(No Model.)

H. D. BABCOCK
CULTIVATOR.

No. 473,491. Patented Apr. 26, 1892.

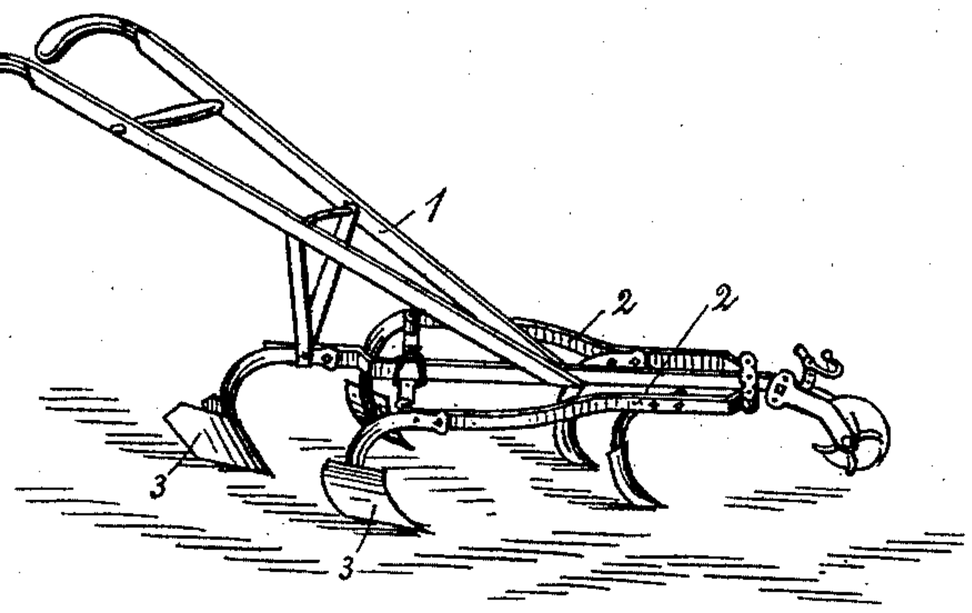

Fig. 1.

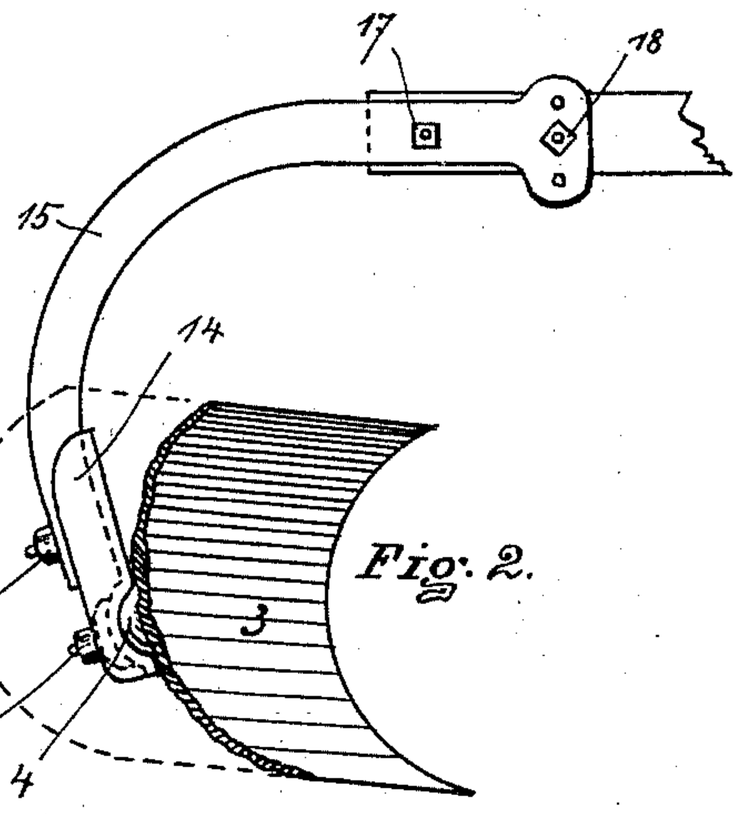

Fig. 2.

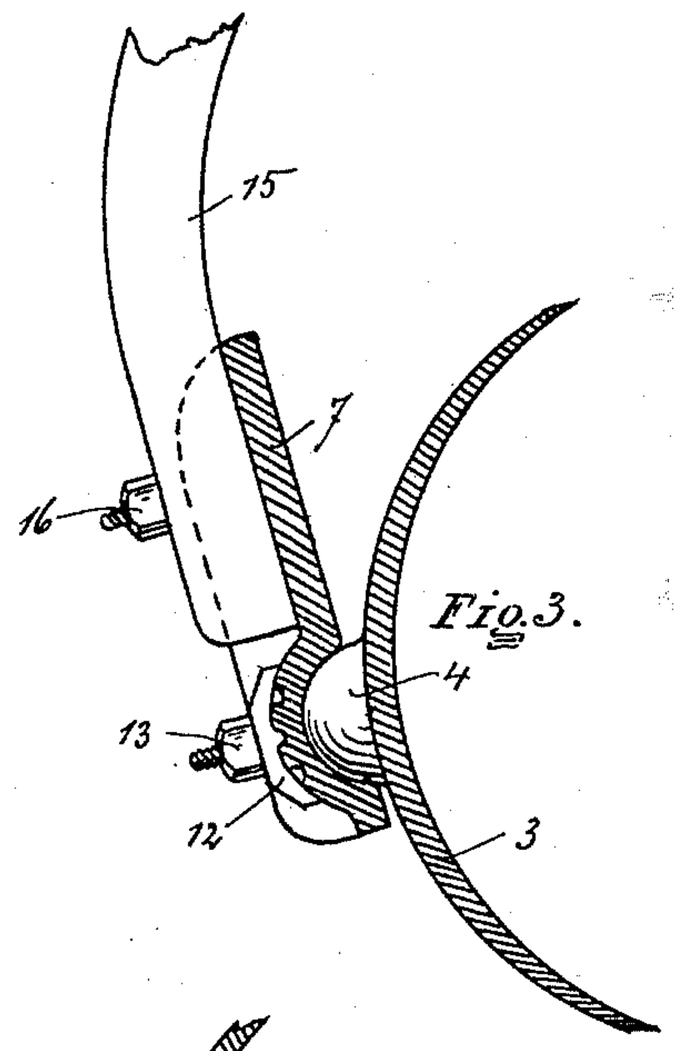

Fig. 3.

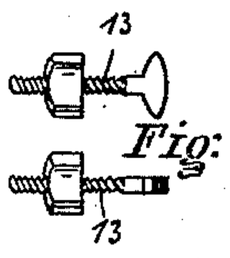

Fig. 4.

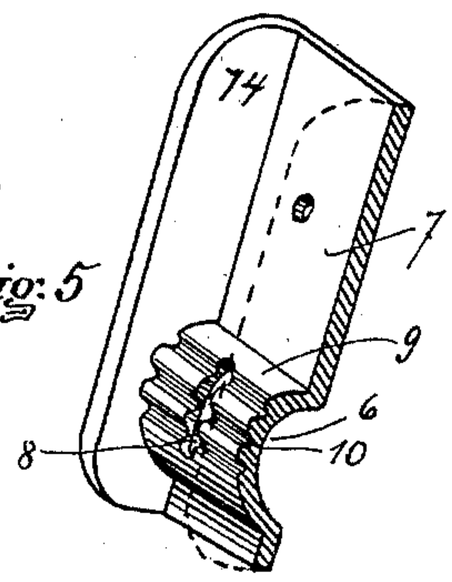

Fig. 5

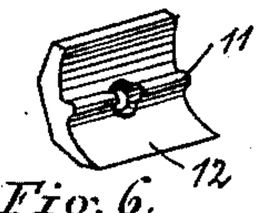

Fig. 6.

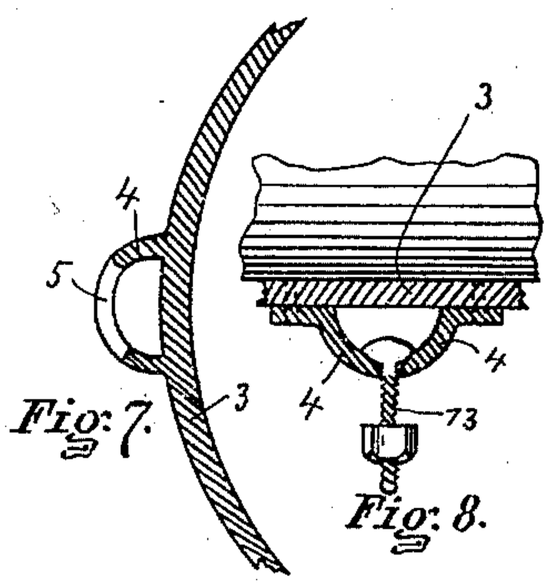

Fig. 7.

Fig. 8.

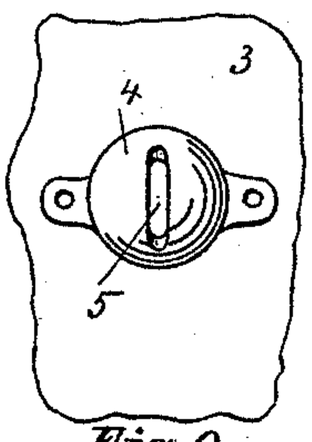

Fig. 9.

WITNESSES.
Rich. A. George.
M. E. Robinson

INVENTOR.
Henry D. Babcock
By Risley & Penny
Attys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

HENRY D. BABCOCK, OF LEONARDSVILLE, ASSIGNOR OF ONE-HALF TO CHARLES H. CHILDS & CO., OF UTICA, NEW YORK.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 473,491, dated April 26, 1892.

Application filed October 10, 1891. Serial No. 408,344. (No model.)

To all whom it may concern:

Be it known that I, HENRY D. BABCOCK, of Leonardsville, in the county of Madison and State of New York, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form part of this specification.

My invention relates to an improvement in cultivators and devices for securing and adjusting the teeth.

In the drawings which accompany and form a part of this specification, and in which similar figures of reference refer to corresponding parts in the several views, Figure 1 shows a cultivator having my improvement. Fig. 2 shows a portion of a cultivator tooth or share and shank on which it is mounted. Fig. 3 shows a section of the same on a line through the securing and adjusting device. Fig. 4 shows two views of a bolt. Fig. 5 shows a portion of the socket-piece. Fig. 6 shows a ribbed washer. Fig. 7 shows a section of the tooth or share and a section of the ball of the adjustable bearing. Fig. 8 shows sections of the same parts shown in Fig. 7, taken at a right angle from which Fig. 7 is taken and also including the bolt shown in Fig. 4. Fig. 9 shows a rear view of the tooth or share and also the ball of the adjusting-bearing mounted thereon.

Referring more particularly to the reference-numerals in a more specific description, 1 indicates the cultivator, which in the implement shown has frame-bars 2 bent so that their tooth-supporting portions are parallel with the line of draft. On the frame-bars are mounted cultivator teeth or shares 3 by means of the following intermediate devices: On the back of the share 3 is provided or secured a substantially semi-spherical ball 4, having a semi-spherical concavity and a slot 5 through the face of the ball. The ball 4 is adapted to be received in the semi-spherical socket 6 in the front side of the socket-piece 7. At the bottom of the socket 6 in the piece 7 is provided an opening or slot 8, and back of the socket is provided a semi-cylindrical projection 9, provided with notches 10, adapted to receive rib 11 of the washer 12. The bolt 13, provided with a T-head to adapt it to be inserted through the slot 5, is inserted through the slot 5, the opening 8, and the perforation in washer 12, the bolt-head engaging in the concavity in ball 4, and the nut is applied to the rear end of the bolt, securing the ball 4 into socket 6 and the several parts together. Along each side of the socket-piece 7 are provided rearwardly-projecting walls 14 14, adapted to engage the edges of the shank 15, and the socket-piece is secured thereto by a bolt 16, passing through both. The upper end of the shank-piece 15 is secured to the cultivator-beam by two bolts 17 and 18. Bolt 17 passes through a single hole in the shank-piece and on which it turns as a pivot, and the bolt 18 passes through one of a series of holes arranged in portion of a circle. The face of ball 4 may be roughened or provided with a number of small flat surfaces and the socket roughened the same to provide against slipping. The general form of the share is square or diamond shaped, so that the share may be turned around as one of the points become worn, thus providing two or more sharp working points and edges.

The operation of the device will be readily understood without extensive description. By loosening bolt 13 the share may be adjusted to turn the earth in or out, and the share may be presented at a greater or less acute angle to the surface on which it rests. When the share has been adjusted, it may be firmly secured by setting up the nut on bolt 13. The share may be further adjusted by changing bolt 18 from hole to hole in the series. In adjusting the share in one direction at the ball-and-socket joint the rib 11 will be moved from one to the other of the several notches 10.

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

1. The combination of a tooth or share 3, having a ball-bearing 4 secured thereto, a socket-piece 7, having socket 6 and grooved

projection 9, bolt 13, and ribbed washer 12, substantially as set forth.

2. The combination of a tooth or share 3, a ball-bearing 4, secured thereto, a socket-piece 7, having socket 6, grooved projection 9, and walls 14, bolt 13, ribbed washer 12, and shank 15, substantially as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

HENRY D. BABCOCK.

Witnesses:
JOHN S. CASEY,
M. E. ROBINSON.