

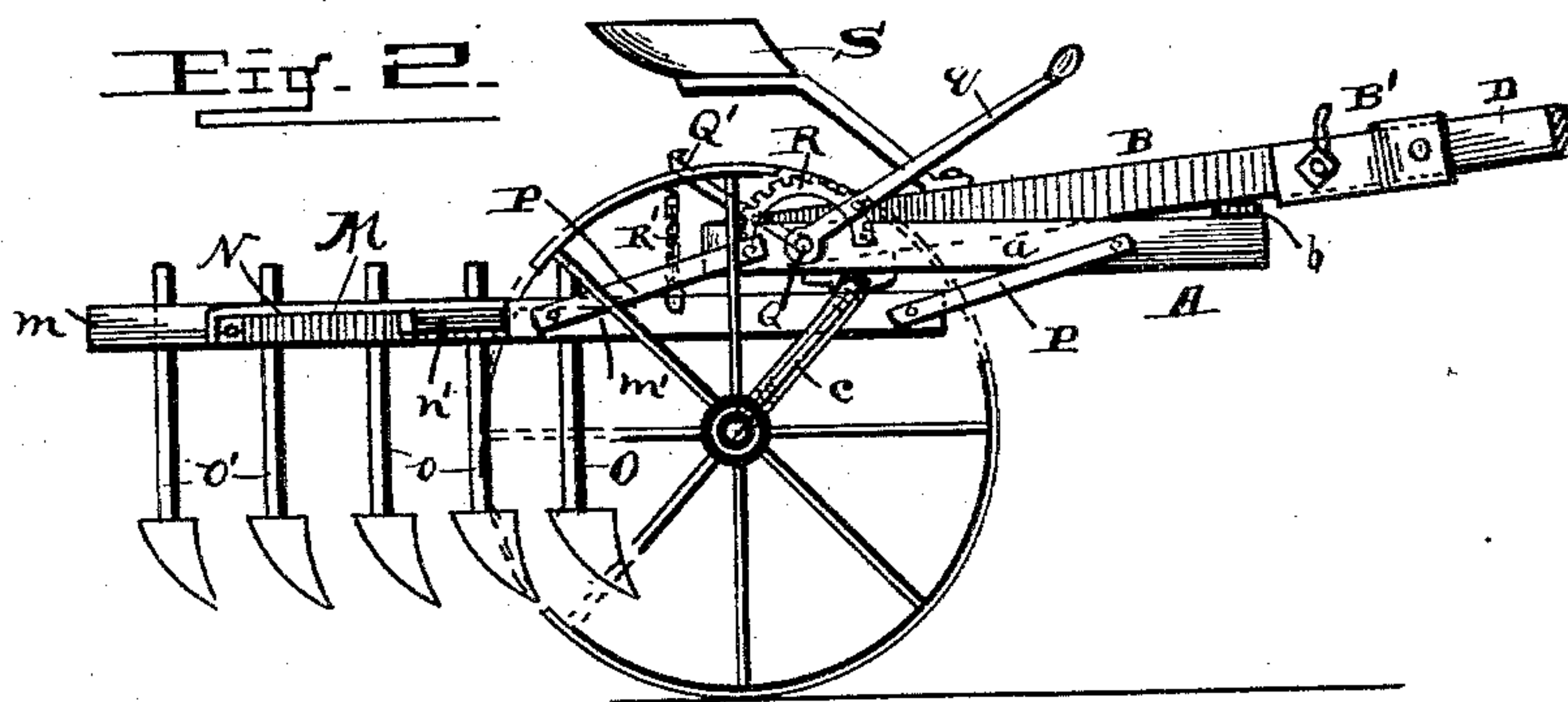
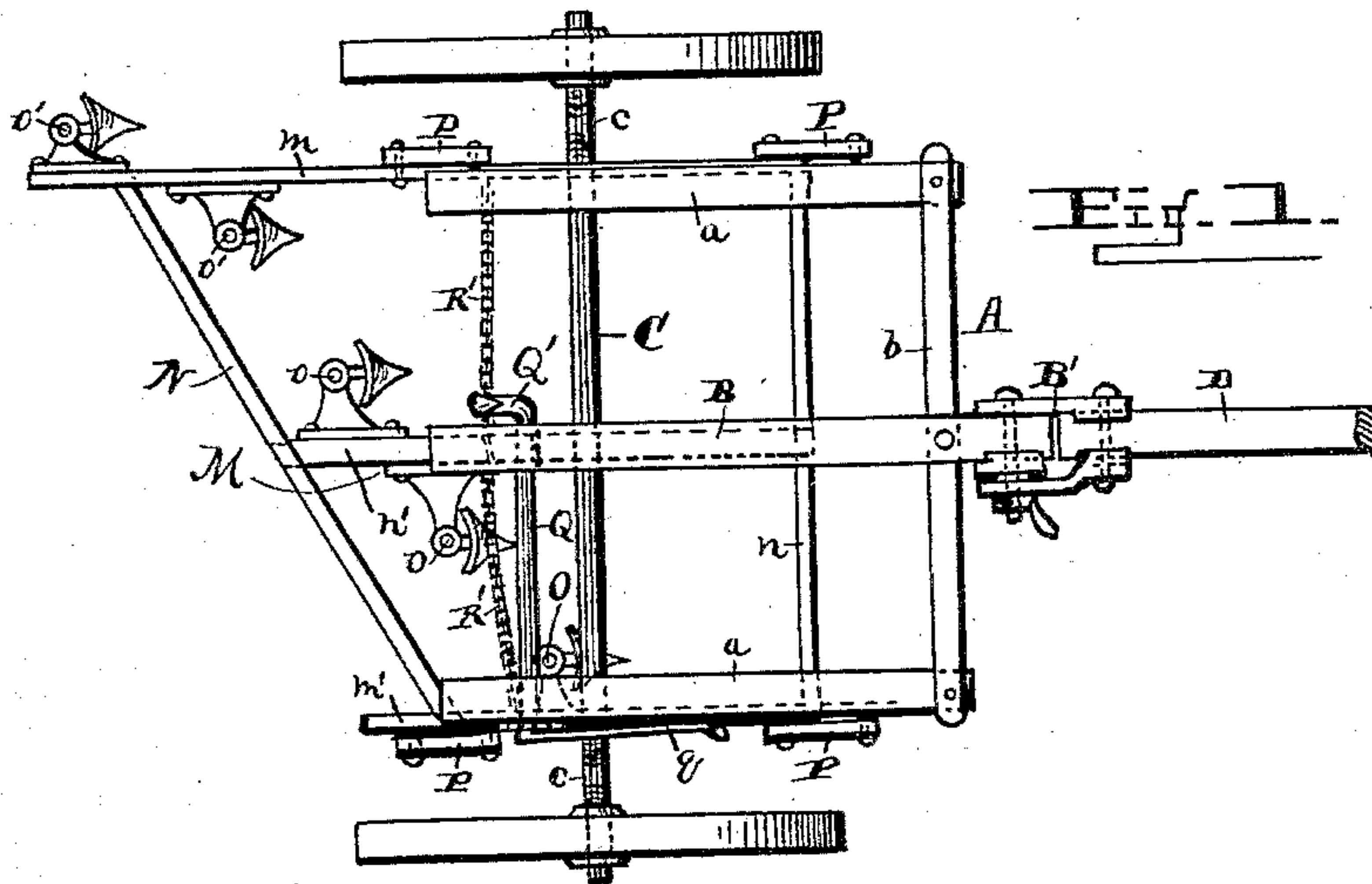
(No Model.)

2 Sheets—Sheet 1.

B. F. BERGER.  
CULTIVATOR.

No. 401,114.

Patented Apr. 9, 1889.



Witnesses.

A. E. Sowell.  
Chas W Leville.

Inventor

B. F. Berger

By his Attorney

W. Alexander

(No Model.)

2 Sheets—Sheet 2.

B. F. BERGER.  
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Fig. 3.

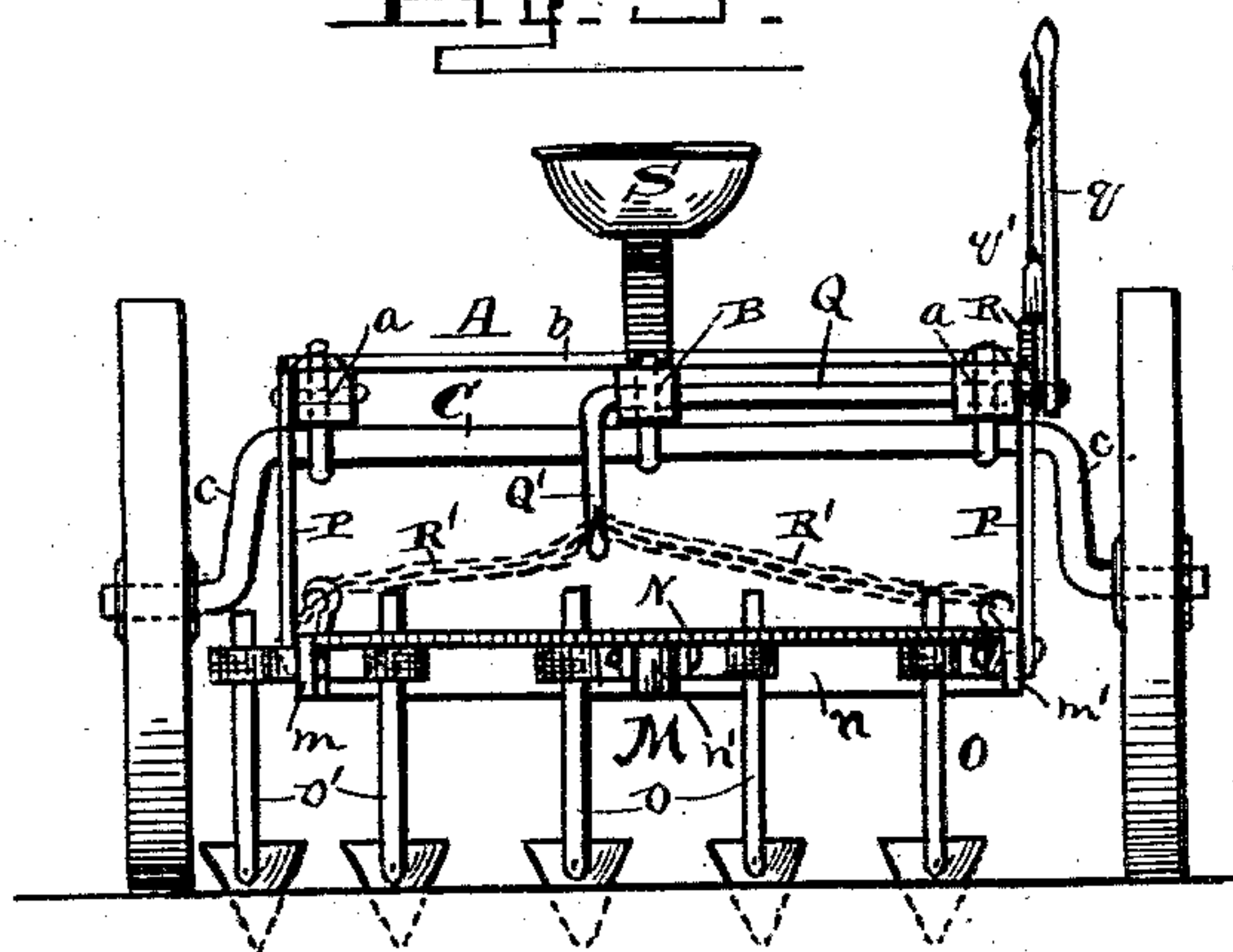


Fig. 4.

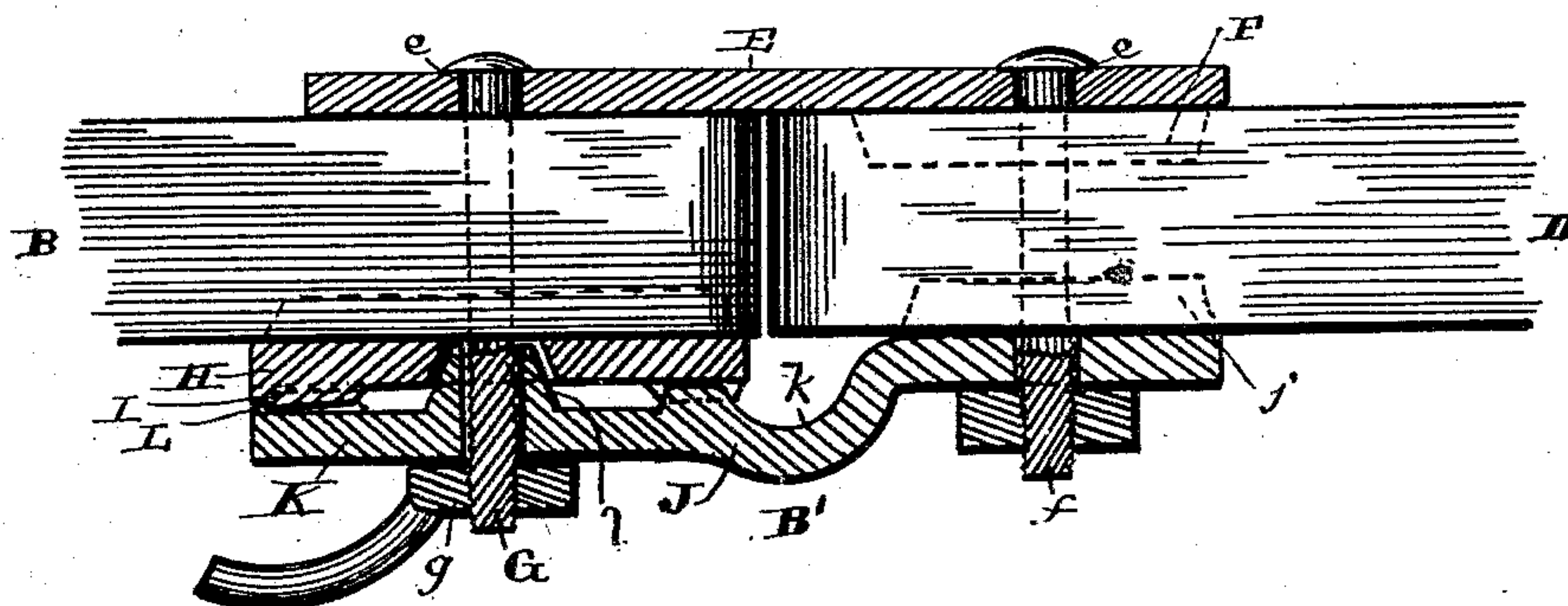


Fig. 5.

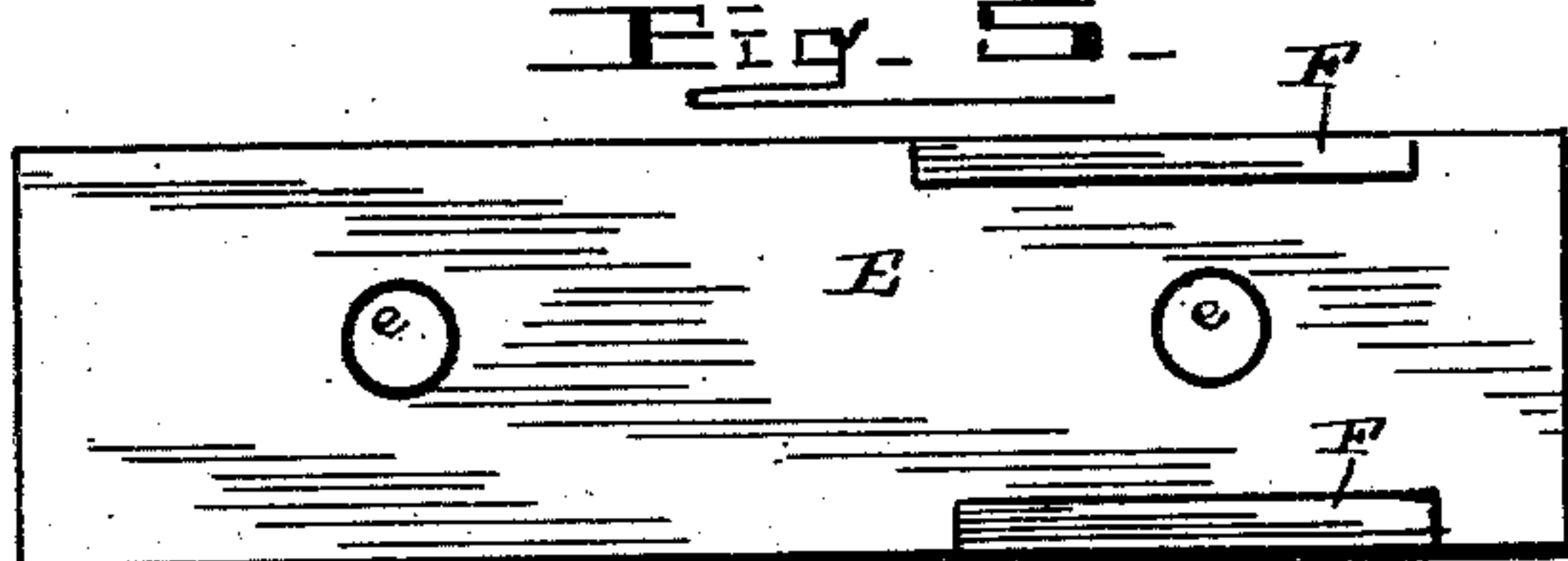


Fig. 6.

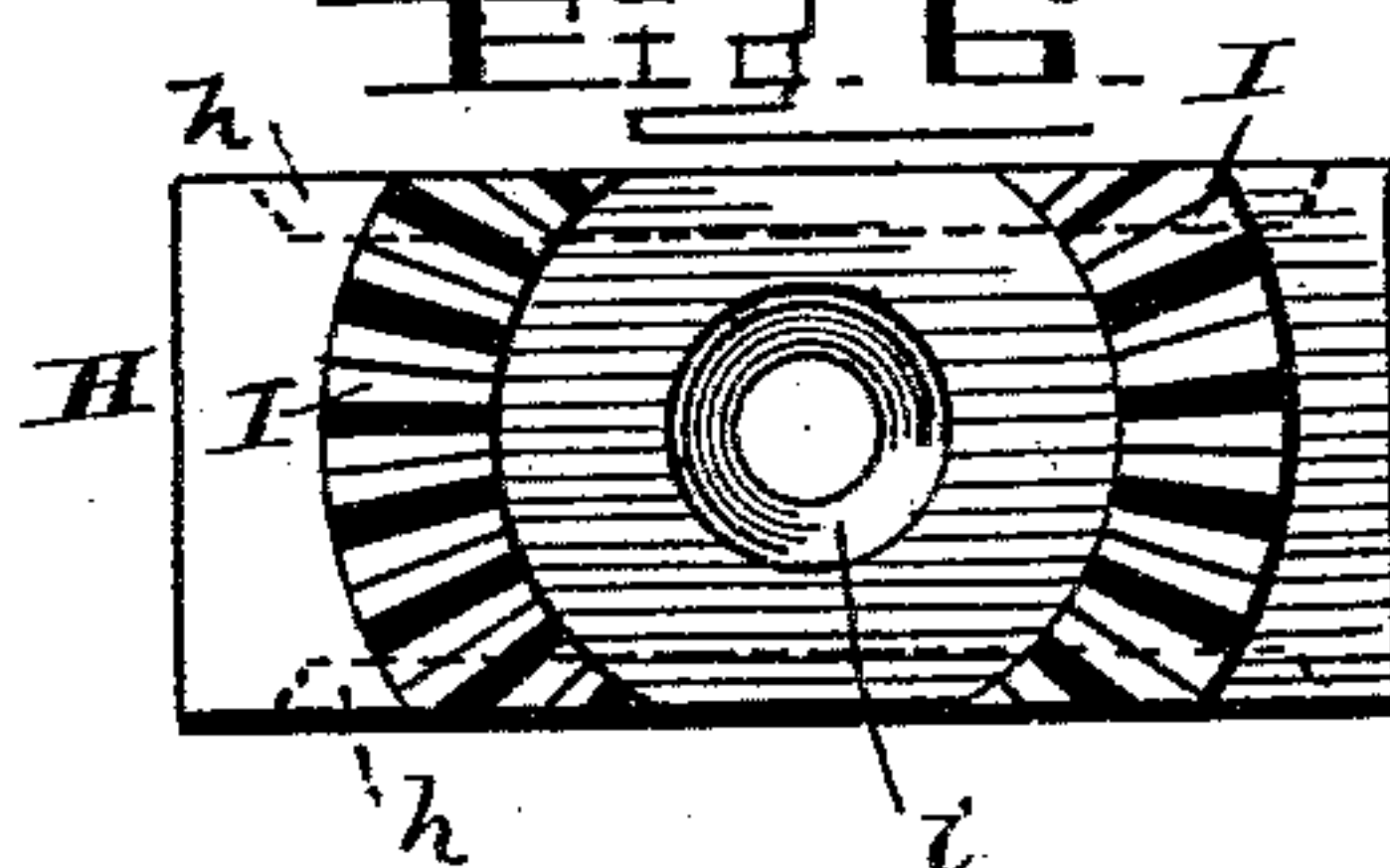
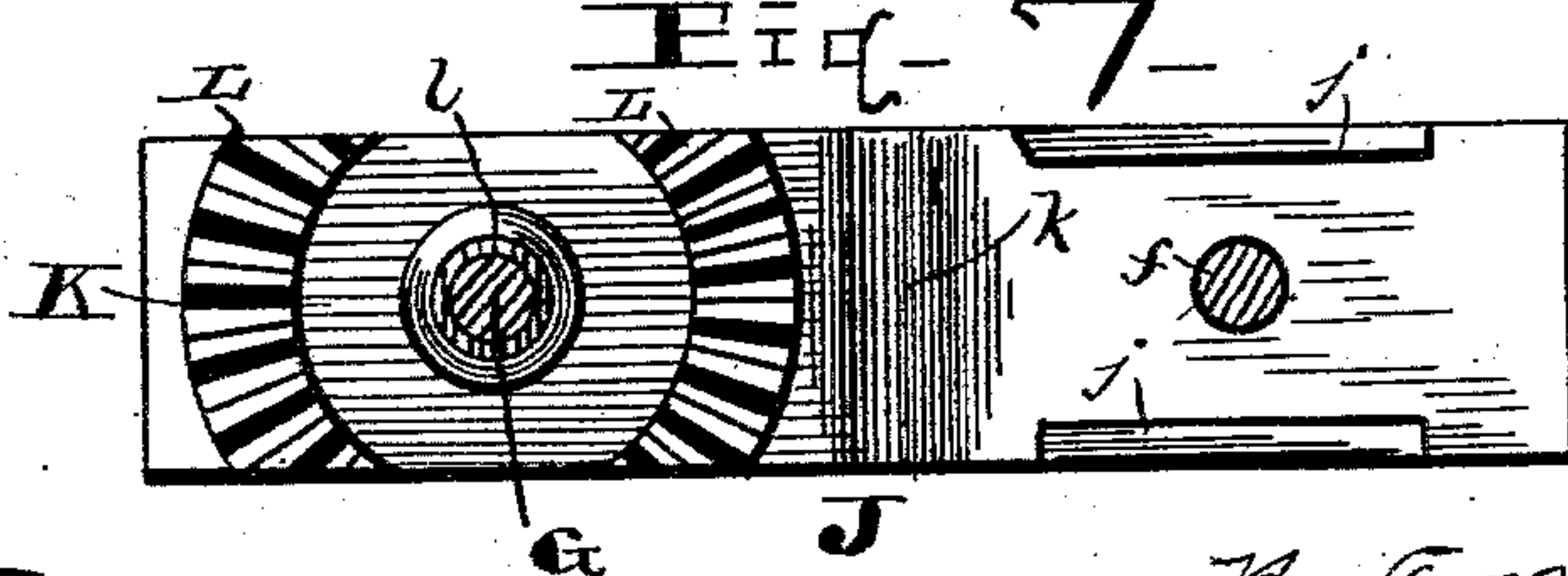


Fig. 7.



Witnesses.

A. E. Sowell  
Chas W. Seville

Inventor.

B. F. Berger

By his Attorney W. Alexander



# UNITED STATES PATENT OFFICE.

BENJAMIN F. BERGER, OF SOUTH BEND, INDIANA.

## CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 401,114, dated April 9, 1889.

Application filed July 23, 1888. Serial No. 280,753. (No model.)

*To all whom it may concern:*

Be it known that I, BENJAMIN F. BERGER, of South Bend, in the county of St. Joseph and State of Indiana, have invented certain new and useful Improvements in Cultivators; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a top plan view of my improved cultivator. Fig. 2 is a side view thereof, showing the same raised. Fig. 3 is a rear view. Fig. 4 is a detail sectional view of the locking-hinge joint of the tongue enlarged. Figs. 5, 6, and 7 are details.

This invention relates to cultivators; and its object is to provide an improved wheel-cultivator in which the gang of cultivators can be raised or lowered at the will of the operator and the parts adjusted so as to keep the cultivators in the same plane, and in which lateral swinging of the gang of cultivators is prevented.

The invention consists in the novel construction of the carrying-frame and cultivator-gang frame, and the adjusting locking-hinge devices for the tongue-sections, and the attachments of the cultivator-gang frame to the carrying-frame, all of which will be understood from the detailed description and claims following.

In the accompanying drawings, A represents the carrying-frame, composed of two side bars, *a a*, and intermediate tongue-bar, B, connected at their front ends by a transverse bar, *b*, and at rear by the axle C, which is preferably of metal, and has crank-bends *c c* at its opposite ends, upon the short horizontal portions of which are mounted the axle-skins and wheels, so that the frame A will stand above the hubs of the wheels, as shown.

D represents the front section of the tongue, which is attached to part B by a locking-hinge joint, B', which is preferably constructed as follows:

E is a plate, perforated at *e e*, near its opposite ends, and having projecting inwardly-standing flanges F F, as shown. Plate E is attached to the rear of section D by a through-

bolt, *f*, its flanges F F partly embracing the sides of said section. The other end of plate E is similarly attached to part B by a bolt, G.

H is a rack-plate, having flanges *h h* on its sides, which embrace part B, to which plate H is attached directly opposite plate E. The outer face of plate H is provided at its opposite ends with racks I I, and it has a central conical opening, *i*, through which passes bolt G.

J is a spring-plate about equal in length to plate E, and having flanges *j j* at one end, embracing section D opposite plate E, being attached to said section by bolt *f*, as shown. Plate J is bent at *k* to permit its end K to stand outside rack-plate H, and the inner face of part K is provided with racks L L, corresponding to and opposite racks I I, and with a central conical perforated boss, *l*, through which passes bolt G, upon which bolt is engaged a hand-nut, *g*, as shown. The plates E and J form a hinge-joint between parts B D of the tongue, so that section D, which is the guide portion of the tongue, can be vertically adjusted in relation to part B to accommodate different heights of draft-animals, and when so adjusted the parts can be locked by tightening nut *g*, which forces the racks L into engagement with racks I, the conical boss *l* entering the conical opening in plate H and insuring the proper engagement of the racks. When nut *g* is loosened, the resiliency of plate J will cause it to disengage plate H.

M designates the frame upon which the gang of cultivators is mounted. This frame is preferably made of metal, and is of general rectangular form, one of its side bars, *m*, being longer, however, than the opposite side bar, *m'*; and N is a diagonal bar connected to the rear portions of side bars, *m m'*. *n* is the front connecting-bar, and *n'* is an intermediate bar connecting the center of bar N with bar *n*, as shown. O is a shovel-standard attached to bar *m'*. *o o* are similar shovel-standards attached to opposite sides of bar *n'*, and *o' o'* are standards attached on opposite sides of bar *m*, the gang of cultivator-standards being in line with bar N, as shown.

Frame M is connected to and suspended from frame A by means of four rigid links, P P, as shown, which are arranged in pairs at opposite sides of the frame, and are pivotally



bolted to the side bars of frame A and similarly connected to the side bars of frame M.

Q is a rod journaled in bar B of frame A, and having at its inner end a crank-arm, Q', and on its outer end an upstanding handle, 5 *q*, provided with an ordinary catch, *q'*, engaging a segment, R, bolted to the frame A. The arm Q' is connected by a chain, R', with hooks on the side bars of frame M. By turning rod 10 Q arm Q' is elevated or lowered, and thereby frame M and the cultivator-gang can be suspended from frame A or lowered to work. A seat, S, is mounted on frame A in position to allow the driver to operate arm *q*.

15 The link-connections of frames A and M prevent lateral swaying of the cultivator-gang thereon, as the links are rigid, and the arm Q' and links B insure the lifting of the shovels from the ground simultaneously and with a 20 backward movement, readily disengaging them from the ground. It is necessary when the cultivator is employed with teams of different heights to adjust the tongue, which can be readily done, as described, so as to set the 25 shovels to work evenly and equally. Without this adjustability of the tongue the link-suspended cultivators would work unevenly, but with it they can all be made to cut equally into the earth with any height of draft-animals.

30 Having described my invention, I claim—

1. The combination of the frame A and the cultivator-gang suspended therefrom by links, substantially as described, with a sectional tongue and the lock-hinge joint thereof, composed of plates E, H, and J, and bolts *f* and G, 35 all substantially as set forth.

2. The combination, in a cultivator of the character described, of the rectangular carrying-frame A, having tongue-section B, and the tongue-section D, adjustably connected to part 40 B by an adjusting locking-hinge, with the frame M and the cultivator-gang attached to said frame, the chain R', crank-rod Q, lever *q*, and cranked axle C, all substantially as and for the purpose specified. 45

3. The herein-described locking-hinge joint, consisting of the plate E, the opposite plate, H, having racks I I on its outer face, and the spring-plate J, having racks L L, the bolt *f* and bolt G, and hand-nut *g*, all constructed 50 and adapted to operate substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

BENJAMIN F. BERGER.

Witnesses:

JAMES DU SHANE,  
JEANIE ANDERSON.