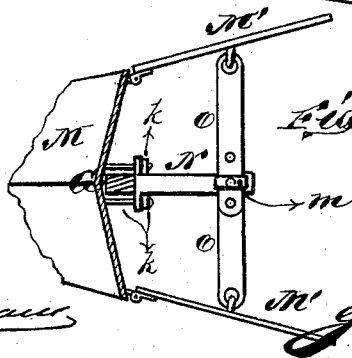
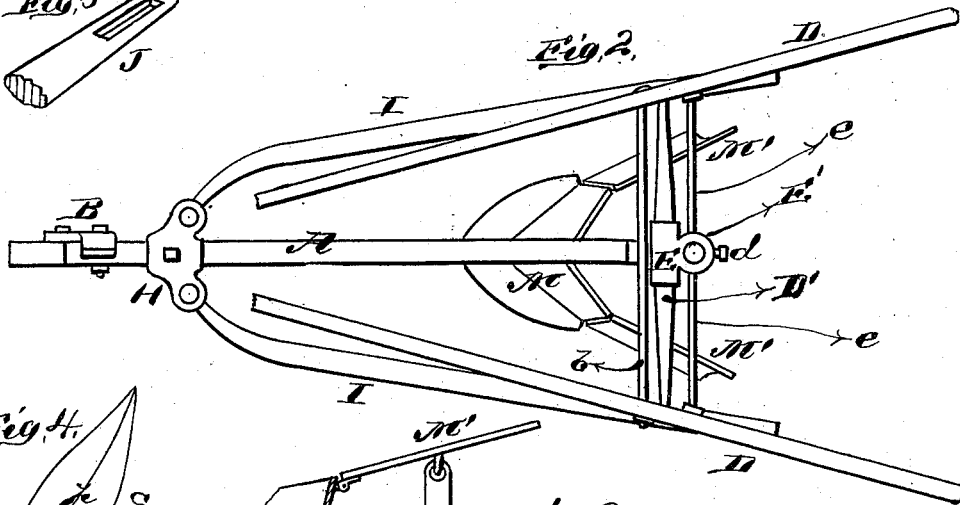
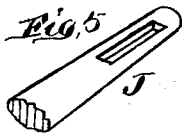
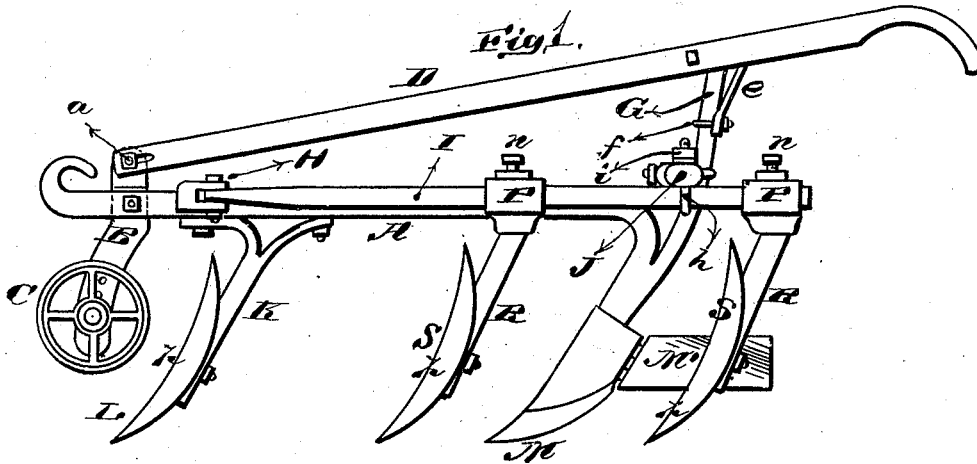


I. S. KRICK.
Cultivator.

No. 197,867.

Patented Dec. 4, 1877.



WITNESSES
W. H. H. H. H.
George C. Upham

INVENTOR.
Irrwin S. Krick.
M. Gilmore, Smith & Co.

ATTORNEYS.

UNITED STATES PATENT OFFICE.

IRWIN S. KRICK, OF CONNEAUTVILLE, PENNSYLVANIA.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **197,867**, dated December 4, 1877; application filed August 25, 1877.

To all whom it may concern:

Be it known that I, IRWIN S. KRICK, of Conneautville, in the county of Crawford and State of Pennsylvania, have invented a new and valuable Improvement in Cultivators; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side view of my combined cultivator. Fig. 2 is a plan view; and Figs. 3, 4, and 5 are detail views thereof.

The nature of my invention consists in the construction and arrangement of a combined cultivator, shovel-plow, &c., as will be hereinafter more fully set forth.

The annexed drawings, to which reference is made, fully illustrate my invention.

A represents the main or center beam, near the front end of which, on one side, is fastened a strap or bar, B, carrying at its lower end the gage-wheel C. The upper end of the bar B is bent over the top of the beam, so as to form a projection in the center thereof, and to this projection the front ends of the handles D D are pivoted by a bolt, *a*, which passes through slots in the ends of the handles. The handles are connected together by a round, D', and rod *b*, as shown. Around the center of the round D' is fastened a sleeve, E, provided on its rear side with a tubular socket, E', which is placed over the upper end of the rod G and fastened by a set-screw, *d*. The rod G is permanently secured to the back of the main beam A, at the rear end, and around said rod is passed a clip, *f*, fastened in the usual manner, and connected by braces E E with the handles.

The handles D D, it will thus be seen, are rendered strong and firm, and at the same time they can be easily and quickly adjusted up and down, to suit the height of the operator.

Near the front end of the beam A, in rear of the handle-connection, is fastened a coupling-block, H, to each side of which is hinged or pivoted the front end of a side beam, I. The rear ends of these side beams are held by means of hook-bolts *h* and nuts *i* to the slotted

ends of a cross-bar, J, which is firmly bolted to the rod G, as shown. By these means the side beams can be easily adjusted to any desired distance from the center beam and firmly held, and also be quickly removed altogether.

To the under side of the center beam A is fastened a foot, K, to which the breaking-tooth L is fastened. This breaking-tooth clears the way of stones, roots, sod, &c., forming a channel for the point of the wing-shovel plow M to run in. The tooth L is placed at an angle, so as to cause it to draw, forcing the wheel C to press against the earth.

Adjusting the wheel C up or down will cause the tooth L to run deep or shallow, as required; and by the arrangement of the parts it causes the front to stay to the ground and run steady.

The shovel-plow M is on each side provided with a hinged wing, M', and it is attached to the end of the center beam A by means of a yoke, N, and two bolts, *k k*. The yoke N also forms a brace, to which the slotted spreaders O O are attached by a thumb-bolt, *m*, said spreaders being hinged to the under sides of the wings M', as shown.

The whole is adjustable on the beam, and can be lowered, so as to take more earth and hill heavier, or raised so as to take less land and hill lighter when used as a cultivator and hiller combined.

Each side beam I is provided with one or two movable sockets, P, each fastened by a set-screw, *n*, and formed with a foot, R, to which the shovel S is rigidly secured.

The various teeth or shovels may be adjusted and arranged so as to form a three-tooth cultivator, a five-tooth cultivator, a marker for marking and opening for drilling corn, potatoes, &c., or a combined cultivator and hiller, or a wing-shovel plow with the breaking tooth and wheel.

The various teeth or blades in my cultivator are formed with a central longitudinal or perpendicular ridge, *p*, which gives a greater bevel on both sides for the earth to pass off and also strengthens them. The bending forward of the same, as shown, gives them a better cutting quality, and also strengthens them across the blade.

The teeth L and S are reversible, and each forms a broad tooth at one end and a narrow

tooth at the other end, adapting it to various soils and conditions of soil.

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

1. The combination, with the adjustable handles D D and the vertical rod G, of the sleeve E, having tubular socket E', brace-rods e, and clip f, for the purpose hereinbefore set forth.

2. The combination, with the beam A, gage-wheel C, and breaking-tooth L, set at an angle, of the plow M, provided with hinged wings

M', yoke N, with bolts k k, and the hinged adjustable spreaders O and thumb-bolts m, substantially as described.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

IRWIN S. KRICK.

Witnesses:

THOMAS F. SCOTT,
NEWTON TRUESDALE.