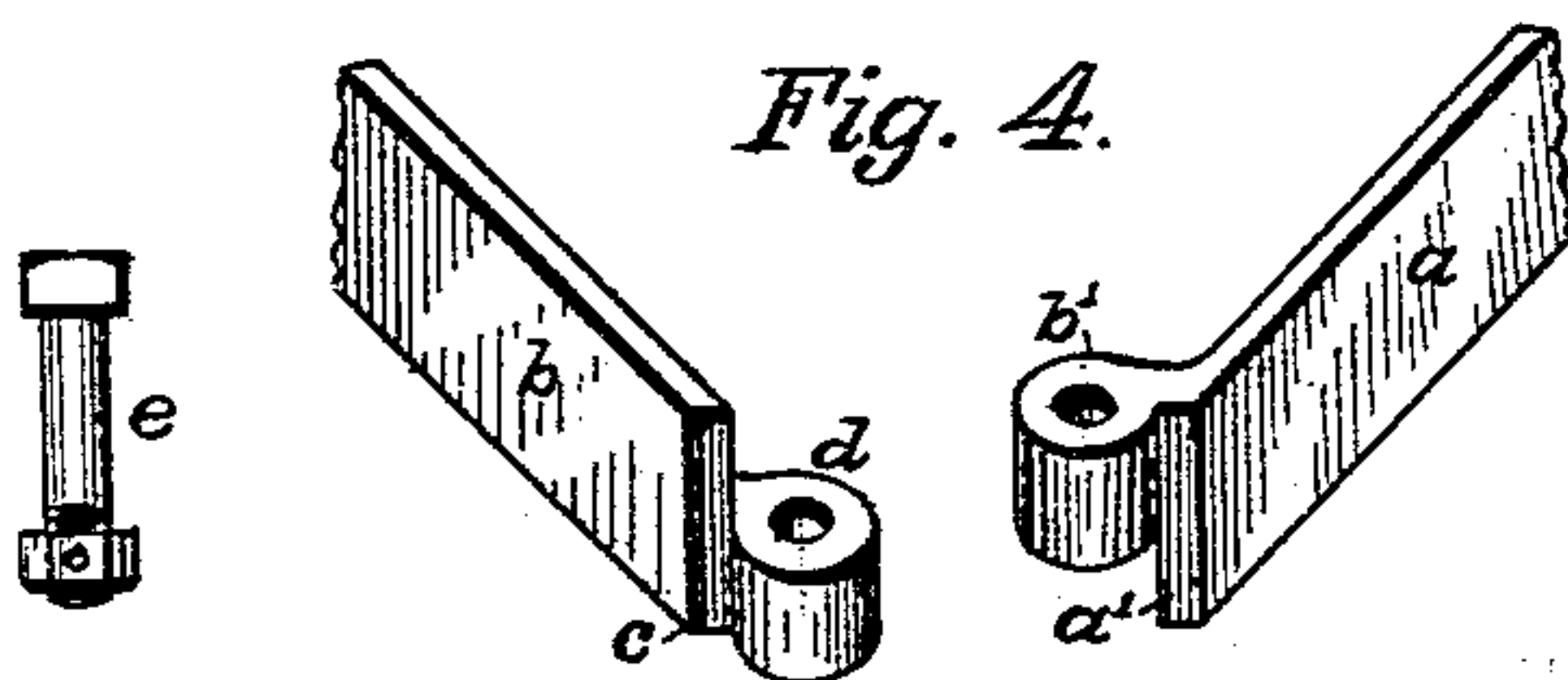
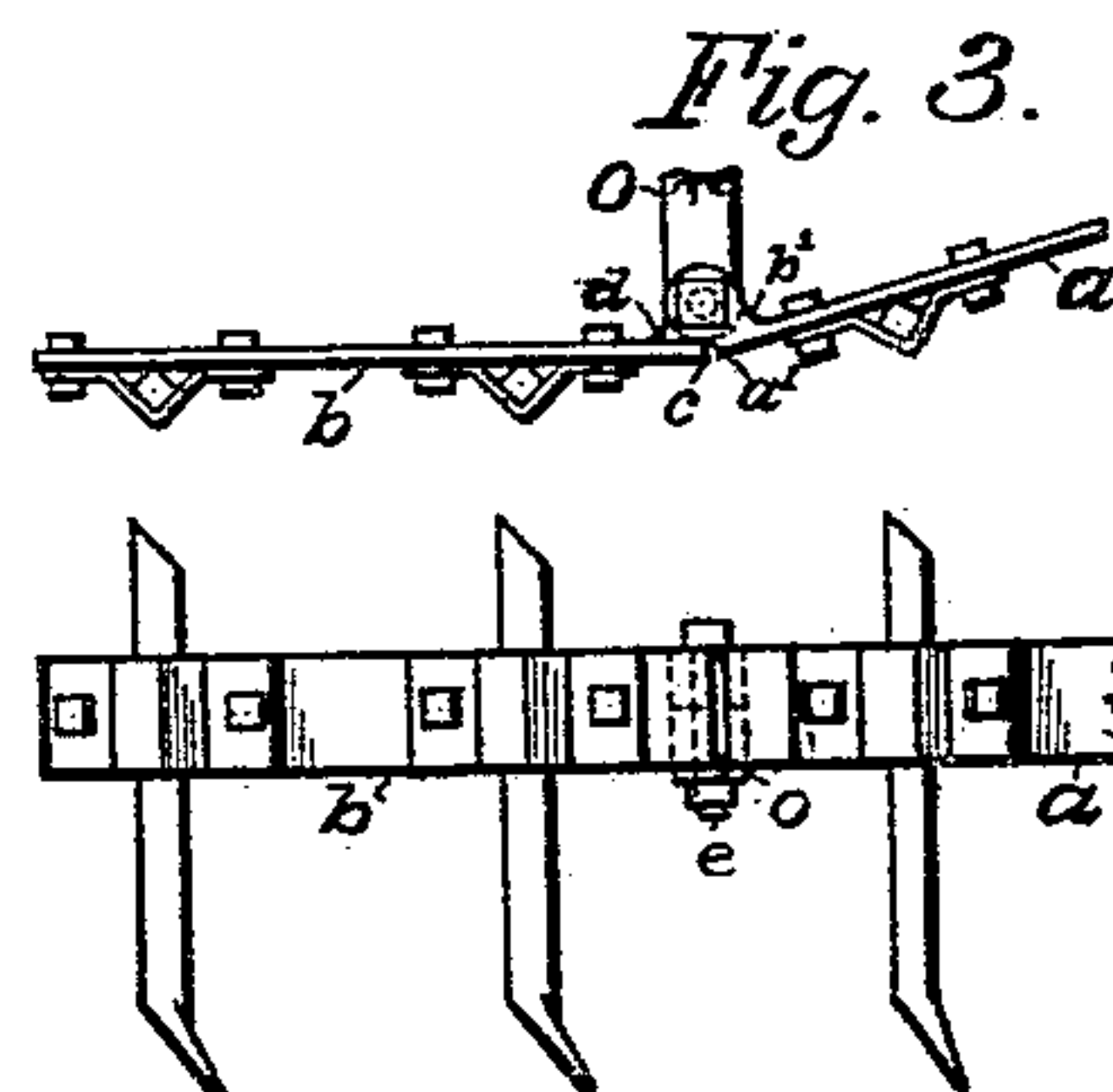
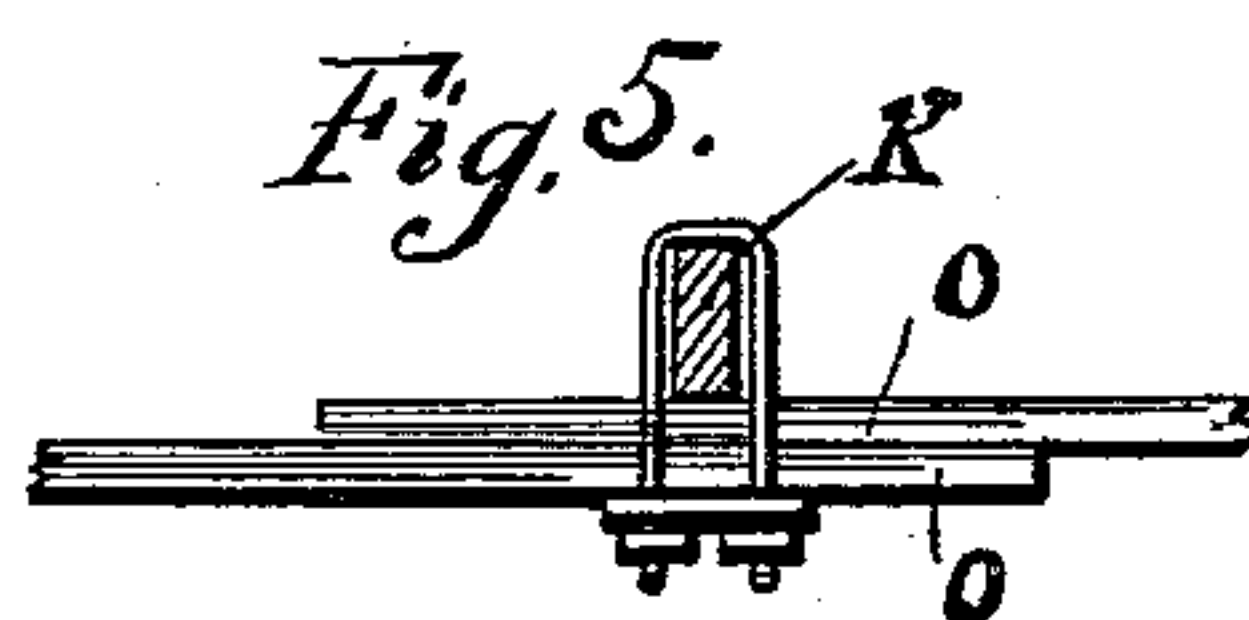
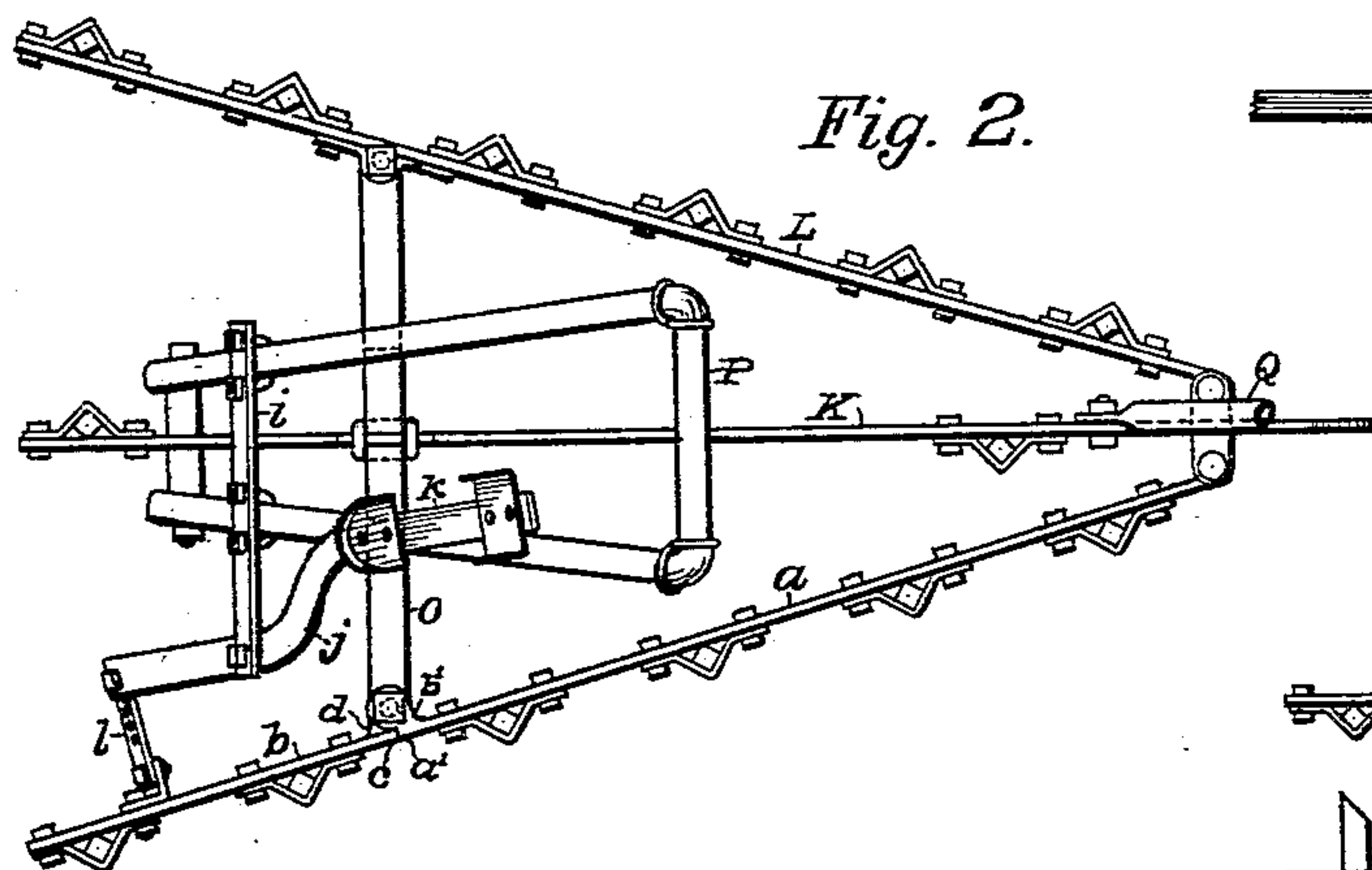
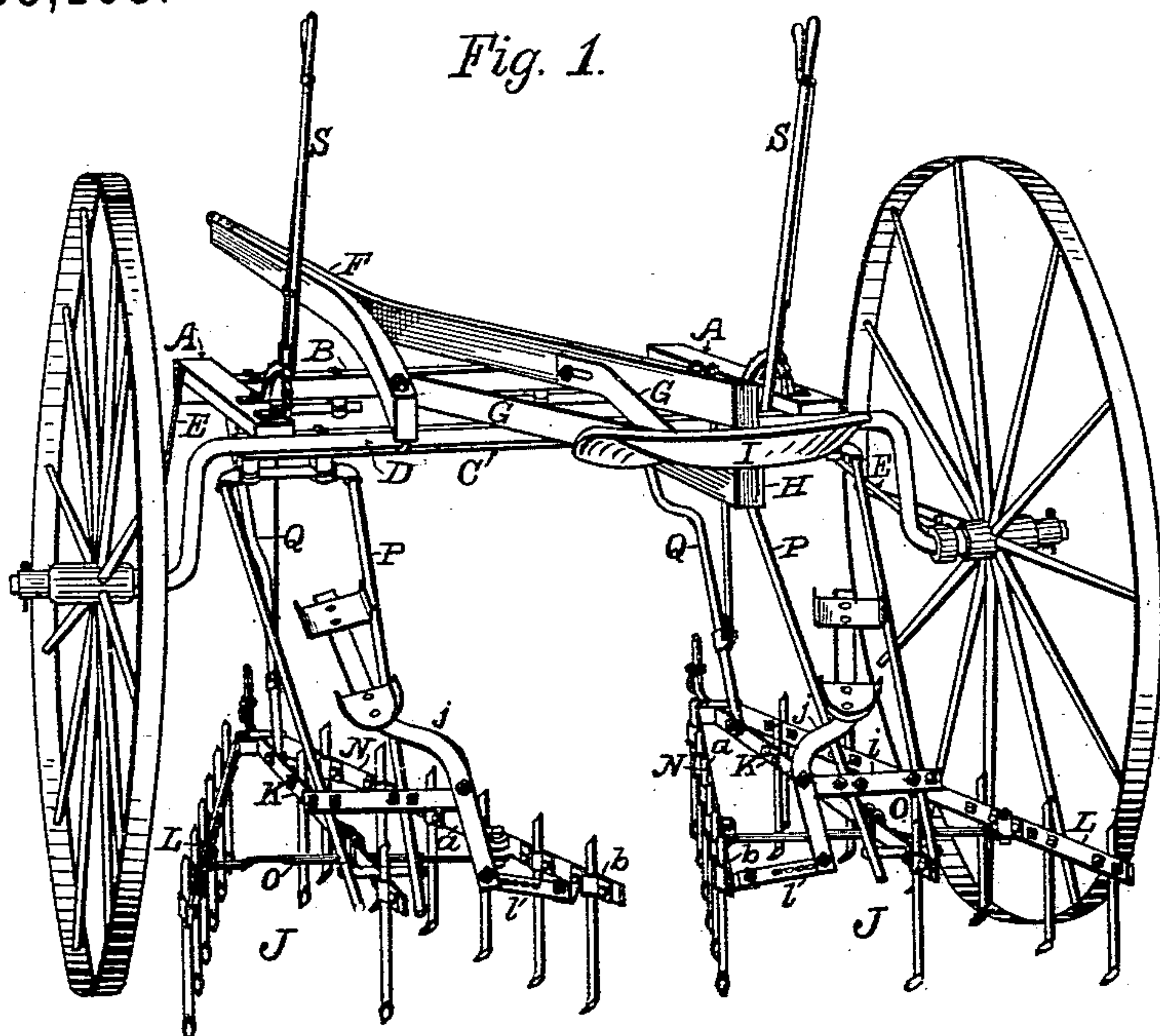


(No Model.)

R. H. HICK.
CULTIVATOR.

No. 555,163.

Patented Feb. 25, 1896.



WITNESSES

L. G. Hopper.
J. M. Larimer.

INVENTOR

Robert H. Hick.

BY

Toulmin & Whitten
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ROBERT H. HICK, OF BURTON, OHIO.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 555,163, dated February 25, 1896.

Application filed August 26, 1895. Serial No. 560,567. (No model.)

To all whom it may concern:

Be it known that I, ROBERT H. HICK, a citizen of the United States, residing at Burton, in the county of Geauga 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.

This invention relates to straddle-row cultivators wherein gangs are adapted to operate on each side of rows of corn, potatoes, &c., that are to be cultivated.

The object of my invention is to provide means whereby the operator may adjust the gangs by means of his feet without leaving his seat on the cultivator, operating the same in a rapid manner and with perfect ease, thereby avoiding the plowing up of plants, corn, &c., in case of any irregularities in the rows or divergence of the team.

To this end my invention consists in constructing gangs with a central or main bar and supplemental tooth-carrying side bars, connected at their forward ends to the main bar, and forming the inner bars of each gang in sections hinged together, whereby the rear section of the bar may be operated by actuating devices in the manner hereinafter described and set forth.

The invention further consists in the construction, arrangement, and combination of the various parts, all as more fully hereinafter described and shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a cultivator embodying my improvement. Fig. 2 is a plan view of the gangs, illustrating the mechanism whereby the hinged portion of the sectional side beam is operated. Fig. 3 is a plan in elevation of the hinged section in its normal position, and Fig. 4 is a detached perspective view of the parts of the hinge. Fig. 5 is a detail view of the means for clamping the meeting ends of the adjustment-bar O.

The cultivator is provided with a wheeled frame, in which A represents the side beams; B and C, the usual cross-pieces; D, an arched wheeled axle, preferably of steel, secured in any suitable manner to the side beams and cross-bar C, and E the braces secured to the axle and side beams.

F is a bifurcated tongue suitably secured

to the central cross-piece B and the axle D, as plainly shown in Fig. 1. Upon the inner sides of the bifurcations are adjustably secured spring supports or arms G, extending rearwardly over the axle and terminating in a loop H, adapted to receive the seat I.

J are gangs located beneath the wheeled frame, comprising central bars, K, outer supplemental side bars, L, preferably though not necessarily pivotally connected to the forward end of the central bars, and inner side bars, N, secured in a like manner to the central bars. O is a two-part adjustment-bar, the outer ends of which are pivotally secured to the side beams, while their meeting ends may be clamped together by any suitable clamping mechanism whereby the gangs may be contracted or expanded, if desired. These gangs are provided with the usual raising and lowering mechanism, comprising the swinging yoke-shaped supports P and the curved bars Q connected to the main or central bar, K, of the gang, and adapted, through the usual hand-lever S, to raise and lower said gangs, as the operator may desire. The inner side beams in each gang I have constructed in two sections, comprising a main section *a* and a hinged section *b*.

The hinge mechanism may be of any suitable construction, such as I have shown in Fig. 4, in which I have provided the meeting end of the main section with a shoulder *a'* and an apertured lug or ear *b'* and a corresponding shoulder *c* and lug *d* on the hinged section. A bolt *e* is adapted to pass through the apertures, thereby completing the hinge and forming at the same time a pivotal connection for the adjustment-bar, as plainly illustrated.

In order to operate the hinged portion of the sectional bars, I employ a foot-actuating mechanism, consisting of a cross bar or strap *i* secured to the yoke P, the inner end of which is pivotally secured to a foot-lever *j*. This foot-lever is provided at one end with a stirrup *k*, while the other end is pivotally secured to a lever-arm *l*, which in turn is in like manner secured to the hinged section *b*.

The parts being thus shown and described, the operation of the same is as follows: The operator, being seated, places his feet in the stirrups and moves the hinged section of the

inner side bars, which are on each side of the rows, back and forth as the occasion demands, thereby cultivating to a nicety regardless of the irregularities that may exist in the rows.

5 When it is desired to contract the gang, the operator has simply to withdraw his feet from the stirrups, in which case the hinged section of the gang, owing to the motion of the cultivator, will immediately assume a position as
10 shown in Fig. 3. Heretofore in order to obtain these results the operator has been obliged to control the entire gang with his feet in stirrups attached to the gang, or he has been required to regulate the distance of the inner
15 teeth from the corn by hand-levers. The result has been in the first case that there was an immense strain upon the legs of the operator, requiring also constant and laborious watching and attention to keep the machine
20 from tearing up the crop. In the second case, where the shovels and teeth were controlled by a lever, the operator has been obliged to withdraw one hand from the lines in order to operate said levers, in doing which he loses
25 to a greater or less extent his control over the horses and is constantly at work pulling his team in one direction and his lever in the other, which is found to be very unsatisfactory.

30 By the use of a cultivator embodying my improvement, if a hill is out of line or the cultivator should swerve a little, the operator, having a perfect view of the row, by a simple movement of the foot either on one side or
35 both, without any exertion of the legs, bending of the back, or letting loose of the lines, can throw the teeth or shovels away from the hill in a moment.

40 It may be noticed from the peculiar construction of my device that the connections

between the main bars of the gangs and the supplemental side bars may be rigid, if desired, and although I have shown them in the drawings as being pivotally secured I do not wish to limit myself to this particular style 45 of connection.

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

1. In a cultivator of the kind described, a 50 gang comprising a tooth-supporting frame having rearwardly-extending arms, a hinged rear section on one of said arms, and foot-actuated mechanism for operating the hinged section, substantially as and for the purpose 55 described.

2. In a cultivator, the combination with the wheeled frame, a seat on said frame, gangs beneath the frame and forwardly of the seat, connections between the frame and the gangs 60 whereby the latter may be raised or lowered, sectional inner bars in each gang comprising a main and hinged section, and a foot-actuating mechanism adapted to operate the hinged sections, substantially as described. 65

3. In a cultivator, the combination with the wheeled frame, of gangs provided with central bars and sectional inner side bars, yoke-shaped connections P between the frame and the gangs, cross-bars i on the yokes, foot-le- 70 vers j pivotally secured to the cross-bars, and lever-arms l secured to the hinged sections and the foot-levers, substantially as described.

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

ROBERT H. HICK.

Witnesses:

W. R. HARPER,

WILL GLENDENING.