(No Model.)

L. GUTHRIE.

DOUBLE PLOW.

No. 329,831. Patented Nov. 3, 1885.

Fig. 1.

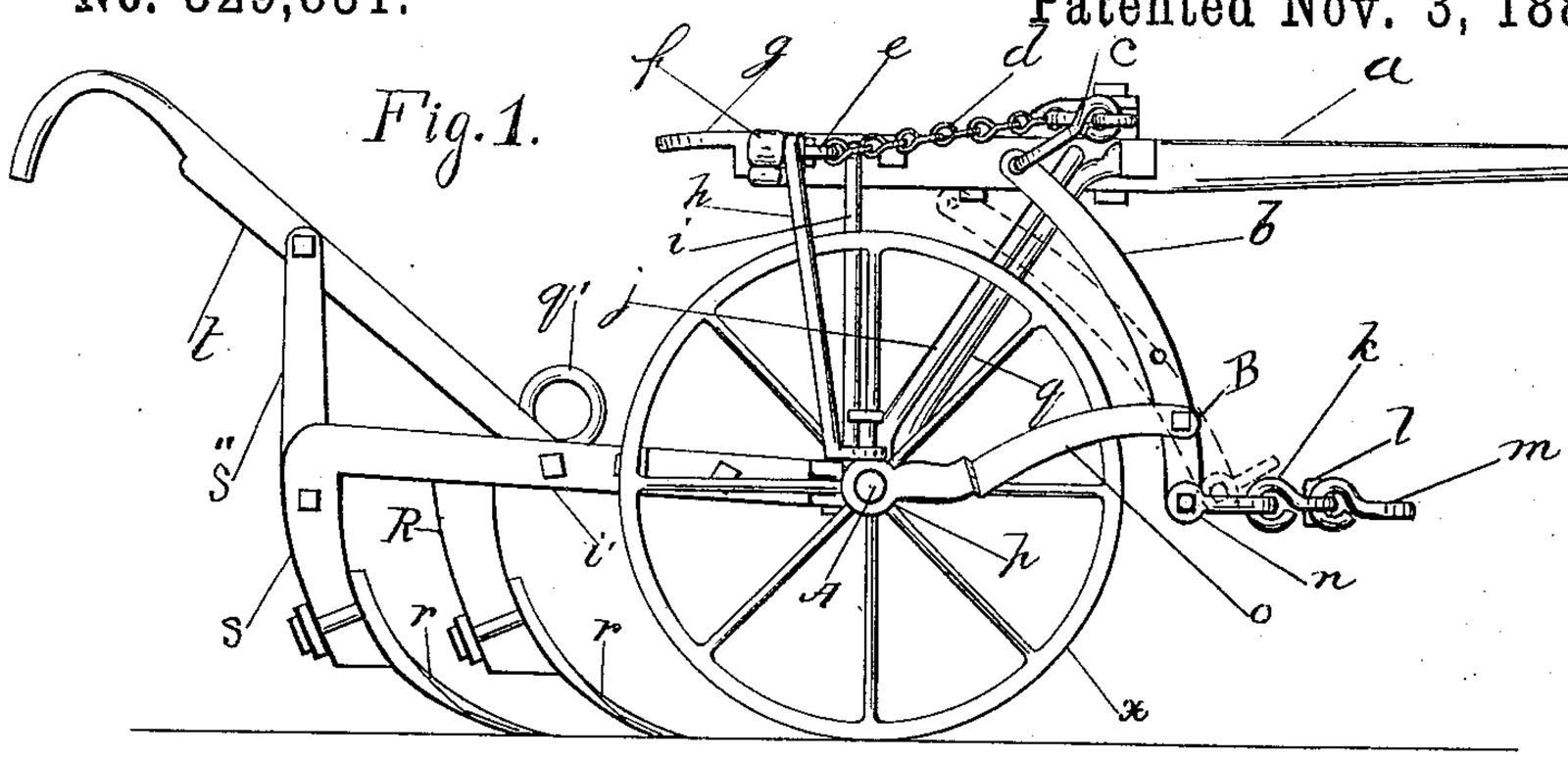


Fig. 2.

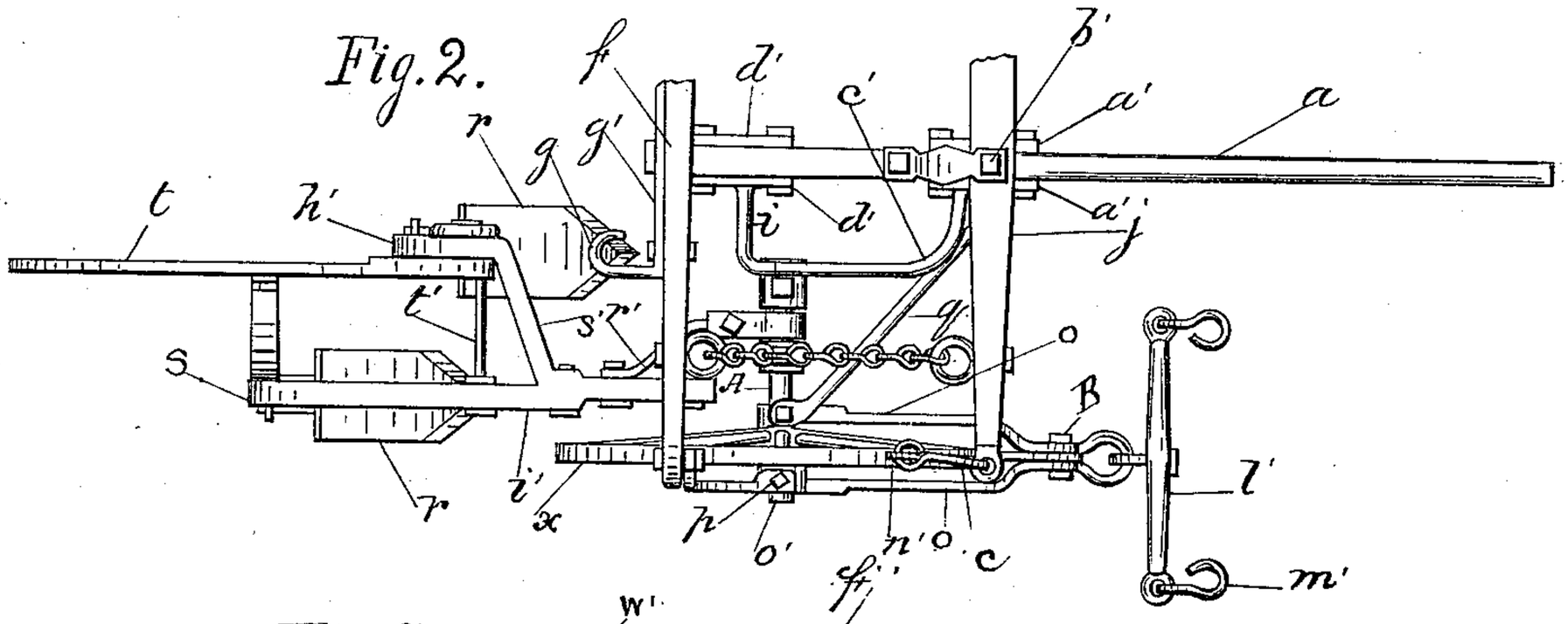
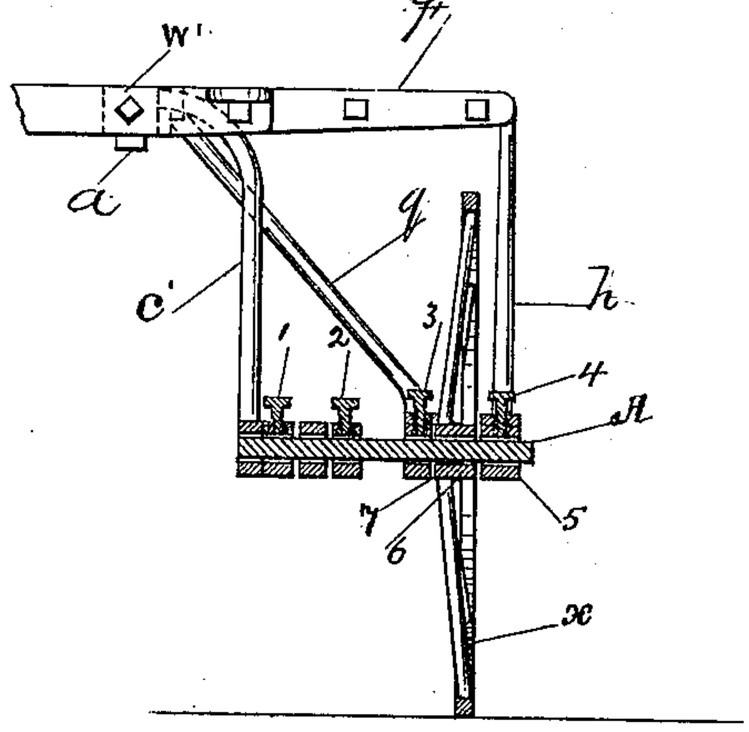


Fig. 3.



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LEWIS GUTHRIE, OF WATERLOO, INDIANA.

DOUBLE PLOW.

SPECIFICATION forming part of Letters Patent No. 329,831, dated November 3, 1885.

Application filed January 24, 1885. Serial No. 153,863. (No model.)

To all whom it may concern:

Be it known that I, LEWIS GUTHRIE, a citizen of the United States, residing at Waterloo, in the county of Fayette and State of Indiana, have invented certain new and useful Improvements in Double Corn-Plows, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to that class of corn-plows which are operated by two horses and constructed to work two rows of corn at once.

My invention consists in a novel construction and combination of parts, in attaching two plows to one beam, and in supporting the frame between the wheels by a double arch, and in attaching the motive power to the plow, and in the manner of equalizing the draft when attached.

In the drawings, Figure 1 is a side elevation of my improved plow. Fig. 2 is a top plan view of one-half of the same. Fig. 3 is a vertical section of the same, taken at the center of the axle, and attachments thereto.

In Fig. 1, *a* represents the tongue of a double corn-plow, which extends backward to a point perpendicular to the axle, where it is intersected by a cross-framing, *f*, Fig. 2, and to which it is attached rigidly. The tongue is supported forward of the axle by angular braces *q*, Figs. 2 and 3, which are attached to the axle at their lower ends, and bolted to the tongue at the point of connection. It has an additional support from an arch-frame, which is made of two pieces, *c'*, the lower ends of which are rigidly attached to the inner ends of the axles, and the upper ends bolted to the sides of the tongue, immediately in the rear of the angular brace *q*. The rear end of the tongue is supported by a similar arched frame, which has a connection with the inner ends of the axle, in common with the arch *c'*, and rises vertically to its connection with the tongue in front of the cross-framing *f*, as seen at *d'*, Fig. 2. The axle A is supported at its outer end by the wheel H, and its inner end is supported by the arched frames and angular braces just described, the distance between the inner ends of the axles being about equal to the length of one of them, while the arch-frames connecting their ends with the tongue are constructed of such height as may be desired. A plow-beam, *i'*, is hinged to the axle A, at a point near the inner end of the same, by means of a clip, which allows the beam *i'* to be raised and depressed, and a hinged joint composed of the jaws of the clip, and a vertical axis-pin, which is inserted in the same, allows the end of the beam *i'* a lateral movement, the two constituting a double-hinged combination, which allows the end of the beam *i'* a vertical and a horizontal movement. The rear end of the beam *i'* is curved downward at *s*, and has the shoe or share *r* bolted to its lower curved portion. A laterally-curved brace, *s''*, is bolted to the vertical or curved portion of the beam, connecting the beam with the handle *t* of the plow. From the lower end of the handle *t* a brace-rod, *t'*, connects the main beam *i'* with the handle *t*, and with the rear end of a sub-beam, *s'*, which is secured to the main beam *i'* midway of its length, and which diverges in an angle to the lower end of the handle, and is turned horizontally to a line parallel to the main beam *i'*, and is bent down vertically at *h'*, Fig. 2, forming the standard R, Fig. 1, to which a shoe or share is bolted, thus creating a pair of plows at a proper distance from each other, the inner one slightly in front, both operated by the same beam and handle, and operated as one plow. At the point of attachment of the sub-beam *s'*, brace *t'*, and handle *t*, a loop, *q'*, is fixed vertically.

In Fig. 1, *b* is a vertical curved draw-bar, provided with two or more holes laterally through its lower central part, and having attached at its upper end a link, *c*, which connects it to the end of an equalizing horizontal vibrating bar, *j*, Fig. 2. Slightly-curved arms *o o*, which are attached to the hub of the wheel at their rear ends, extend forward to a point outside the periphery of the wheel, and, inclosing that portion of the wheel between them, are brought together at their forward ends and secured to each other, with the draw-bar *b* between them, by a screw-bolt, as seen at B. The lower end of the vertical draw-bar *b* is provided with a horizontal link, *n*, to which a single-tree, *l*, is attached, and the line of draft from the single-tree to the collar of the animal being upward and forward, the draft so applied has a tendency to raise the draw-bar and arms to which the draft is applied, and in a large degree takes the weight and

bearing of the tongue and its attachments from the necks of animals employed. The holes, placed one above the other in the draw-bar *b*, allows the connection between the draw-bar and the arms *o o* to be raised or lowered on the draw-bar, and thus modify the angle of the line of draft between the hub of the wheel and the point where the draft is applied. The equalizing-bar *j* is attached to the tongue on its center by a bolt and hammer-strap, in the usual manner of a double-tree, which it nearly resembles in its construction and movement. A stay-chain, *d*, connects the bar *j* and the cross-framing *f*, after the manner of a common stay-chain between a double-tree and a wagon-axle. It will be seen that when the lower end of the draw-bar *b* is brought forward by the draft upon it the upper end of said bar is inclined backward, carrying with it the link *c* and that end of the bar *j* to which the link is secured, which brings the opposite end of the bar *j* forward, by means of the fulcrum composed of the bolt and tongue at their point of connection, until it is caught and held by the stay-chain at that end, when the resistance is communicated to the cross-framing *f* and to the body of the structure on that side, by which means the draft applied to either side of the double plow is made to act on the opposite side of the same by means of the devices herein described.

In Fig. 3, *c'* represents one part of the vertical arch-frame having its lower end made of a band which surrounds the inner end of the axle A, and its upper curved end is secured to the inner side of the tongue *a* at *w'*. The brace *q* springs from a similar band, which grasps the axle, and is held in position by a set-screw, 3, while its upper end is secured to the tongue *a* at a point where the equalizing-bar *j* is attached. *a* is the part of the tongue that projects through the cross-framing *f*. 2 is a collar and set-screw, to hold the hinge of the main beam *i'* in position on the axle A. The collar and set-screw 3, which form the base of the angular brace *q*, act also as a shoulder for the inner end of the hub, while the collar and set-screw 4, which form the base of the vertical post *h*, also act as a cap for the end of the hub, and also as a protection to prevent sand or dirt from reaching the axle. The cross-framing *f* is furnished with a plate, *g'*, on its back side, which plate terminates at each end in hooks *g g*, upon which the loops *q'* may be caught when it is desired to raise the plows from the ground in moving the double plow from field to field. The set-screws 1 2 3 4 are tapped into the axle A, and the whole frame-work and the front superstructure are actuated vertically or laterally by the tongue. The wheel *x* is in the common form and of any required size.

Having thus fully described my said improvements, what I claim as my invention is—

1. A pole and single-tree, in combination with a curved upright draw-bar, *b*, the arms *o*, which are attached at their outer ends to the lower part of said draw-bar and at their inner ends to the wheel hub or spindle, the equalizing-bar which is attached to said tongue, and the links connecting said single-tree to the lower end of said draw-bar and said equalizing-bar to the upper end of said draw-bar, substantially as set forth.

2. In combination with the main frame and the axle, the arched frame *c'*, made of two pieces having their lower ends attached to said axle, and their upper ends attached to said frame, and the additional bars *h* and *q*, attached in like manner, substantially as set forth.

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

his
LEWIS × GUTHRIE.
mark.

Witnesses:
W. A. PEELLE,
W. T. DENNIS.