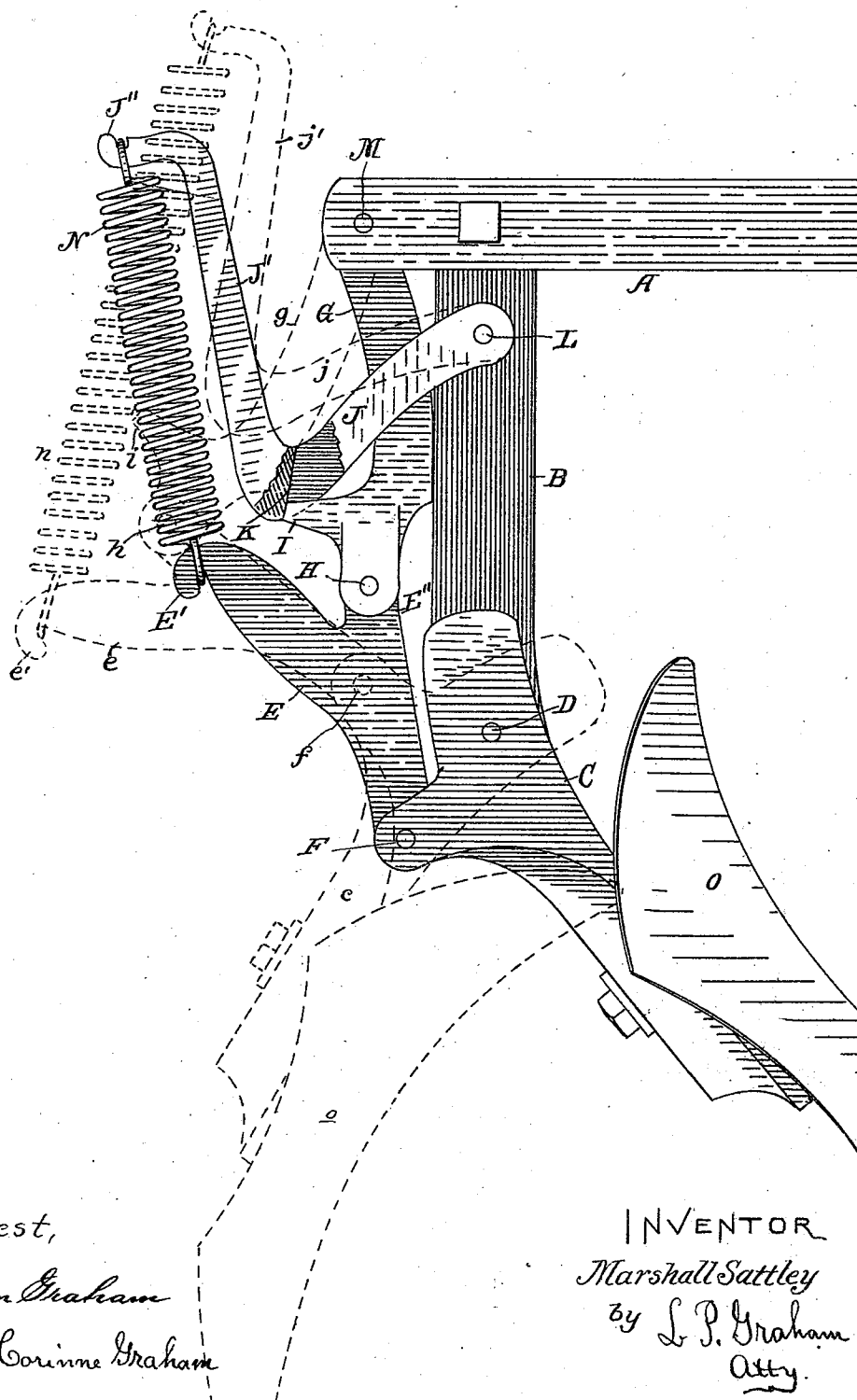


(No Model.)

M. SATTLEY.
TRIP SHANK CULTIVATOR.

No. 553,691.

Patented Jan. 28, 1896.



Attest,
Helen Graham
Ma Corinne Graham

INVENTOR
Marshall Sattley
by L. P. Graham
Atty.

UNITED STATES PATENT OFFICE.

MARSHALL SATTLEY, OF SPRINGFIELD, ILLINOIS, ASSIGNOR TO THE
SATTLEY MANUFACTURING COMPANY, OF SAME PLACE.

TRIP-SHANK CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 553,691, dated January 28, 1896.

Application filed October 28, 1895. Serial No. 567,190. (No model.)

To all whom it may concern:

Be it known that I, MARSHALL SATTLEY, of Springfield, in the county of Sangamon and State of Illinois, have invented certain new and useful Improvements in Trip-Shank Cultivators, of which the following is a specification.

This invention is exemplified in the structure hereinafter described, it is defined in the appended claims, and its utility and the mechanical principles involved are apparent from the description.

In the drawing forming part of this specification a device embodying my invention is shown in side elevation with the movable parts in two different positions.

A cultivator-beam is shown at A and a shank at B, the latter being rigidly secured to the former in any suitable manner. A shovel-sleeve C is pivotally connected with the shank at D and it has a rearward extension or spur. A toggle-joint, composed of members E'' and G, connects the extension of the sleeve with a rigid rearward extension from the shank, in this particular case a part of the beam, and the different pivotal connections of the parts are at M, H and F. The member G of the toggle-joint is adapted to rest against the rear surface of the shank, and it has a rearwardly-extending spur I that is of importance in attaining a result to be hereinafter explained. The member E'' has a rearward and upward extending part, designated by E, which is supplied with a hooked termination E'. An arm J is forked to embrace the shank, to which it is pivotally connected at L, its crotch forms a bearing-surface K for spur I, and it has an upward extension J' which is hooked at J''. A spring N connects the hook J'' with hook E' of the lower toggle-joint member and tends to draw one toward the other.

The movable parts are shown in operative position by solid lines and are there designated by capital letters. They are also shown in tripping position by dotted or broken lines and are there designated by Italic letters, and a part of arm J is broken away to show the bearing in the crotch of the arm for spur I.

The toggle-joint rests ordinarily with member G bearing against the shank and the intermediate pivot slightly to the rear of a line drawn from one end pivot to the other. The arm J extends downward and backward from pivot L to crotch K, which abuts against the end of the spur, and the spring N performs the different functions of drawing member E'' toward the shank by direct action and of forcing member G in the same direction by means of the arm, the crotch-bearing and the spur.

When the shovel O encounters an obstacle immovable to an extent to endanger the cultivator, the toggle-joint, which is off centers, may break, against spring pressure exerted as explained, and move the swinging parts back toward the positions shown by broken lines in the drawing. In the beginning of such motion the spur pushes the arm backward and upward by pressure exerted on the bearing K, and the spur slides along the bearing until, by the difference in the direction of motion of the parts, the spur separates from or slides past the bearing of the arm. When this occurs the completion of the tripping is made without further material augmentation of the tension of the spring. The result of this arrangement is that the spring acts rather stiffly against the initial tripping motion, thus enabling the toggle-joint to be set farther off dead-centers and minimizing danger of breakage; but after the spur has swung clear of the arm the continuation of the tripping action is comparatively easy.

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

1. A spring trip for cultivators, comprising a shank, a shovel-sleeve pivotally connected with the shank, a toggle joint connected with the sleeve, and with an extension rigid with the shank, an arm pivoted on the shank and adapted to bear against the toggle joint, and a spring connecting the arm with a member of the toggle joint, substantially as set forth.
2. A spring trip for cultivators, comprising a shank, a shovel-sleeve pivotally connected with the shank, a toggle joint connected with the sleeve and with an extension rigid with

the shank, a spur on the toggle joint, an arm
pivoted on the shank adjacent to the upper
pivot of the toggle joint and having a bear-
ing in its under surface adapted to engage
5 the spur of the toggle joint, and a spring con-
necting the arm with the lower member of the
toggle joint, substantially as set forth.

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

MARSHALL SATTLEY.

Attest:

ARCHABALD SATTLEY,
J. H. MATHENY.