

No. 807,906.

PATENTED DEC. 19, 1905.

D. S. BLUE & O. SHEPARDSON.  
CULTIVATOR.

APPLICATION FILED FEB. 28, 1905.

4 SHEETS—SHEET 1.

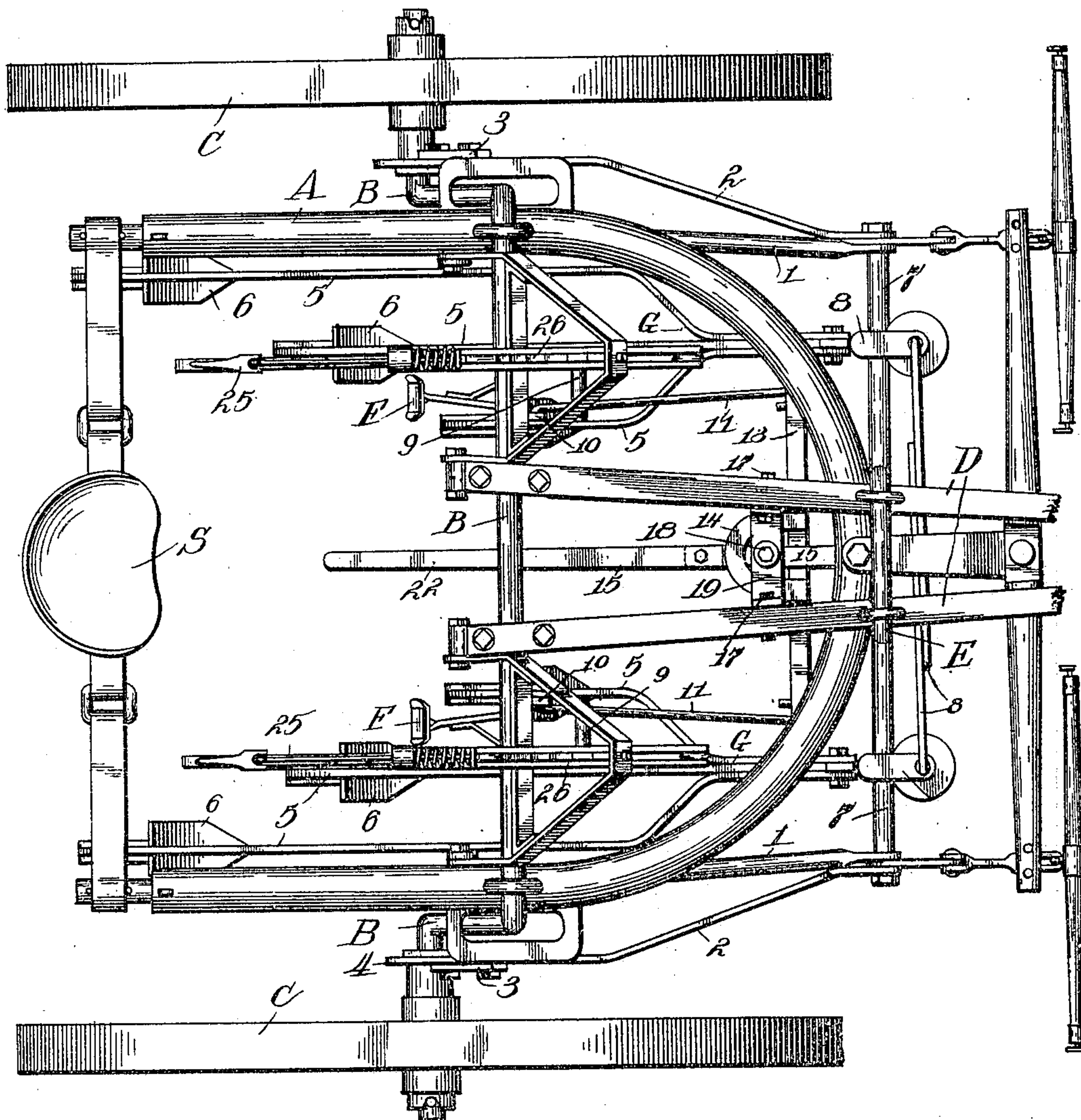


Fig. 1.

Witnesses  
Milton L. Lenoir  
Walter T. Estabrook

Inventors  
Dennis S. Blue  
and O. Shepardson  
by Thos. G. DuBois & Co.  
their Attorneys





No. 807,906.

PATENTED DEC. 19, 1905.

D. S. BLUE & O. SHEPARDSON.

CULTIVATOR.

APPLICATION FILED FEB. 28, 1905.

4 SHEETS—SHEET 3.

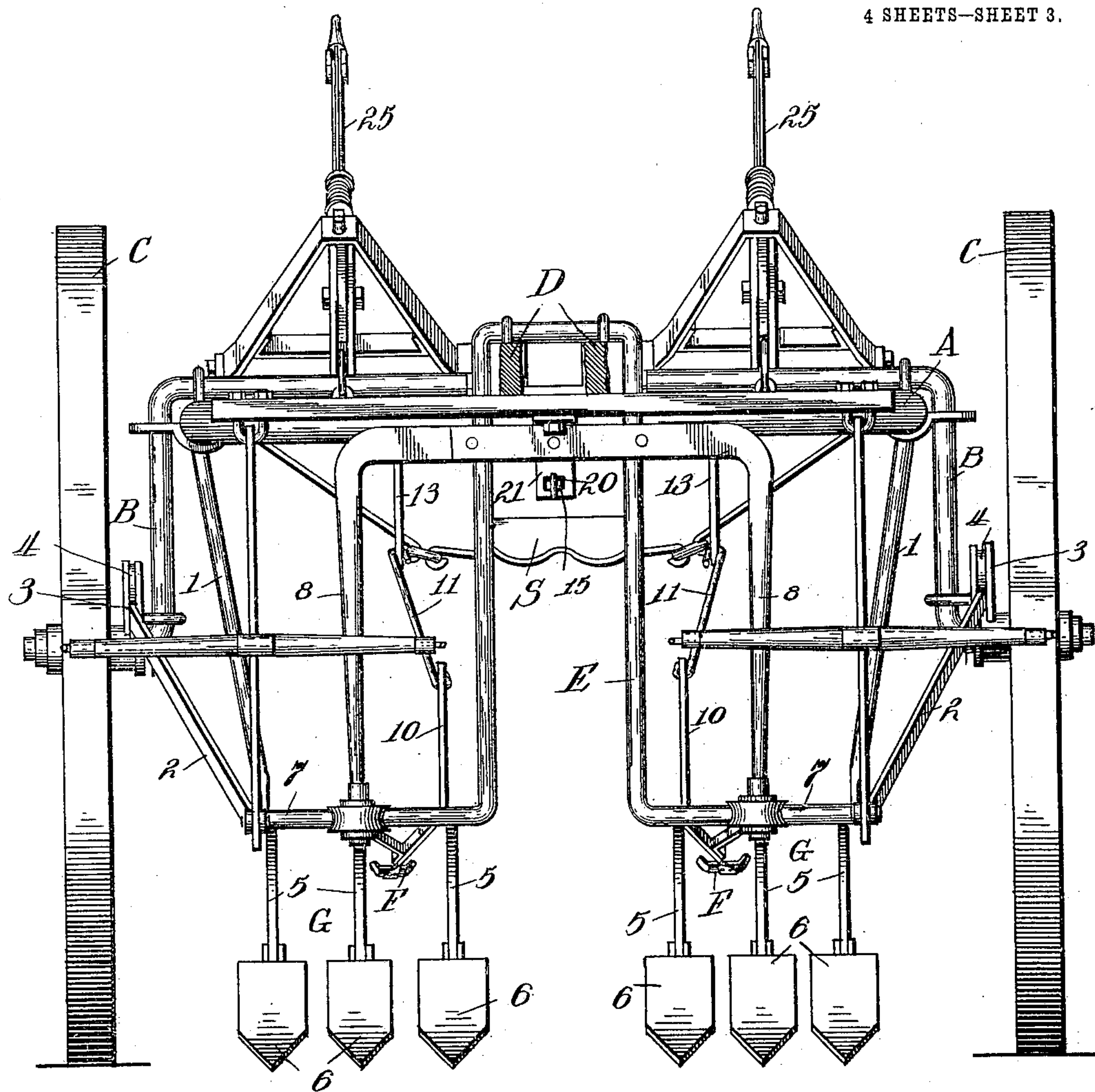


Fig. 3.

Witnesses

Milton C. Senoia

Walter T. Estabrook.

Inventors  
Dennis S. Blue  
and Otto Shepardson  
by Thea G. O. Baird & Co.  
their Attorneys

D. S. BLUE & O. SHEPARDSON.

CULTIVATOR.

APPLICATION FILED FEB. 28, 1905.

4 SHEETS--SHEET 4

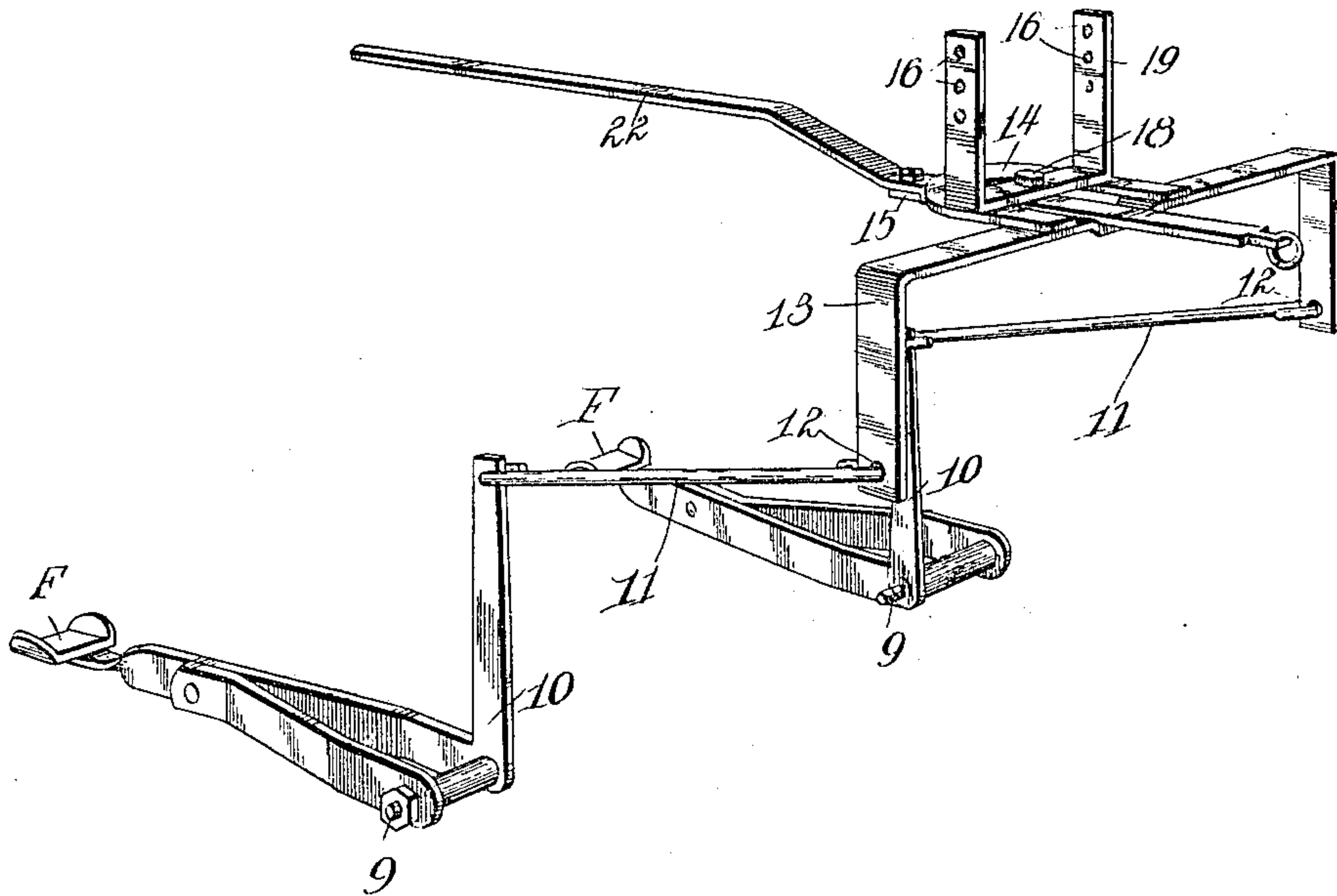


Fig. 4.

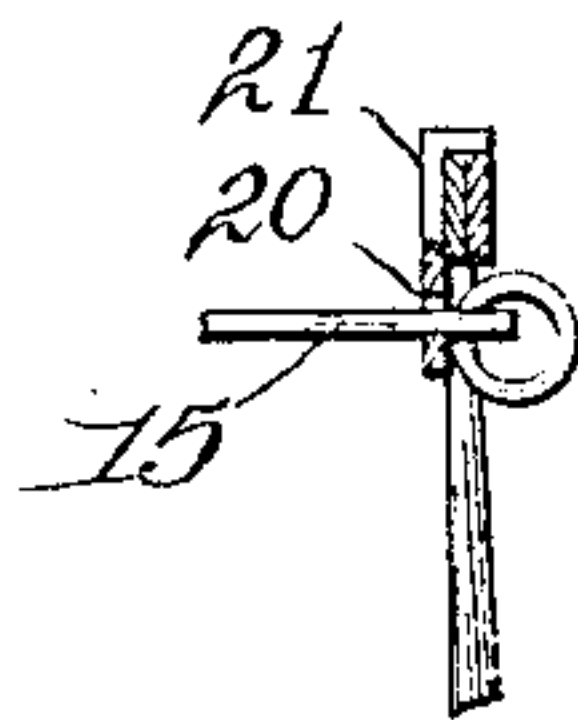


Fig. 5.

Witnesses  
Milton L. Lenoir  
Watts T. Estabrook

Inventors  
Dennis S. Blue  
and Otto Shepardson  
by Thos. G. Overbaugh & Co.  
their Attorneys



# UNITED STATES PATENT OFFICE.

DENNIS S. BLUE AND OTIS SHEPARDSON, OF FREMONT, OHIO.

## CULTIVATOR.

No. 807,906.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed February 28, 1905. Serial No. 247,730.

*To all whom it may concern:*

Be it known that we, DENNIS S. BLUE and OTIS SHEPARDSON, citizens of the United States, and residents of Fremont, in the county of Sandusky and State of Ohio, have invented a new and useful Improvement in Cultivators, of which the following is a specification.

Our invention relates to an improvement in cultivators, and it supplements some of the features disclosed in Letters Patent No. 628,745, granted to Dennis S. Blue July 11, 1899.

One of the principal objects of our present invention is to provide means within the driver's control for cultivating crooked rows or places where the rows are not perfectly straight with the same facility that straight rows are cultivated.

A further object is to provide means for turning and slanting the cultivator-gangs or for shifting them laterally bodily and for applying pressure to the gangs to increase the depth to which they should penetrate the soil.

Still another object is to provide means whereby the cultivator-gangs may be operated and controlled either by hand or foot, or both.

With these objects in view our present invention consists in foot-levers or treadles pivotally supported upon the cultivator-gangs, in combination with a pivotally-supported arch, whereby the gangs are coupled together and made to operate in unison with each other.

Our invention further consists in the above mechanism in connection with a hand-lever, whereby the gangs may be controlled by hand or foot, or both; and it still further consists in certain novel features of construction and combinations of parts, which will be hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view. Fig. 2 is a side elevation. Fig. 3 is a front view. Fig. 4 is a view in perspective of the several novel features for accomplishing the objects set forth, and Fig. 5 is a detail view of the lever-and-plate connection.

A represents a U-shaped frame; B, the axle to which the frame is connected and upon which it is supported.

C C are the wheels, in the hubs of which the ends of the axle are journaled, and D is the tongue or pole attached to the axle and forward portion of the U-shaped frame. An auxiliary frame E straddles the tongue or pole and depends therefrom just forward of the U-

shaped frame and at its lower ends is provided with outwardly - extending guide-rods, the outer ends of which are connected with the frame A and axle B by braces 1 and 2, respectively, the latter of which are adjustably connected with the axles by means of the racks 3 3 and the cams 4 4.

G G are the cultivator-gangs, comprising each as many beams 5 5 as there are cultivator-shovels 6 6, which latter are secured thereto in any approved manner. The forward ends of these gangs have sliding connection with the guide-rods 7 7 of the auxiliary frame E and are connected together by means of the yoke 8, which extends upward to an elevation preferably just slightly below the tongue or pole.

Foot-levers or treadles F F are pivoted intermediate their ends between the inner beams 5 5 of each of the two gangs, preferably on a pin or bolt 9, the ends of which are secured in said beams of each gang. The rear ends of these foot-levers or treadles extend rearward within easy reach of the driver's feet when the driver is seated in the seat S. Incidentally these foot-levers or treadles afford a rest for the driver's feet at all times, although primarily this is not their most important function, as will be explained presently. The forward ends of these foot-levers or treadles are provided with the upwardly-extending arms 10 10. To the upper ends of the arms the rear ends of rods 11 11 are journaled, and the forward ends of these rods are hooked into holes 12 12 in the arch 13. A segment 14 is secured to this arch, and a lever 15, secured intermediate its ends to the segment and arch, is pivotally supported by a pin or bolt 18 to the center of the hanger 19, which latter is adjustably connected, by means of holes 16 16 and bolts 17 17, to the tongue or pole above, the segment serving to brace and strengthen both lever and arch relative to one another. The forward end of the lever 15 extends loosely through a hole 20 in a plate 21, bolted or otherwise secured to the center of the yoke 8. A hand-lever 22, secured to the rear end of lever 15, extends rearwardly within reach of the driver.

From the foregoing it will be observed that two different means are provided by which the driver may control the cultivator-gang, one being the hand-lever 22 and the other the foot-levers or treadles F F, either of which may be operated independently or all together,



and obviously the connections might be such that either could be entirely dispensed with—that is to say, the hand-lever alone might be employed, or the foot-levers or treadles alone might be used.

In operation with the cultivator as shown and described the driver sits in the seat S, with his feet on the two foot-levers or treadles F F, and by pressing down upon both of them equally he is enabled to apply pressure to them to regulate the depth of penetration. By pressing upon the right-hand treadle it swings the right-hand end of the arch rearward and the yoke 8 to the right, thus swinging the two gangs diagonally and with their forward ends toward the right side of the cultivator. By pressing on the left-hand foot-lever or treadle the gangs are shifted simultaneously to the other side, a similar action taking place as before, only in reverse. In like manner by swinging the hand-lever to the left the forward ends of the gang are shifted to the right, and by swinging the hand-lever to the right they in turn are moved to the left. It is also possible for the driver to shift the rear ends of the gang laterally to the right or left by simply pushing the foot when on the treadle in either direction. Either gang might be depressed without the other by holding the hand-lever at the center point and by pressing either foot as the requirements demand it.

The gangs are raised and lowered in the usual manner by the hand-levers 25 25 operating on segments 26 26 through chains or flexible connections 27 27.

From the foregoing it will be seen that the driver is able to exercise perfect control over the cultivator-gangs at all times, so that a crooked row may be cultivated with as much ease and with practically the same degree of perfection that a straight row may be cultivated, as the gangs either independently or together are rendered perfectly sensitive to the driver's wishes.

It is evident that slight changes might be made in the form and arrangement of the several parts described without departing from the spirit and scope of our invention, and hence we do not wish to limit ourselves to the exact construction herein set forth; but,

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a cultivator, the combination with a frame, and laterally-movable gangs, of a hand-lever pivotally secured at a point intermediate its ends, to the frame, an arch rigidly secured to the hand-lever at a point intermediate its ends, foot-levers pivotally carried by each of the gangs, means connecting the foot-levers and arch, and a yoke to which the gangs are secured, one end of the hand-lever secured to the yoke, the movement of one foot-lever operating the gangs simultaneously.

2. In a cultivator, the combination with a

frame, and gangs, of a laterally-movable yoke to which the gangs are secured, a pivotally-mounted arch, means connecting the arch and yoke, foot-levers pivotally supported on each gang and means connecting the foot-levers and arch, a movement of either foot-lever adapted to simultaneously operate the gangs.

3. In a cultivator, the combination with a suitable frame a laterally-movable yoke and gangs connected to the yoke, of a hanger depending from the frame, a lever pivotally secured intermediate its ends to the hanger, one end of the lever engaging and supporting the yoke and adapted to move it laterally, an arch secured to the lever intermediate its ends, foot-levers pivotally supported on the gangs and means connecting the foot-levers and arch whereby the actuation of either foot-lever will operate both gangs.

4. In a cultivator, the combination with a suitable frame, a laterally-movable yoke, and gangs connected to the yoke, of a pivotally-supported arch, means connecting the arch and yoke, bell-crank levers pivotally mounted on each of the gangs, and means connecting the bell-cranks and arch whereby the actuation of either bell-crank will simultaneously operate both gangs.

5. In a cultivator, the combination with a suitable frame, laterally-movable yoke and gangs secured to and connected by the yoke, of a lever pivotally secured intermediate its ends to the frame, one end of the lever engaging and supporting the yoke, an arch secured to the lever, and foot-levers carried by each of the gangs and connected with the arch, the operation of one of the foot-levers adapted to move the arch and simultaneously operate the gangs.

6. In a cultivator, the combination with a frame, a laterally-moving yoke and gangs secured to and connected by the yoke, of a lever pivotally secured intermediate its ends to the frame, one end of the lever loosely secured to the yoke, an arch carried by the lever, foot-levers pivotally mounted on each gang and connected with the arch and a hand-lever secured to the lever which extends to the yoke, the gangs being movable simultaneously by means of the hand-lever or either foot-lever.

7. In a cultivator, the combination with a frame, a laterally-movable inverted-U-shaped yoke and gangs connected to the yoke, of a lever pivotally supported on the frame and connected to the yoke to shift the latter laterally, an inverted-U-shaped arch carried by and moving with the lever, and means carried by the gangs and connected with the yoke for simultaneously moving the gangs.

8. In a cultivator, the combination with a frame, a U-shaped bracket vertically adjustable with respect to the frame, a lever pivoted to the bracket, an arch secured to the lever and a segment secured to the arch and lever for bracing the two with respect to each



other, of cultivator-gangs, a yoke connecting their forward ends to which the lever is pivotally connected, foot-levers or treadles pivoted to the gangs, and having upwardly-projecting arms, and rods extending from these arms to the arch on opposite sides of its pivot.

9. In a cultivator, the combination with a frame, a U-shaped bracket vertically adjustable with respect to the frame, a lever pivoted to the bracket, an arch secured to the lever and a segment secured to the arch and lever for bracing the two with respect to each other, of cultivator-gangs, a yoke connecting their forward ends to which the lever is pivotally connected, foot-levers or treadles pivoted to the gangs, and having upwardly-projecting arms, rods extending from these arms to the arch on opposite sides of its pivot, and

a hand-lever extending rearward from said lever. 20

10. In a cultivator, the combination with a frame, a laterally-movable yoke, and gangs connected to and by the yoke, of vertically-oscillating means pivotally supported on each gang and means connecting the oscillating 25 means and the yoke for simultaneously moving the gangs.

In testimony whereof we have signed this specification in the presence of two subscribing witnesses.

DENNIS S. BLUE.  
OTIS SHEPARDSON.

Witnesses:

GEORGE W. HESS,  
JOSEPH ESCH.