

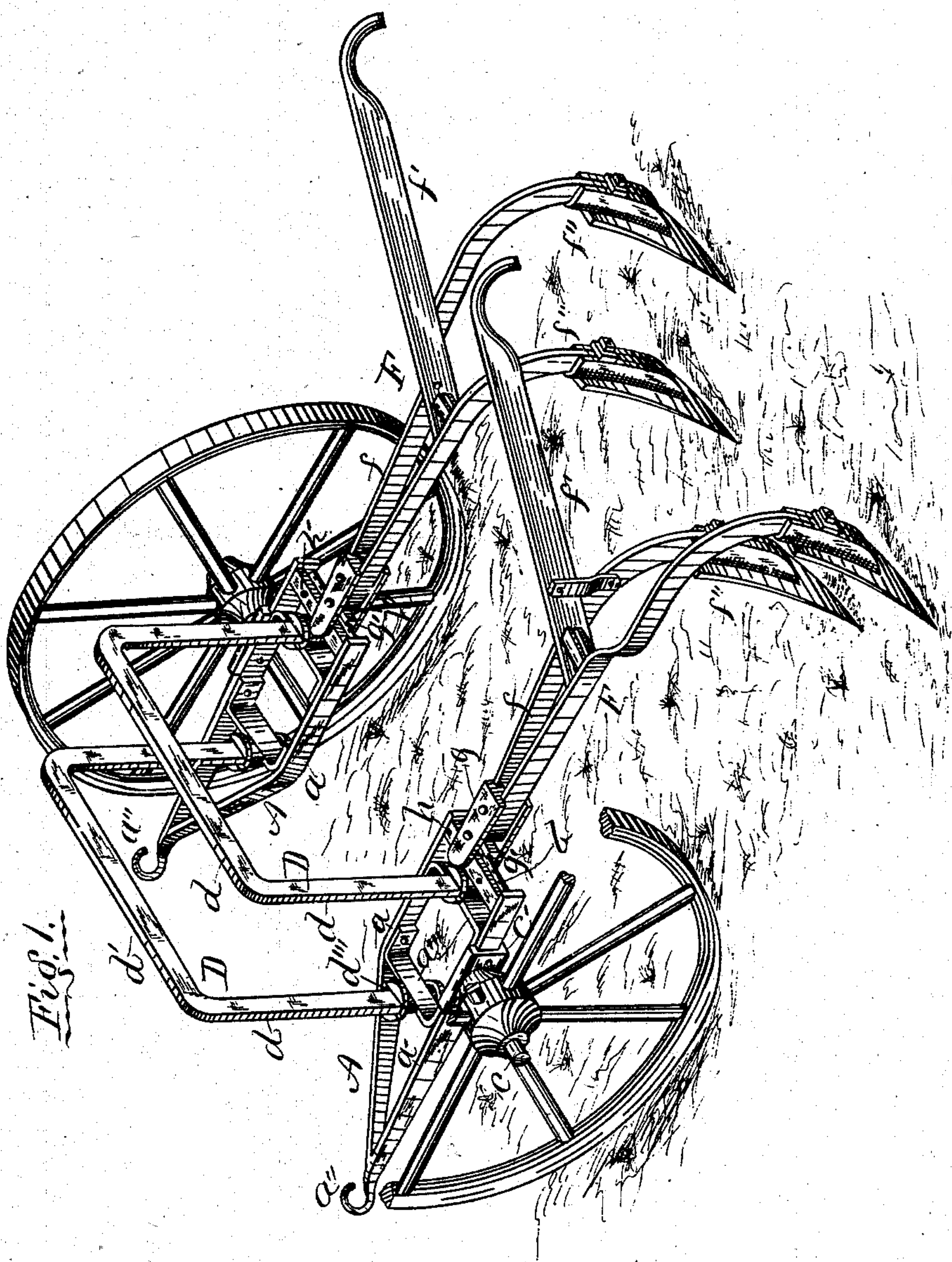
(No Model.)

2 Sheets—Sheet 1.

W. S. WEIR.
CULTIVATOR.

No. 274,070.

Patented Mar. 13, 1883.



Witnesses:

W. B. Richards
James Henry

Inventor:

Wm S. Weir
By W. B. Richards,
Atty.

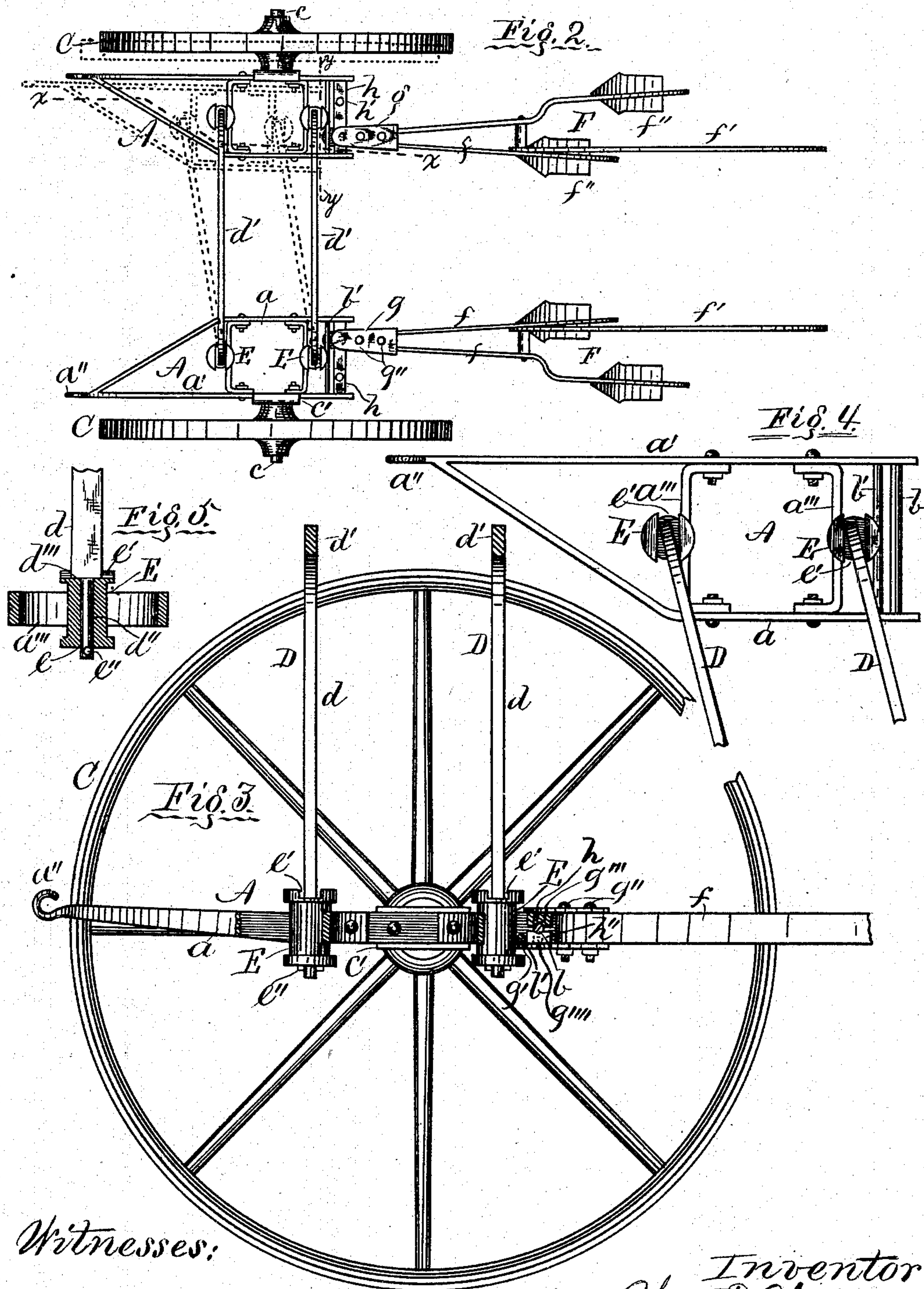
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UNITED STATES PATENT OFFICE.

WILLIAM S. WEIR, OF MONMOUTH, ILLINOIS.

CULTIVATOR.

SPECIFICATION forming part of Letters Patent No. 274,070, dated March 13, 1883.

Application filed October 31, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. WEIR, a citizen of the United States, residing at Monmouth, in the county of Warren and State of Illinois, have invented certain new and useful Improvements in Cultivators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to that class of parallel or "tongueless" cultivators in which two or more arches, that constitute the central part of the axle or connection between the stub-axle, are hinged to the side frames to which said stub-axles are fixed, in such manner that the wheels and side frames will be held in parallel planes by the arches when either wheel is advanced relatively to the wheel at the other end of said arches; and the invention consists, first, in improvements in the construction of the side frames, whereby simplicity of form is secured with greater strength, and whereby the arches or central parts of the axle may be journaled thereto in such manner as to permit of extended lateral adjustment of the gangs of plows; second, in improvements in hinging the arches to the side frames, whereby the movement of either wheel forward relatively to the other is limited, to prevent such near approach of the side frames to each other as that the axle and wheels may fall over to either side.

The invention further relates to improvements in the manner of coupling the plow-gangs to the side frames, and to other combinations and features of construction, as hereinafter described.

In the accompanying drawings, which illustrate a tongueless cultivator as improved by my invention, Figure 1 is a perspective. Fig. 2 is a top plan. Fig. 3 is an enlarged sectional elevation in a plane indicated by the line xx in Fig. 2. Fig. 4 is an enlarged top plan of one of the side frames and the adjacent ends of the arches. Fig. 5 is an enlarged sectional elevation of an arch-bearing and adjacent parts, in line yy in Fig. 2.

Referring to the drawings by letters, the

same letter indicating the same part in the different figures, letters A represent the side frames, each formed of parallel bars a a' , converging at their forward ends to form a draft-hook, a'' , and connected at their main portions by transverse bars a''' . The rear ends of the bars a are connected by and support a spindle, b , and also a bar, b' , in front of, parallel with, and in a plane lower than the spindle b .

CC are the supporting-wheels, journaled on stub-axles c , which project laterally and outwardly from plates c' , one of which is bolted to each bar a' .

DD are the arches, each of which is composed of vertical side parts, d , and elevated central part, d' . The lower ends of parts d are formed into journals d'' with shoulders d''' . Each bar a''' has affixed thereto a socket block or blocks, E, with a vertical hole, e , through it, and a transverse groove, e' , in its upper end. The arches D are journaled to the side frames, A, by means of their journals d'' passing through the holes e in the blocks E, where they are retained by keys e'' , as shown. The extent of oscillatory movement of each journal d'' in its bearing is limited by means of the shoulders d''' coming in contact with the side walls of the groove e' , in which said shoulders are located. This arrangement of the arches and side frames and journaled connection between them will permit of advancing either side frame and its adjacent wheel while the parallelism of the side frames and wheels are preserved by the two arches, as shown by dotted lines at Fig. 2. The grooves e' are somewhat wider than the shoulders d''' are thick, and thereby permit of oscillation of the journals d'' in the holes e to a limited extent, as shown at Fig. 4, but not sufficiently to allow the side frames, A, to come together or so nearly together in turning the cultivator around in operation, as that it will not sustain itself against falling over sidewise. More than two arches D may be used, but I prefer two as sufficient to retain the wheels in parallel planes when either is advanced for turning the cultivator, or for other purposes.

FF are ordinary gangs of plows, with beams f , handles f' , and plows f'' of any ordinary construction. Each plow-beam f has a plate, g , bolted to its upper side and projecting forward from its forward end, and a longer plate,

g' , projecting similarly from its under side and held by the same bolts, g'' , which hold the plate g .

A plate, h , with a groove in its lower side, rests on the spindle b , and has a series of holes, h' , either of which may receive a stud, g''' , which projects from the lower side of the plate g , while a grooved plate, h'' , rests similarly between the plate g' and spindle b , and has a hole which receives a stud, g'''' , on said plate g' . The manner of hinging the plow-gangs to the spindles b is substantially the same as shown in Patent No. 148,787, granted to me March 17, 1874, and need not be more fully described here. The plow-gangs swing laterally on the studs g''' g'''' , and vertically on the spindles b as centers of motion, and the arrangement of the spindles b with reference to the arches D is such that the plow-gangs may be adjusted laterally and fixed at points inside of or outside of the vertical parts of said arches, as desired. The extended end of the plate g' rests beneath and about in contact with the bar b' when the plows are in operation, and hence said bar b' will come in contact with the plate g' and prevent the arches D falling forward when not sustained in upright position by the draft of the animals on the hooks a'' .

The stub-axles c are somewhat in rear of the centers of the frames A , so that the tendency of the arches D is to tilt forward; but should they by any means be thrown rearward they will be caught by the plow-beams.

What I claim as new is—

1. In combination with the side frames composed of bars a a' , connected by transverse bars a'' , the arches D , journaled to blocks on the bars a''' , substantially as and for the purpose specified.

2. In combination with the side frames with arches hinged or journaled thereto, and the

plow-gangs, the bar b , to which the plow-gangs are hinged, arranged, substantially as described, with relation to the arches to permit adjusting the plow-gangs laterally at points between and also exterior to the vertical parts of the arches, substantially as and for the purpose specified.

3. In a cultivator, in combination with side frames and two or more arches hinged or journaled thereto, stops adapted to limit the extent of movement of said hinge-connection, substantially as and for the purpose specified.

4. In a cultivator, in combination with side frames provided with blocks E , having holes e and grooves e' , the arches D , having journals and shoulders on their vertical sides, which shoulders are adapted to coact with said grooves e' to limit the oscillating movements of the journals within said holes e , substantially as and for the purpose specified.

5. In combination with the wheeled side frames having each a bar or spindle, b , and bar b' at its rear end, the plow-gangs having plates g g' , hinged to the spindle b , and the lower one projected forward beneath the bar b' for the purpose of sustaining the arches, substantially as and for the purpose specified.

6. In combination with the wheeled side frames having each a spindle, b , and bar b' at its rear end, and arches D , journaled to said side frames, the plow-gangs having plates g g' , hinged to the spindle b and the lower one, g' , projected forward beneath the bar b' for the purpose of sustaining the arches, substantially as and for the purpose specified.

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

WILLIAM S. WEIR.

Witnesses:

J. H. MOORE,
V. H. WEBB.