(No Model.)

4 Sheets—Sheet 1.

S. I. BAILOR.

TWO ROW CULTIVATOR.

No. 571,146. Patented Nov. 10, 1896.

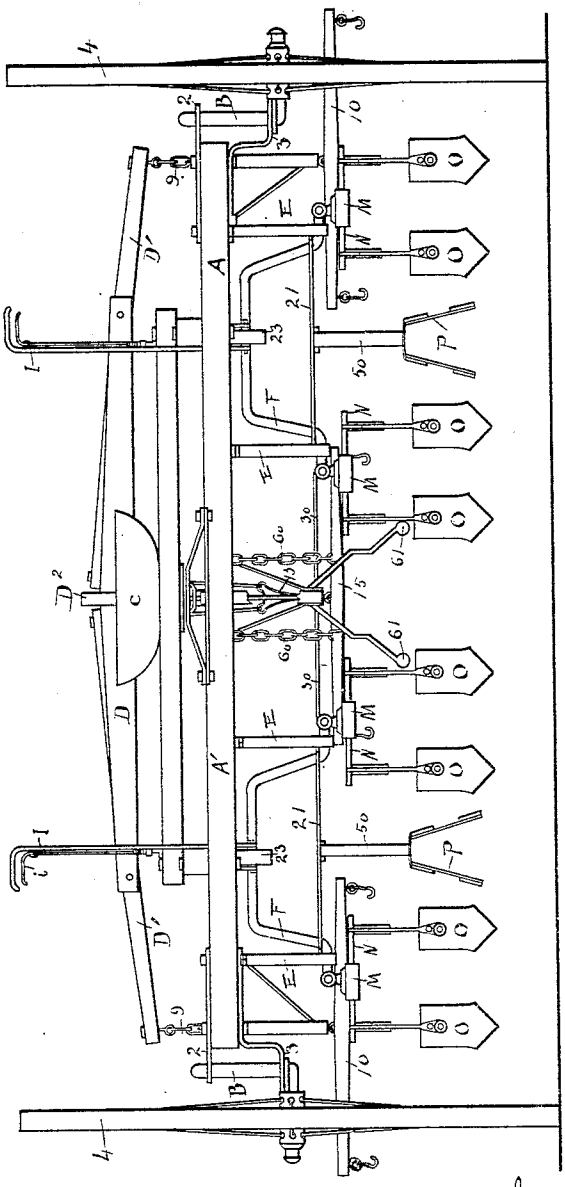

FIG. 1

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Silas I. Bailor

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(No Model.) 4 Sheets—Sheet 2.

S. I. BAILOR.

TWO ROW CULTIVATOR.

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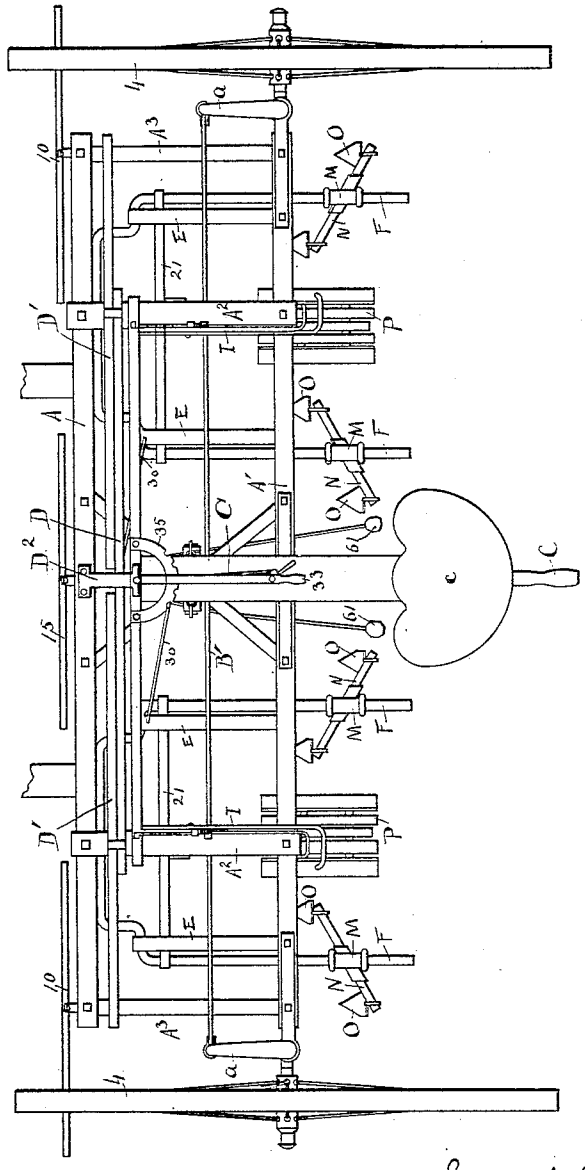

FIG. 2

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S. I. BAILOR.

TWO ROW CULTIVATOR.

No. 571,146 Patented Nov. 10, 1896.

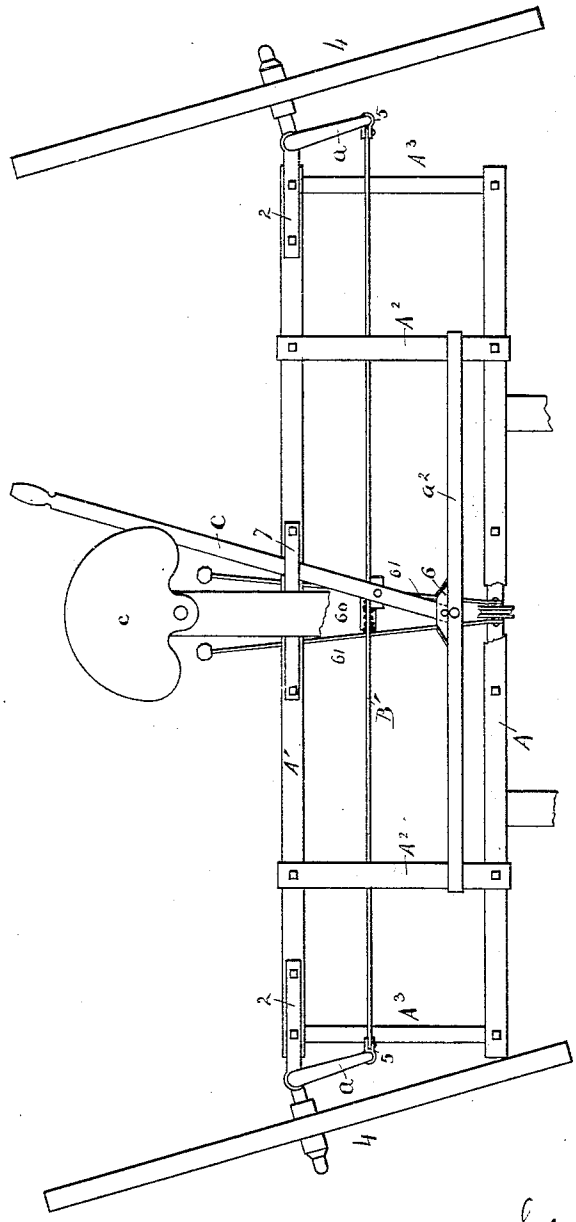

FIG. 3

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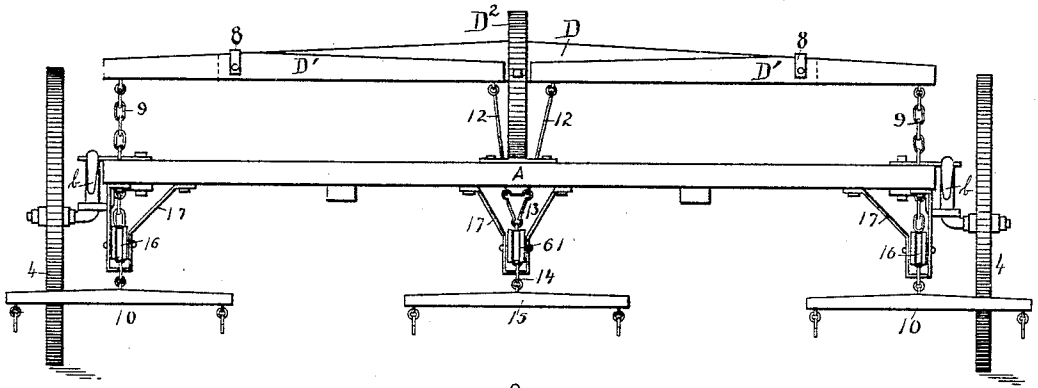
(No Model.) 4 Sheets—Sheet 4.

S. I. BAILOR.

TWO ROW CULTIVATOR.

No. 571,146. Patented Nov. 10, 1896.

Fig. 4



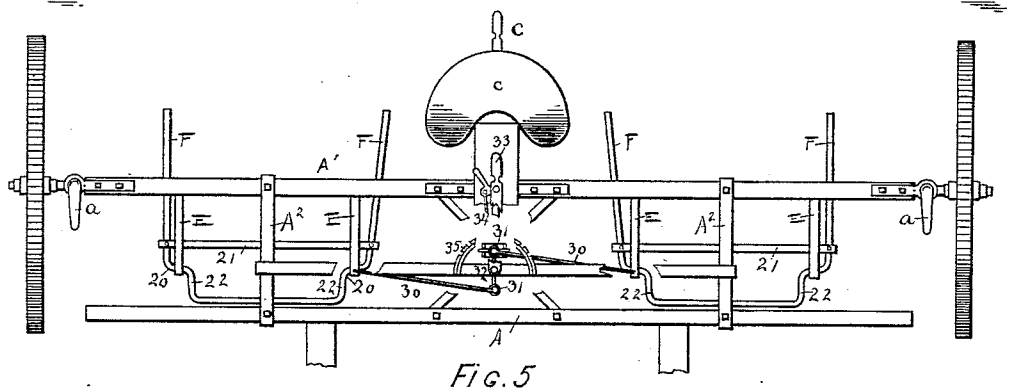


Fig. 5

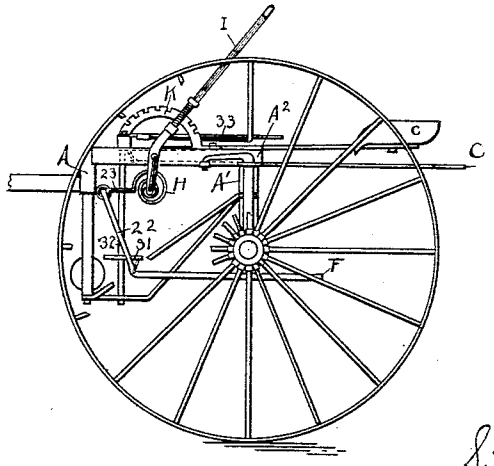


Fig. 6

WITNESSES:

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ATTORNEY.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

SILAS I. BAILOR, OF GENEVA, NEBRASKA.

TWO-ROW CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 571,146, dated November 10, 1896.

Application filed June 13, 1894. Renewed April 9, 1896. Serial No. 586,880. (No model.)

To all whom it may concern:

Be it known that I, SILAS I. BAILOR, of Geneva, in the county of Fillmore and State of Nebraska, have invented certain useful Improvements in Two-Row Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to a new and novel two-row cultivator, the object being to provide a cultivator by means of which two rows of plants may be simultaneously cultivated.

In the accompanying drawings, Figure 1 shows a rear view of a cultivator embodying my invention. Fig. 2 is a top view thereof. Fig. 3 shows a detail more clearly illustrating the wheel adjustment. Fig. 4 shows a front view in detail of the draft-equalizer. Fig. 5 shows a detail, with parts removed, of the shifting mechanism, while Fig. 6 is an end view, with parts removed, illustrating the raising and lowering mechanism of the cultivator-blades.

A′ represents the main sill of my improved cultivator, which is provided at the end with the projecting iron arms 2 and 3, by means of which the crank stub-axles B are secured to the sill A′. These stub-axles B are provided with two suitable supporting-wheels 4 4. These crank-axles are provided with the forwardly-extending arms *a*, as shown in Fig. 5, which terminate in a downwardly-extending stem *b*, as shown in Fig. 4. These downwardly-extending stems *b* are further connected by means of a transverse rod B′, as clearly shown in detail in Fig. 3. This rod B′ is provided at each end with a clip 5, by means of which this rod B′ is secured to the downwardly-extending stems *b*. Secured to the colter-frame, which comprises the sills A A′ and the bars A^2 and A^3, is an auxiliary bar a^2, which is provided with a shackle 6, movably holding one end of an operating-lever C. This lever C extends rearwardly and below the driver's seat *c*, and is further guided by the strap 7, which aids in movably holding this operating-lever C to the colter-frame.

Now if in operating the colter it is at any time desirable to change the direction of the same it is simply necessary for the operator to actuate the lever C to either one direction or the other, so as to impart a change of position to the wheels 4, as will be clearly understood in referring to Fig. 3. Secured to the forward end of the colter-frame is a draft-equalizer comprising the main centrally-pivoted bar D and the two auxiliary bars D′, which are movably and pivotally connected to the ends of the bar D by means of the shackles 8, as will be noticed by referring to Fig. 4.

In operating my two-row cultivator it is desirable to use at least three draft-animals, and to provide an equal division of labor I have arranged a draft-equalizer, as shown. The two end auxiliary bars D′ are pivoted approximately one-third the distance from the ends and at their outer ends are connected by means of the chain 9 to the singletrees 10 10. At the inner ends these auxiliary levers D′ D′ are connected by means of the rods 12 12 to a union 13, which union in turn is connected by means of the chain 14 to the central singletree 15, as will be noticed in referring to Fig. 4. Each of the chains 9, 9, and 14 passes over and is guided by a similar grooved pulley 16 16, which pulleys are held within the iron frame 17, secured to the forward sill A. The bar D is supported by means of an inverted approximately U-shaped iron stirrup D^2, as shown in Fig. 2.

Secured to the colter-frame in front are four depending arms E, which give support to the share-frame F, as is more clearly shown in Fig. 1. These share-frames form three sides of an ordinary rectangular frame, with the exception that near the ends they are provided with the angular portions 20 20, and it is by means of these angular portions that the rods E are secured to the colter-frame, as will be noticed in referring to Fig. 5. These colter-frames are further strengthened by means of the transverse bars 21. These share-frames F are further provided near the curved portion 20 with the downwardly-depending portions 22 22, as shown more clearly in Fig. 6. Centrally these colter-frames are provided with a scroll-spring H, having an extending stem 23, by means of which stem this scroll-spring is centrally con-

nected to the share-frame F. The end of the scroll-spring is secured to the depending end of the adjusting-lever I, which lever is pivoted near its lower end to the transverse bars A^2, as shown. These levers each have a spring-actuated locking-bar *i*, which is adapted to lock into and engage the quadrant K, so that this lever I may be secured at any suitable angle. This lever I is provided for the purpose of adjusting the share-frame F.

If it is desired to raise the share-frame, it is simply necessary to depress the lever I, or if it is desired to lower the share-frame the lever I is raised. This offers a nice adjustment for the plowshares, so that they can be given suitable direction in operating the colter. When the shares, which are secured to the free ends of the share-frame F, engage an obstruction in the form of a rock, stump, or anything of that kind, the colter-frame is permitted an upward movement independent of the lever I by virtue of the compensating scroll-spring H, as will be more clearly understood in referring to Fig. 6. Secured to the colter-frames are further two metallic rods 30 30, which rods are secured at their inner ends to two outwardly-extending arms 31 31 of the operating-bar 32. This bar 32 is provided with the operating-lever 33 and the locking-bar 34, which works into the quadrant 35, so that this locking-lever 33 can also be locked at any desired position. Now as these colter-frames are suspended and held simply by means of the bars E, which bars E are movably secured at the top and bottom to the colter-frame *a* and the share-frames, these frames F can be shifted laterally, so as to bring them together or force them apart, as desired. Each arm of the share-frame F is further provided with a sleeve M, which sleeve M is provided with a bar N, passing at an angle thereto through said sleeve and provided at each end with the shares O. These sleeves M are adjustably held upon the share-frames F and can be longitudinally adjusted thereon as well as radially. The shares O are also adjustable upon the rods N, as will be understood by referring to Fig. 2. Secured to the transverse rods 21 21 by means of the bars 50 are the fenders P, as is more clearly shown in Fig. 1, which are supposed to pass over the plants and prevent the dirt and clods from falling on and injuring them while the colter is being used.

To facilitate the guiding of the cultivator, which is accomplished entirely by means of the pivoted main supporting-wheels 4, directly controlled by means of the operating-lever C and transverse bar B′, which bar is secured at each end to the extending arms secured to the wheels 4, I provide two pivoted bars 61 61, which extend below the seat and upon which the driver is supposed to keep his feet while being seated in the seat *c*. These pedal-bars 61 61 are pivotally secured to a bar of the colter-frame and by means of the chains 60, which chains at their upper ends are secured to the transverse bar B′, as shown in Fig. 3. Now if either of these pedal-bars 61 is raised or depressed the rod B′, as well as the connected operating-lever C, is shifted from side to side, so that the wheels can be operated by means of the feet independent of the bar C. This bar, however, is adapted to be used when the operator prefers to walk behind the colter, when he can readily grasp this operating-lever C and so guide and direct the colter.

It will be noticed that by the arrangement of my instrumentalities as shown the shares O can be, first, given vertical adjustment by means of the operating-levers I I, and the several sets of shares can, secondly, be given an adjustment relative to one another, so that if in working and using the cultivator the plants should not be positioned in a straight line the shares can be carried apart or brought together practically instantly by means of the operating-lever 33. The colter is further guided and kept in a straight line by means of the controllable crank-axles and the connected lever and pedals.

Now, having thus described my said invention, what I claim as new, and desire to secure by United States Letters Patent, is—

1. In a steering mechanism for cultivators, the combination of the colter-frame, A, A′, A^2, A^3, provided with the shackle-bars, 2, 2, and 3, 3, of the pivoted stub crank-axles, B, B, provided with the wheels, 4, said axles being provided with the downwardly-extending arms, *b*, *b*, of the transverse rod, B′, securing said arms, *b*, *b*, of the lever, C, above said colter-frame and connected centrally to said transverse rod, B′, of the pedal-bars, 61, 61, pivotally secured to the colter-frame and connected by means of chains, 60, to said transverse rod, said wheels being actuated by means of said pedal-bars and main operating-lever, all substantially as and for the purpose set forth.

2. In a wheeled cultivator the arrangement of a three-horse draft-equalizer comprising the combination of the following instrumentalities: the upwardly-extending shackle D^2, secured to the colter-frame, the movable bar, D, pivotally held within said shackle and provided at each end with the auxiliary pivoted bars, D′, secured approximately one-third the distance from their ends to the ends of said main bar, D, the brackets, 17, 17, secured below the colter-frame, one centrally and the other two one at each end, the pulleys, 16, 16, working within said brackets, the bars, 12, 12, secured to said auxiliary bars at their inner ends and being united by means of a union, 13, provided with the chain, 14, and the chains, 9, 9, at the outer ends of said bars, D′, D′, said chains, 9 and 14, being provided with the singletrees, 10, 10, and 15, all substantially as and for the purpose set forth.

3. In a two-row two-wheeled cultivator the combination with a suitable colter-frame of

two adjustable two-armed share-frames secured to said colter-frame, said two-armed share-frames being adjustably held and provided with a spring-arm extending outward, an adjusting-lever movably secured to said spring-arm, each arm of said share-frame being provided with an adjustable sleeve, said sleeve being longitudinally and radially adjustable upon the arm of said share-frame, each sleeve being provided with a bar extending at an angle to said sleeve and provided at each end with a plowshare adjustably held upon said bar so that each share-frame gives support to four adjustable shares, a bar securing the arms of said share-frame and provided with a suitable clod-fender positioned between said arms, all substantially as and for the purpose set forth.

4. In a two-row wheeled cultivator the combination with a suitable supporting-frame and controllable supporting-wheels, of the two-armed share-frames, F, F, suspended by means of the bars, E, of the spring-arm, 23, secured centrally to said share-frames, the adjusting-lever, I, secured to said arm, 23, and controlling the adjustment of said share-frames, F, F, in a vertical plane, the operating-bar, 32, provided with the stub-arms, 31, 31, and the connecting-bars, 30, 30, securing said arm, 31, and one of the bars, E, and the operating-lever, 33, secured to said bar, 32, so that said share-frames, F, F, can be adjusted in a horizontal plane relative to one another, all substantially as and for the purpose set forth.

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

SILAS I. BAILOR.

Witnesses:
GEO. F. ARNOLD,
H. R. WILSON.