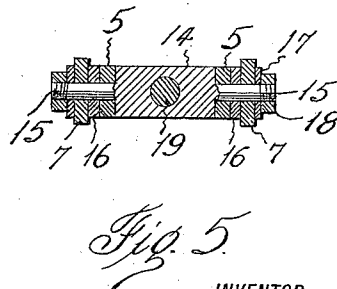
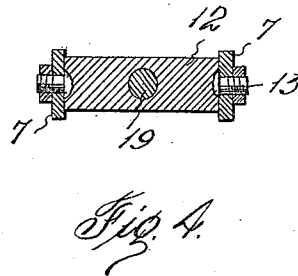
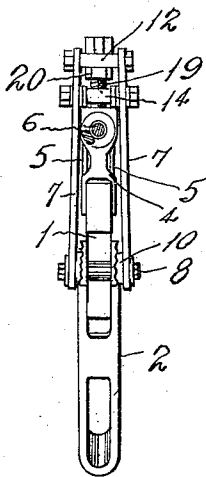
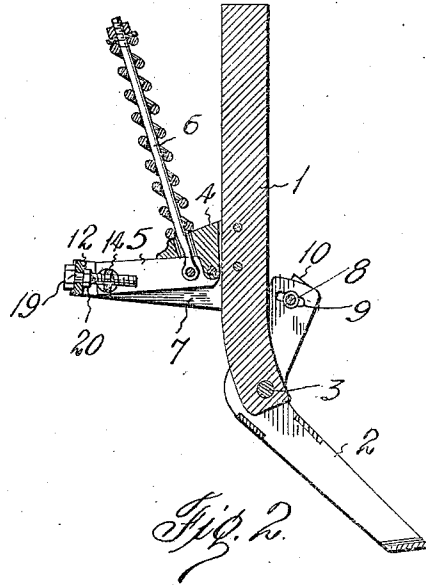
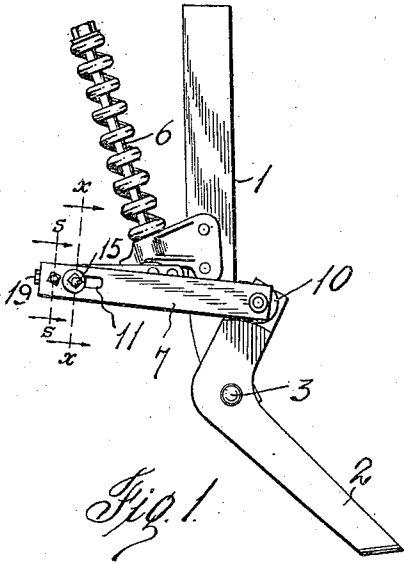


C. E. THOMAS.
 SPRING TRIP FOOT ADJUSTING DEVICE.
 APPLICATION FILED SEPT. 6, 1910.

987,604.

Patented Mar. 21, 1911.



WITNESSES:

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CHARLES E. THOMAS, OF DALLAS, TEXAS, ASSIGNOR OF ONE-HALF TO FRANK C. MCKAY, OF DALLAS, TEXAS.

SPRING-TRIP-FOOT-ADJUSTING DEVICE.

987,604.

Specification of Letters Patent.

Patented Mar. 21, 1911.

Application filed September 6, 1910. Serial No. 580,587.

To all whom it may concern:

Be it known that I, CHARLES E. THOMAS, citizen of the United States, residing at Dallas, in the county of Dallas and State of Texas, have invented certain new and useful Improvements in Spring-Trip-Foot-Adjusting Devices, of which the following is a specification.

This invention relates to new and useful improvements in spring trips for cultivators.

The object of the invention is to provide a quick adjustment of the foot and whereby it is unnecessary to loosen the usual adjusting bolt, although the latter may be manipulated in the ordinary manner.

Finally the object of the invention is to provide means of the character described that will be strong, durable, efficient, and easy of operation, simple and comparatively inexpensive to construct, and also in which the several parts will not be likely to get out of working order.

With the above and other objects in view, the invention has relation to certain novel features of construction and operation, an example of which is described in this specification and illustrated in the accompanying drawings, wherein:

Figure 1. is a side view of the spring trip, Fig. 2. is a vertical sectional view of the same, Fig. 3. is a plan view, Fig. 4. is a transverse sectional view on the line S—S of Fig. 1, and Fig. 5. is a similar view on the line $x-x$ of Fig. 1

In the drawings, the numeral 1 designates the shank, to the lower end of which the yoke shaped foot 2 is pivoted on the bolt 3. A casting 4 is secured to the shank. Links 5 are pivoted at their forward ends to the casting and just in rear of this pivot a spring held bolt 6 extending through the casting has its lower end pivoted between the links.

On each side of the links a strap member 7 extends forward beyond the shank. The forward ends of the members are connected by an adjusting bolt 8 passing through curved slots 9 in the upper end of the foot. Serrated washers 10 are interposed between each strap member and the end of the foot. By loosening the adjusting bolt 8, the foot may be swung on its pivot bolt 3 and adjusted. This adjustment is made to vary the angle of the foot and cause the shovel

(not shown) attached thereto to plow deep or shallow.

The parts so far described are old and well known in the art and it is to obviate the necessity and inconvenience of adjusting the bolt 8 and washers 10 that my invention is designed. It is customary to pivot the rear ends of the links 5 and strap members 7 together. In carrying out my invention the members 7 are slightly elongated and provided with short longitudinal slots 11. The extreme rear ends of the members 7 are connected by a bar 12 having screw threaded trunnions 13 passing through the ends of the members 7. A short distance in front of the bar 12 a transverse cross bar 14 is provided. This cross bar has at each end trunnions 15 screw threaded at their outer end. The rear ends of the links 5 are engaged over the trunnions and bear against the follower bar as shown in Fig. 5.

The trunnions 15 extend through the slots 11 and washers 16 are interposed between the links and the members 7. Other washers 17 are placed on the projecting ends of the trunnions and bear against the outer sides of the members 7. Nuts 18 are provided on the extreme outer ends of the trunnions 15 and bear against the washers 17. In this way lateral play is avoided, but at the same time the strap members 7 may be moved forward and rearward, the slots 11 receiving the trunnions 15.

A bolt 19 is passed loosely through the bar 12, but has screw threaded engagement in the cross bar 14. A nut 20 is placed on the bolt and disposed against the inner side of the bar 14 and while permitting the bolt to be rotated, holds it against longitudinal movement. It is obvious that by rotating the bolt the bar 12 is drawn toward or forced away from the bar 14 which causes the members 7 to be either moved rearward or forward. The members 7 being attached at their forward ends to the upper end of the foot 2, the latter will be swung on its pivot bolt 3 and the angle of the foot adjusted the same as it would be if the adjustment was made by loosening the bolt 8.

It is obvious that it is simply necessary to rotate the bolt 19 to adjust the foot which may be done expeditiously and to a finer degree than is possible where the ordinary adjustment is employed. This attachment

can be made to the ordinary spring trip without interfering with the usual operation.

It will be noted that there is no longitudinal adjustment of the cross bar 14 and consequently the distance between the pivot pin of the spring bolt 6 and the cross bar 14 is never varied. This arrangement is very valuable for the reason that the bar 14 is the pivot connection between the strap members 7 and the links 5 and when the foot 2 is swung by an obstruction the strap members swing the links downward. If the bar 14 is moved away from the pivot point of the spring rod 6 it will require less power for the straps to swing the links down, as the leverage at the point of connection between the members 7 and the links 5 will be much greater than where the bar 14 is moved toward the pivot point of the spring rod, or in other words by adjusting the bar 14 the amplitude of the arc traversed by the pivot connection between the rear ends of the strap members and the links is changed, and thus the compression of the spring changes.

Now if the spring is set to yield when a certain pressure is exerted on the lower end of the shoe 2, by changing the distance between the bar 14 and the pivot point of the spring bar, either greater or less pressure on the foot will be required to swing the same and therefore it would be necessary to also adjust the spring each time the bar 14 was moved in order to have the foot swing under the desired pressure. For instance if the spring was set so that the foot would swing when encountering a rock, but would not swing when encountering a root; if the bar 14 should be moved outward and the arc and leverage thus increased, the foot would swing when encountering a root which should otherwise be cut in two. To overcome this it would be necessary to increase the compression of the spring. By fixing the bar 14 against movement toward

and from the pivot point of the spring rod, this extra adjustment of the spring is obviated.

What I claim is:

1. In a spring trip foot adjusting device, the combination with the shank, the foot pivoted on the shank, and the links connected at their forward ends with the shank, of a cross bar extending between the rear ends of the links, trunnions extending from the cross bar through and beyond the links, strap members pivoted at their forward ends to the foot and extending rearwardly of the rear ends of the links, the strap members having slots receiving the trunnions of the cross bar, a transverse bar connecting the rear ends of the strap members in rear of the cross bar, and an adjusting bolt rotatably confined in the transverse bar and having screw threaded engagement with the cross bar.

2. In a spring trip foot adjusting device, the combination with the links and foot of a spring trip foot, of a cross bar pivoted between the rear ends of the links and confined against longitudinal movement thereof, a pair of strap members connected at their forward ends to the foot and extending rearwardly beyond the rear ends of the links, the strap members having longitudinal slots near their rear ends, projections extending from the cross bar and engaging in the slots of the strap members, a connection between the rear ends of the strap members in rear of the cross bar, and a bolt rotatably confined in the said connection and having a forwardly extending screw threaded portion engaging in the cross bar.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES E. THOMAS.

Witnesses:

L. E. NOACK,
Z. M. SUDWORTH.