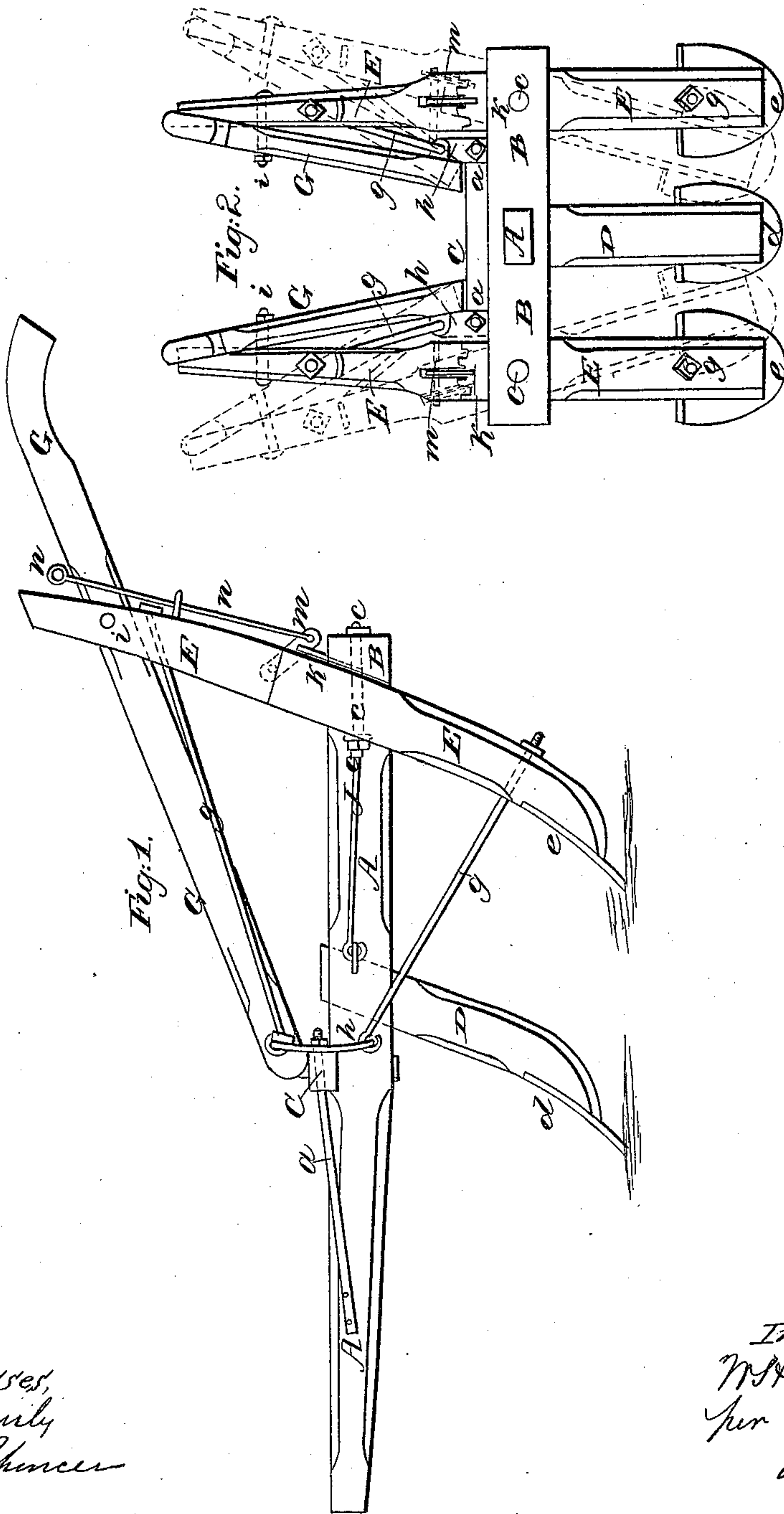


W. H. SMITH.

Cultivator.

No. } 128, }
31,132. }

Patented Jan. 15, 1861.



Witnesses,
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UNITED STATES PATENT OFFICE.

W. H. SMITH, OF WYANET, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 31,132, dated January 15, 1861.

To all whom it may concern:

Be it known that I, W. H. SMITH, of Wyanet, in the county of Bureau and State of Illinois, have invented a new and Improved Gang-Plow; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side elevation of the improved plow. Fig. 2 is a rear end elevation of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention relates to three-shovel cultivators or gangs for the cultivation of drill-crops; and it consists in so pivoting and bracing the rear stocks or standards carrying the shovels to the cultivator-frame and attaching said stocks to the handles of the cultivator that the rear shovels may be moved laterally while the cultivator is being drawn through the field, and thus made to work up close to rows of plants which are irregularly laid out, for the more perfect cultivation of the plants, as will be hereinafter fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the drawings, A is a beam, of a suitable length and strength, which has secured to its rear end a transverse bar, B, projecting out an equal distance from each side of the beam A, and about the middle of the length of the beam A, and on the top of this beam is rigidly secured another transverse bar, C, which also projects out equal distances from each side of the beam, and is braced to the beam A by two diagonal rods, *a a*, which proceed forward from each end of the bar C, and are bolted at their front ends through the beam A.

D is the stock for the front shovel, *d*, which stock is mortised into the beam A, and projects downward with the required pitch for presenting shovel *d* properly to its work. The shovel *d* is an ordinary scooter-shaped plate secured to the lower end of the stationary stock D in any suitable manner.

E E are the two stocks which carry on their lower ends the rear shovels, *e e*. These stocks or standards E E project below the beam the same distance as the stock D, and they also

project some distance above the beam. They are pivoted by bolts *c c* to the ends of the cross-bar B and on the front sides of this bar, so that each stock E will be capable of receiving a lateral vibrating movement about their respective pivots. The shovels *e e* may thus be separated some distance apart or brought close together by moving the upper ends of the stocks laterally. These rear stocks, E, are also inclined in a plane parallel with the middle stock, D.

The stocks E E are each braced by two rods, *g g*, which pass longitudinally through the stocks and extend forward and are secured to the vertical pivoted pieces *h h*, which are respectively pivoted to the ends of the transverse bar C, as shown in Figs. 1 and 2 of the drawings. These pieces *h h* rock laterally (about their pivot-connections with the bar C) with the stocks E E. At the same time these pieces *h h*, in conjunction with the rods *g g*, form substantial braces for the upper and lower ends of the stocks E E. The stilts or handles G G are strongly pivoted at their front ends to the upper ends of the rocking pieces *h h*, and these handles are secured by bolts *i i* to the upper ends of the stocks E E.

J J are two middle brace-rods, one of which is shown in Fig. 1, which are connected at their rear ends to the front ends of the bolts *c c* and at their front ends to the beam A, just in rear of the transverse bar C, as shown in Fig. 1 of the drawings.

Behind each stock E, and secured to the ends of the transverse bar B, are plates *k k*, which project up a suitable distance above the bar B, and have notches cut in their upper edges, as clearly shown in Fig. 2 of the drawings. The top edges of these plates are curved concentrically with the axes of the stocks E E. Just above the notched plates *k k* are short catch-arms *m m*, which are pivoted into the rear sides of the stocks E E and project back and over the notched edges of the plates *k k*. To the ends of these arms *m m* are respectively attached rods *n n*, which project up behind the stocks E E, through staples on these stocks, to a suitable height convenient to the hands of the plowman, who can raise the arms *m m* by means of these rods *n n*, and thus detach the arms from the plate *k k* at pleasure.

From this description it will be seen that while the rear shovel-stocks, E E, are each se-

curely braced to withstand any forward or backward pressure they can be moved laterally by the plowman, according to the distance the rows of plants under cultivation are apart, by simply drawing together or separating the handles G G when the rods *n n* are raised.

It will also be seen from the foregoing description that the shovel-stocks E E can be fixed at any desirable distance apart at their lower ends by allowing the arms *m m* to engage with the notches in the plates *k k*, which arms and plates secure the stocks rigidly to the cross-bar of the stock A; and, again, either one or both of the stocks can be secured to or loosened

from the bar B at pleasure while the machine is in operation.

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

The brace-rods *g g*, pivoted pieces *h h*, notched plates *k k*, and arms *m m*, in combination with the pivoted shovel-stocks E E and handles G G, all arranged and operating substantially as and for the purposes herein set forth.

W. H. SMITH.

Witnesses:

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