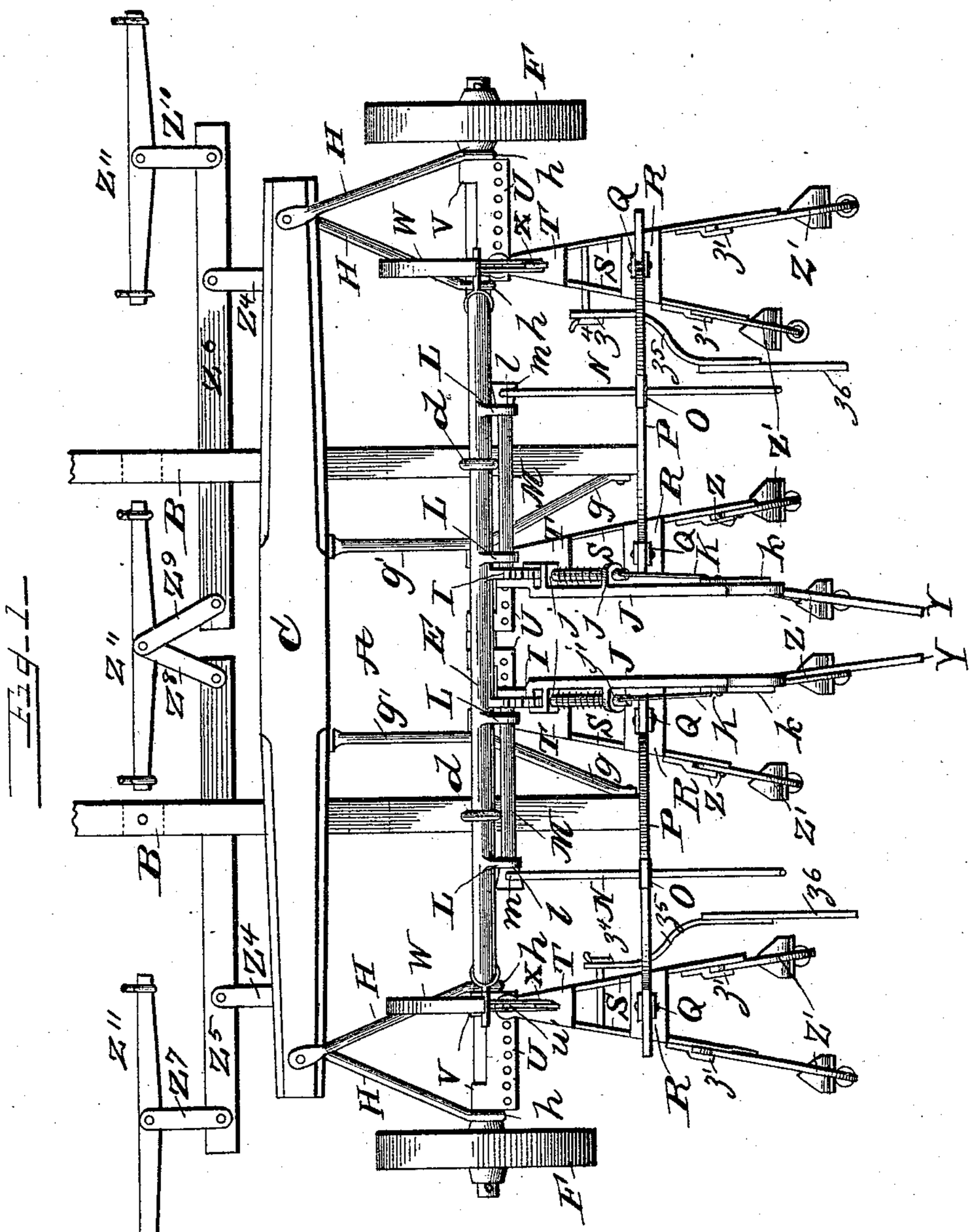
(No Model.) 2 Sheets—Sheet 1.

J. A. PIMLOTT & A. J. DOWNING.

WHEEL CULTIVATOR.

No. 455,688. Patented July 7, 1891.



Witnesses
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Their Attorneys

(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

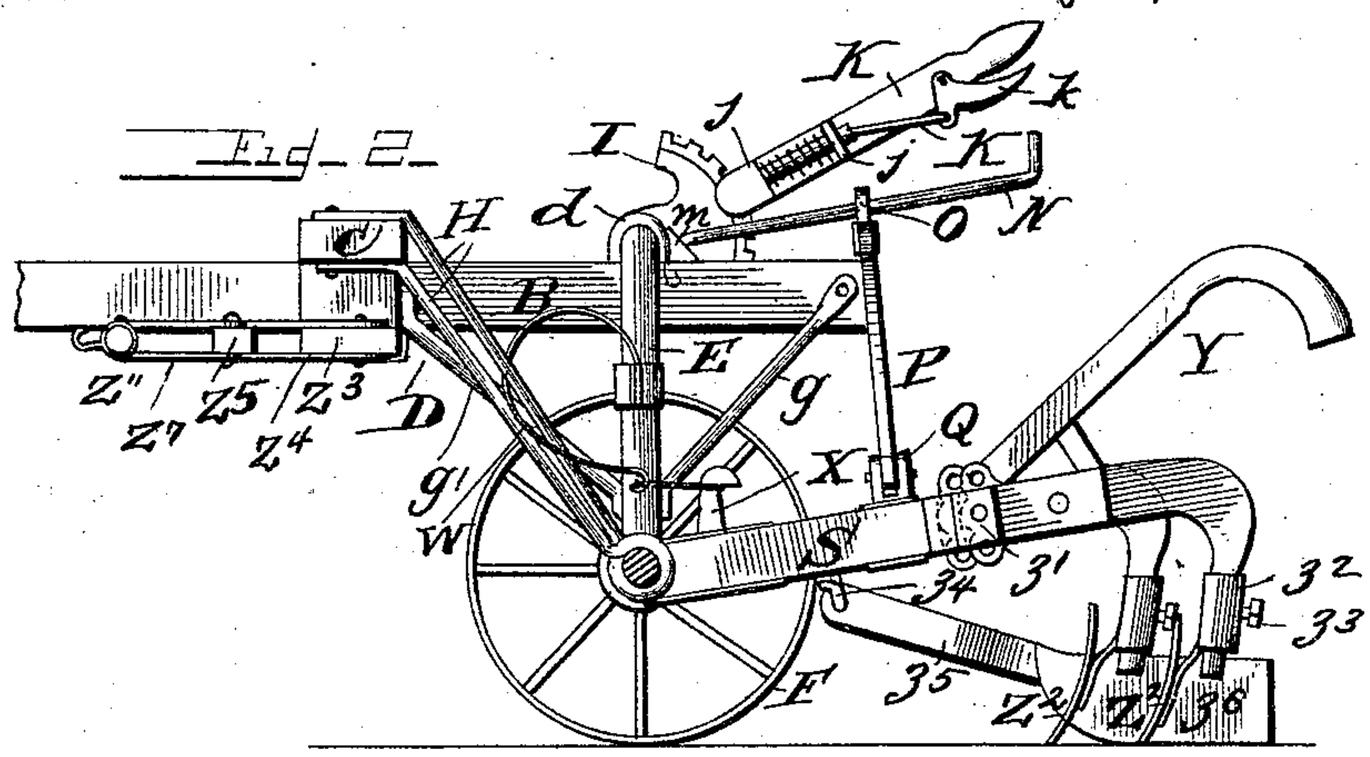


Fig. 3.

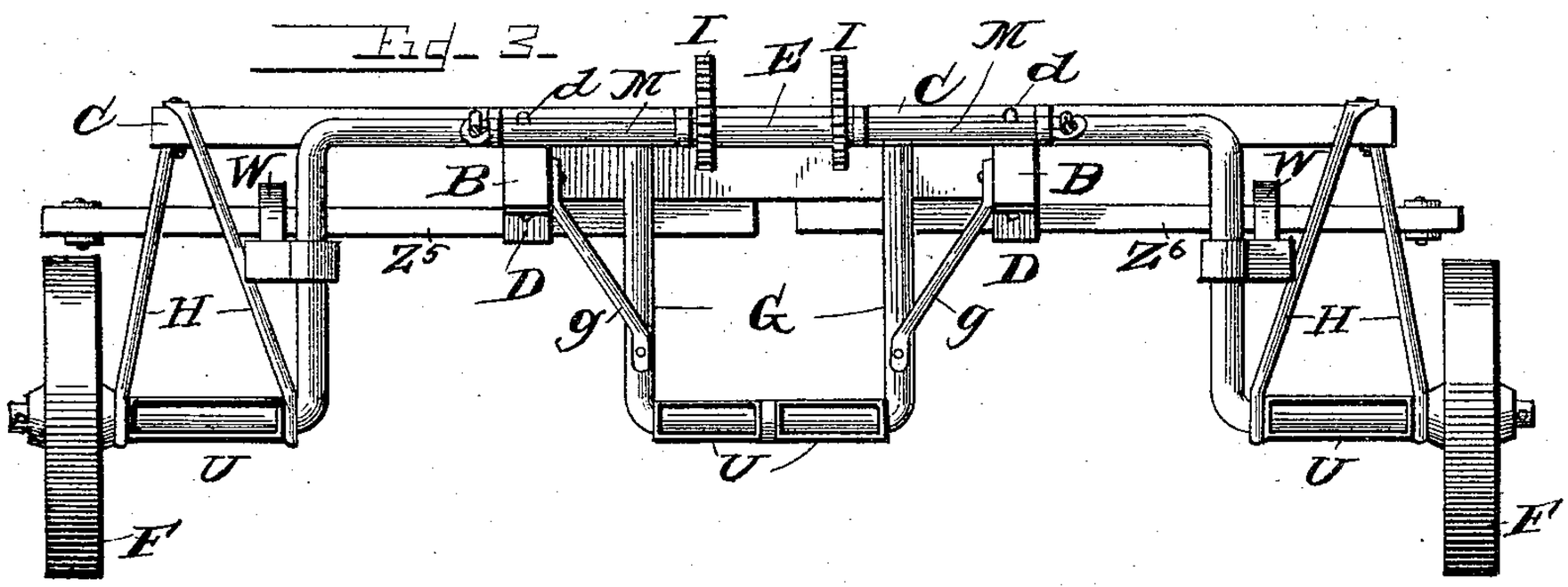


Fig. 4.

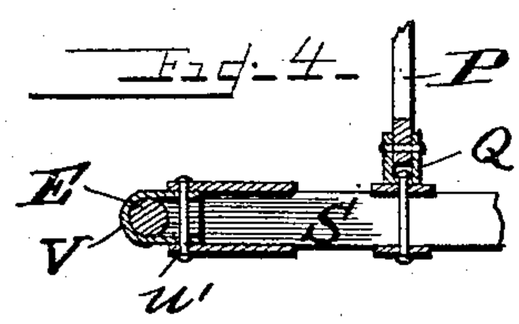


Fig. 5.

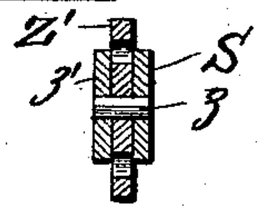
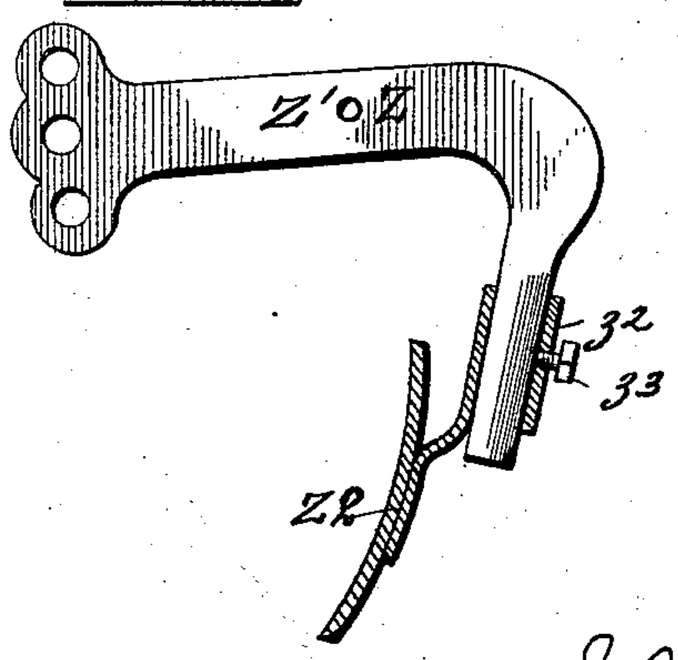


Fig. 6.



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UNITED STATES PATENT OFFICE.

JOSEPH ANDERSON PIMLOTT AND ANDREW J. DOWNING, OF TOWANDA, KANSAS.

WHEEL-CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 455,688, dated July 7, 1891.

Application filed February 18, 1891. Serial No. 381,787. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH ANDERSON PIMLOTT and ANDREW J. DOWNING, citizens of the United States, residing at Towanda, in the county of Butler and State of Kansas, have invented certain new and useful Improvements in Three-Horse Double-Rowed Cultivators, of which the following is a specification.

Our invention relates to that class of cultivators known as "wheel-cultivators," and has for its object to make eight furrows at one time, means being provided for adjusting the cultivators nearer together or farther apart, thus producing furrows closer together or farther apart, as desired.

To this end the invention consists in the novel construction and combination of parts, as will be hereinafter more particularly described, and specifically pointed out in the claims.

We have clearly and fully illustrated our invention in the accompanying drawings, wherein Figure 1 is a plan or top view of our improved cultivator. Fig. 2 is a side elevation of the same, and Figs. 3, 4, 5, and 6 are detail views thereof.

Similar letters of reference indicate corresponding parts in the several figures.

In the drawings, A indicates a substantial frame constructed, preferably, of wood, but may be of any suitable material, and composed of two longitudinal bars B B and a transverse bar C.

Upon the under side and near the forward end of the longitudinal bars B B are secured guides D D, which receive and retain therein the ends of a whiffletree and a suitable number of doubletrees and singletrees, which will be hereinafter more fully described. This frame B B and C and its appurtenances are mounted upon and secured centrally by means of staples *d d* to a main cranked axle E, which in turn is mounted upon driving-wheels F F. Secured to or formed integrally with this axle is a centrally-depending auxiliary frame G, secured to the lower part of which are the lower ends of four inclined braces *g' g' g g*, the upper ends of braces *g' g'* being secured centrally to the inner edge of bar C, and the upper ends of braces *g g* being secured to the inner sides and ends of the longitudinal bars B B, thus presenting the form of the letter **V**.

Secured to the ends and upper and lower edges of the transverse bar C is one end each of four inclined brace-rods H H H H, the lower ends of which have eyes *h h h h*, which encircle the lower horizontal portions of the main axle E, thus firmly bracing and securing the lower horizontal portions of the axle to the ends of the transverse bar C.

I I indicate two segments, which are centrally secured to the main axle E, and to the lower ends and inner sides of which are pivotally secured the lower ends of two hand locking-levers J J. To these levers near their lower ends and outer faces are secured right-angular projections *j j*, having perforations *j' j'* therein, through which the lower ends of two spring-catches *j' j'* are passed, which engage in the notches in the segments aforesaid. The upper ends of these spring-catches are perforated to receive the lower bent ends of short rods K K, the upper ends of said rods being also passed through perforations and bent therein in the lower and larger ends of finger-latches *k k*, pivotally secured at their lower and larger ends to the hand locking-levers J J upon their outer faces near their upper ends.

L L L L indicate four lugs secured to the main axle E, having perforations *l l l l* therein, through which are passed the ends of two arms M M, the inner ends of these arms being secured to the lower ends and outer faces of the hand locking-levers J J, and the outer ends of said arms being slotted and perforated, as at *m m* and *n n*. Through these perforations and slots are passed one end each of two guide-rods N N, said ends being bent around and under the ends of the arms, securing the ends of these ends of the guide-rods to said arms. The opposite ends of the guide-rods are passed through perforated lugs O O, centrally secured to top of arched frames P P and bent up at an angle to the main body of said rods. These arched frames P P span the distance between the cultivator-plows, and have their lower ends bent at right angles to

their main bodies, the angular ends being perforated and are passed through slotted perforated lugs Q Q, the lower ends of which are secured to transverse cross pieces or braces R R, secured to bifurcated cultivator-plow beams S S S S, the forward ends of which are provided with clevises T T T T, which are attached loosely to slotted plates U U U U by means of clevis-pins *u' u' u' u'*, strapped hinge-joints V V V V being secured to and embrace loosely the horizontal portions of the cranked main axle E, so that a vertical movement may be given to the cultivator-plow beams and plows, the forward ends of the plow-beams being adjusted laterally upon the slotted plates by means of the clevis-pins *u' u' u' u'*.

To assist the vertical movement of the plow-beams, one end each of two bowed springs W W are passed through the slotted ends of the lever-arms and bent around and over the same, which secures said ends thereto, the opposite ends of said spring being secured to the lugs upon the top of the arched frames.

To the forward ends and upper surface of the outer cultivator-plow beams are secured the lower ends of catches X X, which catch and hold the cultivator-plow beams in elevated position when they are raised vertically by means of the hand-levers assisted by the bowed springs above referred to.

The central cultivator-beams have secured to their ends suitable handles Y Y of the ordinary or of any approved construction.

To one of each of the bifurcated ends of the cultivator-beams are pivotally secured, as at Z, shovel-beams Z', the forward or flanged portions of which are perforated to receive a wooden pin *z*, which is passed through these perforations and through a perforation made in one section of the cultivator-beam and another perforation in a metallic piece *z'*, secured to the inner side of said beam-section, the space between the beam-section and the metallic piece *z'* serving as a slot to receive the perforated flanged rear end of the shovel-beam, the perforations in the flanged rear end of the shovel-beams and the perforations in the metallic piece *z'* aligning with each other, so that when the wooden pin *z* is passed through them they are held together and adjust the shovel-beams to suit the sinuosities of the ground being furrowed, and should the shovels strike an obstruction of any kind the wooden pin *z* will break and all damage which would fall upon the shovels avoided.

Z^2 indicates a suitable number of shovels, which are secured to the lower ends of the shovel-beams by means of short tubular pieces z^2, which telescope over said lower ends of the shovel-beams so as to be rotatable thereon, a set-screw z^3 being provided, by means of which the shovels can be adjusted to any desired position upon said beams.

Centrally and pivotally secured to the under side of the cross-beam C is a whiffletree Z^3, to the outer ends of which are pivotally secured one end each of two links Z^4, the opposite ends of said links being pivotally secured, approximately, to the center of two doubletrees Z^5 Z^6, and near the outer ends of said doubletrees are pivotally secured one end each of four links Z^7 Z^8 Z^9 Z^{10}, the opposite ends of said links being centrally and pivotally secured to three singletrees Z^{11} Z^{12} Z^{13} Z^{14}. This whiffletree, doubletrees, and singletrees being all linked together, act in unison with each other, whereby the draft of the machine is controlled and regulated by the movements thereof.

Near the center of the outside bifurcated beams are formed perforations, through which is passed a stationary pin z^4, having its inner end passed through a perforation in one end of a metallic angular strip of metal z^5, the lower end of this strip of metal being secured to the inner side of a fender z^6, the inner end of the metallic stationary pin z^4 being bent or turned over at its end to secure the fender to the cultivator-plow beams.

From the foregoing description, taken in connection with the accompanying drawings, the operation of our machine will be obvious, and further description of the same is herein deemed unnecessary.

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

1. In a wheel-cultivator, the combination, with the supporting-frame, of the crank-axle E, the series of plow-beams and plows, the diverging braces H, arched frames P, guide-rods N, and adjusting-levers, substantially as set forth.

2. The combination, with the frame and crank-axle, of the arms M, guide-rods N, arched frames P, springs W, the series of plows laterally and vertically adjustable, the adjusting-levers, and draft connections, substantially as described.

In witness whereof we have hereunto set our hands in the presence of two witnesses.

JOSEPH ANDERSON PIMLOTT.
ANDREW J. DOWNING.

Witnesses:
A. A. PEARSON,
E. B. VANDERHOOF.