

(No Model.)

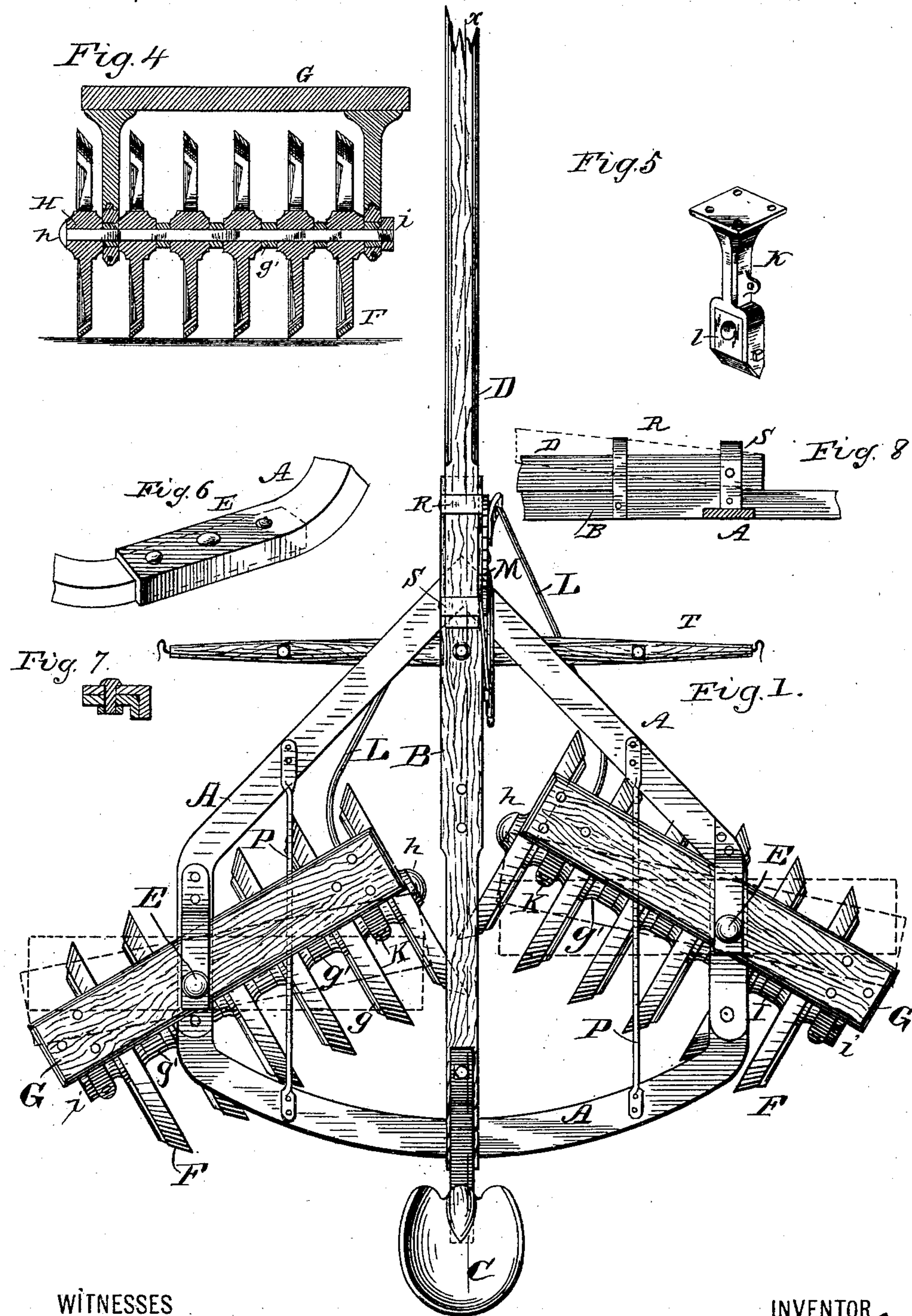
2 Sheets—Sheet 1.

W. M. ROBERTS.

CULTIVATOR.

No. 358,073.

Patented Feb. 22, 1887.



WITNESSES
Wm. J. Panner
Fred. Victor Fischer.

By his Attorneys

INVENTOR
Wm. M. Roberts
W. S. Odell

(No Model.)

2 Sheets—Sheet 2.

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Fig. 2.

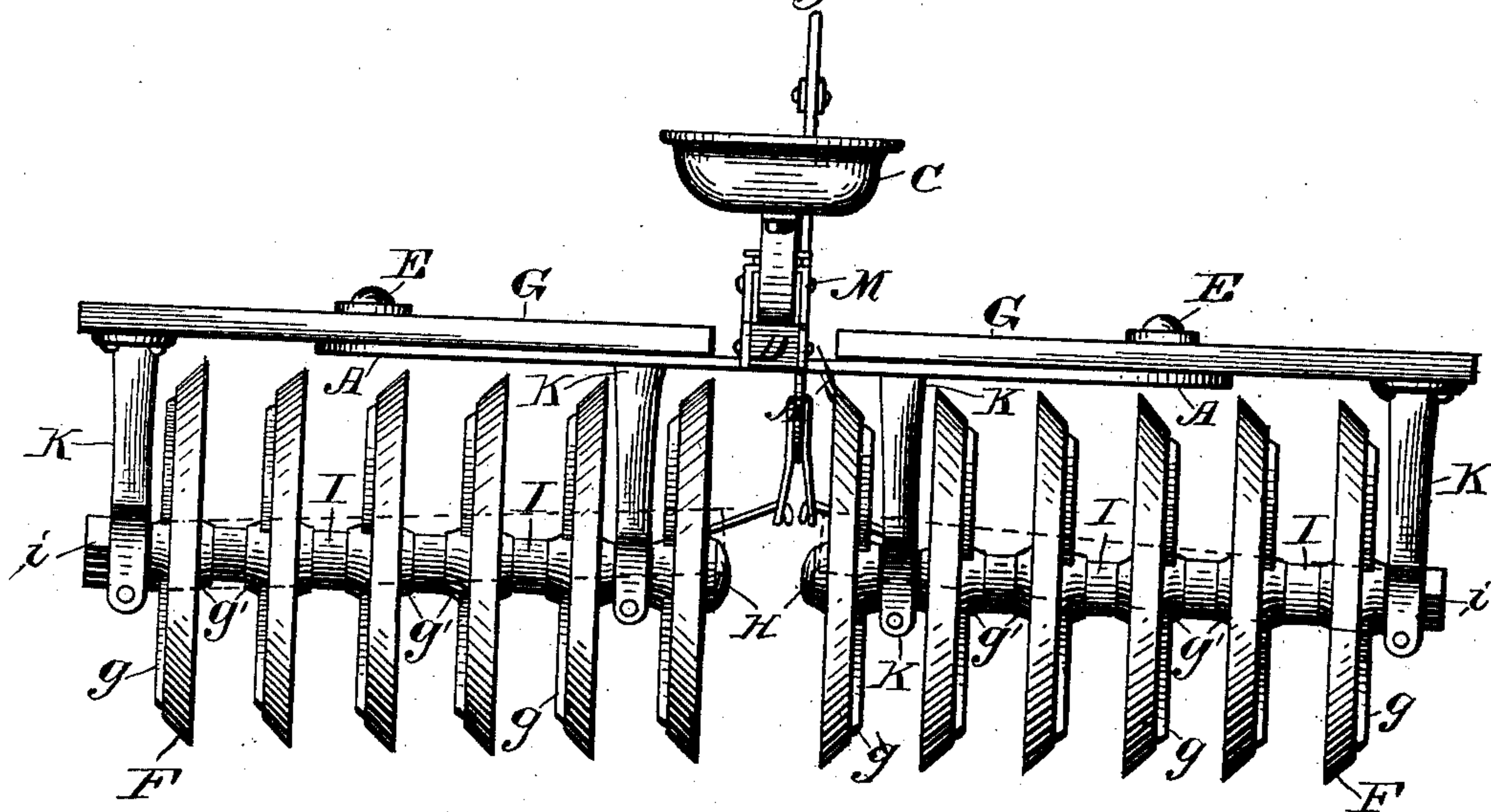
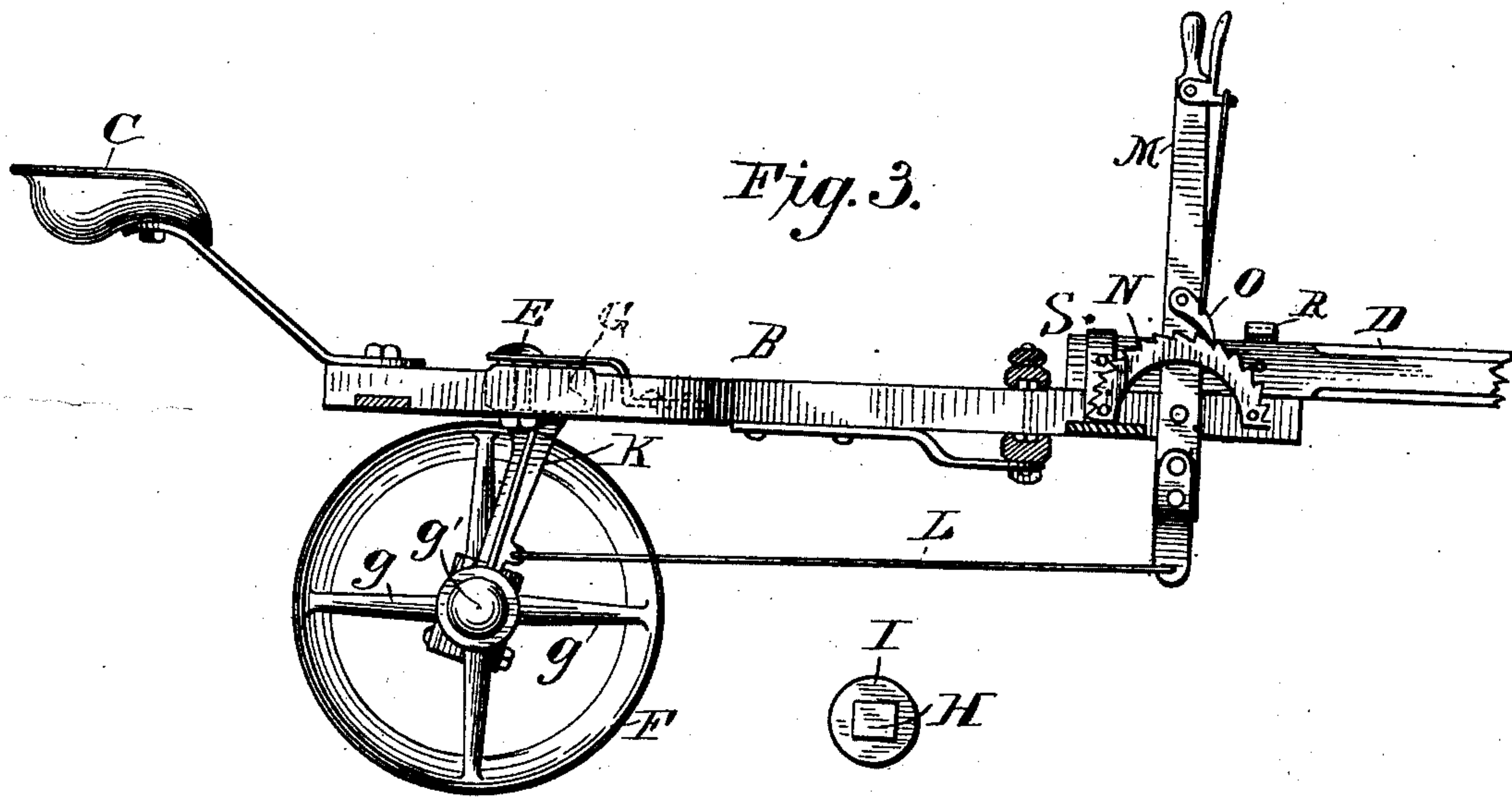


Fig. 3.



WITNESSES

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UNITED STATES PATENT OFFICE.

WEBSTER M. ROBERTS, OF GAYLORD, KANSAS.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 358,073, dated February 22, 1887.

Application filed April 13, 1886. Serial No. 198,723. (No model.)

To all whom it may concern:

Be it known that I, WEBSTER M. ROBERTS, of Gaylord, in the county of Smith and State of Kansas, have invented certain new and useful
5 Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, that will enable others skilled in the art to which it appertains to make and use the same, reference being had to
10 the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to that class of cultivators which employ gangs of rotary cultivators or shares; and it consists, chiefly, in a
15 frame made of angle-iron and in two pieces, and also in other improvements, which will be fully understood by the following description and claims.

20 In the accompanying drawings, Figure 1 is a top view of my improved cultivator. Fig. 2 is a rear view of the same. Fig. 3 is a longitudinal section of my machine on the line *x x*, Fig. 1. Fig. 4 is a transverse section of
25 one of the gangs of rim-shares or rotary cultivators. Figs. 5, 6, 7, 8 are detached views.

The frame A of my machine is made of angle-iron, and in two pieces bolted together, as shown in Figs. 7 and 8. This angle-iron
30 gives greater strength and stiffness than the same amount of metal in a flat or square bar. I make the lap of the two parts of the frame at the point of the king-bolt E, where the greatest strength is required, because the hole
35 for the king-bolt cuts the frame very badly. Bolted to this iron frame is the central bar, B, on the rear end of which is mounted the driver's seat. The pole D and double-tree T are connected to the forward end of this bar.

40 A series of circular and dishing rim-cutters, *g*, are mounted on a square shaft, I, the hubs of said cutters having square perforations to fit said shaft, so that the cutters and shaft shall rotate together. A series of spacing-spools,
45 *g'*, are interposed between the said hubs. The hubs and spools are slipped loosely upon said axle between the head *h* at one end of said axle, at nut *i* at the other, and secured in place by turning the said nut. In case of the
50 breakage of one of said rim-cutters, the broken

cutter may be removed and a new one slipped into place by removing nut *i*.

Two swinging beams, G, are pivoted on king-bolts E, Fig. 1, and usually rest on the sway-bars *a*, which limit the downward motion of the inner ends of said beams. Thus
55 these beams have a horizontal adjustability, as indicated in dotted lines, and also a vertical flexibility, to adapt the cutters to the undulating surface of the ground. Adjusting tension-rods L extend from shanks K to the hand-
60 lever M, by means of which the driver can swing the beams, and then set them by means of ratchet N and dog O.

The oblique position of the axles and rim-
65 cultivators to the line of travel makes the dirt fall backward through the rims and between the spokes, leaving the earth completely pulverized. This causes a suction in connection with the bevel of the dish of the cutters, and
70 the pulverized earth falls over the rim of the cutters, instead of being drawn toward the center of the machine, as would be the case with dishing cutters having no central opening, and thus my machine leaves the earth well pulver-
75 ized, nearly level, and in an excellent condition for the growth of the crop.

The standards or shanks K are preferably cast in one piece, with a platform at the top having bolt-holes therein to secure the beams
80 G in place on said platform, as shown in Fig. 2, and the lower ends of the standards are bifurcated to receive and hold a wooden block and journal-box, *m*, with journal-bearing, retained in position by means of projection *t*, as
85 seen in Fig. 5, and easily removed and replaced when worn out.

One of the beams G G is set farther forward than the other, so as to keep the series of cutters clear of trash, which is thus prevented
90 from being caught between the two inner cutters, and thus clogging the machine.

The pole D is fastened to bar B by means of two staples or loops, R and S. The rear end of the pole is pivoted in loop S, and loop R is
95 long enough to allow the pole considerable vertical play therein, thus preventing the frame from jerking the pole and team in passing undulations in the ground.

I do not broadly claim either the vertically- 100

vibrating gangs of cultivator-cutters or cultivator-frames made of angle-irons, but limit my invention to the construction and combination of devices by means of which my double series of rim-cutters are vibrated and to the specific frame, herein described, having joints at the king-bolts to unite the two pieces of the frame.

I claim—

- 10 As an improvement in cultivators, the combination of the described angle-iron frame made in two pieces with the two axles, each provided with a series of dishing rim-culti-

vators, said axles pivoted to the frame where the two sections join and lap, whereby the vertical vibrations and horizontal adjustments of the axles are allowed and the consequent wear at the pivotal points greatly reduced, substantially as set forth.

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

WEBSTER M. ROBERTS.

Witnesses:

G. R. PARKER,

A. O. HATTER.