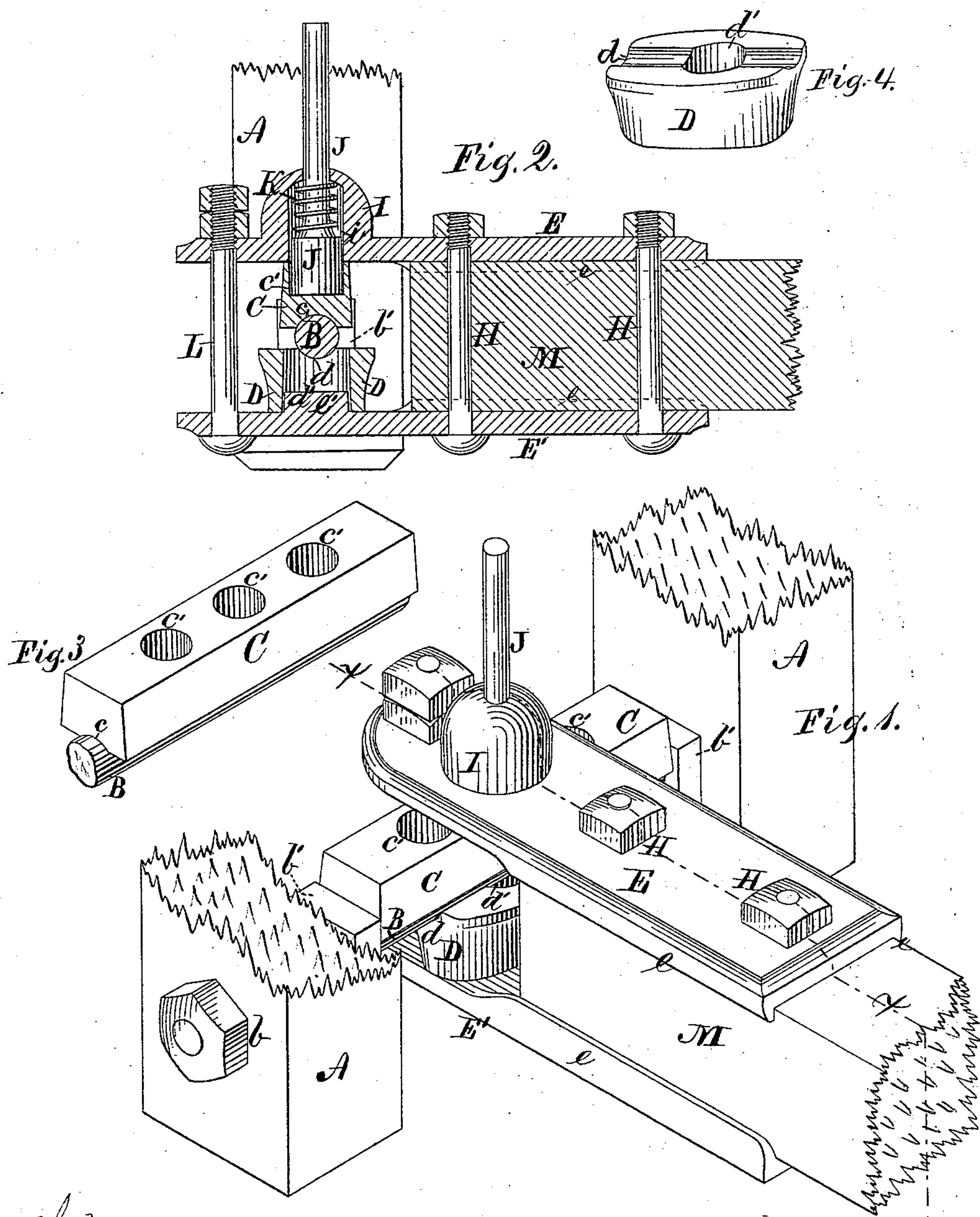


W. S. WEIR.
Cultivators.

No. 148,787.

Patented March 17, 1874.



Witnesses.
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UNITED STATES PATENT OFFICE.

WILLIAM S. WEIR, OF MONMOUTH, ILLINOIS.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 148,787, dated March 17, 1874; application filed February 7, 1874.

To all whom it may concern:

Be it known that I, WILLIAM S. WEIR, of Monmouth, county of Warren and State of Illinois, have invented certain new and useful Improvements in Cultivators. The following description, taken in connection with the accompanying plate of drawings hereinafter referred to, forms a full and exact specification, wherein are set forth the nature and principles of the invention, by which the same may be distinguished from others of a similar class, together with such parts thereof as are claimed as new and are desired to be secured by Letters Patent of the United States.

My invention relates to that class of machines used for cultivating both sides of a row of growing plants at one time, commonly known as straddle-row cultivators; and the nature thereof consists in certain improvements in the details of the construction of the joint or coupling used with the same, for the purpose of hinging or pivoting the plow-beams to the main frame or axle, hereinafter described.

In the accompanying drawing, which illustrates my invention, and in which the similar letters used as marks of reference apply to the like parts in all the figures, Figure 1 is a perspective view of the end of one plow-beam, of the adjacent parts of the main frame, and the joint for connecting the same. Fig. 2 is a vertical sectional view of Fig. 1 on the plane of the line *x x*. Fig. 3 is a perspective view of the upper grooved bearing-plate and journal, and Fig. 4 is a perspective view of the lower grooved bearing-plate.

The construction and relative arrangement of the parts of the improvement, and the adjacent parts of the general machine in which said improvements may be incorporated, are as follows: Letters A A represent the two vertical side standards for supporting one end of the elevated axle common to this class of cultivators. B is a cylindrical horizontal bar or journal connecting the lower ends of the standards A A, to which it is firmly secured by a nut, *b*, on one end and a head on the other, (not shown,) and by washers or collars *b' b'*, which rest against the adjacent sides of the standards A A. C is the upper bearing-plate, formed, as plainly shown in the drawings, of such length as to fit snugly between the wash-

ers *b' b'*, its lower side provided with a longitudinal groove, *c*, which fits upon the journal B, and its upper side flat and containing a series of cylindrical cavities, *c' c' c'*. D is the lower bearing-plate, which may be shorter than the plate C, and contains a longitudinal groove, *d*, in its upper surface—its lower side formed flat—and it is pierced centrally and vertically by a cylindrical hole, *d'*. E E' are the upper and lower beam-plates, respectively, and are provided with side flanges *e e*, and connected to the forward end of the beam G by bolts H H, in the usual manner. *e'* is a cylindrical projection from the upper surface and projecting end of the lower beam-plate E', and fits into the lower end of the hole *d'*. I is a cap or projection from the upper surface of the upper beam-plate E, and is pierced vertically with a hole, which is enlarged at its lower end to form a cavity, *i*, corresponding in its cross-section with the recesses *c' c' c'* in the grooved bearing-plate C. J is a bolt, its lower end enlarged to fit snugly in the cavity *i* and recesses *c' c' c'*, and its upper and smaller end extending upward through and above the cap I, and its central part, between its enlarged end and the upper end of the cavity *i*, encircled by a spiral spring, K. L is a bolt connecting the ends of the beam-plates E E'. M is the end of a plow-beam.

It is obvious that the hereinbefore-described devices will allow the plow-beams to be oscillated freely laterally, while the projection *e'* and lower enlarged end of the spring-bolt J act as pivotal points within their respective recesses *c'* and *d'*; and, further, that the grooved bearing-plates C and D may turn freely on the journal B, and thus allow the plow-beams to be oscillated freely vertically; and, further, that the construction of all the parts is such as to retain the plows in an upright position during all of said operations; and the grooves *c* and *d* not being deep enough to entirely encircle the journal B, they may be brought nearer together, to compensate for wear, by tightening up the bolts through the beam-plates.

By taking hold of the upper extended end of the spring-bolt J with the hand, it may be easily and quickly withdrawn from its seat in one of the recesses or sockets *c'*, and, while

held in said position, the plow-beams may be adjusted to the right or left on the journals B, to increase or lessen the distance between them, and, by releasing the hold of the bolt J, it will be instantly retracted by the spring K and seated again in any desired recess, *c'*. It will be evident that the lateral adjustment last described may be performed without loosening or unscrewing any of the parts, and may be accomplished without the aid of wrenches or other implements whenever desired, the plate C remaining fixed longitudinally between the washers *b' b'* during the said adjustment, while the beam-plates, spring-bolt, and plate D are

moved together. It will be further evident that the journal B may be supported or connected with the main frame in other ways than that herein described, and may, in fact, be formed by horizontal parts of the axle itself.

I claim—

The spring-bolt J, arranged to operate with the recessed plate C, journal B, and plates E E', substantially as described, and for the purpose specified.

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Witnesses:

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