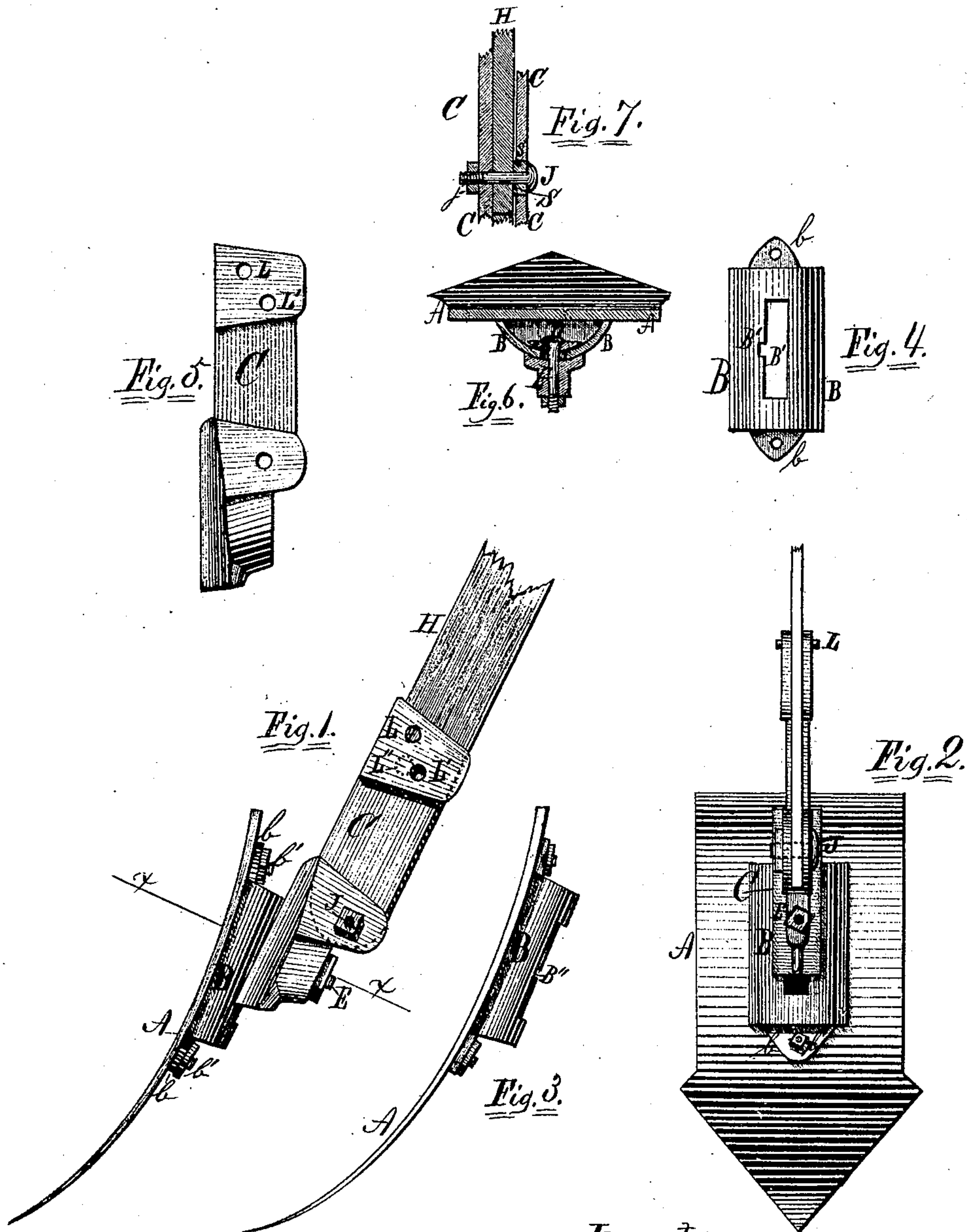


J. R. Little,

Cultivator Tool.

No. 107,069.

Patented Sep. 6. 1870.



Witnesses:
Plato R. Richards
Samuel Kerr

Inventor,

Jas. R. Little.
per W. B. Richards,
his Atty.

UNITED STATES PATENT OFFICE.

JAMES R. LITTLE, OF GALESBURG, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **107,069**, dated September 6, 1870.

I, JAMES R. LITTLE, of Galesburg, in the county of Knox and State of Illinois, have invented certain Improvements in Cultivators, of which the following is a specification:

Nature and Objects of Invention.

The nature of my invention relates to improvements in securing the shovels or spades of cultivators to the shanks; and the invention consists in a hollow semicircular metallic plate, bolted securely to the rear side of the shovel, a sliding button fitting the cavity between said plate, and the shovel carries a bolt, projecting through a slot in the plate, by means of which, with a nut, the shovel may be attached to either a wooden or iron shank, and may be adjusted, all as hereinafter fully described.

It further consists in a metal plate, constructed and adapted for use with the aforesaid plate, when intended for use with iron shanks.

It also consists in the improved method of pivoting the last-named plate to the iron shank, all as hereinafter fully described.

Description of the Accompanying Drawing.

Figure 1 is a side elevation of a shovel attached to an iron shank by my improved method. Fig. 2 is a rear elevation of the same. Fig. 3 is a side elevation of a shovel with the plate B of Fig. 1 attached. Fig. 4 is a rear elevation of the plate B detached. Fig. 5 is a side elevation of the plate C of Figs. 1 and 2 detached. Fig. 6 is a horizontal sectional view of Fig. 1 on the line *x x*. Fig. 7 is a vertical sectional view of that part of Fig. 1 where the iron shank is pivoted in the plate C.

General Description.

A is an ordinary cultivator shovel or spade. B is a semicircular plate, with lugs *b b* at each end, through which rivet-bolts *b' b'* pass for the purpose of securing it to the shovel A. The plate B is slotted, as shown at Fig. 4 by *B'*. D is a button or slide, (shown at Fig. 6,) one side of which is curved to correspond with the concave side of the plate B, against which it rests. E is a bolt carried by the button D, and projecting through the slot *B'*, and, being somewhat smaller than the slot, allows

the bolt to move freely laterally, while it may be adjusted vertically, in the slot. The plate B has a recess, *B''*, into which the bolt E is slid for convenience in inserting the button D. C is a metal socket, the lower end grooved to fit the face of the plate B, and pierced with a hole, through which the bolt E passes, as shown in Figs. 1 and 2. The rear side of the socket C, above the bolt E, is deeply grooved for the reception of the standard H, which is pivoted therein at its lower end by the bolt J. *L L'* are holes in the upper end of the socket C. A wooden pin passed through the hole *L* will secure the shovel at an angle to the shank. (Shown by Fig. 1.) By withdrawing the pin and bringing the upper end of the socket C forward until the hole *L'* is brought to coincide with the hole *L''* in the shank H, the position of the shovel A may be brought nearer vertical. S is a square metal plug, seated in one of the jaws of the socket C, and pierced with a hole for the reception of the bolt J, in such manner that when the tap *j* is tightened up the head of the bolt J, resting on the plug S, alone will draw the plug against the side of the shank H, as shown at Fig. 7, thereby furnishing a sure and simple means for holding firmly the shank H between the two solid jaws C C.

The operation of my invention is deemed obvious from an inspection of the accompanying drawing.

In case a wooden shank is used, it should be cut out at the lower end to adapt it to the face of the plate B, and be pierced with a hole for the bolt E, when, being placed in position by means of the nut on the bolt E, it may be held securely in place.

When the nut on bolt E is loosened the bolt and button D may be moved upward or downward in the slot *B'*, for the purpose of adjusting the position of the shovel A vertically, and the bolt E may be moved laterally in the slot *B'*, for the purpose of adjusting the angle of the shovel A to the line of progression of the cultivator, for the purpose of throwing the dirt to or from the row of plants.

When an iron shank is used, as shown in the drawing, the plate C may be adjusted on the plate B in the same manner and for the same purposes last described for a wooden shank.

An additional adjustment is secured between the plate C and the iron shank H. When the pin L is withdrawn, the lower end of the shovel A may be moved forward or back, swinging on the pivot J, and the pin L, by being inserted in the different holes L L', may be made to adjust the vertical angle of the shovel A with the ground.

The pin used in the holes L L', being wood, will break when a solid obstruction is struck by the shovel A, and the shovel then swinging back on the pivot J will save breakage at any other place.

Claims.

I claim as my invention—

1. The plate B, constructed substantially as described, arranged with the shovels and standards of cultivator-plows, for securing and adjusting the same, substantially in the manner set forth.

2. The construction and arrangement of plates B and C, bolts *b' b'* and E, head D, pivot-bolt J, and plug S, substantially as and for the purpose specified.

JAS. R. LITTLE.

Witnesses:

J. J. TUNNICLIFF,
H. B. BERGEN.