

No. 690,010.

Patented Dec. 31, 1901.

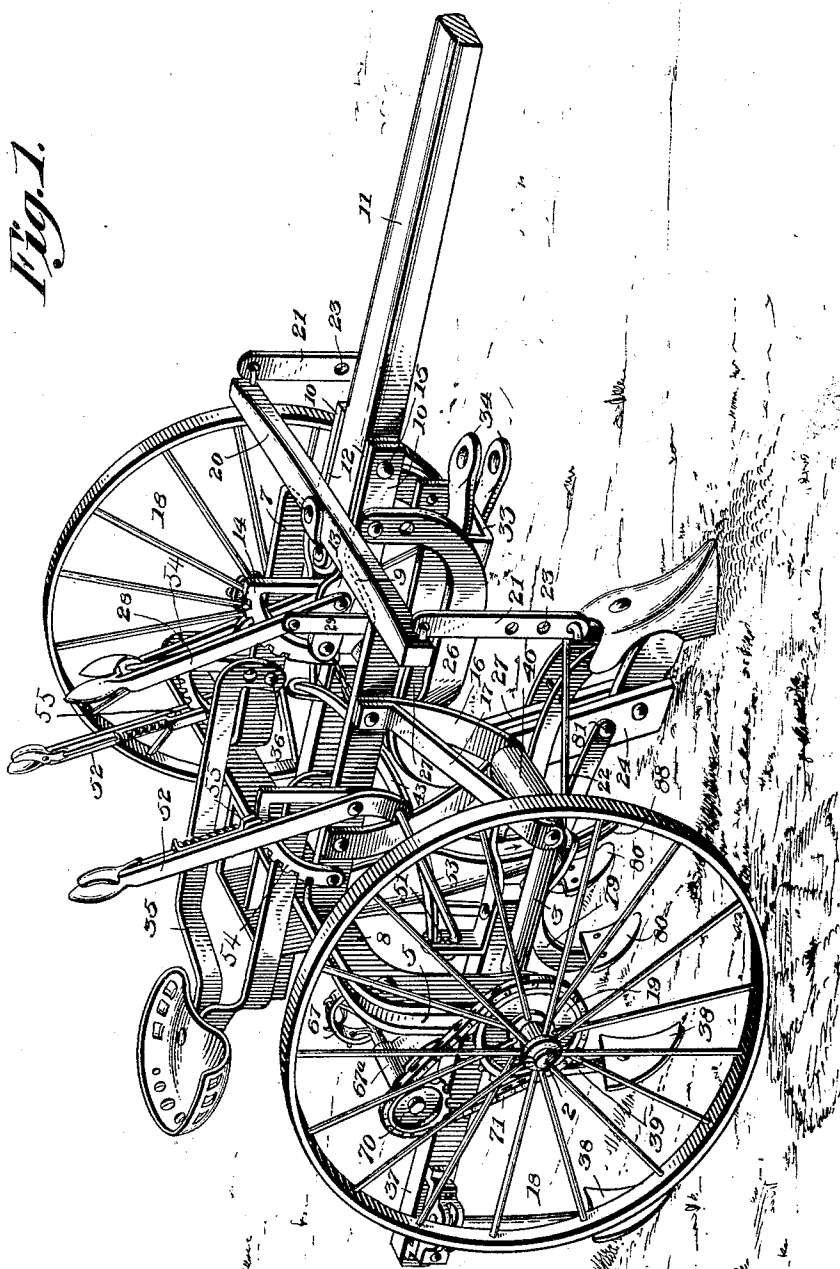
B. J. BIGLER.

WHEEL CULTIVATOR AND PLANTER ATTACHMENT THEREFOR.

(Application filed June 29, 1901.)

(No Model.)

3 Sheets—Sheet 1.



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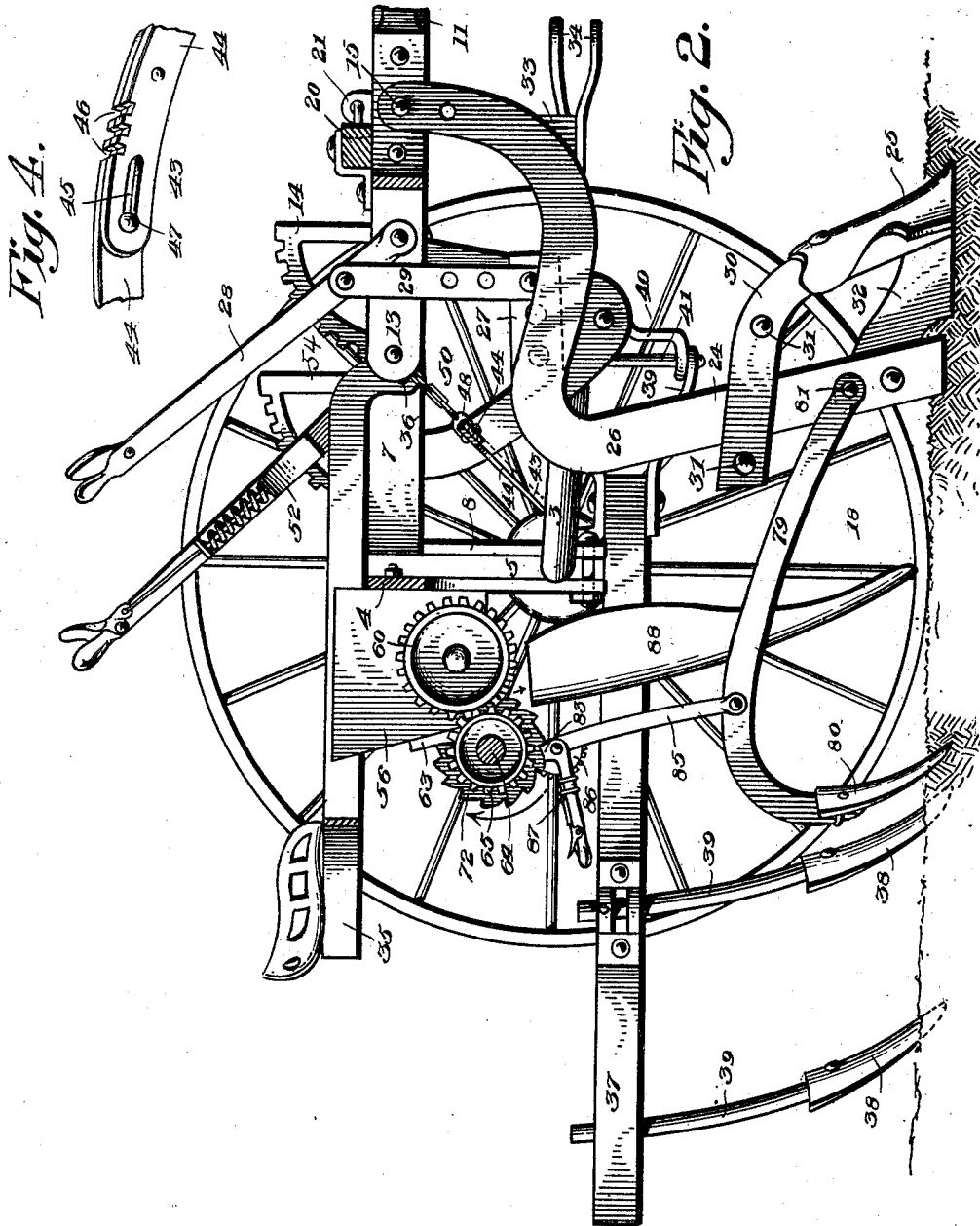
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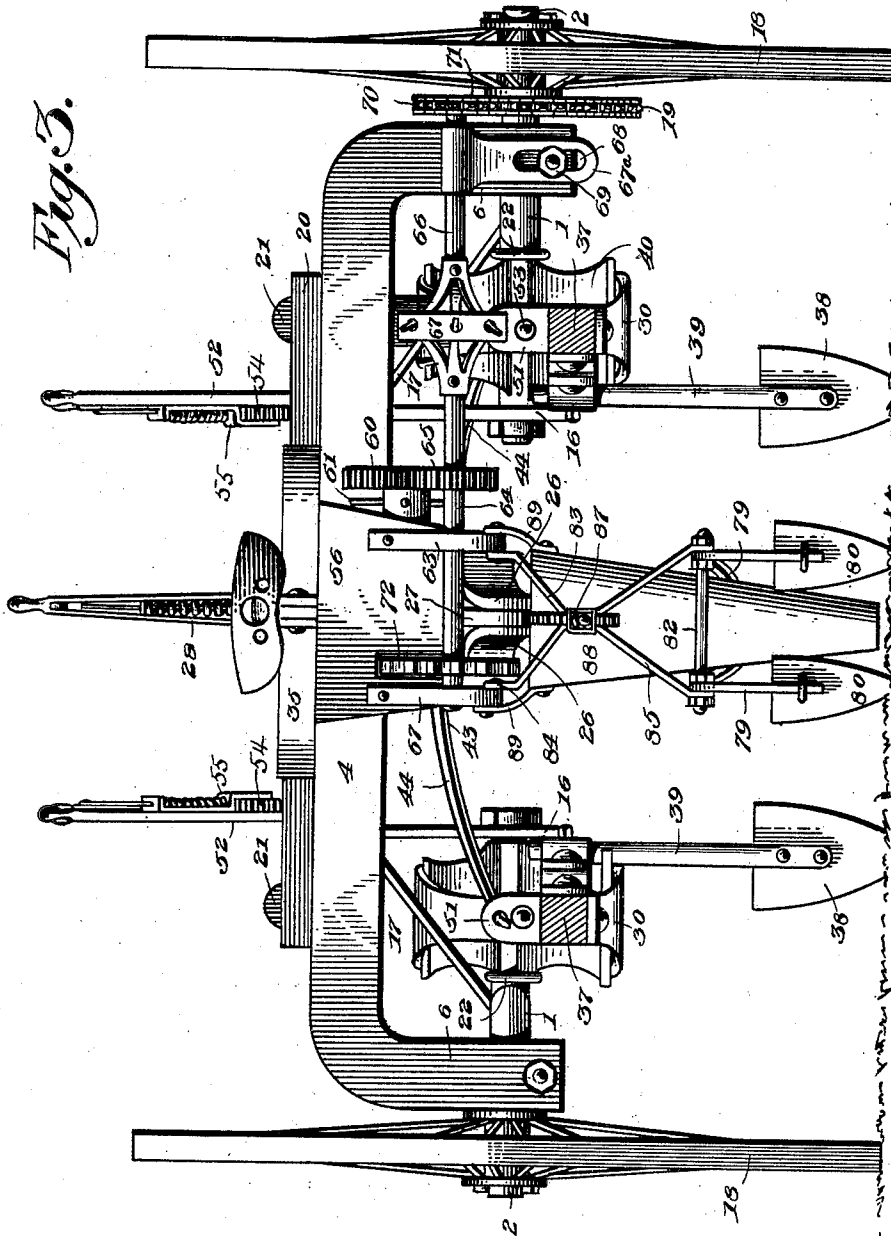
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3 Sheets—Sheet 3.



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UNITED STATES PATENT OFFICE.

BENJMIN JOSEPH BIGLER, OF OCKER, TEXAS.

WHEEL-CULTIVATOR AND PLANTER ATTACHMENT THEREFOR.

SPECIFICATION forming part of Letters Patent No. 690,010, dated December 31, 1901.

Application filed June 29, 1901. Serial No. 66,552. (No model.)

To all whom it may concern:

Be it known that I, BENJMIN JOSEPH BIGLER, a citizen of the United States, residing at Ocker, in the county of Bell and State of Texas, have invented a new and useful Wheel-Cultivator and Planter Attachment Therefor, of which the following is a specification.

My invention is an improved wheel-cultivator and planter attachment therefor; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of my improved wheel-cultivator and the planter attachment therefor. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a rear elevation of the same, partly in section. Fig. 4 is a detail perspective view of the link which connects the cultivator-beams together.

A pair of axles 1, each of which comprises a spindle 2 and a forwardly-extending cranked portion 3, are connected together by an arch 4. The said axles at the inner ends of their spindles pass through blocks 5, which bear against the vertical portions 6 of the arch 4. Bars 7, which, together with the arch 4, form the frame of the cultivator, are provided at their rear portions with the outwardly and downwardly bent extensions 8, which are disposed on the front side of the arch 4 and are bolted thereto, the blocks 5 being thereby secured between the vertical portions 6 and the vertical extensions 8 of the arch and the bars 7, respectively. The front portions of the bars 7 extend toward each other, as at 9, and then forwardly to form arms 10, which are disposed on opposite sides of the tongue 11, at the rear end of the latter. Metallic bars 12 are disposed on opposite sides of the rear portion of the tongue and within the arms 10. The rear ends of said bars 12 project rearwardly from the tongue to form arms 13, between which is secured a rack-segment 14. The bolts 15, which serve to connect the tongue to the arms 10, also pass through the bars 12, as shown.

The cranks 3 of the axles 1 are bolted or otherwise secured to hanger-brackets 16, which are bolted to and depend from the bars 7. Laterally-disposed braces 17 are bolted to the said hangers 16 and connected at

their outer ends to the cranked axles. From the foregoing it will be understood that the cranked axles are firmly retained in place and supported. Wheels 18 have their bearings on the spindles of the said axles, and a sprocket-wheel 19 rotates with one of said wheels 18. On the upper side of the tongue, at the rear end thereof, is pivotally mounted a yoke 20. Depending links 21 have their upper ends connected to the ends of said yoke. The lower ends of said links 21 are connected to the cranks of the axle by a rod 22. The said links 21 are provided with series of adjusting-openings 23 for the attachment of the singletrees thereto at any desired adjustment on the said links. The said links and the said yoke 20 serve to equalize the draft on both sides of the machine.

The standard 24 for the furrow-opening point 25 comprises a pair of bars 26 and a bar 27, which is disposed between them. The upper portions of the bars 26 are diverged forwardly and pivotally connected to the arms 10 of the bars 7 by one of the bolts 15. Thereby the lower end of the standard 24 is adapted to be swung forwardly and to be raised by swinging it rearwardly. A hand-lever 28 is fulcrumed to the arms 13 of the bars 12 and is connected to the forwardly-extended upper end of the bar 27, which forms the central portion of the standard 24, by links 29, as shown. By means of this lever and said links the said standard 24 may be raised and lowered, as will be understood. The furrow-opening point or shovel 25 is secured to the front portion of a pair of rearwardly-extending bars 30. The same pass on opposite sides of the standard 24 and are clamped thereto by bolts 31. A sole bar 32 connects the front portions of the bars 30 to the lower end of the standard 24, as shown. The forwardly extending and diverging portions of the bars 26 are connected together by the saddle-plate 33, to which are attached a pair of draft-links 34. The said draft-links may be used for the attachment thereto of a doubletree in cases where it is not desirable to attach the singletrees to the links 21, as hereinbefore described.

The seat-bar 35 is substantially U-shaped, as shown, and has the front ends of its arms pivotally connected to the bars 7, as at 36.

Said seat-bar normally rests on the arch 4, but may be raised therefrom and swung forwardly out of the way, as will be understood.

The beams 37, which carry the cultivating-points or coverers 38, as the case may be, have forwardly-extending bars 39 at their front ends bolted to their upper and lower sides. Clips 40 are pivotally disposed on the cranked portions of the axle between the hangers 16 and the brace-bars 17, and said clips are provided with laterally-disposed series of adjusting-openings, by means of which the front ends of the bars 39 are connected to said clips at any desired lateral adjustment by bolts 41. Thereby the front ends of the cultivator-beams are flexibly connected to the cranked portions of the axles, which in effect constitute portions of the frame, and the said beams are thereby adapted to move laterally and also in vertical planes. A link 43 connects the said beams together. The said link comprises a pair of sections 44, which have their inner portions overlapped and provided, respectively, with slots 45 and with notches 46. The bolts 47, which connect the said sections together, operate in the said slots 45, and thereby the said sections are adapted to be adjusted longitudinally with relation to each other to lengthen or shorten the link. The notches are appropriately engaged by a keeper 48, which locks the said sections together to secure the same at any desired adjustment. Said keeper is connected by a chain 50 to any suitable fixed point on the machine. The ends of the link 43 are attached to keepers 51 on the beams 37. Said keepers may be either formed by upturning the rear ends of the upper bars 39, as here shown, or in any other suitable manner. Hand-levers 52 are fulcrumed to the bars 7. The lower ends of the said hand-levers are connected by rods 53 to the cultivator-beams. The said hand-levers serve to raise and lower the cultivator-beams, as will be understood, and I provide the usual segment-racks 54 and locking-dogs 55 to secure said hand-levers at any desired adjustment.

I will now describe my improved attachment by means of which the cultivator may be also used for planting.

A hopper 56 is secured on the rear side of the arch 4. Said hopper has suitable mechanism for discharging seed and fertilizer therefrom and a gear-wheel 60 to actuate said mechanism. On the rear side of the hopper are brackets 63, in which is journaled a shaft 64. Said shaft has a spur-wheel 65, which engages the wheel 60. Said shaft 64 has one end connected to an adjustable section-shaft 66 by a flexible joint 67. The said section-shaft 66 is journaled in a bearing 67, which is secured on the arch 4 at one end thereof and is vertically adjustable thereon. As here shown, said bearing has a vertical slot 68. The bolt 69, which secures said bearing to said arch 4, operates in said slot. At the outer end of section-shaft 66 is a sprocket-wheel

70. The same is connected to the sprocket-wheel 19, hereinbefore described, by an endless sprocket-chain 71. It will be understood that power is communicated to the shaft 64 when the machine is in motion and from said shaft 64 to the shaft 59.

A pair of beams 79, which carry covering-shovels 80, are pivotally connected to the standard 24, as at 81, and are detachable from said standard. The said beams are appropriately spaced apart at their rear ends by a cross-bolt 82. A bell-crank lever 83 is connected pivotally to the bracket 63, as at 84. Said bell-crank lever is connected by links 85 to the coverer-beam 79 and serves, in connection with said links, to raise and lower the covering-shovels. I provide a rack-segment 86 and a locking-dog 87 to secure the said lever 83 at any desired adjustment. The spout 88 is suspended under the hopper by links 89. The said spout serves to convey the seeds and fertilizer discharged from the hopper to the hills or drills, and the lower portion of said spout is disposed between the coverer-beams 79 and in advance of the cross-bolt 82.

It will be understood from the foregoing that the hopper, the seed-dropping and fertilizer-distributing mechanism, and the covering-plows may be readily attached to the cultivator and detached therefrom.

A combined cultivator and planter constructed in accordance with my invention may be used for all of the purposes indicated, may be manufactured at slight cost, and is very efficient in operation.

When the planting attachment and covering-plows are not to be used, the same may be removed and a suitable plow substituted for breaking out the middles between the rows of plants in cultivating the same.

It will be understood that when the furrow-opener, covering-plows 80, and the seed-dropping mechanism are disposed as shown in the drawings the machine may be used for planting, the cultivating-plows at the same time stirring the soil between the row which has been planted and the adjacent row in process of being planted and between the latter and the next row to be planted. Hence as the result of the operation of the machine a field can be planted and the soil at the same time stirred between the rows. By raising the furrow-opening plow and the covering-plows 80 and by disconnecting the chain 71 the planting mechanism may be put out of operation and the machine used for the purposes of a cultivator.

Having thus described my invention, I claim—

1. In a wheel-cultivator, the combination of an arch-bar, axle-sections secured to the ends thereof, said axle-sections having forwardly-extended crank portions, side bars attached to said arch-bar and extending forwardly therefrom, and hangers depending from said side bars, the said cranks of said

axle-sections being secured to said hangers, substantially as described.

2. In a wheel-cultivator, the combination of an arch-bar, axle-sections secured to the ends thereof, said axle-sections having forwardly-extended crank portions, side bars attached to said arch-bar and extending forwardly therefrom, a tongue connected to said side bars, and hangers depending from said side bars and to which the cranks of said axle-sections are secured, substantially as described.

3. In a wheel-cultivator, the combination of an arch-bar, axle-sections secured to the ends thereof, said axle-sections having forwardly-extended crank portions, side bars attached to said arch-bar and extending forwardly therefrom, hangers depending from said side bars, the said cranks of said axle-sections being secured to said hangers, and cultivator-beams having their front ends connected to said cranked portions of said axles, substantially as described.

4. In combination with a wheel-cultivator having a frame and a plurality of cultivator-beams adapted to run astride of a row, a furrow-opener plow disposed in a plane between said cultivator-beams and having its standard connected to the cultivator-frame for vertical movement, to raise and lower the said furrow-opener, means to raise and lower said standard, a hopper attached to the frame at a point in rear of said standard, said hopper having seed-dropping mechanism, covering-plows having their beams pivotally connected to said standard, and means, carried by said hopper and attached to said covering-plows, to raise and lower the latter, substantially as described.

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

BENJMIN JOSEPH BIGLER.

Witnesses:

J. A. HUMPHRIES,
M. PATILLO.