(No Model.)

J. V. ROWLETT.

TONGUELESS CULTIVATOR.

No. 568,308. Patented Sept. 22, 1896.

Fig. 1.

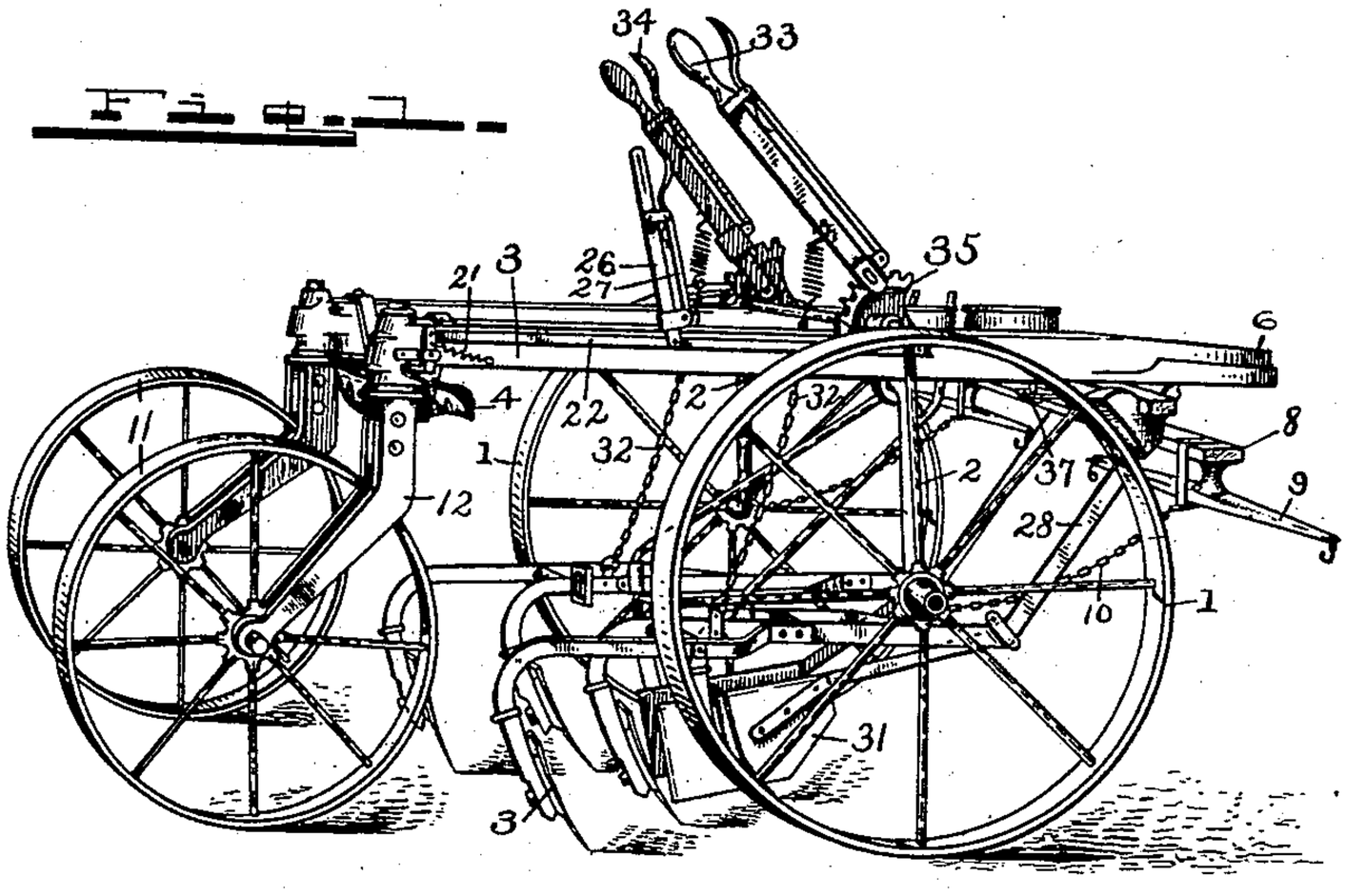


Fig. 2.

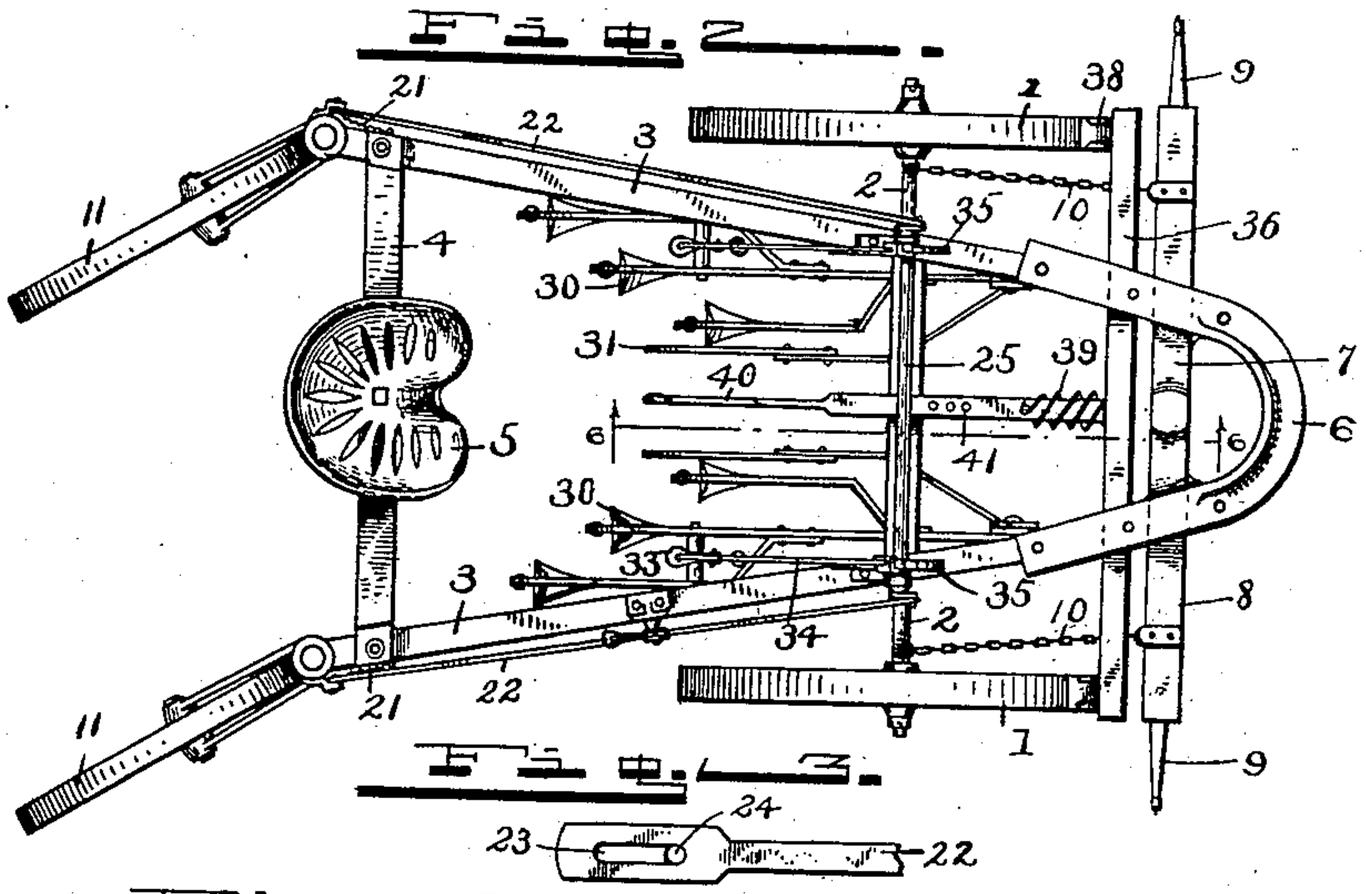


Fig. 3.

Fig. 4.

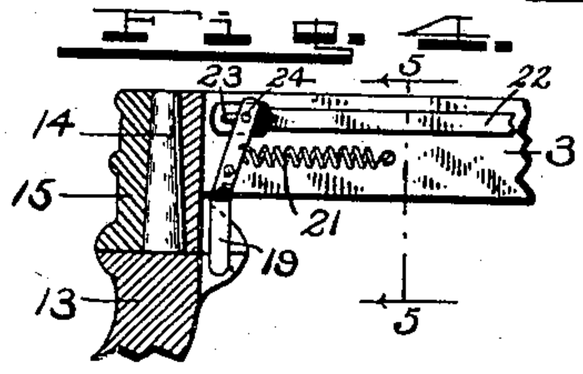


Fig. 5.

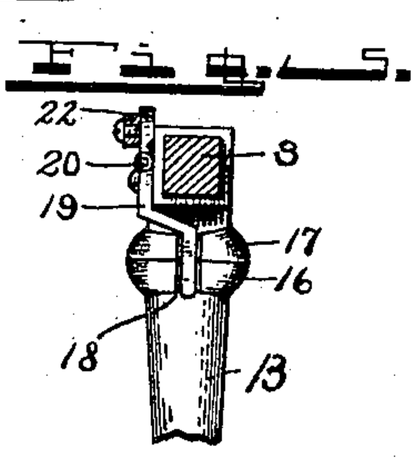
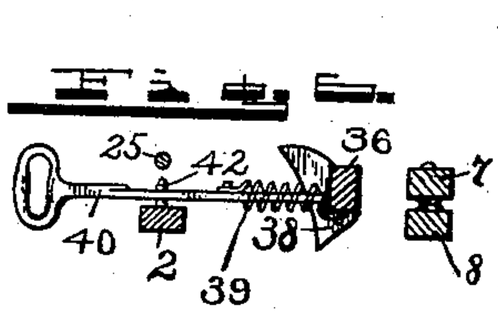


Fig. 6.



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TONGUELESS CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 568,308, dated September 22, 1896.

Application filed October 9, 1895. Serial No. 565,103. (No model.)

To all whom it may concern:

Be it known that I, JACOB V. ROWLETT, of Richmond, county of Wayne, and State of Indiana, have invented a certain new and useful Tongueless Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, in which like figures refer to like parts.

My invention relates to a tongueless cultivator.

The purposes of such an implement are to dispense with the tongue, whereby the movements of the horses are not transmitted to the cultivator, but it is permitted to move straight forward with evenness. Cultivators with tongues receive the constant oscillating movement, which interferes with the work of the machine. Furthermore, with the tongue removed the implement can be turned closer to the fence in turning at the end of the rows.

One feature of my improvement consists in pivotally attaching the gang-beams to the frame at or in front of the wheels mounted on rigid axles, so that the pull of the plows or shovels will be directly on the draft, and therefore will not interfere with the action of such wheels to prevent the turning of the cultivator.

Another feature consists in means for locking and unlocking the caster-wheel standards, so as to hold such wheels in a straight line parallel with the main wheels of the cultivator or to let them oscillate, as desired.

These and the other features of my invention will appear from the accompanying drawings and the description and claims following.

In the drawings, Figure 1 is a perspective of my machine, looking at it from one side. Fig. 2 is a plan view. Figs. 3, 4, and 5 are details of the locking mechanism above referred to, Fig. 5 being a section on the line 5 5 of Fig. 4. Fig. 6 is a section on the line 6 6 of Fig. 2.

Upon suitable main wheels 1, having a bowed axle 2, I mount a frame consisting of the side bars 3, mounted on the axle 2, and the seat-bar 4 at the rear, on which the seat 5 is mounted. The front end of this frame is completed by a nose or forward extension 6. This extension is formed in rather a wide curve and has a cross-bar 7 secured to it about centrally. The doubletree 8 is centrally pivoted to the cross-bar 7. The doubletree has singletrees 9 and is connected with the axle by the stay-chains 10.

The rear end of the framework is carried by a pair of caster-wheels 11, mounted in suitable standards 12, with stocks 13 at the upper end. These stocks are provided with spindles 14, mounted in suitable hubs or bearings 15, that are secured to the side bars 3 of the frame. The lower part of the bearings or hubs 15 and the upper end of the stocks 13 have forward-curved extensions 16 and 17, that register with each other and which are provided with a vertical slot 18, located on the forward side when the caster-wheels are standing parallel with the main wheels.

The slot 18 in the stock 13 and bearing 14 is to receive the pawl 19, pivoted at 20 to the side bar 3 of the framework. This is held in place by a spiral spring 21, which is attached to the pawl above its pivotal point and also to the side bar 3. The pawl is removed from its seat in the slot 18 by the link 22, that has an elongated slot 23 in one end, that receives the pawl-pin 24, and is connected up at the other end with the crank-rod 25. The link 22 is operated by a small hand-lever 26, which is provided with the spring-actuated pawl 27 for holding the link 22, so as to keep the pawl out of its seat. In order to operate the locking device for both caster-wheels from one lever, I connect the forward ends of the links 22 on each side of the machine with the crank-rod 25, so the power will be transmitted equally to both links and pawl at the same time. With this mechanism, after the cultivator has turned at the end of the row and assumed a straight course, the pawl will be thrown into its seat and will hold the two caster-wheels parallel with the two main wheels, so as to make the machine run straight and regular without side movements. When approaching the end, before turning, the hand-lever 26 is operated and the pawls removed from their seats, whereby the caster-wheels are left free to oscillate. If the spring-pawl 27 on the hand-lever 26 is not used, the spring 21 will constantly keep the lower end of the pawl 18 in engagement with the curved extensions 16 and 17 on the stock 13 and hub or bearing 15, and in turning no further attention need be paid to this part of the ma-

chine, for as soon as the cultivator has been turned and again assumes a straight course the spring will turn the pawl into its seat. If for any reason it is desired to keep the caster-wheels unlocked, the pawl 27 may be used. The slot 23 permits the caster-wheels to lock independently of each other. After they are unlocked the hand-lever 26 may be thrown forward into position, thus throwing the links forward without actuating the pawls. The slot 23 enables this to be done, and when the caster-wheels get in line the pawls can independently enter the slots.

In this cultivator I show gangs made in the ordinary way and drawn from the front part of the framework by means of the downwardly-extending beams 28.

30 are the shovels or plow-points, 31 the fenders, and 32 the chains whereby the gangs are elevated by the hand-levers 33 and held elevated by the spring-actuated pawls 34, that engage the racks 35. This is in no wise different from cultivators heretofore made.

In order to transport cultivators along highways and down hills, I mount a brake-bar 36 in a bracket 37, beneath the front portion of the framework, so that such bar may move rearward and forward. On each end I place a brake-shoe 38. It is drawn in contact with the wheels by means of the handle-bar 40, that is connected up with it by the spiral spring 39, so the forward end of the handle-bar abuts against the brake-bar. The handle-bar is provided with a series of holes 41, that receive the pin 42. In going downhill the driver lifts the rear end of the handle-bar 40, so as to disengage it from the pin 42, and then pulls backward on it until it brings the brake-shoes in contact with the wheels. When the brake is to be released, the handle-bar is pushed forward, thus pushing the brake-bar forward away from the wheels, and then it is locked in place by the pin 42.

It will be observed that the guiding of my cultivator without a tongue is rendered possible largely by the fact that it has caster-wheels and the gangs are attached to a point in front of the main axle. In the actual operation of the cultivator I have found this to be the chief cause for the regular movement of the cultivator without the tongue. The same result will be attained if the gangs are attached to the main axle; but the point desired to be emphasized is that they must be attached to or in front of the axle and not behind it.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a tongueless cultivator one end of which is carried on main wheels and the other end on caster-wheels, a notch or seat in the upper end of the standards of the caster-wheels, a spring-actuated pawl pivoted in the framework that engages such seat when the caster-wheels are parallel with the main wheels, a hand-lever mounted in the framework, and a link extending therefrom and having at its other end a slot wherein the pawl is connected up with the link, so that the pawl will have some play independent of the link, substantially as set forth.

2. In a tongueless cultivator one end of which is carried by main wheels and the other end by caster-wheels, means for locking the caster-wheels when parallel with the main wheels, a crank-rod mounted in the framework, connections between the cranks and locking devices, and means for rotating the crank-rod whereby both caster-wheels will be unlocked.

3. In a tongueless cultivator one end of which is carried by main wheels and the other end by caster-wheels, notches or seats in the upper ends of the standards of the caster-wheels, locking-pawls carried on the framework that engage such seats when the caster-wheels are parallel with the main wheels, a crank-rod mounted in the framework, links connected at one end with the cranks on the crank-rod and at the other end provided with slots to receive the pawl-pins, and means for locking one of said links.

4. A tongueless cultivator comprising a suitable frame, wheels mounted on rigid axles supporting one end of such frame, caster-wheels supporting the other end thereof, means for attaching the draft to the frame, and a plow or gang beam pivotally attached to the frame between the rigidly-mounted wheels and the draft attachment, substantially as described.

5. A tongueless cultivator comprising a suitable rigid frame, wheels mounted on a rigid upwardly-curved axle carrying the front portion of the frame, caster-wheels carrying the rear portion thereof, a seat carried on the framework behind the axle, means for locking and unlocking the caster-wheels, means for attaching the draft to the frame, and upwardly-turned plow or gang beams pivotally attached to the frame between the axle and the draft attachment.

In witness whereof I have hereunto set my hand this 2d day of October, 1895.

JACOB V. ROWLETT.

Witnesses:
REUBEN MYRICK,
FREDERICK W. MARCHANT.