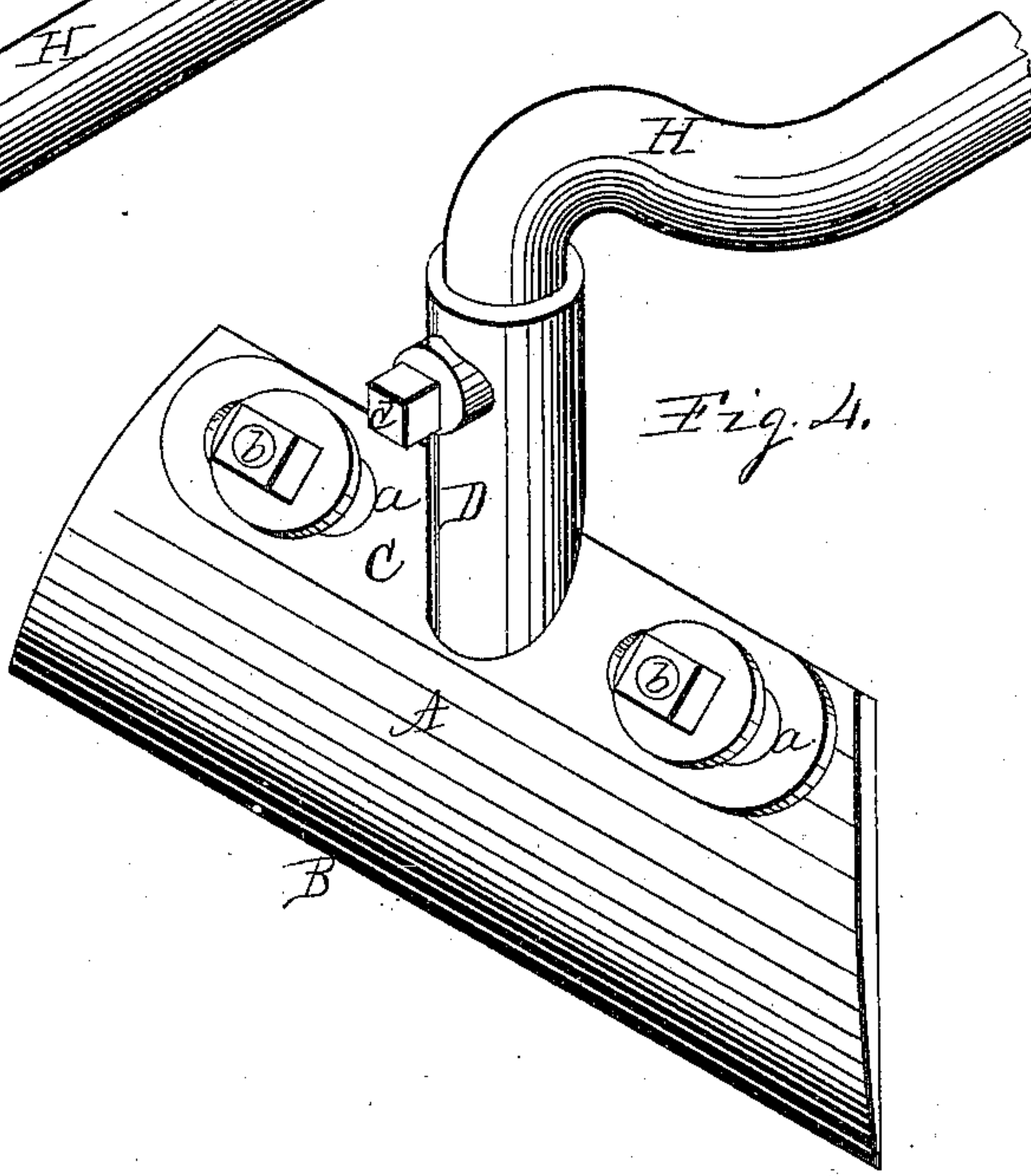
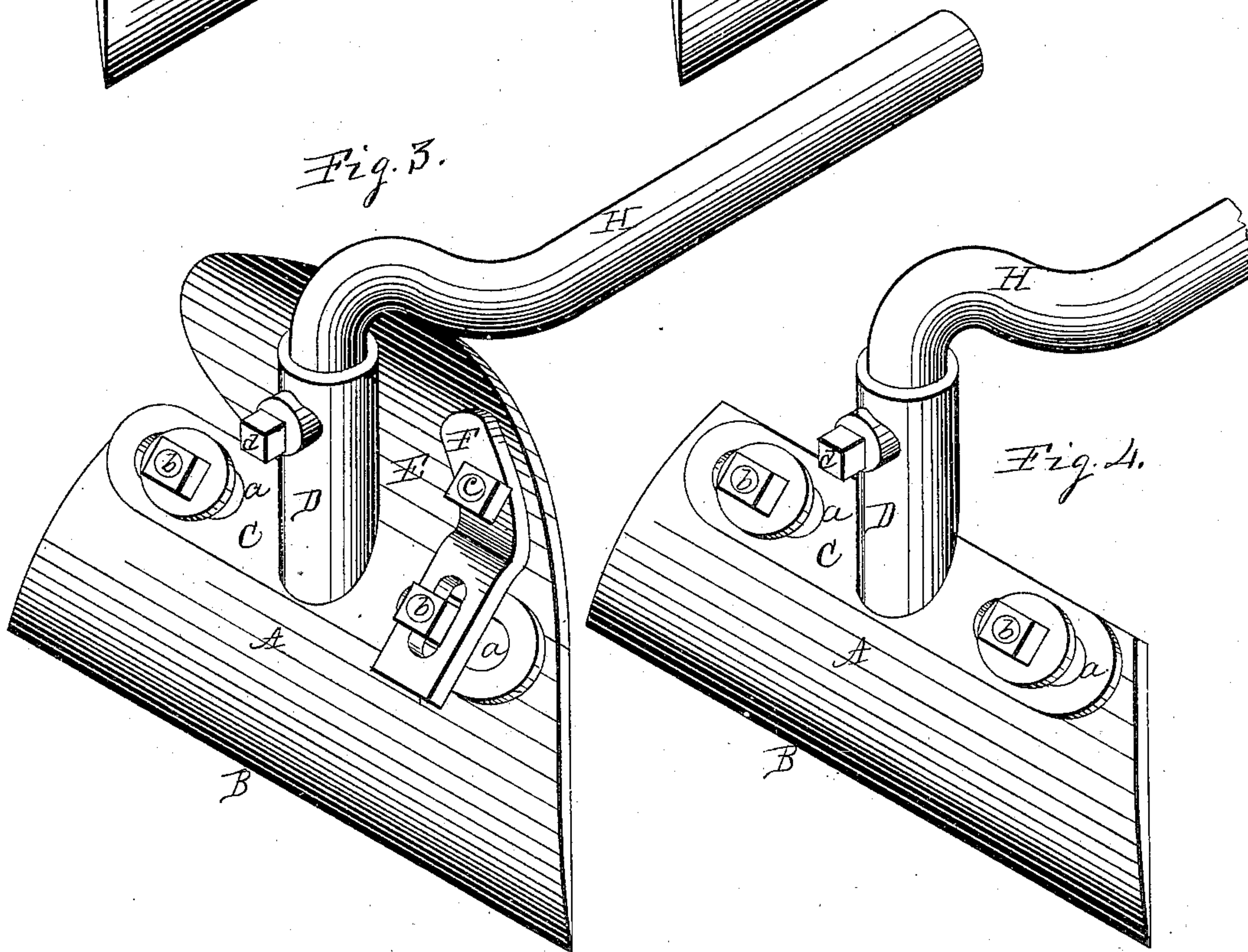
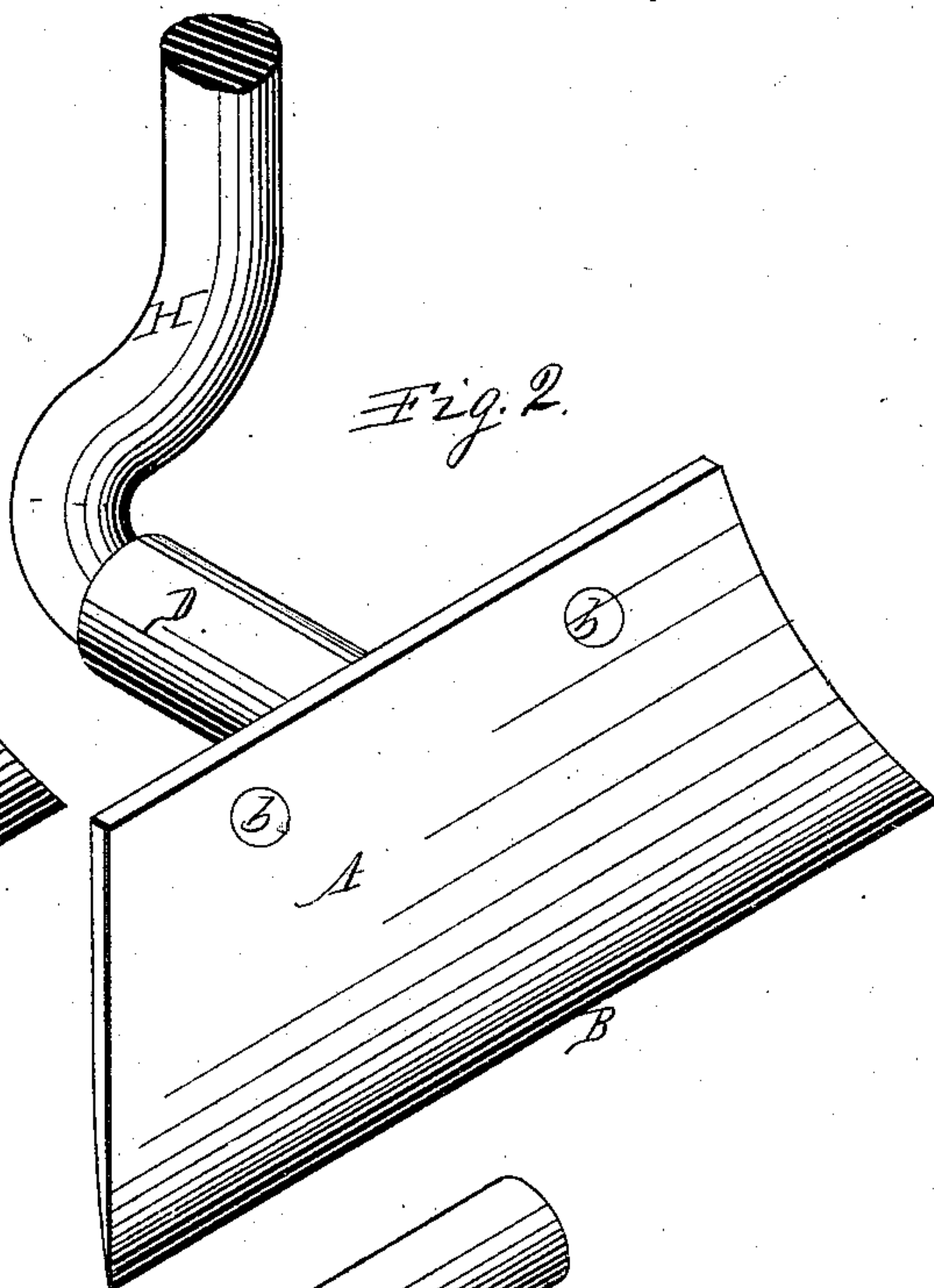
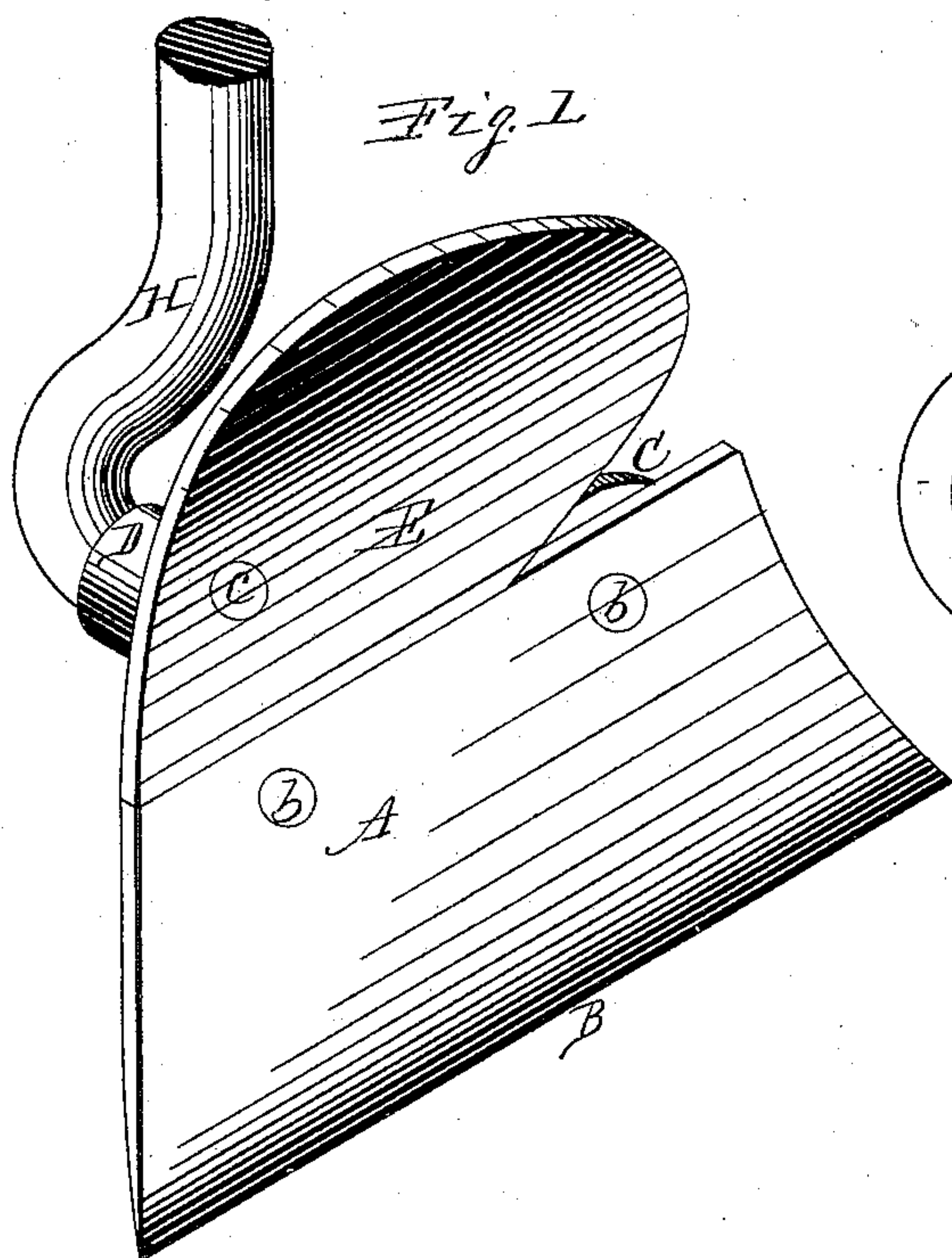


(No Model.)

L. A. RUHL.  
CULTIVATOR.

No. 309,361.

Patented Dec. 16, 1884.



Witnesses,  
Lallah Connor  
A. D. Behel

Inventor,  
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Per Jacob Behel,  
Att'y



# UNITED STATES PATENT OFFICE.

LUTHER A. RUHL, OF HARRISON, ILLINOIS.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 309,361, dated December 16, 1884.

Application filed July 29, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, LUTHER A. RUHL, a citizen of the United States, residing in the town of Harrison, in the county of Winnebago and State of Illinois, have invented a new and useful Improvement in Cultivators, of which the following is a specification.

This invention relates to that portion of a cultivator known as the "shovel," employed in connection with the cultivator-beams or drag-bars. Its object is to produce a more efficient cultivator-shovel; and it consists of a shovel of plow form made in two parts, capable of use joined or with the upper portion removed, all of which will be hereinafter more fully described.

In the accompanying drawings, Figure 1 is a front view of my improved shovel. Fig. 2 is also a front view in which the upper portion is removed. Fig. 3 is a rear view of my improved shovel, and Fig. 4 is a rear view with the upper portion removed.

In the figures, A represents a share-blade, preferably produced from plate-steel, substantially in the curved form shown, having its lower portion, B, reduced to a cutting-edge. This share A is adjustably supported on a foot-piece of T form, consisting of a cross-bar, C, and a socket-stem, D, springing at right angles to the bar C, with which it is centrally connected. The end portions of the cross-bar C are provided with elongated openings *a*, which receive the bolts *b*, passed through the share and openings *a*, and are employed to fix the share to the cross-bar in a manner to permit of a limited adjustment in both directions lengthwise and crosswise of the cross-bar. When the cross-bar C is adjusted to rise above the edge of the share, it forms a rabbet to receive the lower edge of the mold-board, and when adjusted even with or below the upper edge of the share will permit the earth in cultivating to flow over the upper edge of the share freely.

At E is represented the upper mold-board portion of the share, produced, preferably, from plate-steel in a mold-board form, substantially as shown, and suitably curved. This mold-board portion is fitted to engage the upper edge forward portion of the share, in which position it is removably fixed by means of a holding-bar, F, having its upper end portion fixed

to the mold-board portion E by means of a suitable screw-bolt, *c*, passed through the parts, and its lower end portion is slotted to receive the forward screw-bolt, *b*, employed to fix the share to the cross-bar.

At H is represented a standard-support, in this instance produced from a metallic bar cylindrical in section, and of a diameter to enter the socket D snugly. This standard H, from its connection with the socket D, rises in a suitable curve, substantially as shown, to engage the drag-bar of a cultivator, to which it may be connected by any of the adjustable methods known and used to connect the shovel-standards to their drag-bars in cultivators in a manner to permit of a vertical and an axial adjustment, and to vary their angle relatively with the drag-bar lengthwise.

At *d* is represented a set-screw having a screw-thread connection with the socket D, to engage the portion of the standard within the socket to fix the shovel in position when adjusted thereon. In use the upper end portion of the shovel-standard, with shovel thereto attached, is connected with the drag-bar of a cultivator in any suitable manner capable of the required adjustments. The shovel by means of its socket-connection with the standard is then adjusted and fixed in position by means of the set-screw.

My improved shovels are designed to be placed on the drag-bars or shovel-beams of a cultivator at proper intervals and on opposite sides thereof substantially the same, and in the same manner that the ordinary cultivator-shovels are connected with their drag-bars. These shovels are made interchangeable, to be operated on the drag-bars on opposite sides of the cultivator for the purpose of throwing the earth to or from the plants.

In the use of my improved shovels in the first cultivation, when the plants are small, I usually remove the mold-board portion and adjust the share to or above the upper edge of the cross-bar, and then place the shovels on the drag-bars at an inclination outward from the plants, and at such an angle relatively with the drag-bars lengthwise that the earth cut by the shovels will flow over the upper edge of the share and fall in a pulverized condition in its rear. By this adjustment I am enabled to cultivate close to the small plants without in-



jury. In cases where the weeds are large and the plants very small, I employ the mold-board in connection with the share, to throw the earth from the plants.

5 In cultivating the more matured plants I place the shovels, in connection with the drag-bars, at an angle inclining toward the plants, and with or without the mold-board portions, as circumstances may require to complete the  
10 cultivation.

By the employment of the horizontal socket extending rearward to connect the horizontal foot of the uprising curved standard sufficient room is obtained between the upper edge of  
15 the share and the standard to permit the earth cut by the share to flow over its upper edge without clogging against the standard.

I claim as my invention—

1. The combination, with the share and with the foot-support, with standard-socket 20 made adjustable in its connection with the share, of a mold-board capable of use in connection with the share, and made detachable, substantially as and for the purpose set forth.

2. The combination, substantially as herein 25 described, of a share, a socket foot-support having an adjustable connection with the share, a mold-board detachably connected with the share, and a standard-support to connect with the foot-support, substantially as and for the 30 purpose set forth.

LUTHER A. RUHL.

Witnesses:

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