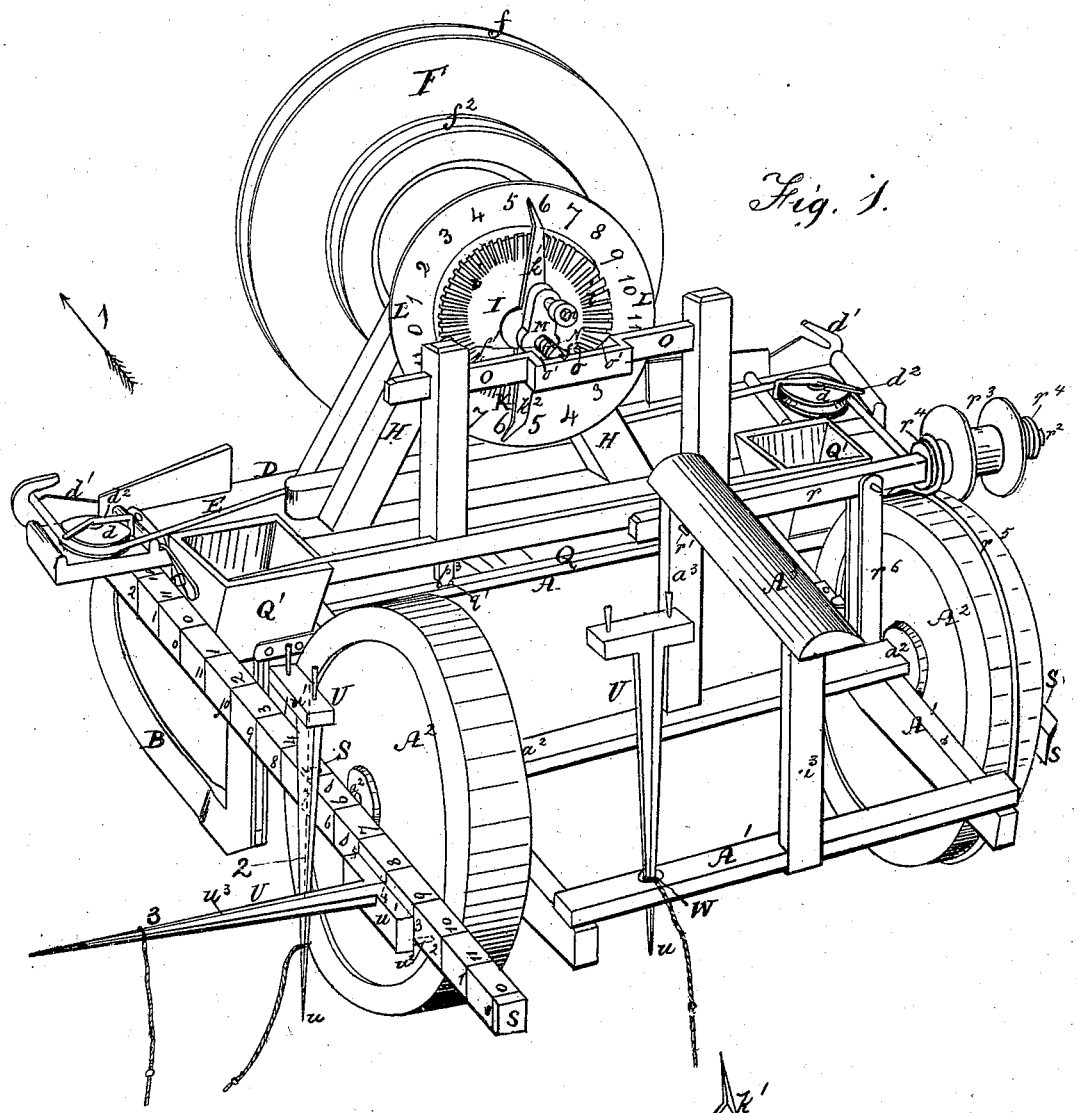
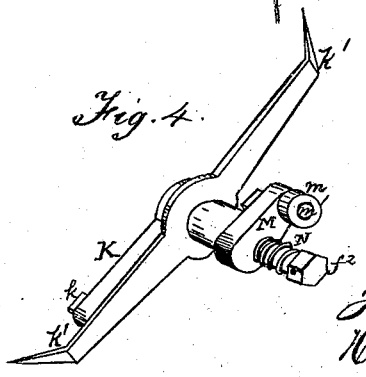


Fig. 4.



WITNESSES:

Colborne Brookes

Geo. H. Borger

Joseph Klar

Hasty S. Dixon

INVENTORS

Per R. S. & A. P. Lacey

ATTORNEY.

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Fig. 2.

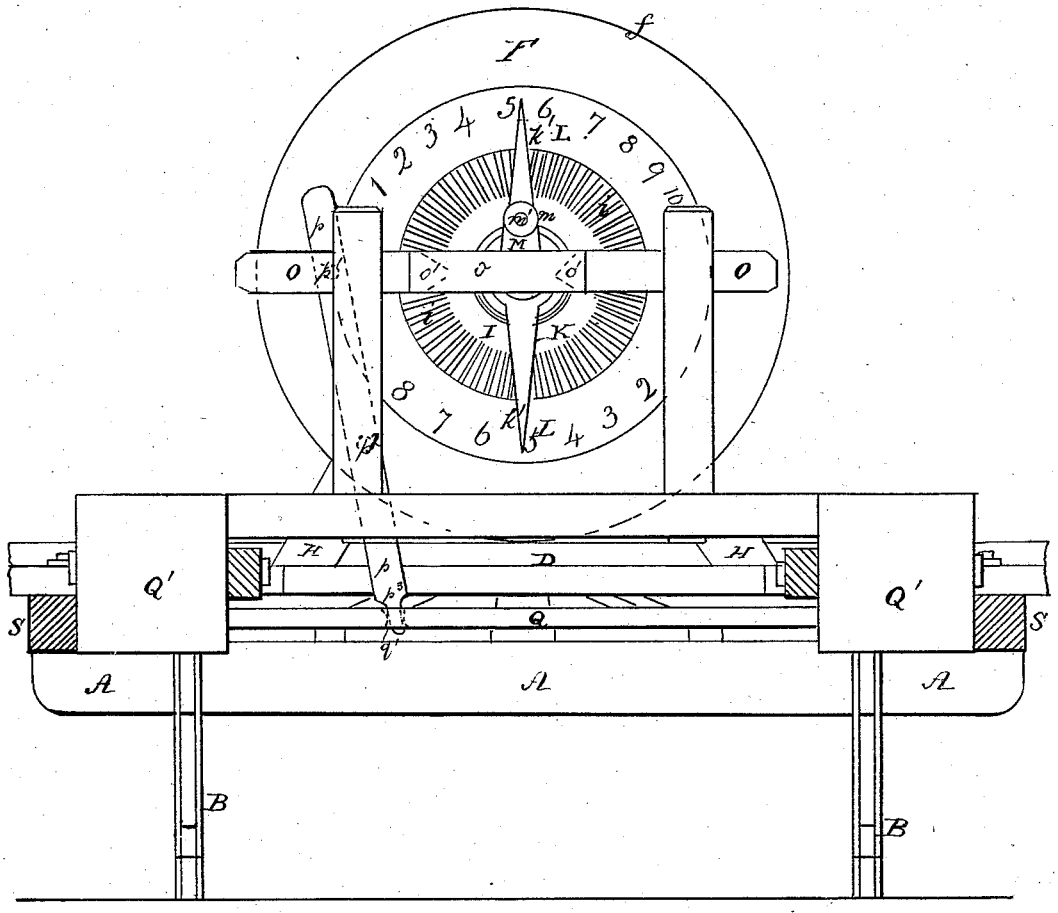
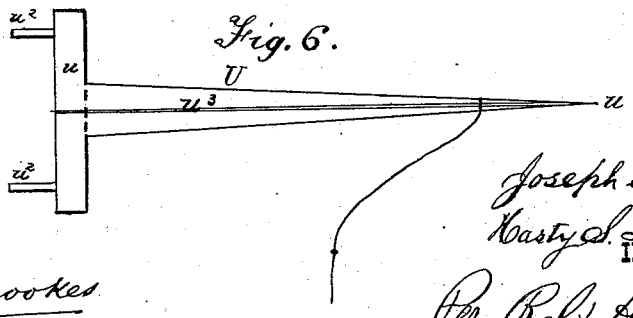


Fig. 6.



WITNESSES:
Colborne Brookes
Geo. H. Borgen

Joseph Klar
Harry S. Dixon
INVENTORS
Per R.S. & A. Lacey
ATTORNEY

3 Sheets—Sheet 3.

J. KLAR & H. S. DIXON.

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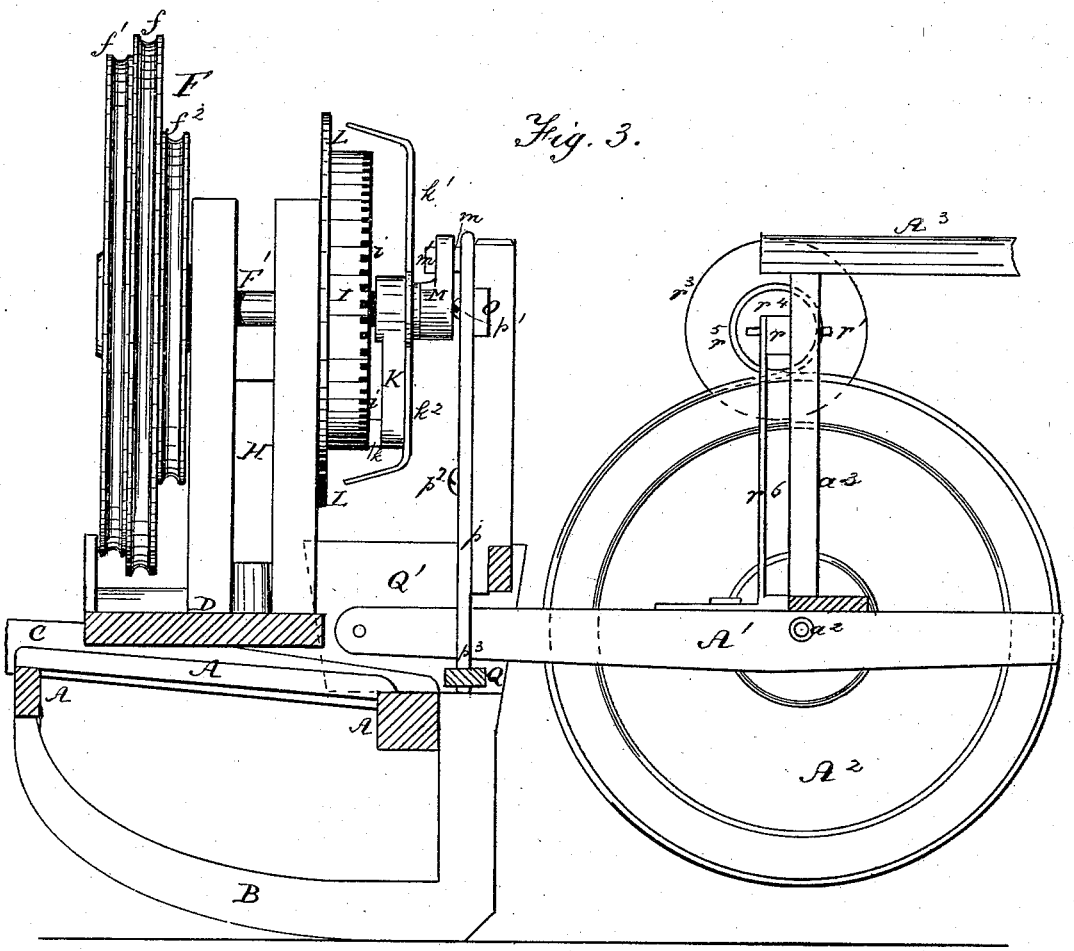
Fig. 3.



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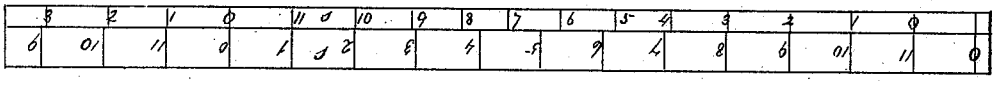
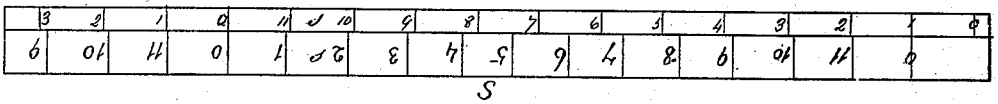


Fig. 5.



S

WITNESSES:
Colborne Brookes
Geo. A. Borger

Joseph Klar
Hasty S. Dixon
INVENTORS

Per R. S. & A. P. Lacey
ATTORNEY.

UNITED STATES PATENT OFFICE.

JOSEPH KLAR AND HASTY S. DIXON, OF SHELBYVILLE, ILLINOIS.

IMPROVEMENT IN CHECK-ROW PLANTERS.

Specification forming part of Letters Patent No. **169,361**, dated November 2, 1875; application filed August 13, 1875.

To all whom it may concern:

Be it known that we, JOSEPH KLAR and HASTY S. DIXON, of Shelbyville, in the county of Shelby and State of Illinois, have invented certain new and useful Improvements in Check-Rowers; and we do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawing, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to an improved device capable of being applied to any ordinary corn-planter, provided with drop-boxes, and having sliding or other suitable valves, whereby such corn-planters may be converted into what are commonly known as check-row corn-planters, in which a check-row cord is employed as the means for regulating the times at which the corn shall be dropped; and my invention relates to the employment of mechanism, operated by a rope or cord, for regulating the dropping of the corn; the dropping devices; the means for regulating or adjusting the dropping mechanism and squaring the machine, in order that when the apparatus is turned round, after dropping in one direction, it shall correctly drop its corn when going in the opposite direction; and, lastly, to the means for automatically winding up the check-row cord when the apparatus has finished work, the nature of which will be fully explained by reference to the drawings.

Figure 1 represents a perspective view, Fig. 2 a back view, partly in section, Fig. 3 a horizontal section, and Figs. 4, 5, and 6, detail views of parts, of a corn-planter with my improvements applied thereto.

In each of the views similar letters of reference are employed to indicate corresponding parts wherever they occur.

A represents the ordinary frame of a corn-planter, which is mounted upon runners B, and provided with a tongue or pole, C, and suitable draft-connections for the horses or other animals. D represents a platform supported by the frame A, upon the ends of which are mounted the pulleys d d and fenders d^1 d^2 for guiding the check-row cord E to and from the apparatus. F is a graduated pulley, around which the check-row cord E passes. This pulley F is provided with a series of grooved rims of different diameters, according to the different distances at which the hills are required to be dropped. The wheel F is mounted on an axle, F′, supported by a bracket, H, carried by the platform D. On the axle F′, at the rear of the bracket H, is mounted a revolving notched wheel or plate, I, with which engages a projection, k, from an arm, K, which is capable of revolving freely on the end f^1 of the axle F′ when the projection k is disengaged from the notches i of the wheel or plate I, as hereinafter explained. The arm K is provided with hands or pointers k^1 k^2, projecting over a dial, L, affixed to the rear face of the bracket H, around the axle F. M is a crank-arm, formed on or affixed to the arm K, and revolving with it on the end of the axle F′. The crank-arm M is provided with a pulley-wheel, m, mounted on an axle, m', capable of adjustment in the arm M, for the purpose of giving greater or less throw to the pulley-wheel m. Pulleys of greater or less diameter may be employed in place of adjusting the position of the axle m', and cams or tappets may be employed in place of the crank-arm M and pulley-wheel m, for the purpose of actuating the bar O. N is a spiral spring surrounding the end f^1 of the axle F′, and resting at one end against a collar or projection, f^2, while its opposite end bears against the rear face of the crank-arm M, for the purpose of pressing the arms M and K forward, so that the projection k may be kept engaged with the notches i, except when such arms are withdrawn, as hereinafter explained.

O is a sliding bar, bent or otherwise formed with a recess, o, for the passage of the crank-arm M and pulley m, and also to provide bearing-surfaces o' o', against which the friction-pulley m shall alternately come in contact, in order to drive the bar O to and fro for the purpose of actuating a lever, p, to which it is connected by pin-joint p^1, so that the lever p shall turn on its axis p^2, and by means of its end p^3 passing into a slot, q', or being otherwise suitably connected to the slide-bar Q,

the ends of which are provided with suitable valves or openings for regulating the dropping of the corn from the hoppers Q'. A^1 is a supplementary framing mounted on wheels A^2 A^2, revolving on axes a^2 a^2. A^3 is the driver's seat, supported on uprights a^3 a^3, carried by the framing A^1. To the forward upright a^3 is connected, by pin or other suitable joint r^1, one end of an arm, r, the opposite end of which is provided with an axle, r^2, on which is mounted a reel, r^3, provided with external fixed pulleys r^4, capable of being used alternately to drive the reel r^3, either by means of frictional contact with one of the driving-wheels A^2, or by means of a cord or band, r^5, passing round one of the fixed pulleys r^4, and one of the wheels A^2, as shown by Fig. 1. S S are a pair of rods or bars, supported horizontally by the framing A and platform D. These rods or bars are arranged parallel to each other, and extend from the under side of the platform D back in rear of the machine, and they have provided on their sides a series of scales, s, having divisions corresponding with the divisions on the dial. The scales s on each rod S are arranged in pairs, and the divisions of each pair on each rod S are numbered from the reverse ends of the rods S, and there should be as many pairs of scales on each rod S as there are grooved rims f on the pulleys F of different diameters.

In the drawings we have shown only two sets of scales to the rods S; but such number may be increased or diminished at will to correspond with any given number of rims f on the pulley F, the circumferential measurement of the rims f f^1 f^2 representing twice the distances apart at which it is desired the corn shall be dropped, the scales on the rods S being arranged in pairs of corresponding lengths equal to half the circumferential measurement of the rims $f f^1 f^2$; but each scale is divided into the same number of divisions as the dial L, the numbering of the divisions on each pair of scales commencing and terminating at a point on a line with the center of the valves of the drop-boxes.

U is a T-square, formed with a pointed end, u, for the purpose of marking the position of the last hill dropped in any direction in order to facilitate the correct starting of the machine on the return bout, and with a stock, U', for the purpose of squaring the machine on starting, so as to regulate the positions of the next hills to be dropped. This square is supported and carried (when not in use) in a socket, W, formed in the frame A^1.

The operation of the apparatus is as follows: Supposing the apparatus to be in the position shown by Fig. 1, and being drawn in the direction indicated by the arrow 1, the field having been planted on the right of the machine, and the check-row cord passed round one of the rims f, and then staked across the field in the ordinary manner, the check-row cord E, in the progress of the machine, will be drawn across the platform D and cause the revolution of the pulley F, and, in so doing, by means of the pulley m on the end of the crank-arm M operating the slide O, cause the dropping of corn from the boxes Q' at each half-revolution of the crank-arm M. When the machine has arrived at the extremity of the field the driver drops the pointed end of the square u into the ground at the last hill dropped, the position of the last hill being indicated by the number at which the hands k^1 stop. All he has to do is, therefore, to find the position on the scale of the bar S (corresponding with the rim f for the time in use) indicated by the hands, and drop the point of the square U into the ground at a point vertically under the figure of the scale corresponding with the figures on the dial, and the position of the last hill dropped will be indicated. Supposing the machine to be stopped in the position shown by Figs. 1 and 2, with the hands at 5, all he will have to do will be to drop the point of the square U vertically opposite the figure 5 on the top side of the bar S, as indicated at 2 in Fig. 1, thereby indicating that the corn-boxes have traveled five spaces from the point at which the last hills were dropped, and that the machine will have to drop its corn at a distance of five spaces from the line at which it stopped, or a distance of five spaces plus a multiple of the distance between the hills, in order that the succeeding hills may be in a line with those previously dropped. The machine is then turned round and set in position to drop its corn in hills in rows parallel with the last rows dropped. When the machine is turned the operator takes up the square U and places the stock u^1 against one of the rods S, with the pins u^2 resting against the under side of the rod, as indicated at 3 in Fig 1, on the side of the apparatus opposite the last hill dropped, in such manner that the central line u^3 and point u shall be in a line with the last hill dropped. By this means he ascertains the exact position of the drop-boxes in relation to the last hill, and sets the hands k^1 so that the apparatus shall drop accordingly. Supposing the center line of the square U to indicate that the drop-boxes are eight spaces ahead of the last row; it will show that the next hills must be dropped at a distance represented by four spaces on the scales of the rod S. He therefore withdraws the arms M K and sets the hands so that the crank-arm M shall only have to traverse a distance equal to four spaces on the dial L before the next dropping of corn takes place. The apparatus will then continue to drop corn in hills at equal spaces apart until it arrives at the opposite end of the field, when the operations of turning and adjusting will be again repeated. When the field has been fully sown, one end of the check-row cord E is placed around the reel r^3, and the apparatus driven forward, when the whole of the check-row cord E will be drawn up onto the reel r^3 with great facility, the reel r^3, with its arm r and bearing r^6, being shifted to either

side of the apparatus according to which side of the same the cord lies on the last bout.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a corn-planter, the wheel F, operated by a check-row cord or rope and mounted on an axle, plate, or wheel, I, index-arm K, and a valve-operating crank or device, M, in combination with bars S, provided with scales, substantially as and for the purpose described.

2. The combination, in a corn-planter, of an adjustable valve-actuating device, wheel F, check-row cord, and rods or bars S, provided with scales, as described, with the T-square U, substantially as and for the purpose described.

3. The combination, in a corn-planter, of the check-row cord reel r^3, provided with pulleys r^4 with supporting and driving-wheel A^2, substantially as described.

4. In a corn-planter, the combination, with the pulley F, axle F′, plate or wheel I, and a stationary index-dial, L, of a valve-operating arm or cam surface provided with index hands or pointers, and capable of being connected to and disconnected from the plate or wheel I, substantially as and for the purpose described.

5. In a corn-planter, the combination, with a pulley, F, plate or wheel I, stationary index-dial L, index-arm K, and crank arm or surface M, of the sliding bar O, lever *p*, and slide-bar Q, substantially as shown and described.

In testimony that we claim the foregoing as our own we affix our signatures in presence of two witnesses.

JOSEPH KLAR.
HASTY SELBY DIXON.

Witnesses to signature of JOS. KLAR:
GEO. H. BURGER,
W. BURRIS.

Witnesses to signature of H. S. DIXON:
G. W. FOWKE,
W. A. COOK.