

S. L. ALLEN.
SELF LOCKING LEVER.
APPLICATION FILED OCT. 15, 1909.

1,013,099.

Patented Jan. 2, 1912.
2 SHEETS—SHEET 1.

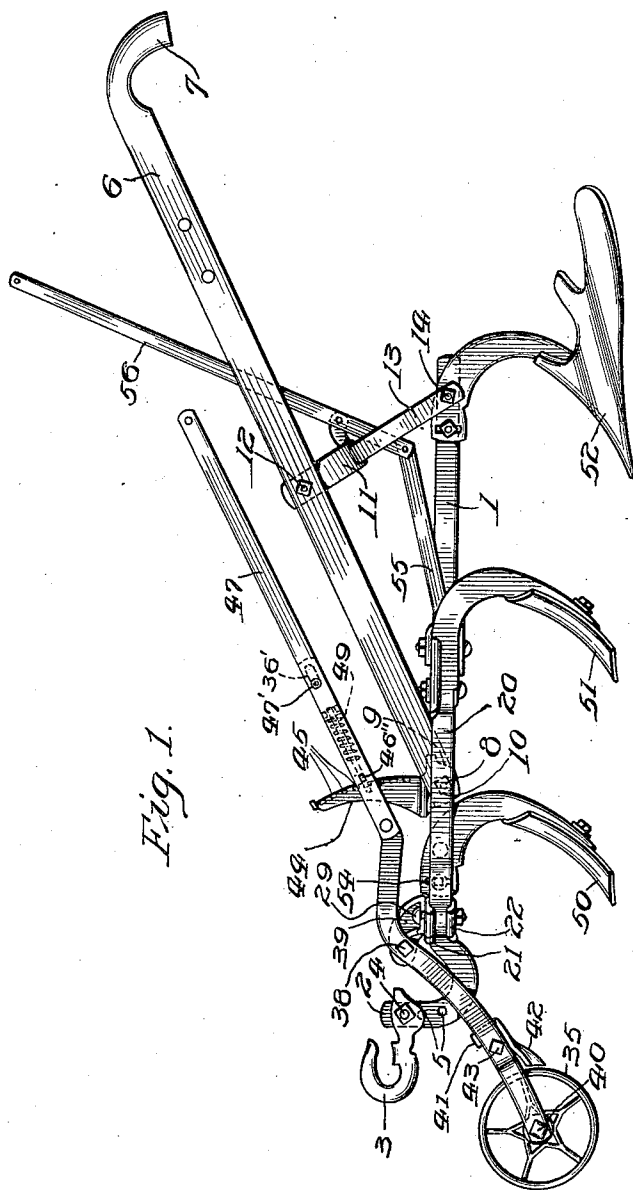


Fig. 1.

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Fig. 3.

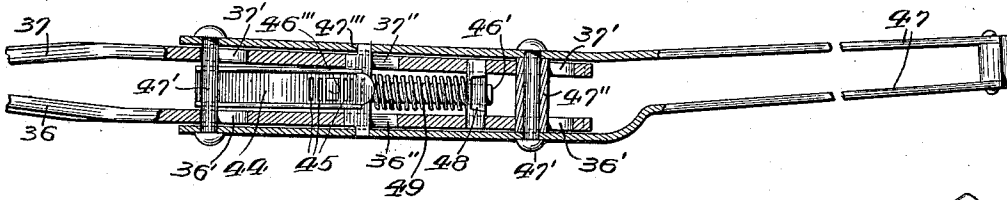


Fig. 2.

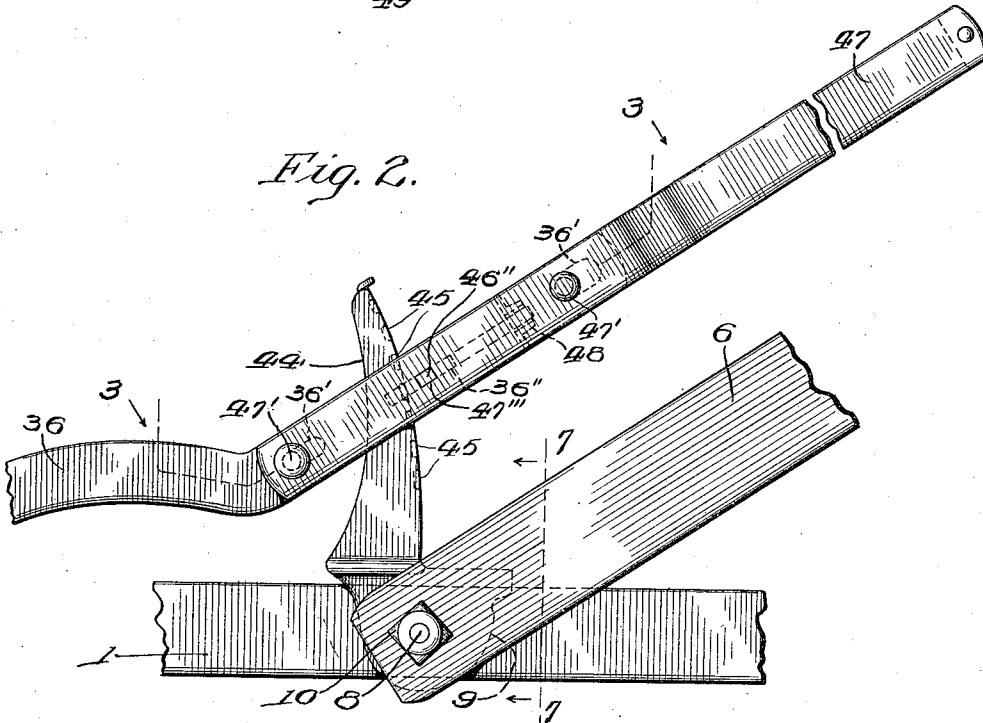


Fig. 4.

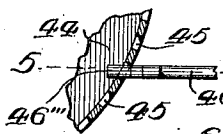


Fig. 6.



Fig. 5.

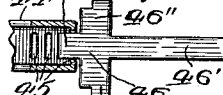
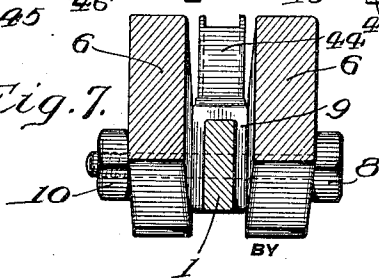


Fig. 7.



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UNITED STATES PATENT OFFICE.

SAMUEL L. ALLEN, OF MOORESTOWN, NEW JERSEY.

SELF-LOCKING LEVER.

1,013,099.

Specification of Letters Patent.

Patented Jan. 2, 1912.

Application filed October 15, 1909. Serial No. 522,863.

To all whom it may concern:

Be it known that I, SAMUEL L. ALLEN, a citizen of the United States, and a resident of Moorestown, county of Burlington, State of New Jersey, have invented certain new and useful Improvements in Self-Locking Levers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of the specification, and in which like reference characters refer to similar parts.

This invention relates to self locking levers such as are particularly applicable for adjusting the gage or carrier wheel of a cultivator, to vary the depth of the cut of the teeth.

The principal object of this invention is to provide a controlling lever that may be conveniently actuated with one hand to release it from any adjusted position, by drawing its free end toward the operator; and that may be automatically secured in any adjusted position by releasing its free end.

The form of this invention hereinafter described provides a lever formed of relatively movable parts, which may be relatively shifted longitudinally to engage or disengage a stationary member provided with notches, in any desired position.

In the accompanying drawings, Figure 1 is a side elevation of a cultivator embodying a convenient form of this invention; Fig. 2 is an enlarged fragmentary side elevation of a portion of the same; Fig. 3 is a top plan view of the structure shown in Fig. 2; Fig. 4 is a fragmentary vertical sectional view of the locking members; Fig. 5 is a plan sectional view taken on the line 5—5 in Fig. 4; Fig. 6 is an end elevation of the spring catch shown in Fig. 5; and Fig. 7 is a vertical transverse sectional view taken on the line 7—7 in Fig. 2.

Referring to the drawings, this invention is shown in one of its forms as applied to a cultivator.

The machine in general comprises a central, longitudinal frame beam 1, usually made of steel or wrought iron, with the usual rearwardly and upwardly diverging handle bars 6 terminating in handles 7 and secured to the frame 1 by means of a bolt 8. The lower ends of the handle bars terminate on the opposite sides respectively of a bracket 9 which embraces the beam 1, the bolt 8 extending through the ends of the

bars, bracket and beam, and being secured against displacement by a nut 10. The handle bars 6 are further secured to the beam 1 by means of a curved brace or yoke 11, the ends of which are rigidly secured to the handle bars by means of a bolt 12, the yoke being rigidly connected to the beam by means of rearwardly and downwardly converging braces 13, the upper ends of which are secured to the yoke, while the lower ends of which are secured to the beam by means of a bolt 14.

The cultivator is supported at its forward end by means of a carrier wheel 35 mounted between the forward ends of the bars 36 and 37, which in turn are supported by the bracket 39 secured to the frame beam 1. The two bars of the lever extend in parallel directions rearwardly and upwardly upon opposite sides respectively of the forward end 2 of the central beam 1 of the frame and also upon opposite sides of the bracket 39 to which they are pivoted.

For adjusting the axis of the carrier wheel vertically or laterally of itself, and for locking the carrier wheel lever or support in any desired position, an upwardly extending segmental plate 44 is provided which is curved in an arc about the axis of oscillation of the lever as a center. The lower end of this plate is integral with the bracket 9, which is rigidly secured to the central beam 1 of the cultivator by the bolt 8, as heretofore described. The plate 44 is substantially U-shaped in horizontal section, as best shown in Fig. 5 and is slidably embraced between the rear portions of the spaced lever bars 36 and 37 supporting the carrier wheel. The central portion of the segmental plate 44 is provided with a vertical series of transverse apertures 45 adapted to receive the end of a spring catch 46, which is carried by and between the two end portions of a bifurcated handle bar 47 which slidably embraces the bars 36 and 37 forming the bifurcated carrier wheel lever. The handle bar 47 forms an extension constituting the free end of the carrier wheel lever, and extends rearwardly and veers slightly toward the right hand side of the cultivator, terminating in a convenient position for operation.

For joining the handle bar 47 to the bifurcated carrier wheel lever, the bars 36 and 37 of the lever are each provided with a pair of oblong slots 36' and 37', the slots in one bar

being opposite to the slots in the other bar, and a bolt 47' extends slidably through each opposite pair of slots, the ends of each bolt being rigidly secured in holes being provided therefor in the opposite sides of the bifurcated handle bar 47. A spacing sleeve 47' may be mounted upon one or both of these bolts between the inner surfaces of the sides of the handle bar 47 to keep the sides of the handle bar from binding against the outer surfaces of the carrier wheel lever.

The spring catch 46 is in the form of a flat plate comprising a central longitudinal stem 46' having adjacent one end oppositely disposed lateral projections 46'' which slidably engage in a pair of oppositely arranged oblong longitudinal slots 36'' and 37'' in the sides 36 and 37 of the carrier wheel lever. The ends of the lateral projections 46'' are reduced in width and are tightly secured in apertures 47''' provided therefor in the opposite sides of the handle bar 47. The catch plate 46 is provided with a forwardly extending portion or tooth 46''' adapted to engage in the transverse apertures 45 of the segmental plate 44, which extends upwardly through or between the adjacent ends of the bars 36 and 37, and the bars 47. The rear end of the stem 46' is slidably mounted in a bridge 48, the ends of which extend between the sides 36 and 37 of the carrier wheel lever and are tightly mounted in apertures provided therefor in said sides. A compressed spiral spring 49 surrounds the stem 46' of the catch between the lateral extensions 46'' of the catch and the bridge 48 slidably supporting the stem, whereby the catch 46 is normally pressed forwardly into engagement with the segmental plate 44.

In the operation of the lever, when it is desired to change the elevation of the forward end of the cultivator by swinging the carrier wheel about its pivot, the handle bar 47 is drawn longitudinally rearwardly to release the catch tooth 46''' from engagement with the aperture 45 in the plate 44, and the handle bar is then swung in either direction vertically to effect the desired

change, whereupon the handle bar is released and the catch 46 is again forced into locking engagement with the plate 44 by the spiral spring 49.

Although only one form in which this invention may be embodied is shown herein, the invention is not limited to the specific form disclosed, as many changes might be made in the details of construction within the spirit of this invention and the scope of the appended claims.

Having thus fully described my invention what I claim and desire to protect by Letters Patent of the United States is,—

1. The combination of supporting means with a bar pivoted thereto, a second bar bifurcated, slidably secured to and inseparable from the end of said first-named bar, a rack secured to said support and extending through adjacent ends of said bars, and a spring-pressed detent carried by said second-named bar and arranged to engage the apertures of said rack, said second named bar forming a lever in alinement with said first-named bar and operative to actuate said detent to release it from said rack to alter the position of said first-named bar by a longitudinal movement of said lever.

2. The combination of supporting means with a bar pivoted thereto, a second bar slidably secured to and inseparable from the end portion of said first-named bar, a rack secured to said support and extending through the adjacent ends of said bars, and a spring-pressed detent carried by said second-named bar and arranged to engage the apertures of said rack, said second-named bar forming a lever in alinement with the first-named bar and operative to alter the position of said first-named bar through the agency of said detent.

In witness whereof I have hereunto set my hand this 14th day of October A. D. 1909.

SAMUEL L. ALLEN.

Witnesses:

ALEXANDER PARK,
ADDISON IRWIN GARDNER.