James J. Thompson's Cultivator

Plate 1

116776

PATENTED JUL 4 1871

Fig. 1

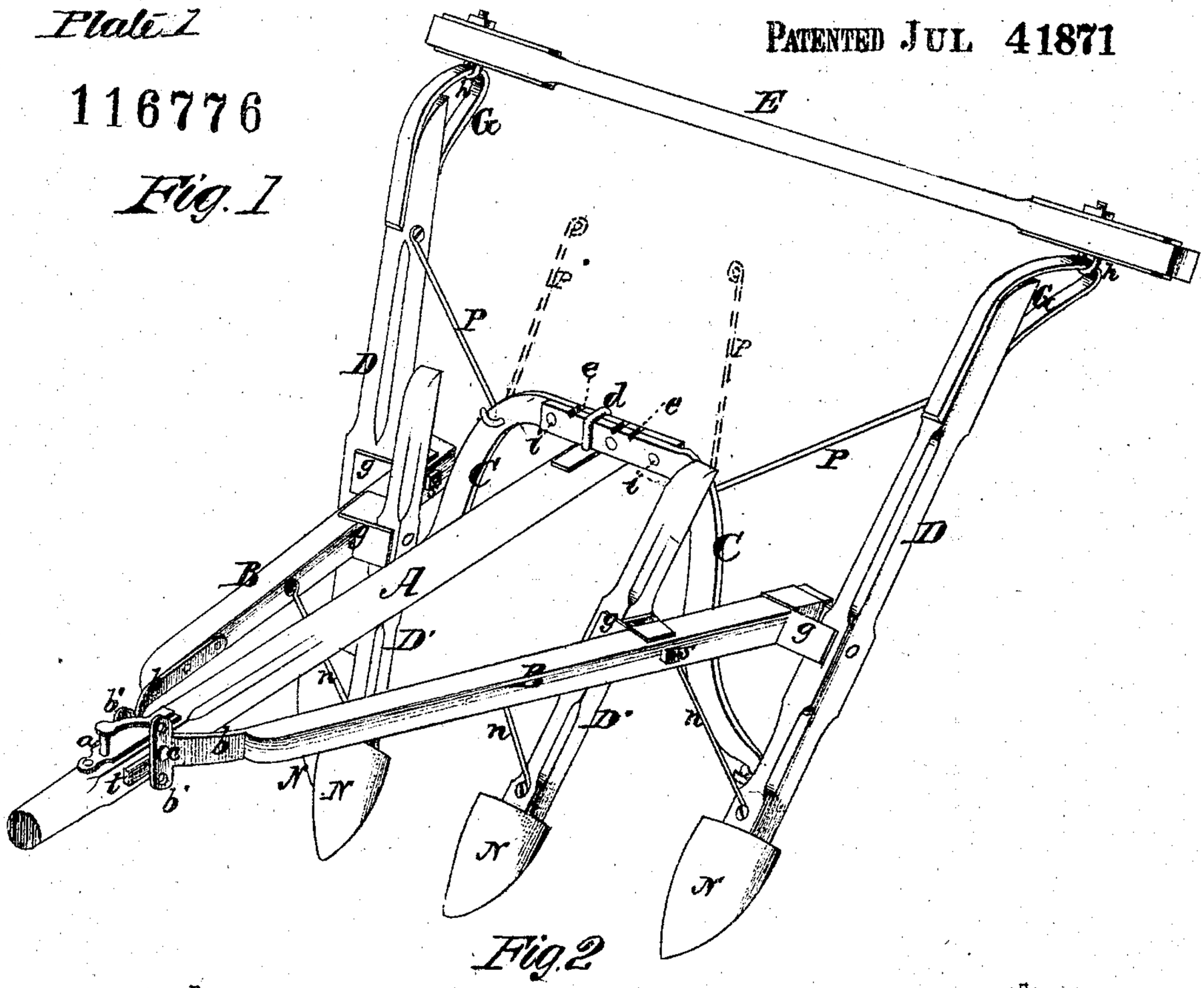
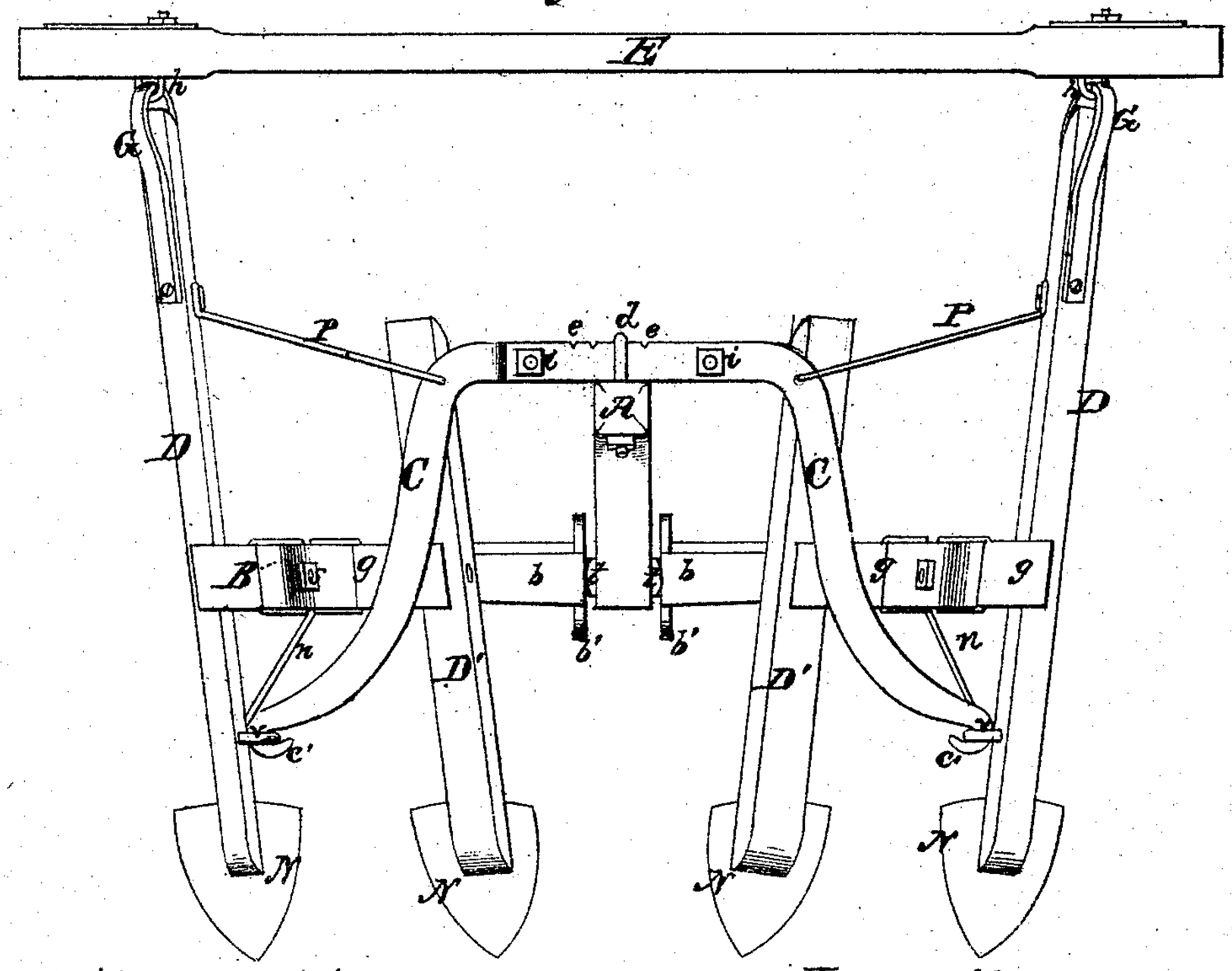


Fig. 2



Witnesses.
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James J. Thompson's Cultivator

Fig. 3

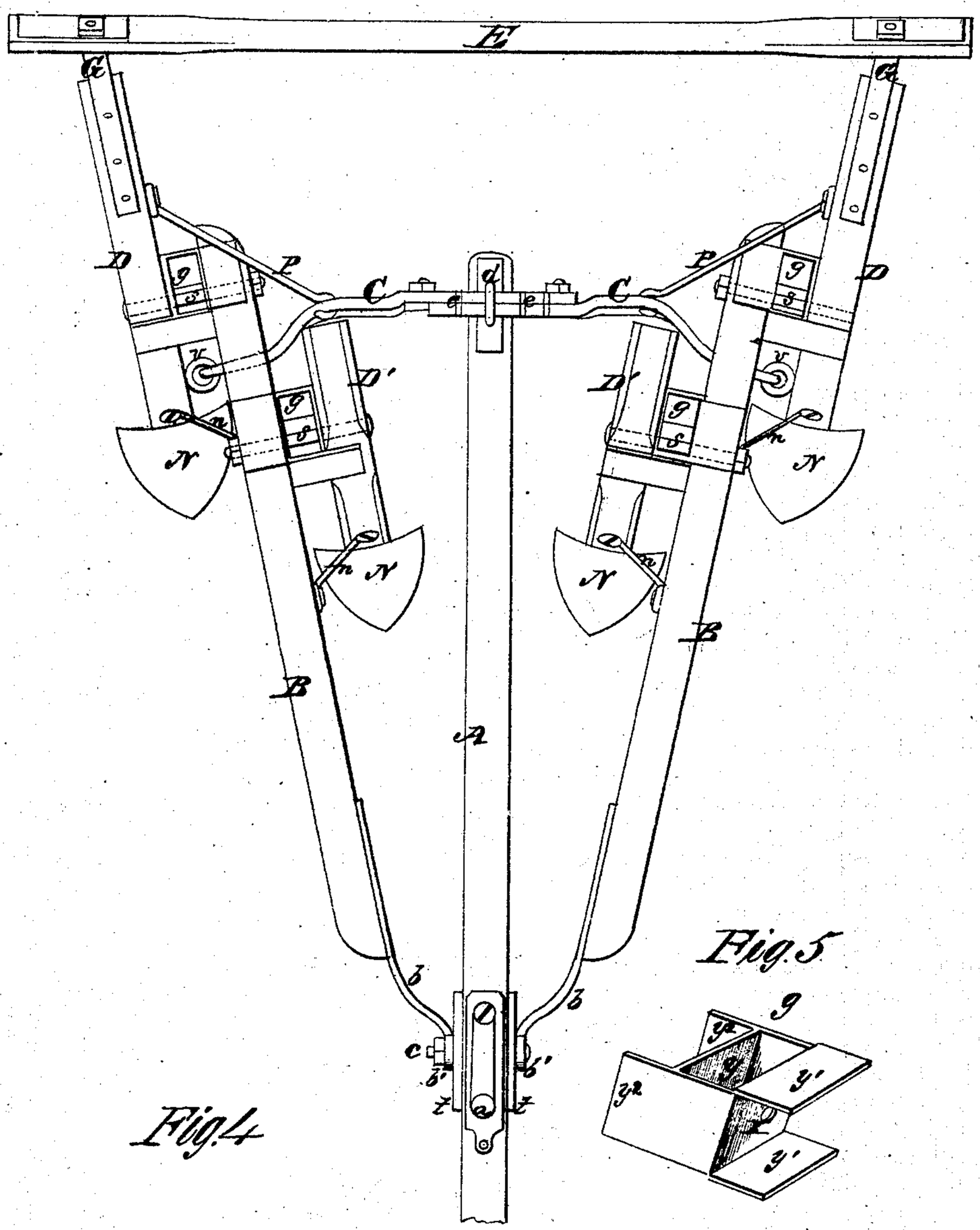
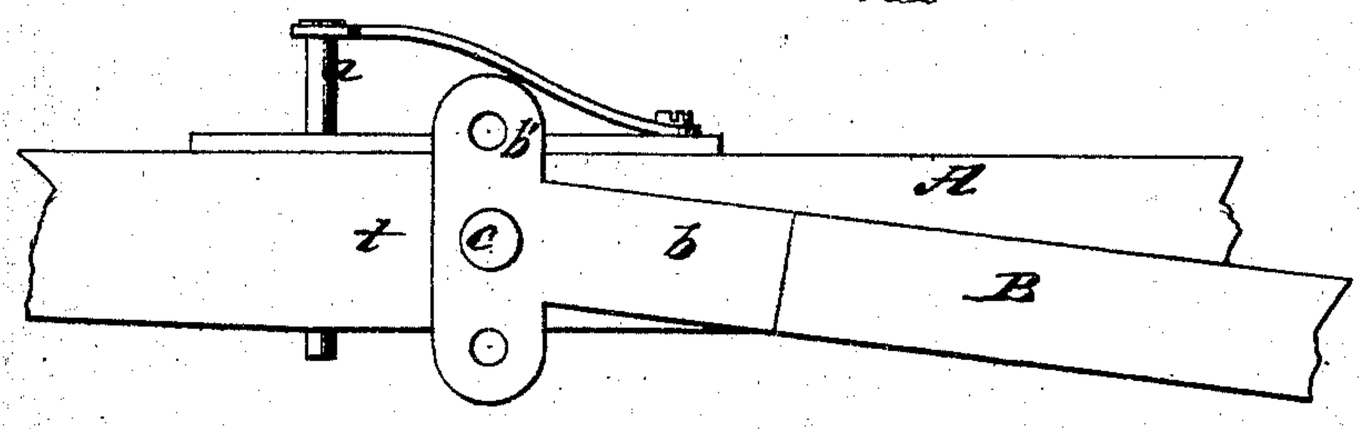


Fig. 5

Fig. 4



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116,776

UNITED STATES PATENT OFFICE.

JAMES J. THOMPSON, OF COLUMBUS, OHIO.

IMPROVEMENT IN CULTIVATORS.

Specification forming part of Letters Patent No. 116,776, dated July 4, 1871.

To all whom it may concern:

Be it known that I, JAMES J. THOMPSON, of Columbus, in the county of Franklin and State of Ohio, have invented a new and Improved Cultivator; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1, plate 1, is a perspective view of my improved cultivator. Fig. 2, plate 1, is an elevation of the rear end of the cultivator. Fig. 3, plate 2, is a top view. Fig. 4, plate 2, is a view in detail, showing the mode of attaching the front ends of the side beams to the draft-pole. Fig. 5, plate 2, is a perspective view of one of the boxes used in attaching the shovel-standards to their beams.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to certain novel improvements on cultivators belonging to that class adapted for two horses, and having four shovels so arranged that one shovel runs on each side of each row. My improvement relates particularly to the attachment of the shovel-standards to their respective beams by means of compound boxes, and through bolts, in addition to diagonal front braces; also, to the combination of lateral adjustable wings, which articulate on the beam with laterally-adjustable sections of an arch, which also articulate on the shovel-standard, and a loosely-hinged brace-handle, all as will be hereinafter described; also, to the combination of a removable diagonal brace with the articulating sections of the arch and articulating wings, whereby, at will, the cultivator may be made a rigid or a flexible cultivator, and thus adapted for either preparing the ground or cultivating the growing crops.

The following description of my invention will enable others skilled in the art to understand it:

In the accompanying drawing, A represents the draft-pole, which is provided at *a* with a pin for coupling to it the double-tree. To this draft-pole the front ends of two beams, B B, are connected by means of flexible T-shaped pieces *b b*, which are curved, as shown in Fig. 3, and made fast to the beams inside, and connected, by a transverse bolt, *c*, to the draft-pole. The vertically elongated ends *b′* of these flexible pieces *b* are perforated at different points, so that the front ends of the beams can be raised or depressed for regulating the pitch of the shovels. Between the heads *b′ b′* and the draft-pole, plates *t t* are secured to the draft-pole, the surfaces of which are convex vertically for allowing the beams B B free circulation. Near the rear end of the draft-pole A, and crossing the upper side of the same transversely, are two braces, C C, which are shaped somewhat like the Italic letter *f*, and which are lapped and secured fast to the draft-pole by means of a staple-bolt, *d*. The upper edges of the lapped ends of braces C C are notched at *e* to receive the staple *d*, and perforated at several points to receive confining-bolts, *i i*, so that the lower extremities *c′ c′* of these braces can be adjusted and set further apart or nearer together, as circumstances require. When the two braces C C are secured together at *i i*, and bolted to the draft-pole at *d*, they form a strong arched brace, and their lower hooked ends are fastened into eyes, *u u*, which are inserted into two long standards, D D, carrying on their lower ends shovels N N. These hook-and-eye fastenings allow free lateral articulation of the said standards, when two diagonal braces, P P, which extend from the standards to the braces C C, are removed. The standards D D, carrying the rear shovels, and also the two shorter standards D′ D′, carrying the front shovels, are all secured to the beams B B by means of compound boxes *g*, bolts *s*, and front inclined brace-rods *n*. Each metal box *g* consists of a central cell, *y*, perforated at *x* to receive through it a bolt, *s*, and four flanges, y^1 y^1 and y^2 y^2. The two flanges y^1 y^1 receive the beam B, and the two flanges y^2 y^2 receive the standard; the bolt *s* is passed transversely through the beam, the standard, and the cell, and confines the whole rigidly together. In addition to each box *g*, each shovel-standard is braced by an inclined rod, *n*, which sustains it against backward thrust. To the upper extremities of the rear standards D D metal loops G G are secured, which extend backward and upward, and have connected to them, by means of staple-bolts *h h*, a transverse handle, E. This handle connects together the upper ends of the rear shovel-standards, and enables the attendant, walking behind the machine, to guide the shovels between the rows.

In the drawing I have represented two braces, P P, connecting the rear standards D D to the braces C C. When these braces are thus used,

the beams B B and the draft-pole, as well as the four standards, will be rigidly held. But when these braces are removed the articulations at the front ends of the beams B B, at the hooked extremities of the braces C C, and at the junctions of the rear standards with the handle E, will allow the attendant, with his hands grasping the handle E, to vibrate the points of the shovels laterally and thus guide the shovels between irregular rows.

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

1. The boxes *g*, composed of cells *y* and flanges y^1 y^1 y^2 y^2, in combination with shovel-standards, beams, and the confining-bolts *s*, substantially as described.

2. The combination of the draft-pole A, side-beams B B, joints *t t*, sectional arch C C, joints *v*, standards D D, and loosely-connected brace E, all constructed, arranged, and operating substantially in the manner and for the purpose described.

3. The combination of the removable diagonal braces P P, brace E, hinged arch C C, beam A, and swinging side beams B B, substantially as as and for the purpose described.

Witnesses: JAMES J. THOMPSON.

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