# J. PALCER.

## CULTIVATOR.

No. 182,953. Patented Oct. 3, 1876.

Fig. 1.

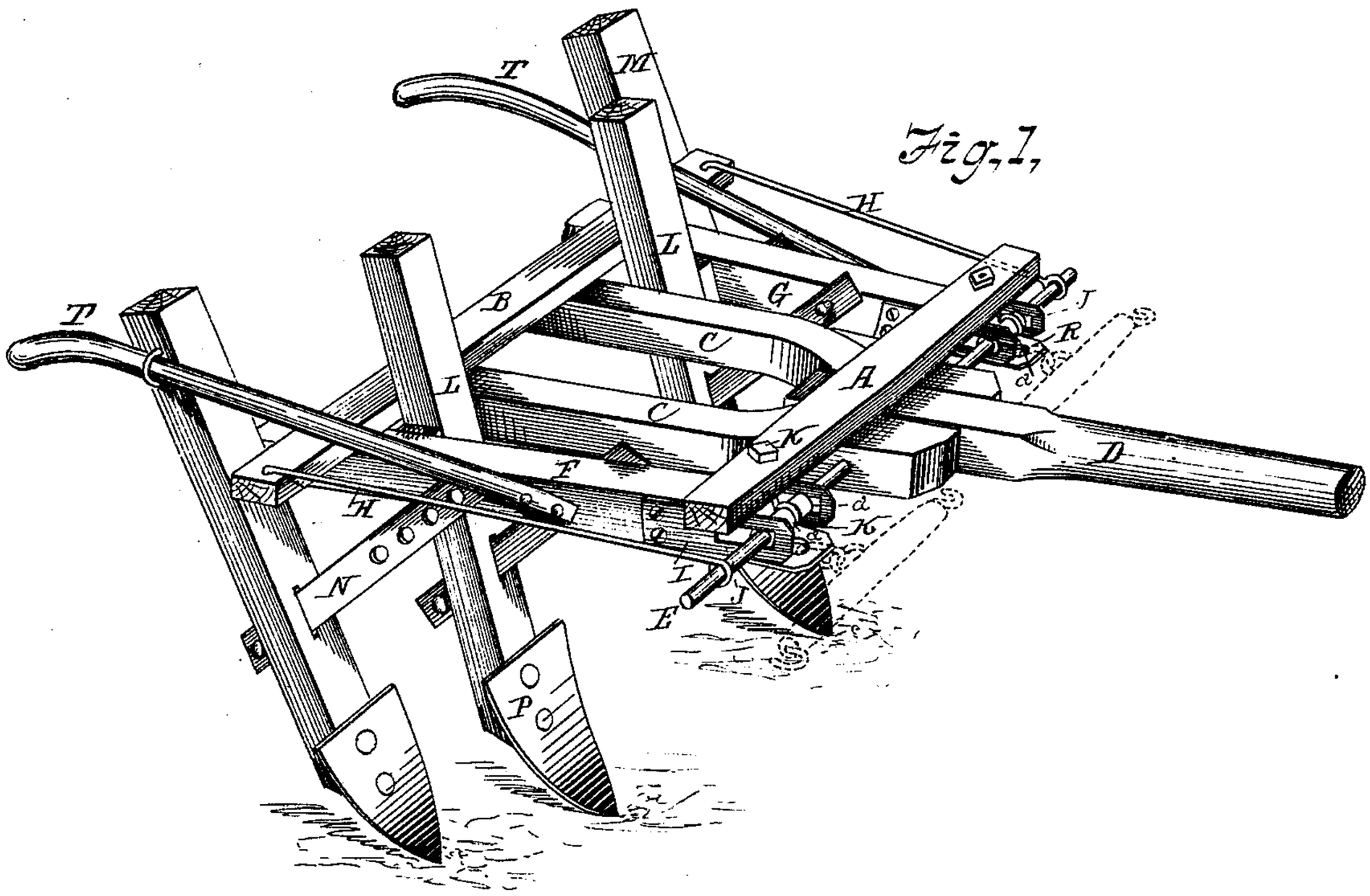



Fig. 2.

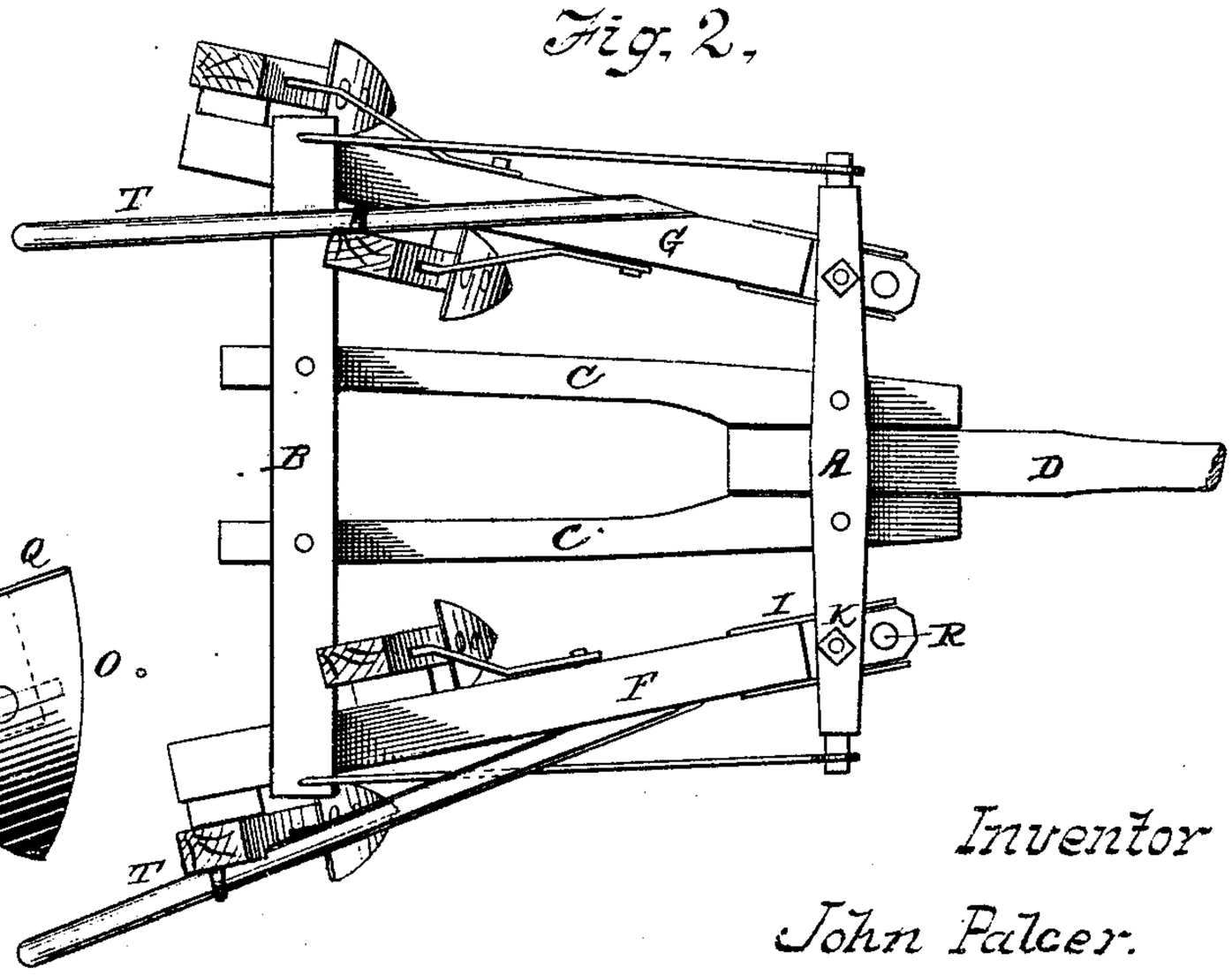
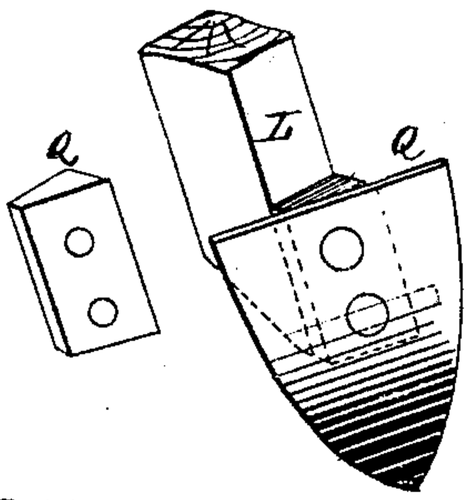



Fig. 3.




Witnesses:
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# UNITED STATES PATENT OFFICE

JOHN PALCER, OF EL DORADO, IOWA.

## IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. **182,953**, dated October 3, 1876; application filed September 14, 1876.

*To all whom it may concern:*

Be it known that I, JOHN PALCER, of El Dorado, in the county of Fayette and State of Iowa, have invented certain new and useful Improvements in Cultivators, of which the following is a specification:

This invention relates to certain improvements in double or "straddle" row cultivators; and it consists in providing the supporting-frame of a cultivator with a shaft passing transversely through the central bars of the frame, serving as a point of attachment for the plow-beams, which are provided with ears at their front ends, attached to the sides of the beams, and provided with elongated slots for the passage of the supporting-rod, said slots permitting the necessary play of the beams laterally and longitudinally, in combination with an eye-rod extending from the front transverse bar of the supporting-frame, and provided with collars to prevent too great a lateral movement of the plow-beams, as more fully hereinafter set forth.

In the accompanying drawing, Figure 1 is a perspective view of a double cultivator constructed according to my invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail view, illustrating the manner of fitting the shovels so as to give the same an inclination.

The supporting-frame of the cultivator is composed of the front and rear transverse bars A B and central longitudinal bars C, between the front ends of which is secured the draft-pole D. A rod or shaft, E, passes transversely through the bars C and pole, and terminates at the proper distance from the latter, so as to serve as the point of attachment for a pair of plow-beams, F G. The rod E is properly braced by means of the stays H extending from said rod to the rear transverse bar B, to which they are attached. The plow-beams are provided at their front ends with plates or ears I, which are attached to the sides of the beams, and provided with elongated openings or slots J, for the passage of the supporting-rod E. Said slots will permit the necessary play of the beams laterally and longitudinally. An eye-rod, K, extends downward from the bar A, and encircles the rod E between the ears of the plow-beams. Washers or sleeves *a* are placed on the rod E, between the eye of the rod K and the ears of the beam. The eye-rods K, one for each beam and the washers, will not permit a too great lateral movement of the plow-beams, while not preventing the play necessary to cultivate at a greater or less distance from the plants, or to avoid obstructions. The upper end of the eye rod or bolt K is threaded to receive a nut, which attaches it to the bar A, said bar being provided with several holes for receiving said eye-rod. To each beam are attached two shovel or plow standards, L M, which are set one in advance of the other, and on opposite sides of the beam. The standards are sustained by means of braces N, which extend from the standards, and are attached to the beams by bolts or pins. The braces are provided with a series of holes, so that the standards can be adjusted to give them different degrees of inclination.

The attachment of the rear end of the brace to the standard may be effected by a fixed pin or bolt, or a wooden pin may be used, which will break when the shovel strikes an obstruction, thus permitting the standard to yield in a backward direction.

Each beam carries a handle, T, which is grasped by the plowman, for the purpose of guiding the cultivator and adjusting the beams. The rear ends of the beams rest under the cross-bar B, and they are free to move thereon by properly manipulating the handles. The beams may be held upon the cross-bar by a temporary fastening device; but this is hardly ever done, as it is desirable to have the beams capable of being adjusted or shifted in nearly every instance of the use of the cultivator. The two inner shovel-standards may also be connected by a bar, adjustable or fixed so as to have both beams move in unison with each other; but the independent arrangement of the beams is deemed preferable.

The shovels used may be of any desired form, according to the kind of work to be done; but I generally employ the common pointed shovels P, which are attached in any suitable manner to the standards. In certain instances it is essential that the shovels should be inclined to the right or left for throwing the earth correspondingly, and for permitting this to be done in a simple and convenient

manner I interpose a wedge-shaped block, Q, between the standard and the shovel, as is shown in Fig. 3 of the drawing. The draft can be applied directly to the plow-beams by attaching whiffletrees to the front ends thereof, as is shown by the dotted lines in Fig. 1.

For convenience of attachment of the whiffletrees I apply to the bottom of each beam a slotted plate or clevis, R. The whiffletrees may, however, be attached to the pole in the usual manner.

What I claim, and desire to secure by Letters Patent, is—

The combination, with the front and rear transverse bars A B, central bars C between the same, the shaft E, passing transversely through the said bars, and the pendent eye-rod K, having collars, as described, of the independent adjustable plow-beams F and G, having the plates or ears I, provided with a series of elongated openings, J, substantially as shown and described, for the object specified.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

JOHN PALCER.

Witnesses:

JOS. L. COOMBS,

JAMES L. NORRIS.