

(No Model.)

2 Sheets—Sheet 1.

N. P. & J. W. LEHR.
CULTIVATOR.

No. 353,148.

Patented Nov. 23, 1886.

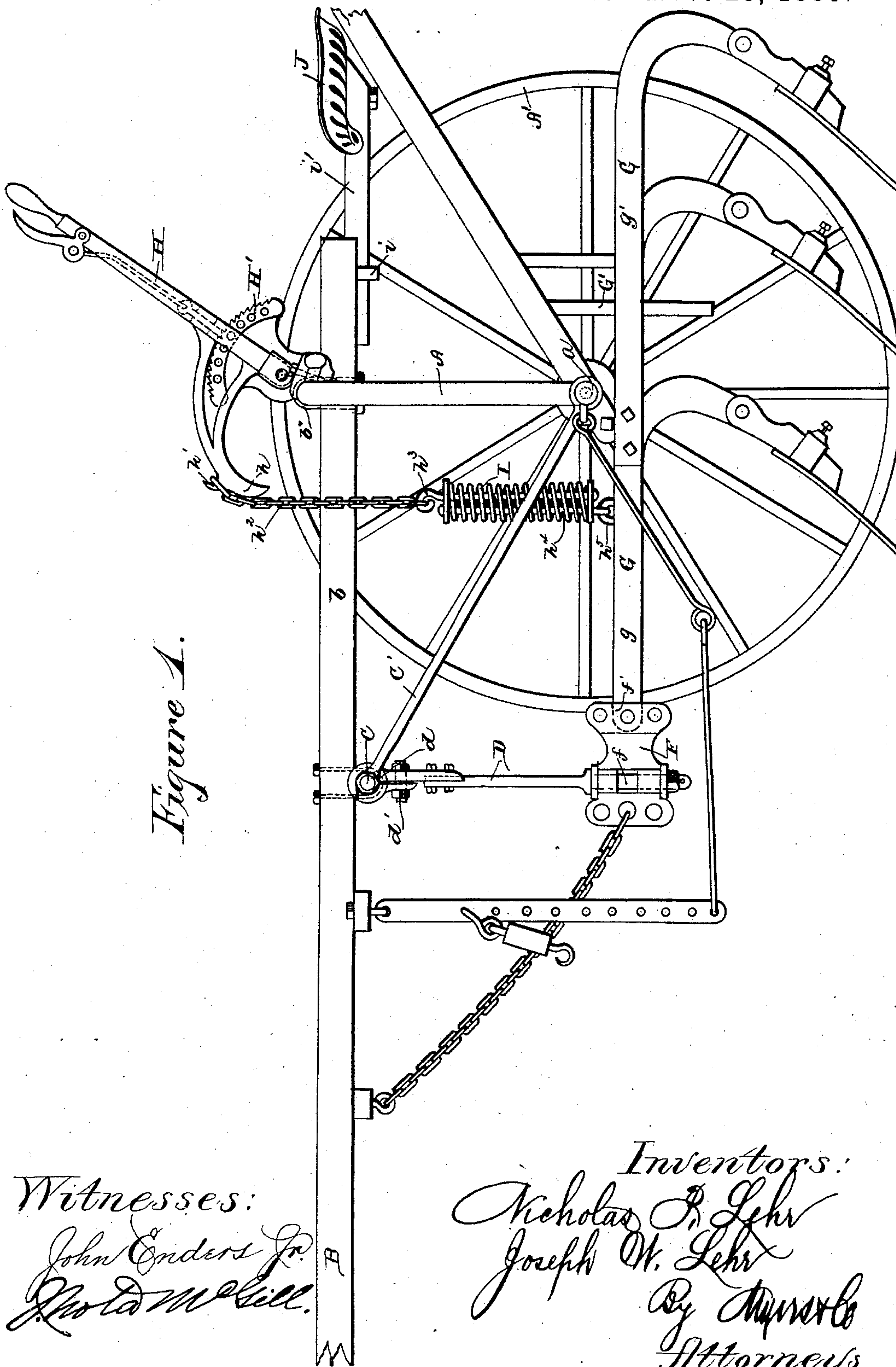


Figure 1.

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2 Sheets—Sheet 2.

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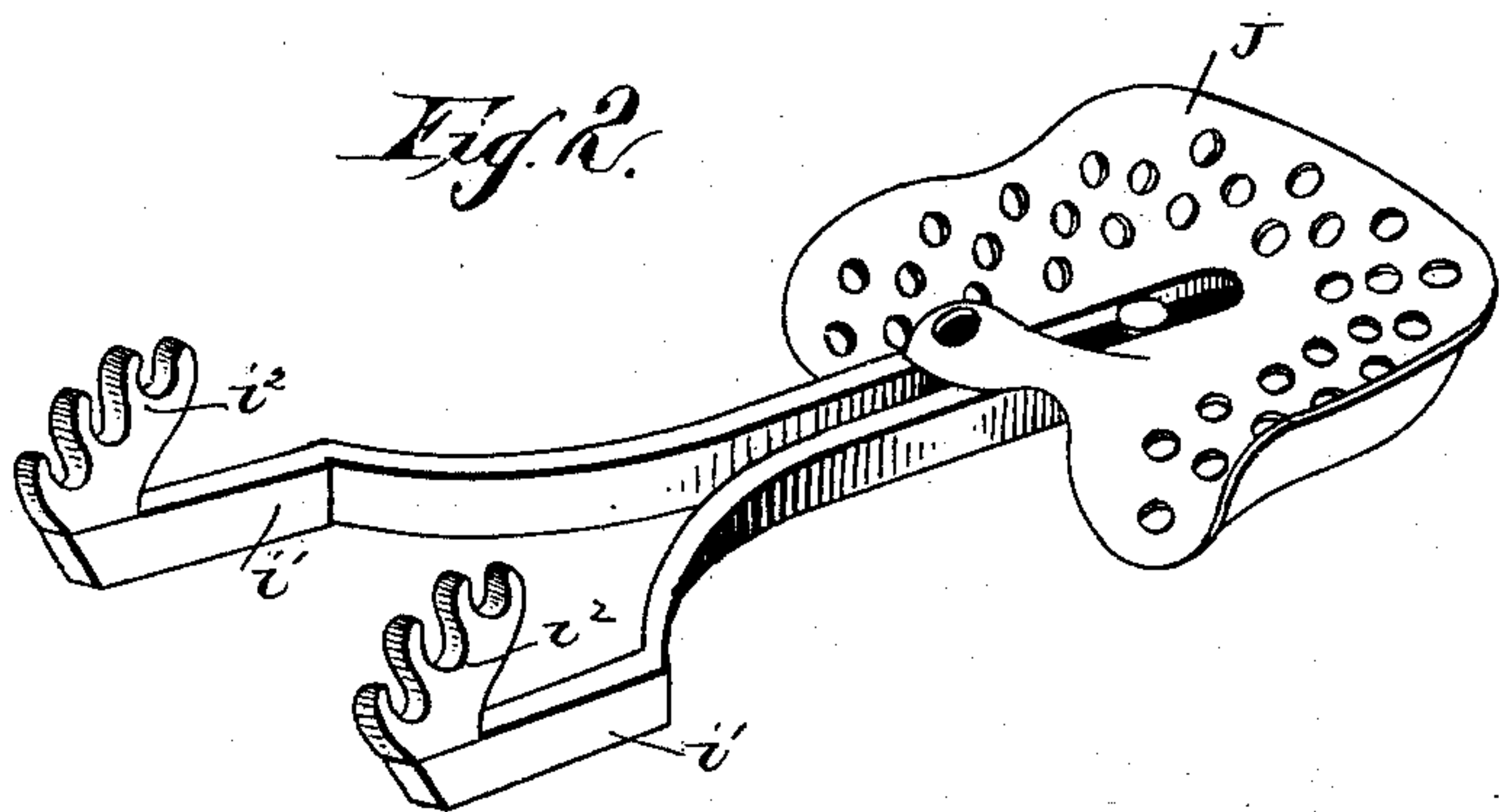


Fig. 3.

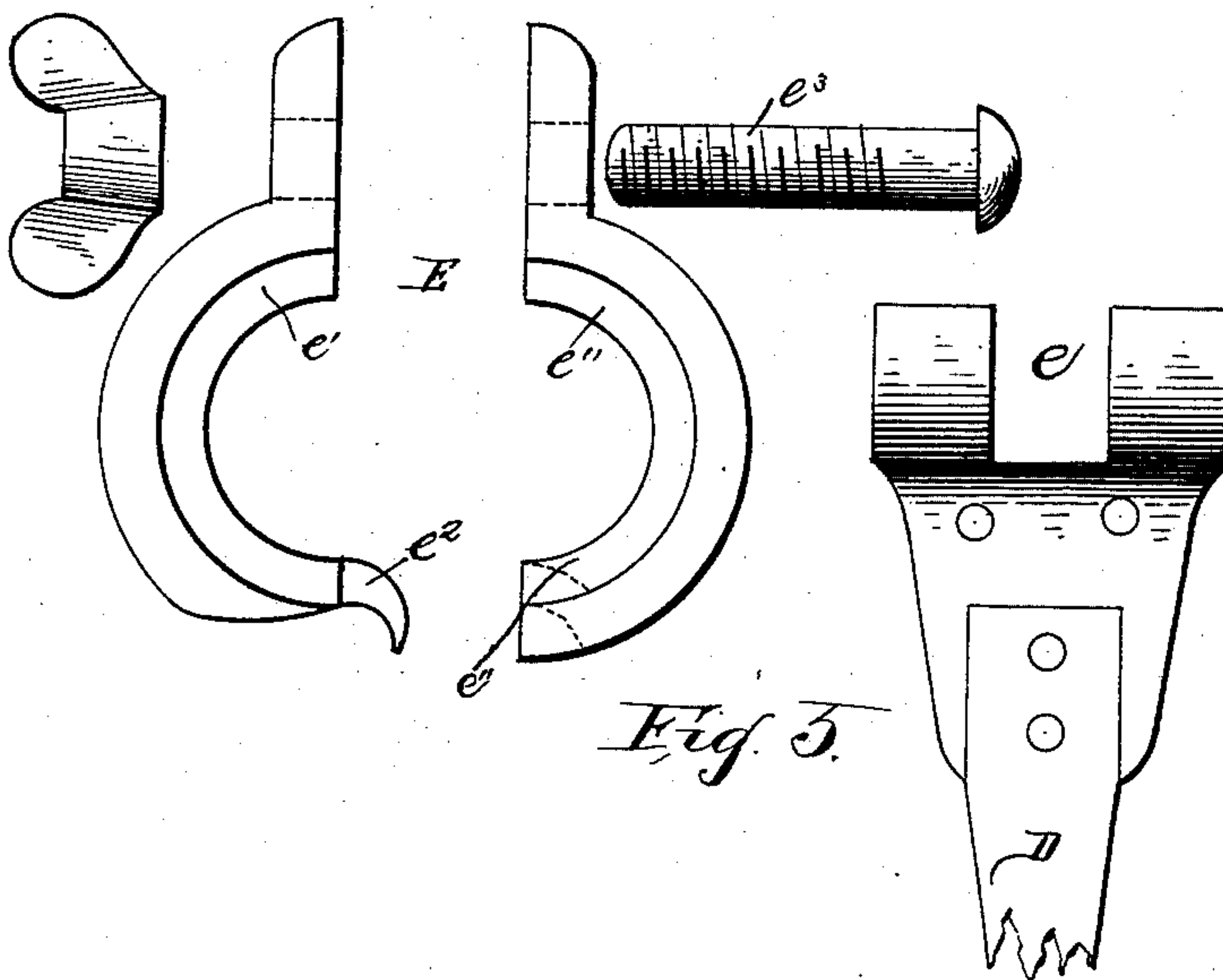
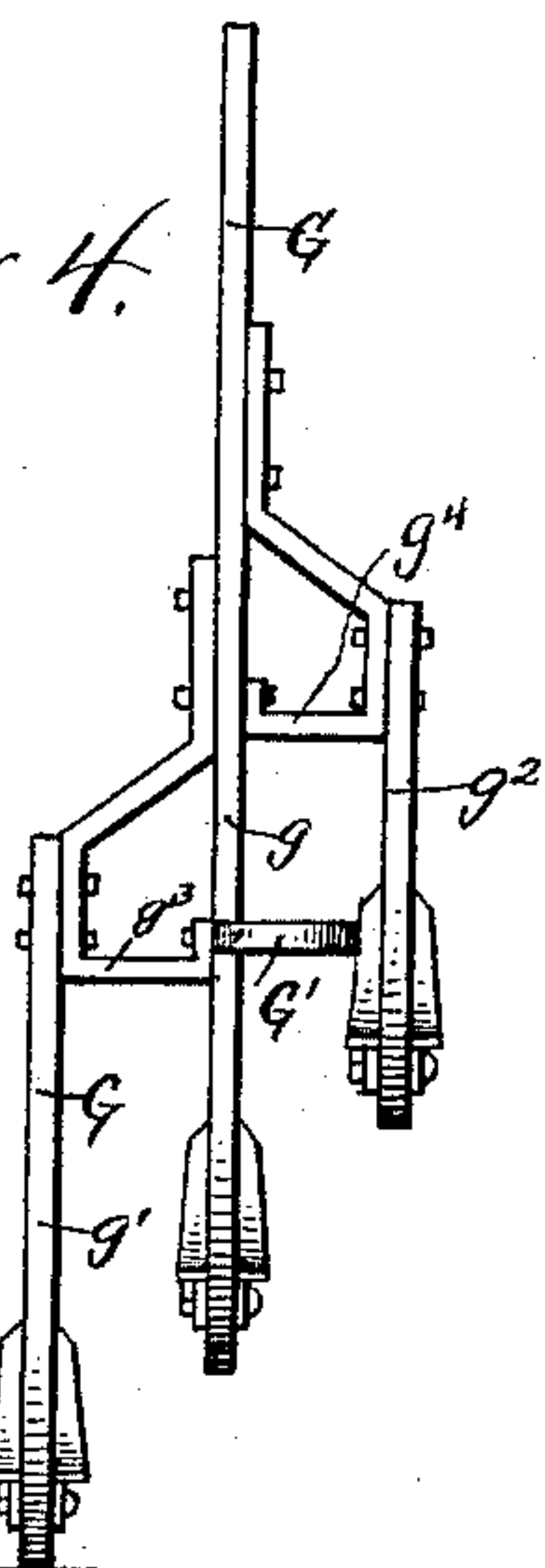


Fig. 4.



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UNITED STATES PATENT OFFICE.

NICHOLAS P. LEHR AND JOSEPH W. LEHR, OF FREMONT, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 353,148, dated November 23, 1886.

Application filed August 26, 1886. Serial No. 211,932. (No model.)

To all whom it may concern:

Be it known that we, NICHOLAS P. LEHR and JOSEPH W. LEHR, citizens of the United States of America, residing at Fremont, in the county of Sandusky and State of Ohio, have invented certain new and useful Improvements in Cultivators, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention pertains to certain new and useful improvements in cultivators; and it consists in the detailed construction, combination, and arrangement of the parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

15 In the accompanying drawings, Figure 1 is a view in side elevation of our invention, and Figs. 2, 3, 4, and 5 are detail views thereof.

20 In carrying out our invention we employ a bail-shaped axle, A, the lower ends of the vertical portions of which are bent at right angles, forming short studs or axles *a a*, upon which are loosely secured the carrying-wheels A' A', of the usual formation. To this axle 25 are connected the rear ends of two parallel bars, *b b*, of tongue B, the connection between said axle and bars being effected by means of ordinary inverted-U-shaped clips, *b'*. To the 30 under side of these arms of the tongue, a short distance from where said axle is located, is secured a horizontal cross bar or rod, C, to the outer ends of which are secured the forward ends of inclined brace-rods C', the other ends of said rods being passed on the short studs 35 or axles *a a* prior to securing the wheel thereon.

The above-described parts constitute the entire frame-work of our invention.

40 D D are two vertically-disposed hangers, consisting of a single upright bar, to the upper end of each of which is rigidly secured, by means of nutted bolts, the lower end of the vertical portion of two split sleeves, *d d*. Said sleeves are split at their lower central portion, 45 and after being passed on the horizontal bar C are loosely secured by means of the nutted bolts *d'*, passed through the vertical portions of said split sleeves.

50 It will be seen by reference to the drawings that the halves or sections of each sleeve are formed with the lower part of the split directly in the center, while on top the split

is made slightly to one side, the object of which is to make a better wearing joint and prevent dirt from settling therein. Each split sleeve has a recess or slotted portion, *e*, to receive clamp E, said clamp, which consists of parts hereinafter stated, being designed to hold or secure the hangers in the desired position, permitting them to be drawn to or from the row. These clamps consist of two halves or sections, *e' e'*, hinged together at their lower ends by means of a downwardly-curved tongue, *e''*, of one section projecting into a similarly-shaped recess or aperture in the lower curved end of the opposite section, *e'''*, and the upper flanged or vertical portions of these halves or sections are connected together by means of a nutted bolt, *e³*. These clamps are designed to be rigidly secured on the horizontal bar C by 70 tightening said sections by means of their nutted bolts, so as to prevent lateral movement of the hangers D, while the same are permitted to have a backward and forward movement.

The lower ends of the hangers are provided 75 with a round or bolt-like extension, *f*, whereon is secured a plow-clevis, F, said clevis being retained in position by means of a nut passed on said bolt-like extension, and a spring-key inserted through a slot in said portion of the hanger. Each clevis is provided with two rearwardly-projecting cheeks or flanges, *f'*, having three or more corresponding apertures for passage therethrough of a nutted bolt in effecting the hinge-like connection between 85 said clevis and the cultivator-shovel beams. The said beams may by this means be raised or lowered, as may be desired in the cultivating operation.

G G are the cultivator-shovel beams, which 90 are placed in a nearly parallel plane with the frame and the draft appliances, thus giving the shovels the proper set or inclination and facilitating the operation of the cultivator. Said cultivator-shovel beams consist of three 95 parallel bars, *g g' g''*, placed so as to occupy an inclined position in relation to each other, that one near the center of the cultivator being the foremost and the one nearest the carrying-wheels being the rearmost of the cultivators. The center bar or beam, *g*, has connected thereto on one side the forward flanged end of a bracket, *g³*, to the outer side of the bent portion of which is bolted the forward 100

end of the bar or beam g' , the other flanged end of said bracket also being secured to said bar or beam g . A second similar-shaped bracket, g^4 , is secured on the opposite side of said bar or beam g , but in advance of said bracket g^3 , and to this bracket g^4 is secured the forward end of the bar or beam g^2 . From this it will be seen that the cultivator-shovels of the two beams form an approximately V shape in plan view.

To one side of the bar or beam g of each cultivator-shovel beam is connected, by means of a single bolt, double stirrups G' , wherein the driver or operator places his feet during the cultivating operation.

Two levers, H H , are loosely connected to the axle of our cultivator, and are each provided with a sliding tooth or pawl for engagement with a curved toothed bracket or plate, H' , rigidly secured on said axle, and said levers have a forward and downwardly projecting beak-like portion, h , for the purpose of gaining an additional lift, immediately in rear of which is a small hook, h' , to which is connected one end of a chain, h^2 , the other end of said chain being connected to a hooked end of a rod, h^3 , of a compound or double-acting compression-spring, I . These springs have passing there-through two rods, h^3 h^4 , connected at their opposite ends to disks or plates bearing against the ends of each spring. The other rod, h^4 , is connected by its hooked portion to a hook or staple, h^5 , secured to the bar or beam g of each cultivator-shovel beam.

The extreme rear ends of the parallel bars of the tongue B are provided with oppositely-disposed right-angular plates or hooks i i , whereon rest the parallel portions of two bars, i' i' , upon the extreme rear end of which the driver's or operator's seat J is secured. The forward ends of these bars i' are provided with notched brackets or plates i^2 , fitting in under and bearing against the horizontal portion of the axle. By this it will be seen that the seat can be raised or lowered, as may be desired, to suit the operator or driver.

It will be understood, of course, that in con-

nection with our invention we employ the ordinary draft appliances, comprising the depending apertured bar to which the whiffletrees are connected and the chains or jointed rods connected to the front end of each clevis; but this forms no part of our invention, and hence we make no claim thereto.

From the foregoing it will be seen that by employing the split sleeves of the construction described the same can, when desired, be removed from the horizontal cross-bar and placed on the upper horizontal portion of the axle and secured thereon by means of the clamps, as before described, for the purpose of converting the invention from a riding to a walking cultivator.

Having thus fully described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a cultivator, the combination, with the frame, the hangers secured to a horizontal bar thereof, and the levers secured on said frame, of the shovel-beams comprising three parallel bars or beams connected by brackets, and the double-acting springs secured to said shovel-beams and to the levers by chains, said shovel-beams and hangers being connected by clevises, substantially as shown and described.

2. The combination, with the cultivator-frame having a horizontal cross-bar, the shovel-beams, and the hangers, of the split sleeves having the lower splits in the center and the top splits slightly on one side, substantially as shown, and for the purpose stated.

3. The combination, with the tongue having right-angular flanges on its rear end and the axle, of the seat resting on said flanges and having notched brackets bearing against said axle, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

NICHOLAS P. LEHR.
JOSEPH W. LEHR.

Witnesses:

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W. H. BURKE.