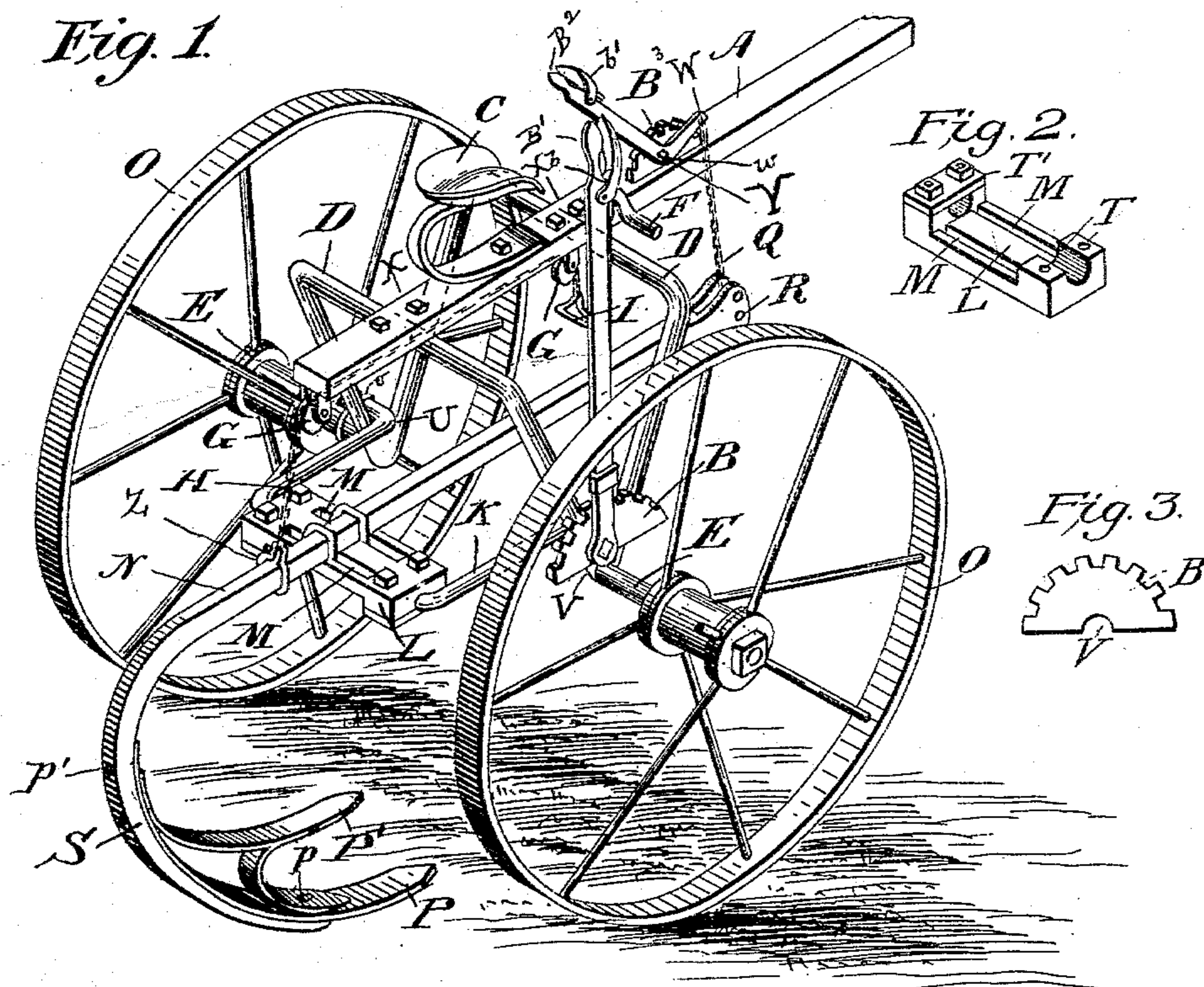


(No Model.)

O. E. HOWE.
SUBSOIL SULKY PLOW.

No. 546,330.

Patented Sept. 17, 1895.



Witnesses

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SUBSOIL SULKY-PLOW.

SPECIFICATION forming part of Letters Patent No. 546,330, dated September 17, 1895.

Application filed December 22, 1894. Serial No. 532,657. (No model.)

To all whom it may concern:

Be it known that I, ORWIN E. HOWE, of Winfield, county of Cowley, and State of Kansas, have invented new and useful Improvements in Subsoil Sulky-Plows, of which the following is a specification.

My invention relates to improvements in subsoil sulky-plows, and means for attachment thereto of other plows of a different character, corn-listers, and cultivators, and has a U-shaped device for regulating the depth of cut and a beam and plows for giving such cut; and the object of the invention is to provide a plow with shovels that will penetrate the hardest kind of soil to a great depth and withstand the strain imposed thereon, and which will readily and easily break up the soil with the least minimum of power.

With these ends in view, the invention consists in the novel construction and combination of parts, as will be hereinafter more fully in detail described, and specifically pointed out in the claims.

In the accompanying drawings, to which reference is had, and which fully illustrate my invention, Figure 1 is a perspective view of my improved subsoil sulky-plow. Fig. 2 is a perspective view of the coupling-plate or hinge with clip removed from one end, and Fig. 3 is a detail view.

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

Referring to the drawings, D represents an inverted double U-shaped or bifurcated arched axle, the upper portions of which diverge from each other upwardly, describing a V-shaped construction in longitudinal section and having its lower ends bent at right angles E to the main body thereof, and upon which the driving-wheels O O are mounted.

K represents an adjustable depth-regulating U-shaped device, the ends of which are also bent at right angles to the main body, forming short arms U thereon, and are loosely or adjustably journaled in the lower part of the bifurcation of the axle, and these arms are held in place by means of a loop or clip u, secured to the axle upon one side of the machine, and upon the other side of the machine the opposite arm of the device is passed through a semi-perforation V, formed in a sector B and journaled therein. This regu-

lating U-shaped device admits of a swinging movement and by which the adjustment of the plow P P' is accomplished either higher or lower, as occasion requires.

B' represents a lever, the lower end of which is secured to the outer end of this arm U of the regulating U-shaped device and by means of which a beam carrying the plows is adjusted, through the medium of the U-shaped regulating device, to which is secured the plow-beam, as hereinbefore stated. To this lever B' is pivotally secured near its upper end an auxiliary lever or locking-bar, to the lower end of which is attached a pawl, (not shown in the drawings,) which drops into notches in a sector B, and through the medium of this auxiliary lever, in conjunction with the main lever to which it is secured, the different degrees of vertical adjustment are given to the beam and attached plows.

L represents a rectangular shape coupling or hinge, having holes T in its end through which clips T' are passed, thus secured to the rear or free end of the U-shaped regulating device, said hinge or coupling L having also parallel slots M M therein, by means of which the beam and plows secured thereon are adjusted laterally.

N represents the plow-beam, to which is secured to and mounted upon the adjustable coupling or hinge L, and secured to the U-shaped regulating device by means of loops or clips and passing up through parallel slots M M in the hinge or coupling L. This plow-beam terminates in a curved standard S, to which is secured a pair of shovels P P' by means of bolts p p', comprising an upper shovel P' and a lower or subsoil-shovel P. These shovels are preferably arranged one above the other, the lower shovel having a curve corresponding to the curved standard, this shovel being of a bull-tongue shape, the upper shovel is provided with an upwardly-curved portion and a forwardly-curved portion with a lower portion of same curving downward, forming a brace which runs down and is made fast to the lower shovel and standard, as at p. If preferable, they can be made integral. The beam carrying the plows may be removed and another beam or beams substituted therefor, carrying plows or other constructions, the interchangeability of the

beam and plows being readily and conveniently done. To the forward end of the beam is secured a clevis R, to which the team is attached, in which one end of a chain Q is secured, the opposite end of said chain being secured to a lever-arm W, which is in turn secured to the lower end of a main lever B² and loosely journaled in bearings on a bolt, serving as a bearing for the lever B² to the sector B³, which is secured to the pole of the machine.

A represents the pole of the machine, which is secured to the upper ends of the inverted U-shaped arched bifurcated axle by means of loops or clips, which are passed up through the pole and secured to same by nuts at X, and in front of the U-shaped arched axle is located the sector B³, which is secured to the pole by means of a bolt (not shown in drawings) in such a manner as to provide a bearing upon one side of the pole, this bolt or bearing being passed through an eye Y in the lower end of the lever and upon which the lever loosely plays. Secured to this main lever near its upper end is another auxiliary lever or locking-bar, to the lower end of which is attached a pawl (not shown in drawings) which takes into notches in the sector B³, secured to the pole, by means of which the forward end of the plow-beam is elevated, thus adjusting the plows on inclined plane, thereby facilitating the plows to be drawn out of the ground by the team.

F represents a foot-rest for the driver, which is secured to the pole by means of a clip, as desired.

G G represent two pulleys which are secured to the underside of the rear end of the pole through which a chain or rope H is run, having one end secured to the rear end of the plow-beam by means of a clip Z, and to its other or free end is secured a stirrup I, which assists in elevating the plows.

C represents a spring-seat, which is secured to the rear end of the pole midway between the double U-shaped arched bifurcated axle D D for the occupancy of the driver, and from which he can readily and conveniently control and adjust the U-shaped regulating device K, and beam to which the plows are attached, at will.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. In a subsoil sulky plow the combination with the bifurcated inverted U-shaped arched axle and sector, secured thereto, and the regulating U-shaped device with ends located in the bifurcation of axle and being secured thereto and carrying the parallel slotted hinge or coupling and double lever for operating same, substantially as described.

2. In a subsoil plow the combination with the inverted U-shaped arched bifurcated axle, the adjustable U-shaped regulating device located in the bifurcation of said axle having the parallel slotted hinge or coupling secured by means of clips thereto, the lever secured to one of the arms of said U-shaped regulating device; the pole having the sector secured thereto and a bearing or bolt thereon to which is loosely journaled a lever for adjusting the beam, carrying the plows substantially as described.

3. In a subsoil plow the combination with the inverted U-shaped arched bifurcated axle the U-shaped regulating device having one lever secured to one of its arms, the adjustable parallel slotted hinge or coupling secured to said device, the sector, and lever, secured to the pole by bolts or bearing of said sector, and chain connection, uniting the lever with the forward end of plow beam, foot rest secured to the pole as described and pole having the spring seat secured to its rear end and pulleys secured to the underside and rear end of the pole, and a chain having one end secured to the beam and the other free end passed through said pulleys and a stirrup secured to the free end of the chain or rope, said chain connecting the beam with the pole whereby the beam and the plows are adjusted, substantially as described.

4. In a subsoil sulky plow, the beam provided with the double plows and brace secured to the curved standard as described, and the said plows located parallel with and one above the other substantially as described and for the purpose specified.

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Witnesses:

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