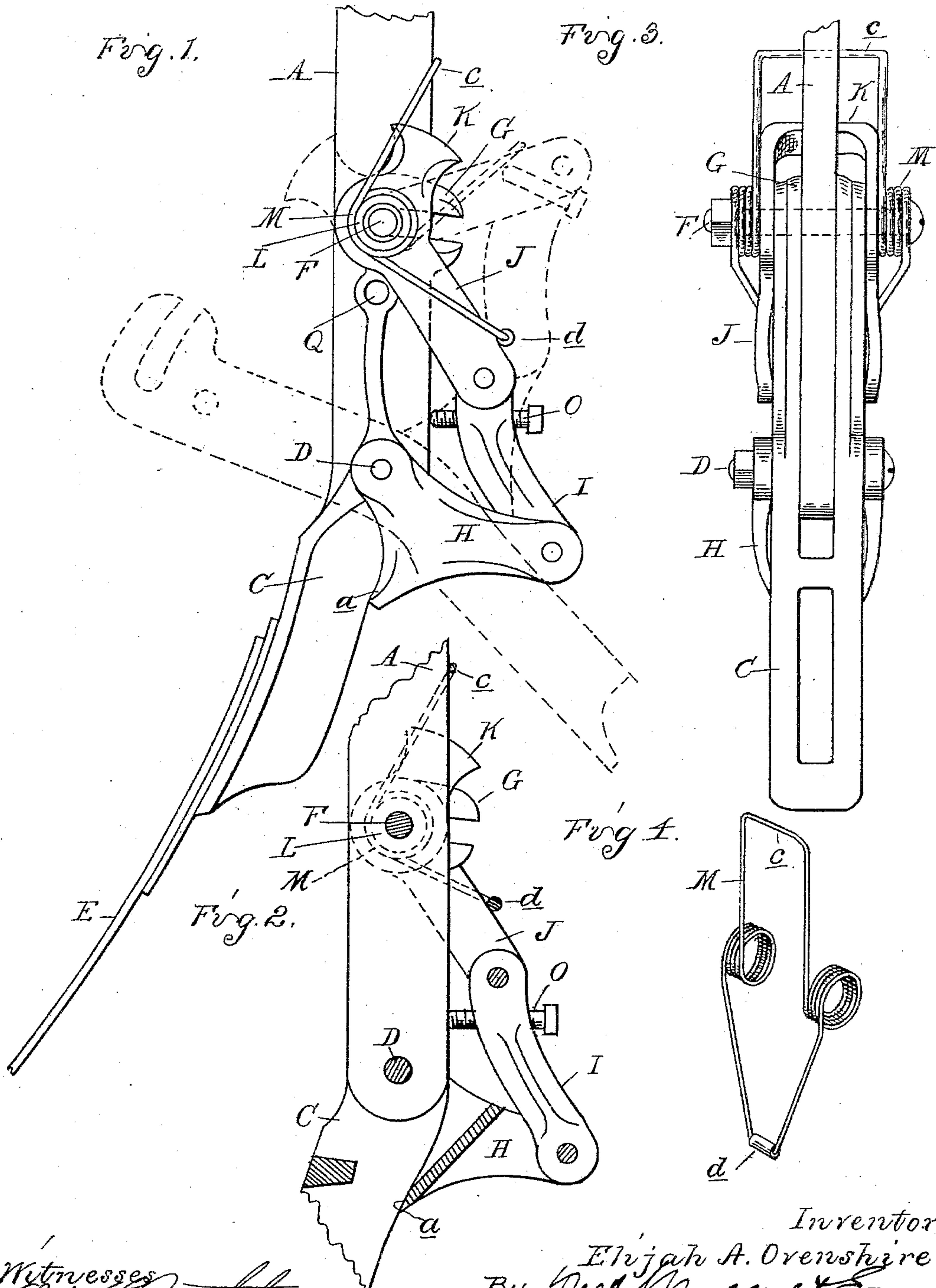


(No Model.)

E. A. OVENSHERE.
CULTIVATOR.

No. 598,057.

Patented Jan. 25, 1898.



Witnesses
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UNITED STATES PATENT OFFICE.

ELIJAH A. OVENSHERE, OF DETROIT, MICHIGAN, ASSIGNOR TO THE
AMERICAN HARROW COMPANY, OF SAME PLACE.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 598,057, dated January 25, 1898.

Application filed March 19, 1897. Serial No. 628,287. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH A. OVENSHERE, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Cultivators, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to cultivators, and particularly to what is called a "spring-trip" for the cultivator tooth or sleeve; and the invention consists in the construction of such a spring-trip, whereby it is simplified, cheapened, and made compact.

To this end the invention consists in the arrangement, construction, and combination of the various parts, all as more fully hereinafter described.

In the drawings, Figure 1 is a side elevation of a drag-bar or standard of a cultivator, showing my improvement applied thereto and showing in full and dotted lines the normal and tripped positions of the parts. Fig. 2 is a similar view to that shown in Fig. 1, except that it is in section on a line drawn beside the standard. Fig. 3 is a front elevation. Fig. 4 is a perspective view of the spring, detached, of the drag-bar.

A is the vertical portion, which I shall refer to hereinafter as the "standard" for convenience of reference.

C is the shovel-carrying member and what is usually termed the "sleeve," being slotted on its rear face to engage upon the lower end of the standard and be pivoted thereto at the lower end of the standard upon a bolt D. In the construction shown and which I deem the preferable construction this bolt passes through substantially the middle part of the sleeve. The lower end of the sleeve carries the shovel E, and the upper end contacts with the standard at some point to act as a stop. I have shown the stop in this case formed by a bolt F, with which the hooks G on the upper end of the sleeve engage.

H is a lever or arm extending rearwardly from about the fulcrum-point of the sleeve, preferably being pivoted on the bolt D and having a bearing *a* on the sleeve below its fulcrum. This lever or arm is connected

with the standard by means of the toggle-levers I and J. The toggle-lever J is a double lever—that is, formed in two separate parts—and is pivoted at its upper end on a bolt F. It is separated from the standard by the flanges K a sufficient distance to form a recess or socket into which the hooks G may engage in the operation of the device.

The parts of the lever J are provided with outwardly-projecting trunnions L, around which the coil-spring M is engaged, the spring having an arm *c*, which bears against the standard, and an arm *d*, which bears against the toggle-levers.

O is an adjusting-screw passing through a toggle-lever and abutting against the standard, so as to determine the angle at which these levers usually extend and thereby determine the amount of power required to trip the device.

The operation of the machine is as follows: The toggle-levers being arranged with their pivotal points slightly out of line if a sufficient obstacle is encountered by the cultivator-blade to overcome the resistance of the toggle connection and its spring the blade will fall backward against the tension of the spring, forcing the levers up into the position shown in Fig. 1 in dotted lines and allowing the blade to swing backward to clear the obstacle. As soon as the obstacle has been passed the spring will force the parts back into their normal position.

With my construction the ordinary type of sleeve designed for friction-trip or a wooden brake may be sent out with the cultivator, and my improved spring-trip may be applied as an attachment thereto. In case a friction-trip is desired the toggle-levers and the lever H may be removed, and in place of the bolt F a clamping-bolt may be used, this clamping-bolt producing friction upon the hooks G sufficient to lock the sleeve, except in case too great strain is brought upon the shovel, or a wooden pin may be driven through the hole Q for the same purpose. Then if it is desired to use my improved spring-trip it is simply necessary to attach the parts H, I, and J and the spring and the device is complete. It will be seen that by this particular arrangement of connecting the toggle-levers from a lever

extending rearwardly from the fulcrum-point of the sleeve to a point on the vertical portion of the drag-bar the entire spring-trip is in the rear of the standard and that it is much more compact and simple than in devices in which the connection is made to the horizontal portion of the drag-bar.

What I claim as my invention is—

1. In a cultivator, the combination of a standard, comprising a vertical portion, a sleeve pivoted to the end of the vertical portion of the standard, a rearwardly-extending lever pivoted on the pivot of the sleeve and separable therefrom, and a spring-backed toggle-lever trip, connecting from the rearwardly-extending lever, back to the vertical portion of the standard.

2. In a cultivator, the combination with the standard, having a vertical portion, of a sleeve pivoted centrally to the lower end of the standard, its upper portion acting as a stop for the sleeve, a lever extending rearwardly from the pivotal point of the sleeve, and a spring-backed toggle-lever connection from this rearward lever, back to the standard at the upper end of the sleeve.

3. In a cultivator, the combination with the

standard, a sleeve pivoted to the lower end thereof, a lever, pivoted at the pivotal point of the sleeve and extending rearwardly therefrom, a toggle-lever connection from its end back to the standard, and a spring coiled centrally about bearings on the upper pivotal point of the toggle-lever, and having arms bearing respectively on the standard and toggle-lever.

4. In a cultivator, the combination of the standard, the sleeve pivoted at its middle and having a hook at the upper end, a rearwardly-extending lever pivoted on the pivotal bolt of the sleeve, a toggle-lever connection between this rearwardly-extending lever and the standard at the top of the sleeve, the upper lever of the toggle being a double lever, extending on each side of the standard, and flanges on these levers forming a recess for the hook on the sleeve, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ELIJAH A. OVENSHERE.

Witnesses:

JAMES WHITEMORE,
OTTO F. BARTHEL.