

T. B. ROWELL.
SEEDER AND CULTIVATOR TOOTH.
APPLICATION FILED JUNE 27, 1910.

999,877.

Patented Aug. 8, 1911.

Fig. 4.

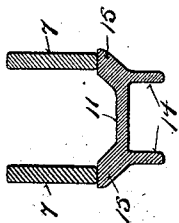


Fig. 5.

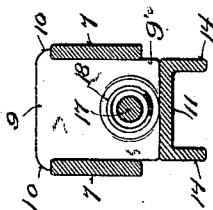


Fig. 6.

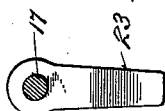


Fig. 1.

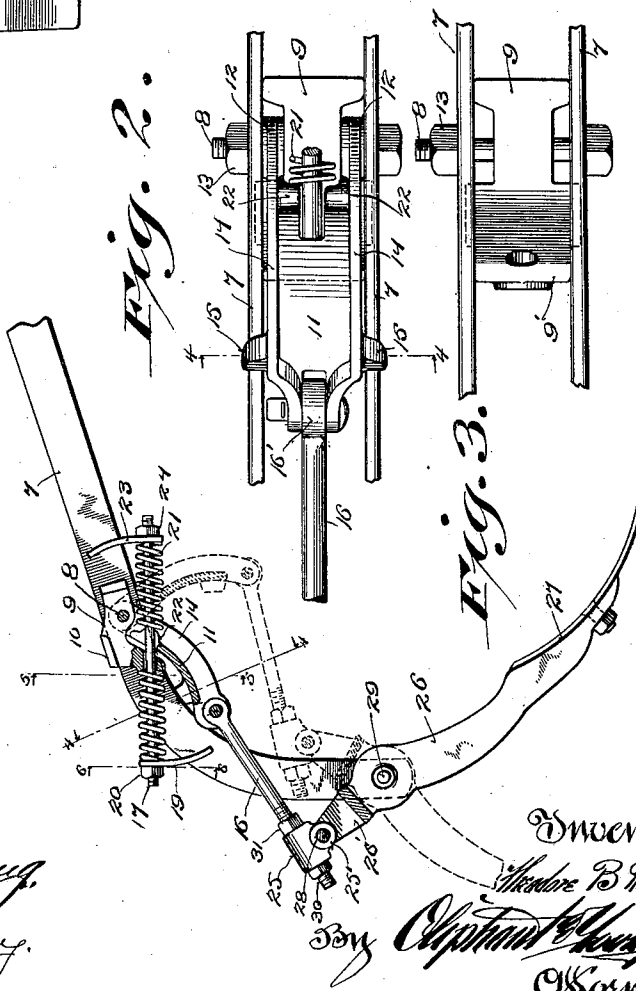


Fig. 2.

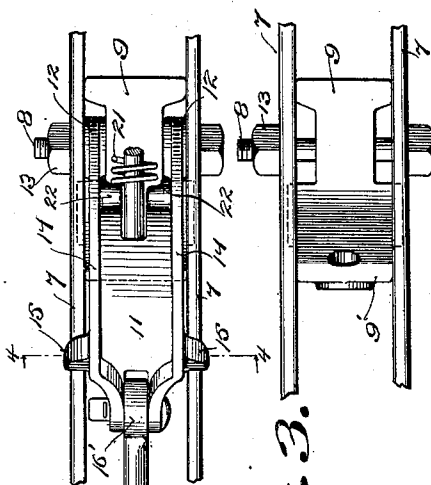
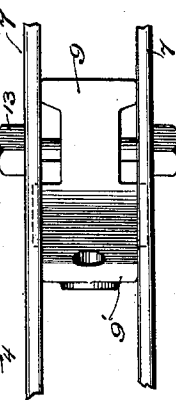


Fig. 3.



Witnesses:
Casimir Young
May Downey.

Inventor:
Theodore B. Rowell.
By *Clifton Young*
Attorneys.

UNITED STATES PATENT OFFICE.

THEODORE B. ROWELL, OF BEAVER DAM, WISCONSIN.

SEEDER AND CULTIVATOR TOOTH.

999,877.

Specification of Letters Patent.

Patented Aug. 8, 1911.

Application filed June 27, 1910. Serial No. 569,175.

To all whom it may concern:

Be it known that I, THEODORE B. ROWELL, a citizen of the United States, and resident of Beaver Dam, in the county of Dodge and State of Wisconsin, have invented certain new and useful Improvements in Seeder and Cultivator Teeth; and I do hereby declare that the following is a full, clear, and exact description thereof.

The improvements consist in what is herein particularly set forth with reference to the accompanying drawings and pointed out in claims of this specification, the object of the invention being to provide simple, economical and durable spring-trip tooth mechanism of advantageous construction for seeders and cultivators.

Figure 1 of the drawings represents a partly sectional side elevation of a spring-trip tooth mechanism in accordance with my invention, the trip of the tooth being illustrated by dotted lines; Figs. 2 and 3, plan views of fragments of the mechanism inverted; Fig. 4, a transverse section view indicated by line 4—4 in Fig. 2, and Figs. 5 and 6, similar views respectively indicated by lines 5—5 and 6—6 in Fig. 1.

Referring by numerals to the drawings, 7 indicates each of a pair of suitably bent flat metal bars set edgewise and suitably braced apart in practice, these bars being for pivotal union at their forward ends with a hanger-clip or draft-rod of a seeder or cultivator, as is common in the art to which my improvements relate. Arranged between the bars, forward of the bends of the same, on a bolt 8, is a block 9 having rear upper flanges 10 that rest upon the adjacent edges of said bars, and straddling a reduced portion of the block, forward of the bolt, is one forked end of a toggle-link 11, the fork-branches 12 of this end of the link being engaged by said bolt. A head of the bolt opposes one of the bars 7 and a nut 13 is run on said bolt against the other of said bars.

The toggle-link 11 is a casting having depending side flanges 14, by which it is strengthened, and said link is provided with upper lateral lugs 15 that normally abut the under edges of the aforesaid bars. Another forked end of said link is in pivotal connection with the eye-end 16' of another toggle-link 16 having the form of a rod that is screw-threaded at the other end thereof. A

rod 17 extends through the upper fork of the link 11 and through an eye in a depending rear lug 9' of the block 9, both ends of this rod being screw-threaded. A spiral-spring 18 is arranged on the rod 17 between the block-lug 9' and a rod-engaging washer 19, the tension of this spring being regulated by the adjustment of a nut 20 run on said rod against said washer. Another such spring 21 is arranged on the rod 17 between lugs 22 of the toggle-link 11 and a rod-engaging washer 23, its tension being regulated by the adjustment of a nut 24 run on said rod against the washer last noted, this washer and the one aforesaid being each provided with a shank that extends between the bars 7 to serve as a trash-guard. The toggle-link 16 extends through a slide in the form of a sleeve 25 that is provided with a depending eye-lug 25' engaging the forked upper end 26' of a shank 26, and a seeder or cultivator tooth 27 is bolted to the other end of the shank. A coupling-pin 28 connects the eye-lug of the sleeve and the fork-end of the shank, and this shank is held in connection with the lower bent ends of the bars 7, between the same, on a pivot-pin 29, said sleeve being rigidly secured in its adjusted position on the toggle-link 16 between nuts 30, 31, for which said link is screw-threaded.

By adjustment of the sleeve 25, the normal set of the shank 26 and tooth 27 is determined, and the yield of said tooth to an obstruction in its path is against the resistance of the springs 18, 21, the spring 18 being compressed against lug 9' of the block 9, and the spring 21 against the washer 23 incidental to a forward swing of the toggle-link 11, said springs reacting, when the obstruction is passed, to return said shank and tooth to normal position.

Because of the link lugs 15 that oppose the under edges of the bends of the bars 7, the knuckle of the toggle is prevented from buckling upward past the line of dead center regardless of the adjustment of the sleeve 25 to regulate the pitch of the tooth 27 with reference to the depth of run by the same, and hence it is impossible for the operator of the seeder or cultivator to get said knuckle in such position as to interfere with the trip of said tooth to clear an obstruction in its path, this being an advantageous feature of the mechanism, in

that liability of fracture of a part or parts of said mechanism is obviated, and there are no set-screws to work loose and become lost.

The tension of the springs 18 and 21 determines the resistance of the tooth 27 to obstructions, and this tension being adjustable said tooth may be readily set to trip hard or easy.

I claim:

10 1. A seeder or cultivator spring-trip tooth mechanism comprising a draft-member, a spring-controlled toggle having a link thereof in pivotal connection with the draft-member against which it is normally
15 stopped in position to prevent buckling of the toggle-knuckle in one direction past the line of dead-center, a slide adjustable longitudinally of the other link of the toggle, means for holding the slide in adjusted position, and a pivotal tooth-shank having its
20 upper end coupled to said slide.

2. A seeder or cultivator spring-trip tooth mechanism comprising a pair of bars, a spring-controlled toggle in pivotal connection with the bars and provided with bar
25 opposing stop-lugs that limit play of the toggle-knuckle and thereby prevent buckling of the same in one direction past the line of dead-center, a slide adjustable longitudinally of the other link of the toggle,
30 means for holding the slide in adjusted position, and a pivotal tooth-shank having its upper end coupled to said slide.

3. A seeder or cultivator spring-trip
35 tooth-mechanism comprising a pair of

draft-bars, an interposed block, a spring-controlled toggle having a block-straddling link in pivotal connection with the bars and provided with bar-opposing stop-lugs that limit play of the toggle-knuckle and
40 thereby prevent buckle of the same in one direction past the line of dead center, a rod guided in the block, springs on the rod opposing said link and block, means in connection with said rod for regulating tension of
45 the springs, a slide adjustable on the other link of the toggle, means for holding the slide in adjusted position, and a pivotal tooth-shank having its upper end coupled to said slide.

4. A seeder or cultivator spring-trip tooth mechanism comprising a draft-member, a spring-controlled toggle having a link thereof in pivotal connection with the draft-member against which it is normally
50 stopped in position to prevent buckling of the toggle-knuckle in one direction past the line of dead-center, a sleeve and sleeve-clamping nuts adjustable on the other link of the toggle, and a pivotal tooth-shank
55 having its upper end coupled to the sleeve.

In testimony that I claim the foregoing I have hereunto set my hand at Beaver Dam in the county of Dodge and State of Wisconsin in the presence of two witnesses.

THEODORE B. ROWELL.

Witnesses:

E. D. STACY,
B. S. BARBER.