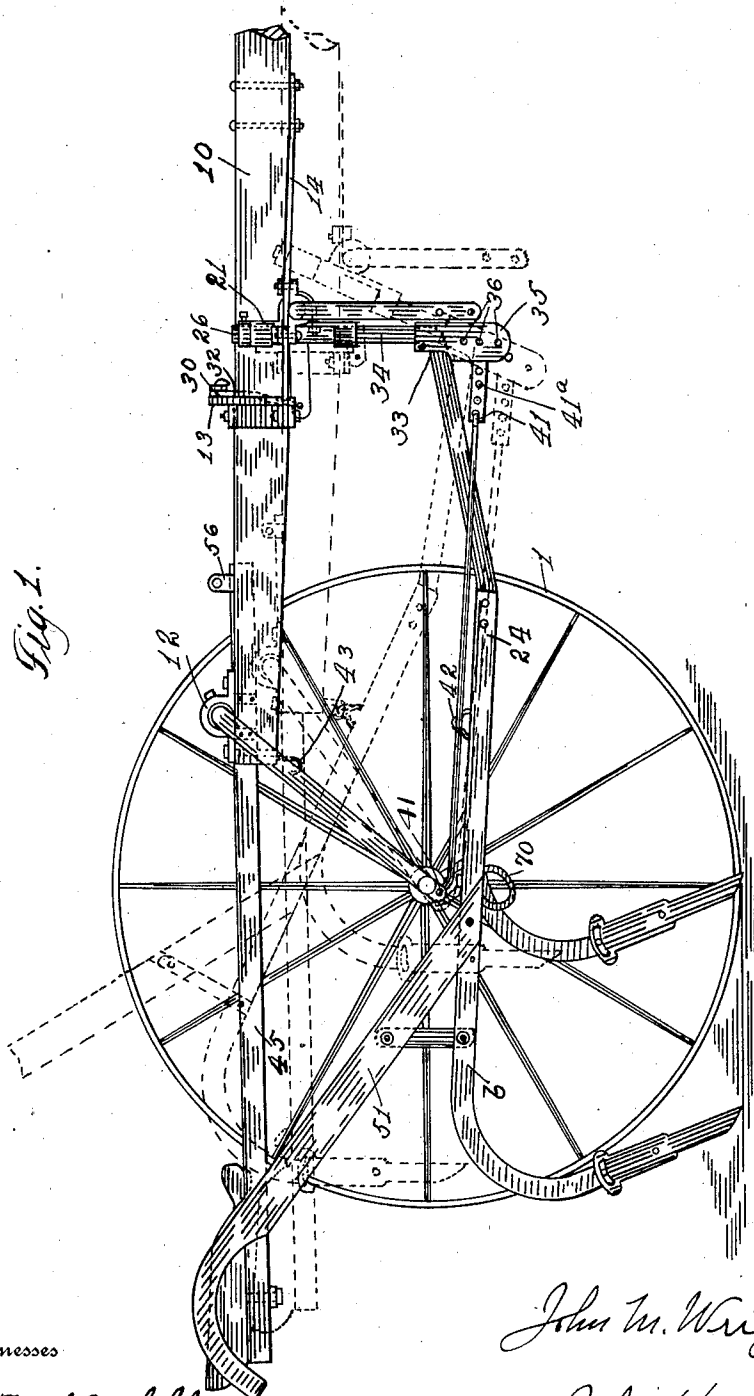


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J. M. WRIGHT.
WHEELED CULTIVATOR.
APPLICATION FILED JULY 26, 1909.

Patented Sept. 19, 1911.

4 SHEETS—SHEET 1.



Witnesses

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4 SHEETS—SHEET 2.

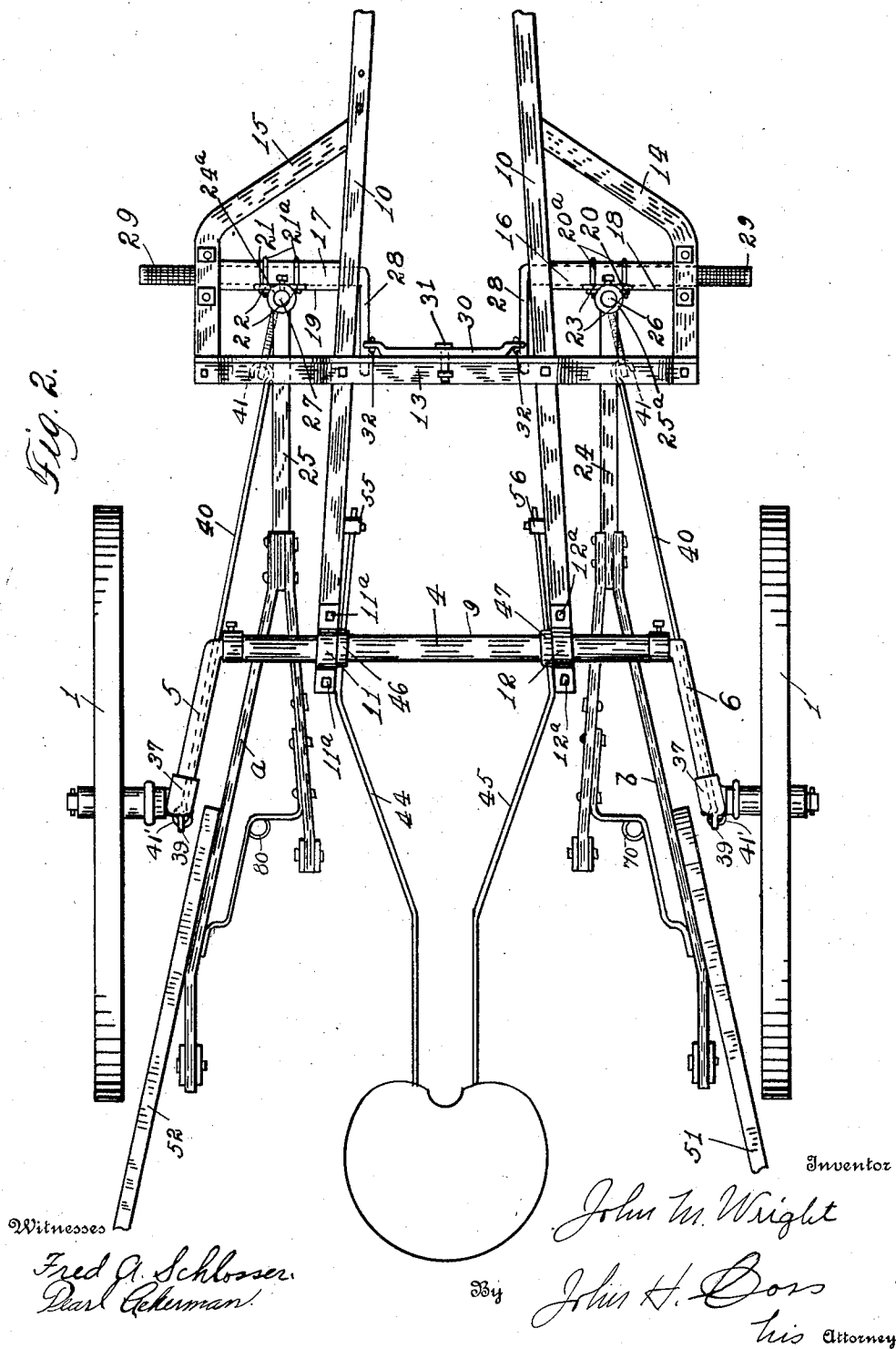


Fig. 3.

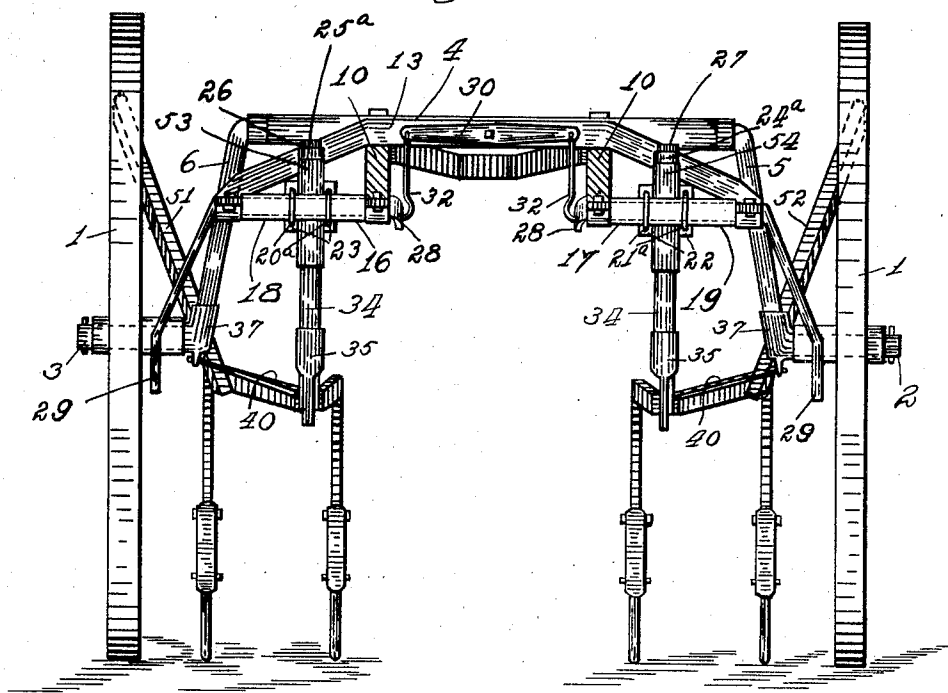
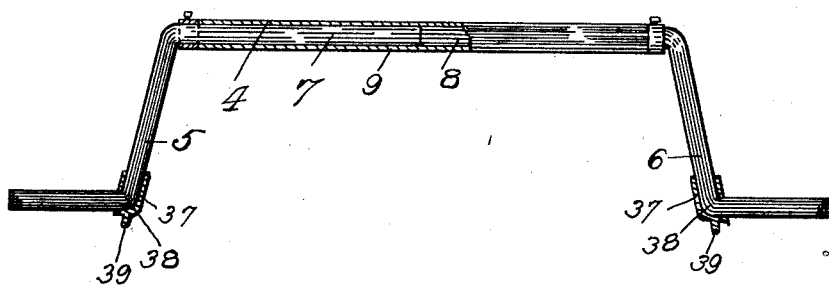


Fig. 4.



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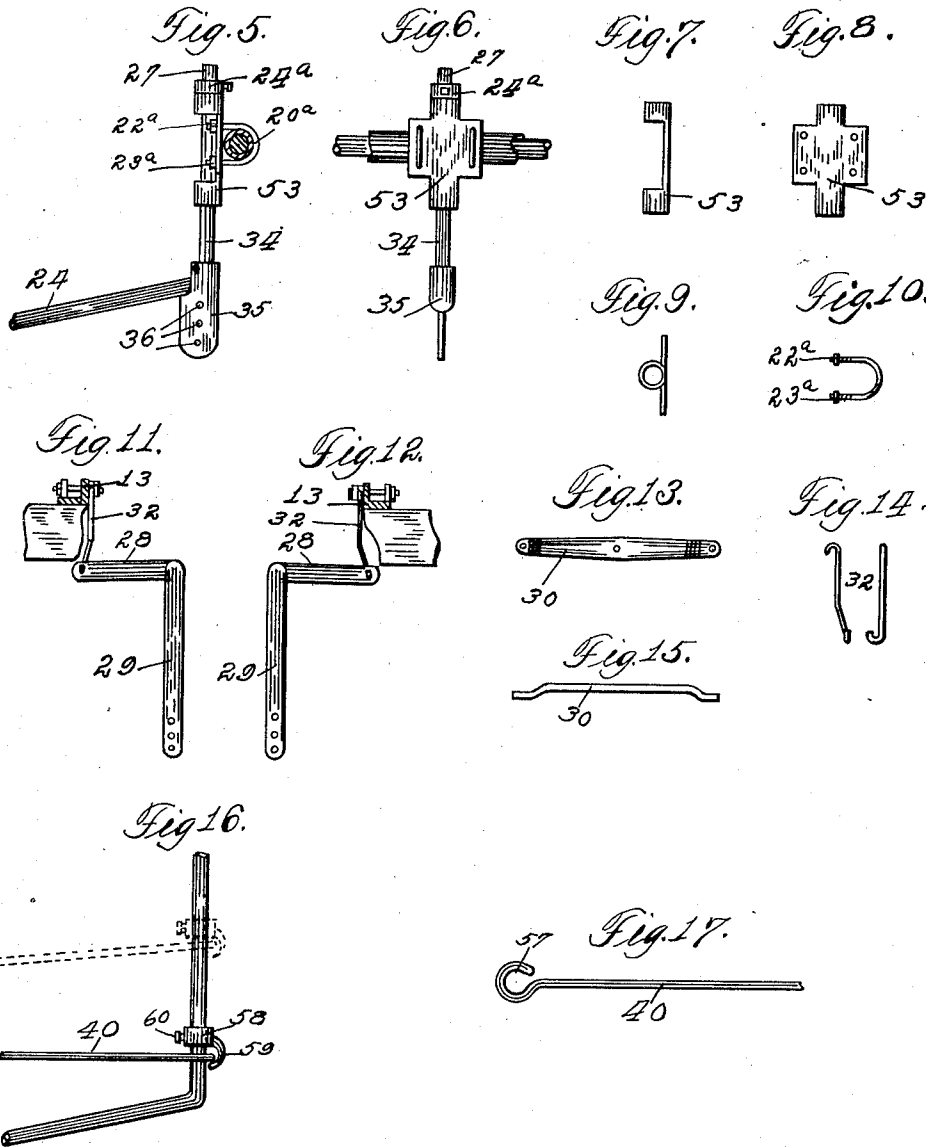
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4 SHEETS—SHEET 4.



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UNITED STATES PATENT OFFICE.

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WHEELED CULTIVATOR.

1,003,570.

Specification of Letters Patent. Patented Sept. 19, 1911.

Application filed July 26, 1909. Serial No. 509,734.

To all whom it may concern:

Be it known that I, JOHN M. WRIGHT, a citizen of the United States of America, residing at Brainard, in the county of Butler and State of Nebraska, have invented certain new and useful Improvements in Wheeled Cultivators, of which the following is a specification.

My invention relates to wheeled cultivators and particularly to that class wherein the weight of the operator is used to partially balance the beams.

One of the objects of my invention is to provide connecting means between the axle and the vertical forward ends of the beams which substantially intersect the axis thereof.

A further object of my invention is to provide means of connecting the beams to the axle of the cultivator in such a manner as to counter-balance the weight of the operator and at the same time assist in raising the beams from the ground.

A further object is to provide a cultivator with a hitching device that is particularly adapted to use in combination with the cultivator shown although capable of being used independently thereof.

Another feature of my invention consists in connecting the rods which are adjustably attached to the forward ends of the beams for the purpose of changing the inclination of the axle, and to the lugs of the axle in line with the center of the vertical axis of the goose neck and bend in the axle adjacent to the bearings of the wheels.

Another feature of my invention is to provide means of using the combined weight of parts of the cultivator, operator and draft to assist in raising the beams from the soil when necessary.

These and other objects are illustrated in the accompanying drawings in which:

Figure 1 is a side elevation with the near wheel removed and the front end of the pole broken away. It shows the position of the beams in the soil in full lines and out of the soil in dotted lines. It also shows a side view of the hitching device. Fig. 2 is a plan view with the front end of the pole broken away. It also shows a plan view of the hitching device. Fig. 3 is a front elevation of the cultivator partly in section and end view of the hitching device. Fig. 4 is a detail of the axle partly in section. It also shows brackets with lugs attached thereto. Figs. 5 and 6 are side and front elevations

of the forward ends of the beams and bracket. Figs. 7 and 8 are side and front views of one of the adjustable clamps or heads. Fig. 9 is a plan view of one of the clamps. Fig. 10 is a detail of a clevis bolt used to adjustably secure the clamp or head to the cross-arm. Figs. 11 and 12 are side views partly in section of parts of the equalizing hitching device. Figs. 13, 14 and 15 are details of the hitch which will be referred to and described hereinafter. Fig. 16 is a side elevation of a movable collar with a hooked portion which can be used instead of the bracket if desired. Fig. 17 shows the end of the connecting rod turned around the vertical or bent end of the beams which is used with the collar shown in Fig. 16.

In the drawings, reference numeral 1 designates the ground wheels mounted upon ends 2—3 of the arched divided axle 4. The divided axle 4 consists of the duplicate crank shaped parts 5—6 having their ends 7—8 loosely mounted in a tubular member 9, which permits of independent radial motion of either end of the axle and also admits of a longitudinal adjustment of the parts 5—6 all of which will be more fully described hereinafter.

Rigidly secured to the tubular member 9 is a twin pole composed of the members 10—10 which are suspended therefrom by means of the straps 11—12 and the bolts 11^a—12^a. In advance of the tubular member 9 is rigidly secured to the twin pole 10—10 a beam or frame 13, the ends of which extend laterally and downward from the pole and are rigidly secured to one end of the braces 14—15 the opposite ends of which are securely bolted to the under side of the pole members 10—10. This forms a frame in which is rotatably mounted the equalizing bar at the points 16—17. Upon these parts are loosely mounted the sleeves 18—19 which are designed to carry the hangers 20—21 secured thereto by means of the U shaped bolts 20^a—21^a or any other well known fastening means. These hangers have laterally extending wings 22—23 having apertures therein through which pass the U shaped bolts 20^a—21^a and by means of the nuts 22^a—23^a, the hangers are rigidly secured to the sleeves 18—19 and also allows of longitudinal adjustment on the said sleeves. The hangers 20—21 are adapted to loosely receive the upwardly extending ends of the shovel beams 24—25 by means of the col-

lars 24^a—25^a provided with set screws and secured on the protruding ends 26—27 of the shovel beams. It will be observed that this construction permits of lateral movement of the shovel beams. It will also be noted that the hangers 20—21 are secured on the sleeves 18—19 which are rotatably mounted on parts of the equalizing bar 16—17. This construction permits of any desired vertical movement of the shovel beams.

The parts 16 and 17 of the equalizing bars of the hitch have their ends 28 bent at right angles to the body and extend rearwardly in a horizontal position parallel with each other when the equalizing bars are in their normal position. The opposite ends of the parts 16 and 17 of the equalizing bars are bent at right angles to the body portion of the equalizing bars and when in normal position depend downwardly therefrom, as shown by reference numerals 29—29.

The balancing lever 30 is pivotally mounted on the frame 13 and free ends connected to the bent ends 28 of the equalizing bar 16 and 17 by the hooked links 32.

At or adjacent to the bends 33 adjacent to the forward ends of the beams 34, brackets 35 are securely attached in any well known manner leaving one end extending downward directly underneath the axis of the ends or goose necks 34 and they are provided with a series of apertures 36 to provide more or less leverage.

Attention is called to the fact that the connection of the rods is only the preferable manner of connection. The beams can be made in two parts as shown or they can be made integral. The specific construction is no part of my invention.

Connecting members 37 are secured to the offset axles at the bends 38 of the parts comprising the axle and are provided with lugs 39. Connecting rods 40 are pivotally connected to the members 37 and the brackets 35. The connecting rods are adjustably connected by the hooks 41 formed on the ends of the rods 40 and inserted in the apertures 41^a of the members 37 and 41 in the members 35.

Attention is called to the fact that the construction described requires no yoke such as used in the ordinary cultivator. The beams are connected directly to the hitching device and the arched axle supporting the wheels is directly connected by the adjustable rods 40 to the goose necks 34 of the beams. This arrangement enables the operator to take advantage of the weight of the driver, the weight of a large part of the machine and the weight of the driver and the machine parts assist in raising the beams because the arched axle is set at an incline and connected to the goose necks of the beams and when the cultivator is in use the

rods 40 exert a pull on the axle tending to force it at less degree of inclination with reference to the plane of the cultivator.

Attention is called to the fact that by inserting the hooks 41 of the rods 40 in the different apertures 41^a provided in the members 35, the inclination of the axles can be changed to throw them rearward or forward which will vary the lifting power of the seat lever 45 to accommodate a heavy or light weight operator.

The construction and operation of the parts combine to exert a lifting function and provides means to shorten the seat lever which is a great advantage as the vertical movement of the seat lever, seat and driver, when the cultivator is being operated, is reduced to a minimum or hardly noticeable whereas in other machines of this class in order to receive the proper leverage the vertical movement of the seat lever is necessarily excessive. It will also be observed that the beams can be hung up when not in use without affecting the position of the seat or driver. The higher the beams are raised the greater the leverage or lifting power on account of changing the inclination of the arched axle with reference to the plane of the cultivator. When in use, the friction of the wheels against the soil forces the wheels in a rearward direction and exerts a pressure to force the arched axle at a greater inclination increasing the lifting power of the parts and driver.

Eye members 42 are secured to the beams and are adapted to engage with the hooks 43 when it is desired to suspend the beams to permit them to clear the ground. The seat lever is formed of the members 44 and 45 and the ends are pivoted to axle 4 by the hangers 46 and 47. The stops 55 and 56 retain the seat in position during the time the operator is riding. The members 44 and 45 are suspended from the tubular member 9 and a seat is adjustably attached to the free ends of the members 44 and 45. The seat and lever are adapted to be thrown over the top of the cultivator when the operator desires to walk, when cultivating the soil, instead of riding.

The beams, as will be clearly understood by those familiar with the art, are indicated by reference letters *a* and *b*. The handles of the beams are represented by reference numerals 51 and 52. The head or clamping members of the beams are represented by numerals 53 and 54, and the collars which provide for vertical adjustment are represented by numerals 24^a and 25^a.

The modification which is shown in Figs. 16 and 17 shows the connecting rod 40 provided with an eye 57 similar to the hooks 41' which is either bent or turned to loosely fit the vertical forward ends of the beams. Collars 58 are fitted to the vertical forward

ends of the beams, and are provided with members 59 which engage the eyes 57 of the rods 40 and holds them in place at any desired point of their adjustment through the medium of the set screws 60. The dotted lines on Fig. 16 indicates the degree of adjustment of the collar and end of the connecting rod 40. It is obvious that the collars are used to take the place of the brackets 35. Either arrangement can be used with equal efficiency.

The beams are raised or lowered at will by the operator by placing his feet in the stirrups 70—80 and exerting a slight pressure thereon, or by manipulating the handles 51—52 which are secured to the beams in any preferable manner.

Having fully described my invention, what I claim and desire to secure by Letters Patent is:

1. In a cultivator, the combination with a wheel frame and beams provided with vertical forward ends, of a divided arched axle, brackets provided with a series of apertures secured to the beams, lug members secured to the arched axle and adjustable means connecting said brackets and lug members which substantially intersect the axes of the vertical forward ends of the beams, an auxiliary frame mounted on the wheel frame, a hitching device mounted on said auxiliary frame and provided with means for journaling the vertical forward ends of the beams.

2. In a wheeled cultivator, the combination with an axle and a twin pole, of a frame mounted on said pole, sleeves secured to said frame, an equalizing bar having its extremities formed at right angles to each other and journaled in said sleeves, a balancing lever pivotally connected to the frame, links to connect the equalizing bar and balancing lever providing a hitching device, with beams having goose necks which are connected to the hitching device, and means to change the inclination of the axle with reference to the plane of the cultivator as described.

3. In a wheeled cultivator, the combination with a centrally arched axle, a pole connected thereto, a frame mounted on the pole, beams pivotally mounted on said frame for lateral and vertical movement, brackets connected to said beams, adjustable means secured to said brackets, lugs secured to said arched axle, connecting means pivotally connecting and intersecting the axes of the forward ends of the beams and connected to the lugs of the arched axle, whereby the axle can be set at an inclination and at a predetermined inclination.

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

JOHN M. WRIGHT.

Witnesses:

G. N. HYPSE,
A. O. KLEIN.