Nov. 13, 1923. 1,474,213

J. W. SVALGAARD

SHOVEL

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Fig. 1.

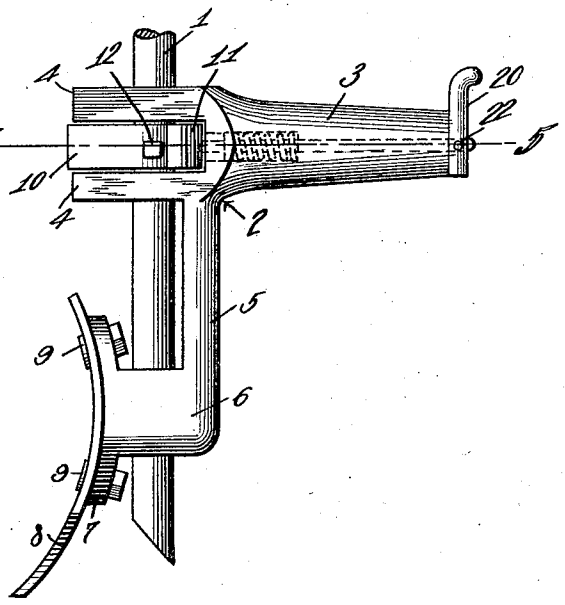
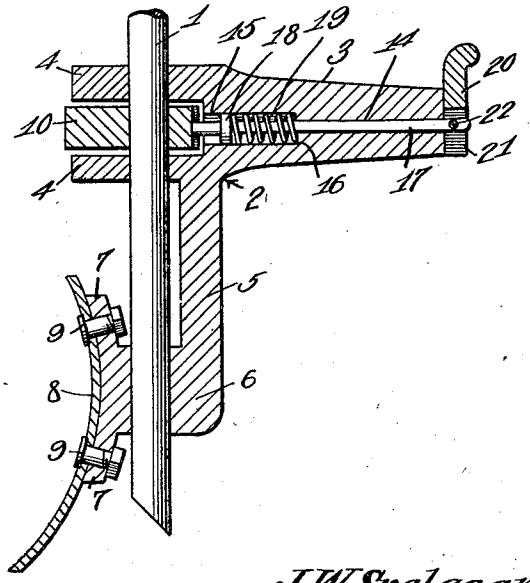


Fig. 2.



J. W. Svalgaard Inventor

By C. A. Snow & Co.

Attorneys

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Fig. 3.

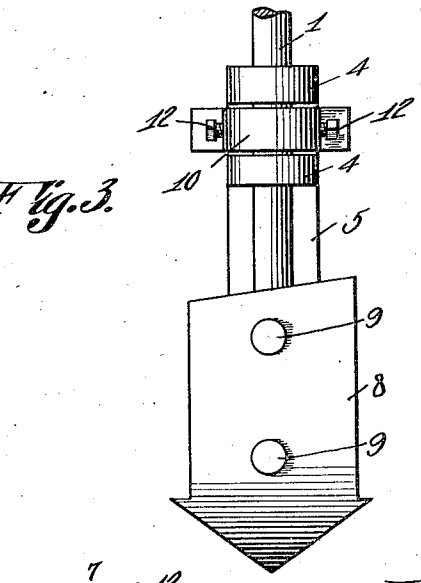


Fig. 4.

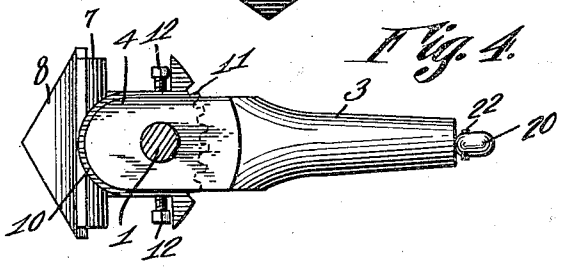
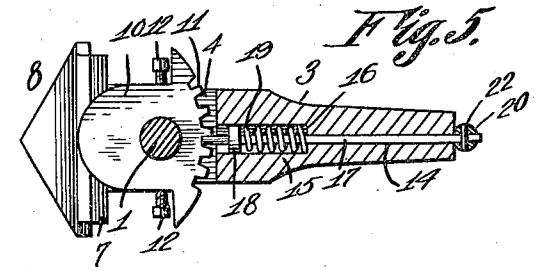


Fig. 5.



J. W. Svalgaard Inventor

By Atkinson & Co.

Attorneys

Patented Nov. 13, 1923. 1,474,213

UNITED STATES PATENT OFFICE.

JOHN W. SVALGAARD, OF MADELIA, MINNESOTA.

SHOVEL.

Application filed February 25, 1922. Serial No. 539,214.

To all whom it may concern:

Be it known that I, JOHN W. SVALGAARD, a citizen of the United States, residing at Madelia, in the county of Watonwan and State of Minnesota, have invented a new and useful Shovel, of which the following is a specification.

This invention aims to provide novel means whereby a cultivator shovel or other soil-engaging element may be held at any desired angle with respect to the line of advance of an agricultural implement, to the end that the shovel may throw the dirt inwardly or outwardly, it being possible, further, to hold the shovel at right angles to the line of advance, so that the shovel will act as a middleburster.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that, within the scope of what is claimed, changes in the precise embodiment of the invention shown can be made without departing from the spirit of the invention.

In the accompanying drawings:—

Figure 1 shows in side elevation, a device constructed in accordance with the invention; Figure 2 is a vertical longitudinal section wherein parts appear in elevation: Figure 3 is a front elevation; Figure 4 is a top plan; Figure 5 is a section on the line 5—5 of Figure 1.

The numeral 1 marks a fixed depending standard which may be a part of a cultivator or other agricultural implement. A bracket 2 is mounted to swing on the standard 1, the bracket comprising an approximately horizontal body 3 supplied at its forward end with flanges 4, through which the standard 1 passes. Intermediate its ends, the body 3 is provided with a depending arm 5, located to the rear of the standard 1 and provided at its lower end with a forwardly prolonged extension 6, disposed parallel to the body 3, the standard 1 passing through the extension. The extension 6 carries an abutment plate 7 against which rests a cultivator shovel 8 or other soil-engaging element, the part 8 being held under the abutment plate 7 by securing elements 9.

A segment 10 is located between the flanges 4 of the body 3 of the bracket 2, the standard 1 passing through the segment. The segment or keeper 10 is supplied on its rear edge with teeth 11. One or more set screws 12, threaded into the segment 10, hold the segment fixedly but adjustably on the standard 1. The body 3 of the bracket 2 has a longitudinal bore 14 merging into an enlargement 15, a shoulder 16 being formed at the juncture of the bore 14 and its enlargement 15. A latch rod 17 is mounted for right line reciprocation in the bore 14 of the body 3 and is provided with an abutment 18 located in the enlargement 15. A compression spring 19 is disposed in the enlargement 15 and surrounds a portion of the latch rod 17, one end of the spring 19 engaging the abutment 18, and the other end of the spring engaging the shoulder 16, the function of the spring being to advance the latch rod 17, so that the forward end thereof cooperates with the teeth 11 on the segment or keeper 10. The numeral 20 marks an operating member, in the form of a cam, the operating member 20 being forked as shown at 21, to straddle the rear end of the latch rod 17, the operating member being connected, intermediate its ends by a pivot element 22 with the rear end of the latch rod 17. When the operating member 20 is disposed at right angles to the latch rod 17, as shown in Figure 2, the spring 19 is permitted to advance the latch rod until the latch rod engages with the teeth 11 of the segment 10. Since the segment 10 is secured by the set screw 12 to the standard 1, the bracket 2 cannot swing on the standard and the cultivator shovel 8, or like soil-engaging element, will be held fixed with respect to the draft line. The operating member 20 may be tilted until it stands parallel with the latch rod 17, the end of the operating member resting against the rear end of the body 3 of the bracket 2. Under such circumstances, the latch rod 17 will be retracted, out of engagement with the teeth 11 on the segment 10, and the bracket 2 and the shovel 8 may be swung on the standard 1, so as to dispose the shovel in adjusted positions with respect to the draft line, it being possible to arrange the shovel in such a way that it will throw the dirt either inwardly or outwardly, or stand at right angles to the draft

line. If a greater line of adjustment is desired than is afforded by the teeth 11, the segment 10 may be turned on the standard 1 and may be held in place by the set screw 12. The segment or keeper 10, being located between the flanges 4 of the bracket 2, prevents the bracket from moving upwardly or downwardly on the standard 1. The segment or keeper 10 may be adjusted vertically on the standard 1, so as to hold the shovel 8 in adjusted positions with respect to the soil, the set screws 12 constituting means for holding the keeper 10 in different positions along the standard 1. Any suitable means (not shown) may be provided whereby the operating member or cam 20 may be actuated from the driver's seat of an agricultural implement, or from any other remote point.

Having thus described the invention, what is claimed is:

1. In a device of the class described, a standard, a bracket having a flange receiving the standard and mounted to swing on the standard circumferentially thereof, a soil engaging element carried by said bracket, a keeper disposed on the standard adjacent said flange, said keeper being adjustable longitudinally and circumferentially of the standard, means for holding the keeper in adjusted position on the standard, and a latch carried by the bracket and coacting with the keeper.

2. In a device of the class described, a standard; a bracket comprising flanges receiving the standard, the bracket being mounted to swing on the standard, circumferentially of the standard; a soil-engaging element carried by the bracket; a keeper disposed between the flanges and mounted on the standard, the keeper being adjustable longitudinally and circumferentially of the standard; means for holding the keeper in adjusted positions on the standard; and a latch carried by the bracket and coacting with the keeper.

3. In a device of the class described, a standard; a bracket mounted to swing on the standard; a soil-engaging element carried by the bracket; a latch rod mounted to slide in the bracket; a keeper on the standard and cooperating with the latch rod; spring means for advancing the latch rod, to cause the latch rod to coact with the keeper; and an operating member pivoted on the latch rod and coacting cam-wise with the bracket to secure a retraction of the latch rod with respect to the keeper and to hold the latch rod retracted out of engagement with the keeper.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

JOHN W. SVALGAARD.

Witnesses:
E. O. JOY,
D. M. KRESNER.