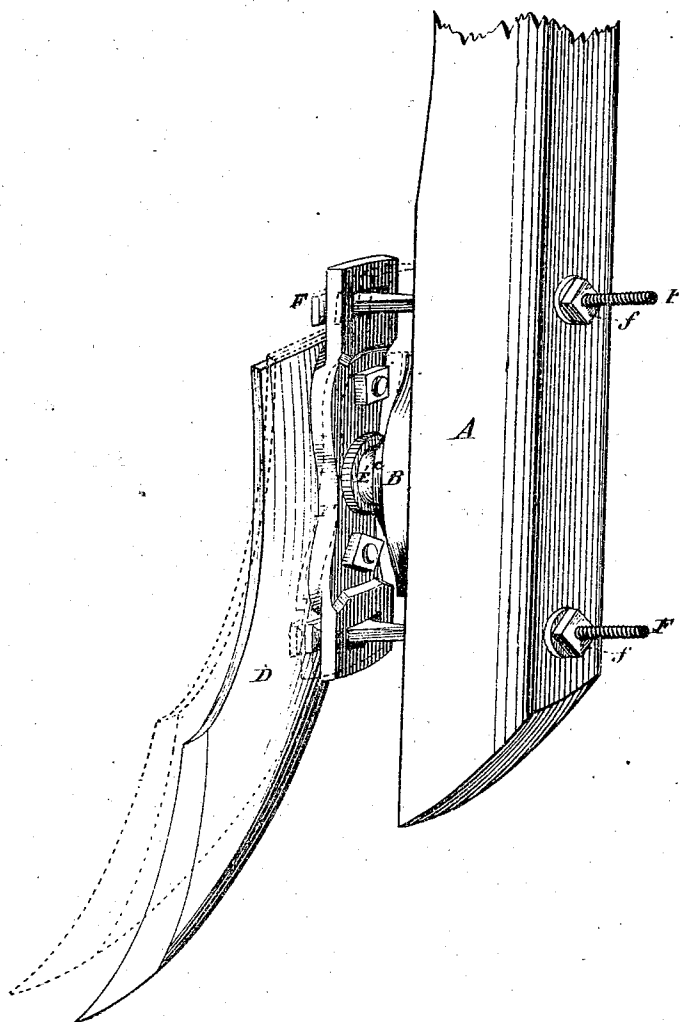


Thomas F. Hamilton.

Improvement in Cultivators, Shovel-Plows, &c.
No. 118,362. Patented Aug. 22, 1871.

Fig. 1.



Witnesses.

C. H. Poole.
John R. Young

Inventor.

Thos. F. Hamilton.
By Prindle & Dyer,
Attys.

Thomas F. Hamilton.

Improvement in Cultivators, Shovel - Plows, &c.
No. 118,362. Patented Aug. 22, 1871.

Fig. 2.

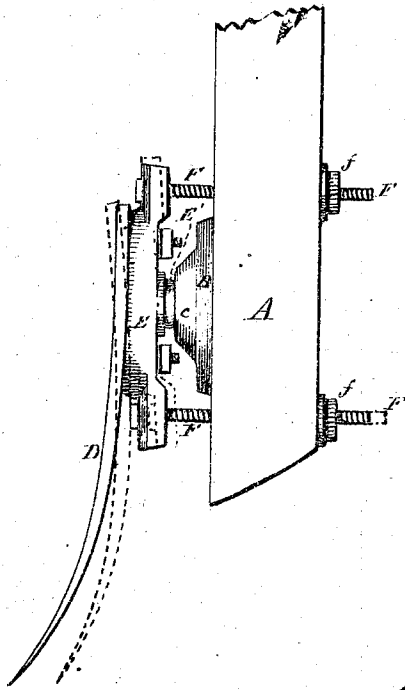


Fig. 5.

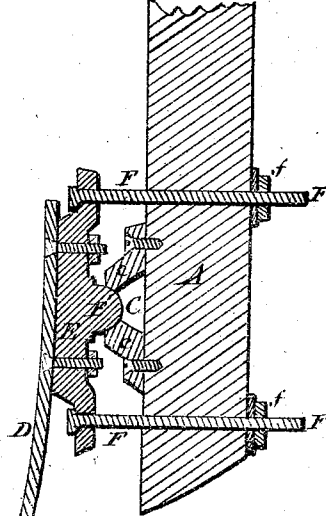


Fig. 4.

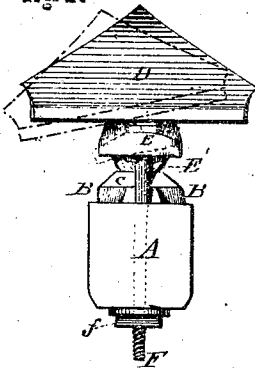


Fig. 3.

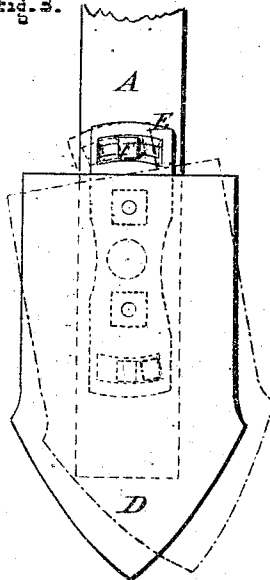


Fig. 6.

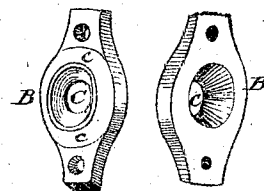
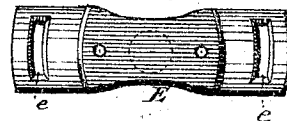


Fig. 7.



Witnesses.

Chas. Poole
John B. Young

Inventor.

Thos. F. Hamilton,
by Orinelle W. Oyer,
Attys.

UNITED STATES PATENT OFFICE.

THOMAS F. HAMILTON, OF GENESEO, ILLINOIS.

IMPROVEMENT IN CULTIVATORS AND SHOVEL-PLOWS.

Specification forming part of Letters Patent No. 118,362, dated August 22, 1871.

To all whom it may concern:

Be it known that I, THOMAS F. HAMILTON, of Geneseo, in the county of Henry and in the State of Illinois, have invented certain new and useful Improvements in Cultivators, Shovel-Plows, &c.; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 is a perspective view of the foot or standard of a shovel-plow or cultivator, having attached thereto a shovel, by means of my improved block. Figs. 2 and 3 are, respectively, a side and a front elevation of the same. Fig. 4 is a plan view of the upper side of said standard and its attachments. Fig. 5 is a vertical central section of the same on the line *xx* of Figs. 3 and 4, and Fig. 6 is a perspective view of the sections of said shovel-block.

Letters of like name and kind refer to like parts in each of the figures.

The object of my invention is to enable the shovels of cultivators, shovel-plows, &c., to be quickly and easily adjusted to any desired angle with reference to the standard or foot; and it consists principally in the employment of an adjustable ball-and-socket bearing or connection between the shovel and standard, substantially as and for the purpose hereinafter specified. It also consists in the peculiar construction and combination of the various parts of the rocker-block, substantially as and for the purpose hereinafter set forth.

In the annexed drawing, A represents the foot or standard, having secured to or upon its forward face a metal plate, B, which plate is constructed in the form shown in Fig. 6, and is provided at its center with an opening, C, around which extends an annular ring, *c*, having its inner face curved, so as to form within said ring a semi-spherical cavity or socket. Attached to or upon the rear face of the shovel D is a metal block, E, the ends of which are each provided with a slot, *e*, formed upon a circle, of which the longitudinal center of said block is the center, which slots are chamfered inward so as to receive a square-headed countersunk bolt, F. A semi-spherical boss, E', corresponding in size to the socket within the plate B, and extending rear-

ward from the center of said block, completes the device, the operation of which is as follows:

The bolts F, passing through the slots *e* and through suitable openings within the standard A, are provided upon their rear threaded ends with suitable nuts *f*, by means of which they may be caused to draw the block E toward said standard and against the plate B, with the boss E' resting within the socket formed for its reception. As thus arranged, by loosening one bolt and tightening the other, the block E will be correspondingly moved so as to change the vertical inclination or rake of the shovel with relation to the standard, after which, by tightening said bolts, said block and shovel will be firmly secured in position, the bearing of the boss E' within its socket being the same, whatever the relative position of said block and plate. To adjust the shovel to lateral position, the bolts are loosened and the block rotated to the right or left so as to cause its slotted ends to slide around or beneath the bolt-heads, as shown in Fig. 3, after which, by tightening said bolts, said shovel is again secured in place.

As ordinarily constructed and attached to the standard, when the shovel is turned to the right or left, its point is presented to the ground at an angle and out of line with the standard, so as to cause a strong side draft and render the management of the cultivator extremely difficult; but in my device this objection is entirely obviated, as any desired vertical, radial, or lateral adjustment of the shovel can be obtained. This feature of perfect adjustability especially adapts the device to the cultivation of plants, for which purpose, when said plants are young and tender, the point of the shovel is turned away so as to prevent injury to them; but when said plants become older said shovel may be so turned as to thoroughly stir the dirt around their roots and permit them to expand freely.

In addition to the foregoing advantages, the device is simple in construction, durable, and can be furnished at a comparatively small cost.

Having thus fully set forth the nature and merits of my invention, what I claim as new is—

1. In a cultivator or shovel-plow, an adjustable shovel-block or attachment, when provided with a ball-and-socket bearing and combined with

the standard and shovel, substantially as and for the purpose specified.

2. The plate B provided with the semi-spherical socket, and the block E provided with the curved slots *e* and boss *E'*, in combination with each other, the standard A, the shovel D, and the bolts F, substantially as and for the purpose shown and described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 2d day of May, 1871.

THOMAS F. HAMILTON. [L. S.]

Witnesses:

PETER J. DRUMM,
PETER S. GABRIO.