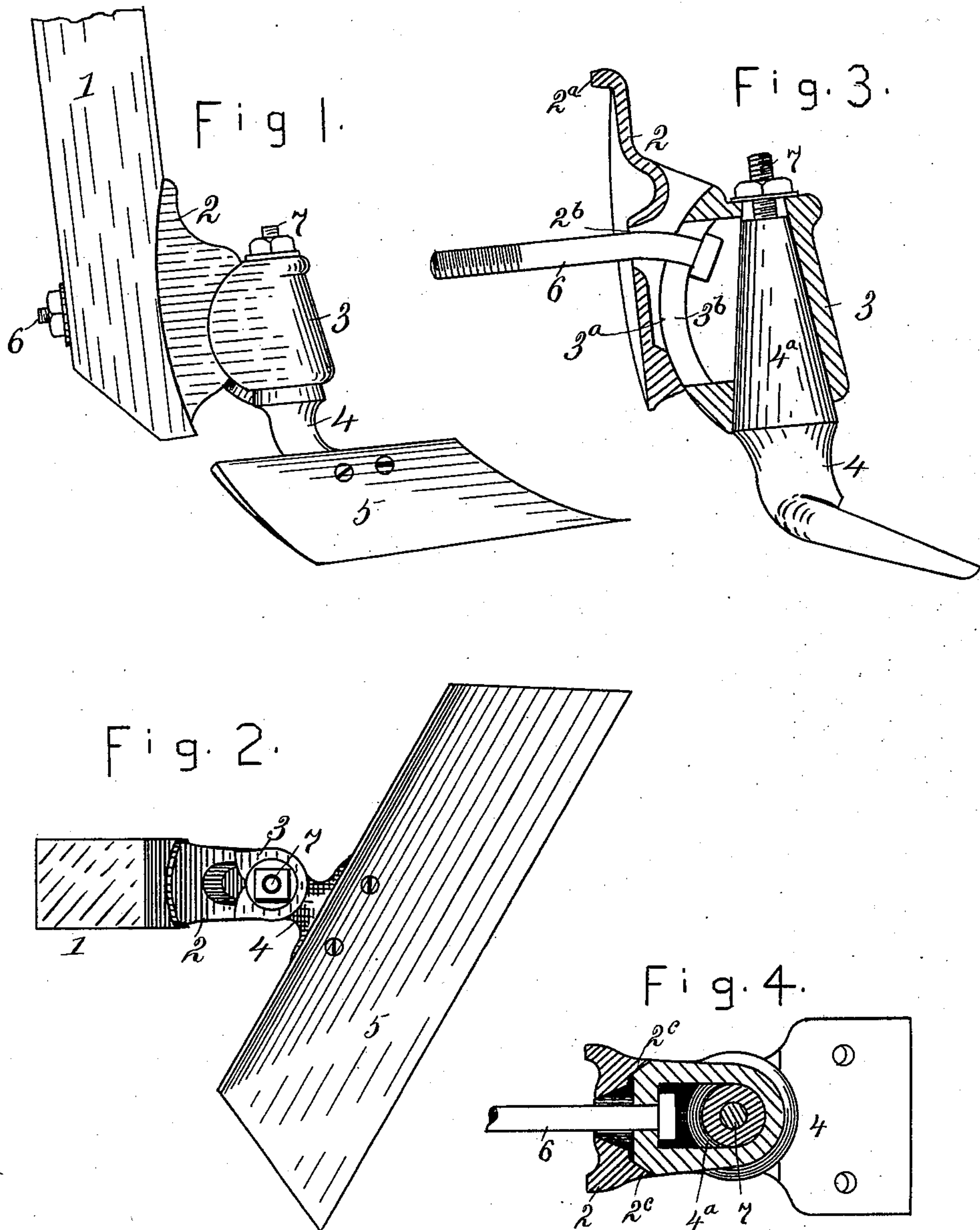


(No Model.)

J. H. KNAPP.
CULTIVATOR.

No. 534,222.

Patented Feb. 12, 1895.



ATTEST

Helen Graham
William Graham

INVENTOR

J. H. KNAPP.
by his attorney
L. P. Graham

UNITED STATES PATENT OFFICE.

JOHN H. KNAPP, OF DECATUR, ILLINOIS, ASSIGNOR OF ONE-HALF TO FRED A. GRUNENDIKE AND FRANK P. GRUNENDIKE, OF SAME PLACE.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 534,222, dated February 12, 1895.

Application filed August 29, 1894. Serial No. 521,584. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. KNAPP, of Decatur, in the county of Macon and State of Illinois, have invented certain new and useful Improvements in Cultivators, of which the following is a specification.

This invention relates more particularly to cultivators adapted to surface cultivation. Its object is to provide an adjustable joint between the shanks of cultivators and the blades thereof. It is exemplified in the structure hereinafter specified and it is defined in the appended claim.

In the drawings forming part of this specification Figure 1 is a side elevation of my invention. Fig. 2 is a plan thereof. Fig. 3 is a central vertical section. Fig. 4 is a cross section on line X in Fig. 3.

The device comprises three essential features, namely, the shoe 2, which is secured to the lower end of the shank 1 of the cultivator; the bracket 4, which is connected with the cultivator blade 5, and the intermediate block 3 which is used to connect the bracket with the shoe in a manner permitting free adjustment of the blade and furnishing rigid support in any desired position. The shoe has the stud 2^a adapted to penetrate the cultivator shank and assist in making a secure connection therewith; the bolt hole 2^b adapted to admit bolt 6; and the vertical, inclined side ledges 2^c. In addition to these peculiarities, its face is regularly concaved. The bracket has holes for the bolts that connect it with the blade. Its upper end is conical and it has a threaded bolt 7, which is preferably provided by inserting the bolt into the mold and casting the metal onto it. The intermediate block 3 has a conical recess for the conical end 4^a of the bracket. Its rear face conforms to the curved face of the shoe, as seen at 3^a in Fig. 3. It is wedge-shaped in cross section, as seen in Fig. 4, and it is slotted at 3^b to admit bolt 6.

In putting the parts together, the bolt 6 is inserted through the conical opening and the slot of block 3, after which the cone of the bracket is secured in position in the block.

The block and the shoe are placed together properly, with bolt 6 extending through hole 2, and the entire device is secured to the shank by means of the bolt 6, the stud 2^a and the side flanges of the shoe which extend past the sides of the shank.

By loosening the nut on bolt 7 the blade may be turned to any desired extent horizontally, and when the bolt is re-tightened the position will be firmly retained. When the nut on bolt 6 is loosened the block 3 may be rocked vertically in its concave bearings in the shoe, and when the bolt is tightened the wedge-formed sides will press between the correspondingly-formed ledges 2 and will retain the block immovably in whatever position it may be placed. The two directions of adjustment will enable the blade to be set to throw the soil to or from the row, and also enable either end of the blade to be raised to avoid cutting the roots of the plants under cultivation.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

In a cultivator joint, the combination of a shoe adapted to be secured to the cultivator shank, such shoe having a concaved face and inclined ledges adjacent to the face, a blade bracket having a conical upper end and a threaded termination, an intermediate block curved and wedge-formed to correspond to the concaved face of the shoe and the inclined ledges thereof, recessed conically to admit the conical end of the blade-bracket and slotted to admit a securing bolt; a bolt adapted to extend through the slot of the block and through the shoe, and a nut for the threaded end of the cone of the blade-bracket, substantially as set forth.

In testimony whereof I sign my name in the presence of two subscribing witnesses.

J. H. KNAPP.

Attest:

C. M. LYTLE,
WILLIAM GRAHAM.