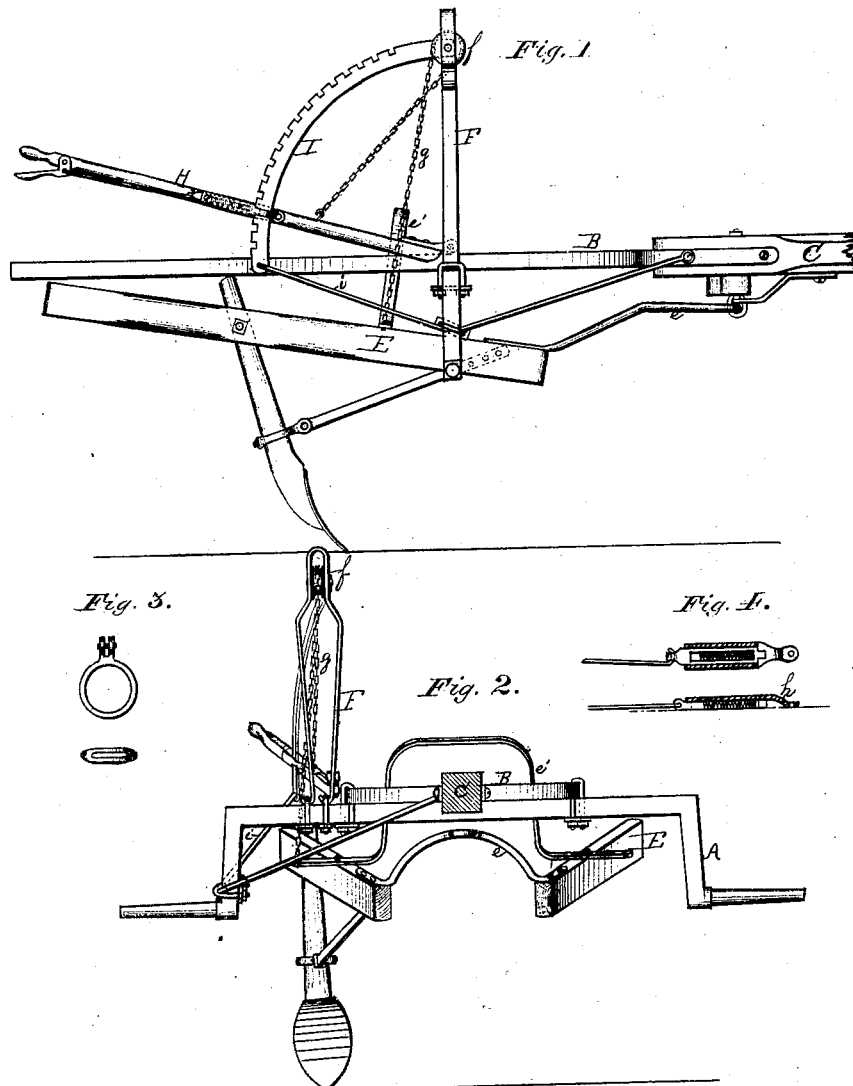


F. N. Welden,

Wheel Cultivator.

No. 112,994.

Patented Mar. 21. 1871.



Witnesses:

J. J. Hayes
Newton Cranford

Inventor

Francis N. Welden
J. M. Beadle atty

UNITED STATES PATENT OFFICE.

FRANCIS N. WELDEN, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **112,994**, dated March 21, 1871.

To all whom it may concern:

Be it known that I, FRANCIS N. WELDEN, of Rockford, in the county of Winnebago and State of Illinois, have invented new and useful Improvements in Cultivators; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

This invention relates to that class of cultivators which are provided with an auxiliary frame carrying the shovels, in connection with the main frame resting upon wheels; and consists in certain details of construction, which will be fully described hereinafter.

In the drawings, Figure 1 represents a side elevation of a section of a cultivator, showing my improvements. Fig. 2 represents a front elevation of the same; Fig. 3, views of the ring connecting the standard to the brace-rod; and Fig. 4, views of the spring-bolt attached to the lifting-lever.

To enable others skilled in the art to make and use my invention, I will now proceed to describe fully its construction and manner of operation.

A represents the axle; B, the frame, and C the tongue. These parts together constitute the main frame proper.

E E represent the shovel-beams, united in front by the iron *e*, and also by the bowed bar *e'*. These beams, connected as described, constitute the auxiliary frame which carries the shovels.

The form of the iron *e* is peculiar. It is bent in such manner as to form suitable curves for guiding the stalks of corn in between the beams when they are high enough to come in contact with it. Its front end is attached in any suitable manner to a center at the evener or back of it, though I preferably use an eye-bolt in connection with the hammer-strap, as is shown in Fig. 1.

The standard is secured to the shovel-beam in the ordinary manner. The construction of the ring, however, which connects the standard to the brace-rod is peculiar, being slotted upon its rear side, as is clearly shown in Fig. 3. Its vertical position upon the standard is secured by means of a stay-pin, which is inserted in the slot, as shown in Fig. 1. By means of this construction the standard may

be adjusted in the ring without changing the position of the latter.

F represents a standard formed of a bent bar, which is securely attached to the axle, as shown. In its upper part is located a pulley, *f*, over which passes the chain *g*, the ends of which latter are attached to the lifting-lever and bowed bar *e'*, as shown.

The lifting-lever H is hinged to the standard, as shown, and is provided with a spring-bolt, which engages with the rack-bar I in the usual well-known manner. The construction of this bolt, however, is peculiar. Its upper plate or face *h* extends over and incloses the rack-bar I, and thus prevents the bolt from becoming accidentally disengaged from the rack-bar by the lateral movement of the lever. The lever also forms a brace of itself, whether it is moved or not.

The operation of these parts is not different from other machines of this class, and need not therefore be particularly described.

I do not broadly claim to have invented a spring-bolt, nor to have combined it with a rack-bar and lever; but,

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

1. The iron *e*, bent as described, in combination with the beams E, when attached to the tongue at or near the evener, as described.

2. The spring-bolt *h*, constructed specifically as described—that is, with its covering-plate extending over and about the lever, for the double purpose of preventing the lever from moving laterally and for protecting the internal bolt mechanism, as described.

3. The combination of the standard F, rack-bar I, lever H, and brace-rod *i*, the parts being arranged as described—that is, the rack-bar being secured above to the standard and held below from vertical and lateral movement by the brace-rod without other support, the lever also being hinged to the standard and secured to the rack-bar, as described.

This specification signed and witnessed this 9th day of August, 1870.

FRANCIS N. WELDEN.

Witnesses:

G. W. FORD,
A. HAINES.