

No. 621,894.

Patented Mar. 28, 1899.

I. L. BOYER.  
CULTIVATOR.

(Application filed Jan. 10, 1899.)

(No Model.)

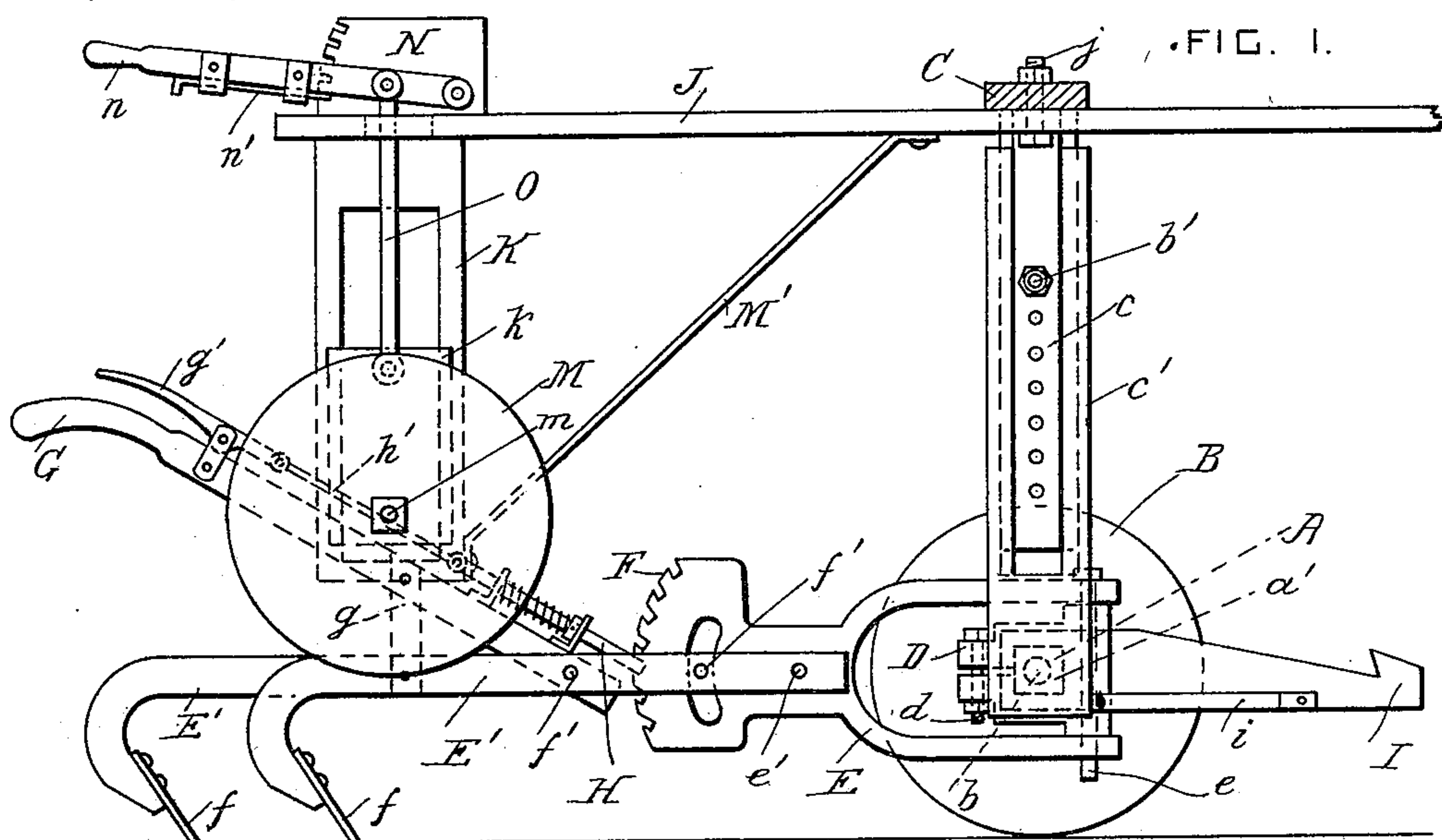


FIG. 2.

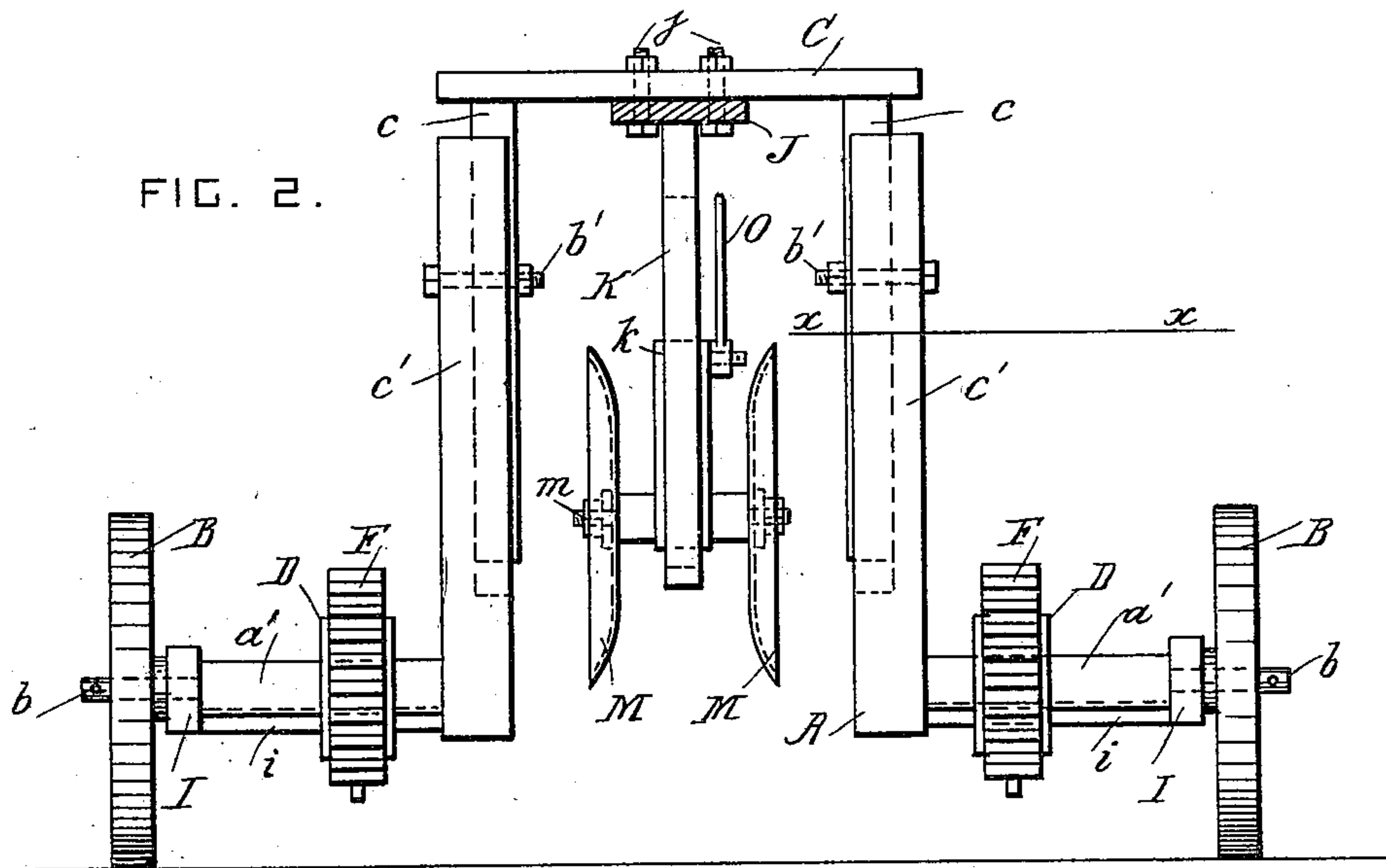
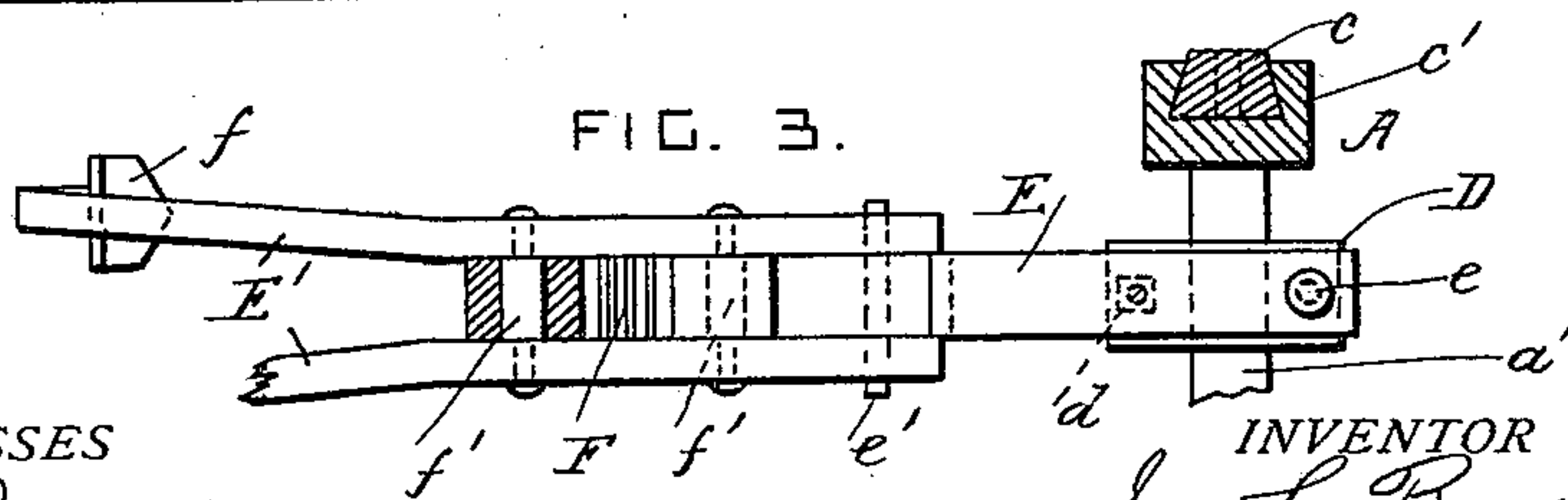


FIG. 3.



WITNESSES

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# UNITED STATES PATENT OFFICE.

IRA L. BOYER, OF WHEATON, KANSAS.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 621,894, dated March 28, 1899.

Application filed January 10, 1899. Serial No. 701,738. (No model.)

*To all whom it may concern:*

Be it known that I, IRA L. BOYER, a citizen of the United States, residing at Wheaton, in the county of Pottawatomie and State of Kansas, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to cultivators; and it consists in the novel construction and combination of the parts hereinafter fully described and claimed.

In the drawings, Figure 1 is a longitudinal section through the cultivator. Fig. 2 is an end view of the axle and portions of the cultivating mechanism. Fig. 3 is a sectional plan view taken on the line *xx* in Fig. 2 and showing one of the shovel-cultivator beams.

A is an axle having square portions *a'* near each end, and B are the ground-wheels, journaled on the end portions *b* of the axle. The middle portion C of the axle consists of a slidable frame provided with uprights *c*, which are slidable vertically in dovetailed or recessed slots in the uprights *c'*, which project from the square portions *a'* of the axle. The uprights *c* and *c'* are provided with holes, and *b'* are bolts for securing the uprights together after the position of the frame C has been adjusted by sliding it vertically to suit the height of the corn.

Two similar clamps D are slidable longitudinally upon the square portions *a'* and are provided with bolts *d* for clamping them to the axle after their positions have been adjusted.

The beam of each plow or shovel-cultivator has a forked front part E, which is pivoted to one of the clamps D in front of the axle by a vertical pin *e*. Each beam also has rear portions E', the front ends of which are pivoted to the part E by a horizontal pin *e'*. The rear end portions of the parts E' are curved downward and are provided with plow-blades or cultivator-shovels *f* of any approved construction. A toothed segment F is formed on the rear end of each part E concentric with the pin *e'*, and *f'* are distance-pieces for securing the parts E' together. The segment F is pro-

vided with a curved slot for one of the distance-pieces to pass through.

G is the guiding-handle for each shovel-cultivator, secured to the rear distance-piece *f'* and to a bracket *g*.

H is a retractable spring-pressed catch carried by the shank of the handle G and engaging with the teeth of the segment F. A lever *g'* is pivoted to the handle, and *h'* is a rod which connects the lever with the catch, so that it can be worked without letting go the handle.

I are similar draft-arms mounted on the ends of the axle adjacent to the ground-wheels and connected to the uprights *c'* by braces *i*. When the shovel-cultivators alone are used, the horses or other animals are attached to the arms I and the frame C is slid up high enough to clear the tops of the corn or other plants which are being cultivated.

J is a removable tongue secured to the middle part of the frame C by bolts *j*. This tongue forms the draft attachment for the implement when the corn is very young and the disk cultivator is used in addition to the shovel-cultivators.

K is a frame which depends from the rear end of the tongue J, and *k* is a block which is slidable vertically in the frame K, which forms a guide for it.

M are cultivator-disks mounted on a shaft *m*, carried by the block *k*.

M' is a stay which supports the frame K from the middle part of the tongue.

N is a notched quadrant carried by the tongue above the frame K, and *n* is a lever pivoted to the quadrant N and provided with a catch *n'* for engaging with the quadrant.

O is a rod pivoted to the lever *n* and to the block *k*. The vertical position of the cultivator-disks is adjusted by means of the lever *n*.

The cultivator-disks are arranged between the shovels and a little in front of them, so as to prevent clods thrown up by the shovels from falling against the young plants. These cultivator-disks cultivate the ground close to the roots of the young plants and cut off the weeds.

When the plants are partly grown, the tongue and the cultivator-disks are removed,



and the implement is transformed into a tongueless cultivator.

What I claim is—

1. In a cultivator, the combination, with a  
5 forked front portion E of a beam having a  
vertical pivot-pin *e*, and a toothed segment F  
at its rear end; of two rear portions E' pivoted  
to the portion E by a horizontal pin *e'* and  
provided with blades *f* at their rear parts, a  
10 guiding-handle secured between the two said  
portions E' behind the toothed segment, and  
a retractable catch carried by the said handle  
and engaging with the said segment, substantially  
as set forth.

15 2. In a cultivator, the combination, with an  
axle, and a clamp secured thereto; of a beam  
formed of front and rear parts E and E', the  
front part E being forked and pivoted to the  
clamp by a vertical pin and provided with a  
20 toothed segment, and the rear parts E' being  
arranged one on each side of the part E and  
coupled together by distance-pieces, a horizontal  
pin pivoting the parts E' to the part  
E, cultivator-shovels carried by the parts E',  
25 a guiding-handle secured to the parts E', and  
a retractable catch carried by the said handle  
and engaging with the said segment, substantially  
as set forth.

3. A cultivator comprising an axle mounted  
30 on wheels and provided with a vertically-  
adjustable middle portion, cultivator-beams  
provided with shovels and attached to the  
end portions of the axle, draft-arms carried  
by the end portions of the axle, a removable  
35 draft-tongue attached to the middle portion

of the axle, and cultivator-disks supported  
from the rear part of the said tongue between  
the said shovels, substantially as set forth.

4. In a cultivator, the combination, with an  
axle mounted on wheels and provided with 40  
a vertically-adjustable middle portion, of  
clamps adjustable longitudinally on the end  
portions of the said axle, two similar cultivator-  
beams provided with front and rear  
parts E and E' pivoted together and adjustable 45  
vertically, vertical pins pivoting the  
front parts E to the said clamps, shovels carried  
by the rear parts E', a draft-tongue attached  
to the said middle portion of the axle,  
cultivator-disks carried by the said tongue 50  
between the said shovels, and means for adjusting  
the said disks vertically, substantially  
as set forth.

5. In a cultivator, the combination, with an  
axle mounted on wheels and provided with 55  
a vertically-adjustable middle portion, of a  
draft-tongue attached to the said middle portion  
of the axle, a frame depending from the  
rear part of the said tongue, a block slidable  
vertically in the said frame, cultivator-disks 60  
supported from the said block, and means for  
adjusting the said block, substantially as set  
forth.

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

IRA L. BOYER.

Witnesses:

H. A. HALE,

J. F. WEDERBROOK.