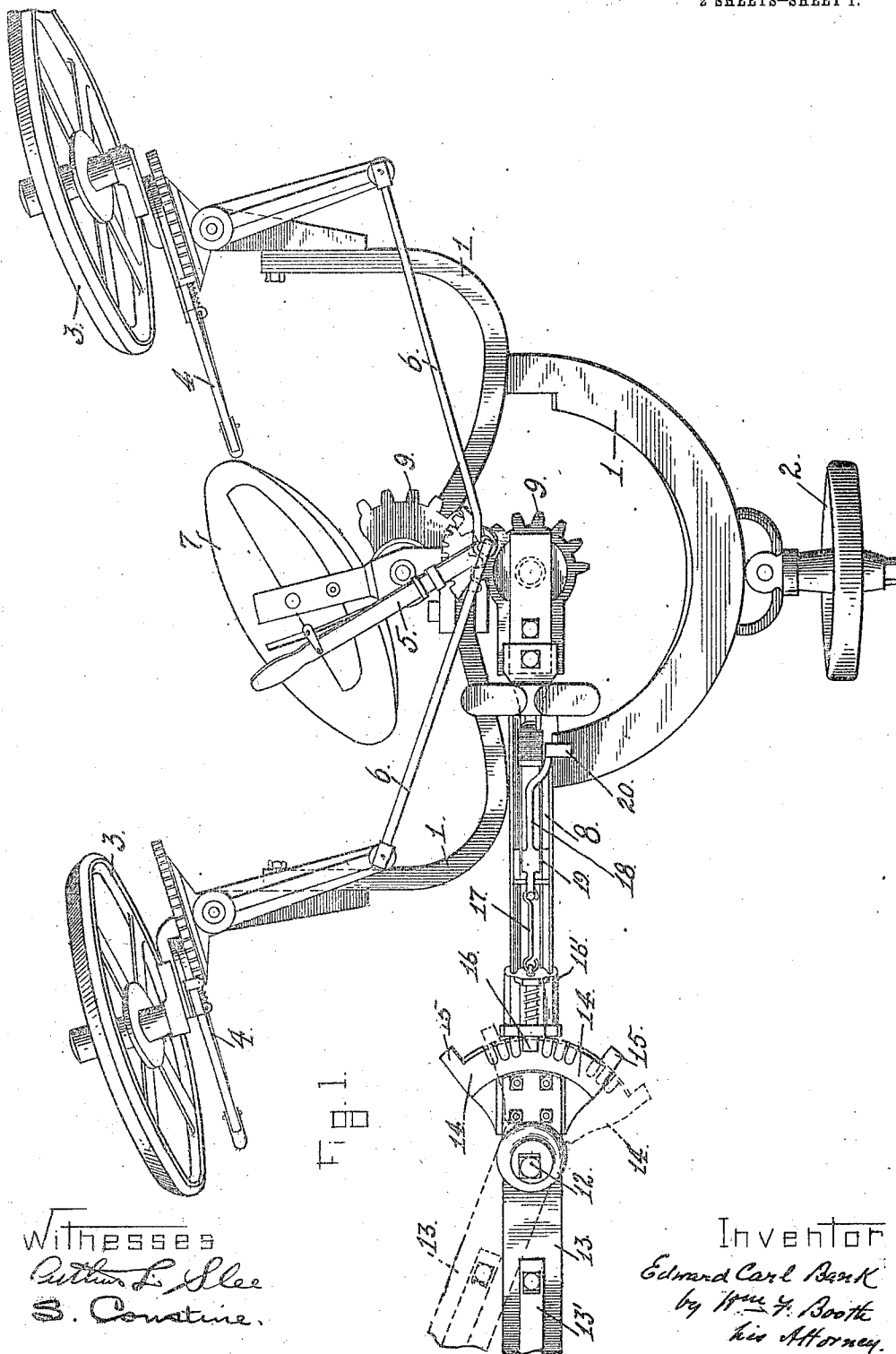


E. C. BANK.
ADJUSTABLE PLOW TONGUE.
APPLICATION FILED FEB. 15, 1911.

Patented June 25, 1912.

2 SHEETS—SHEET 1.

1,030,450.



1,030,450.

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2 SHEETS—SHEET 2.

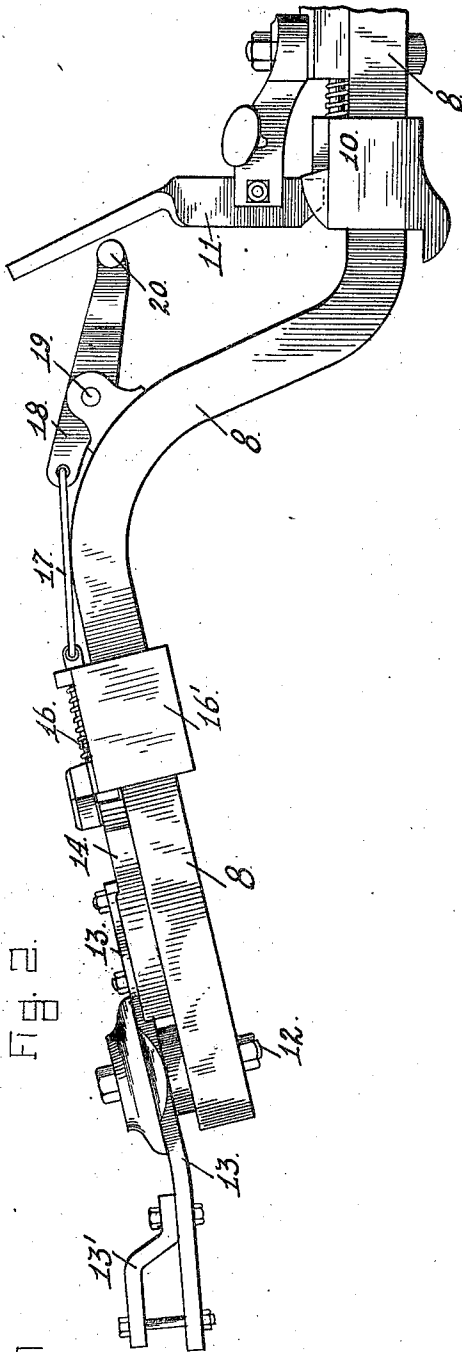


Fig. 2.

Witnesses

Arthur L. Slee.
S. Constance.

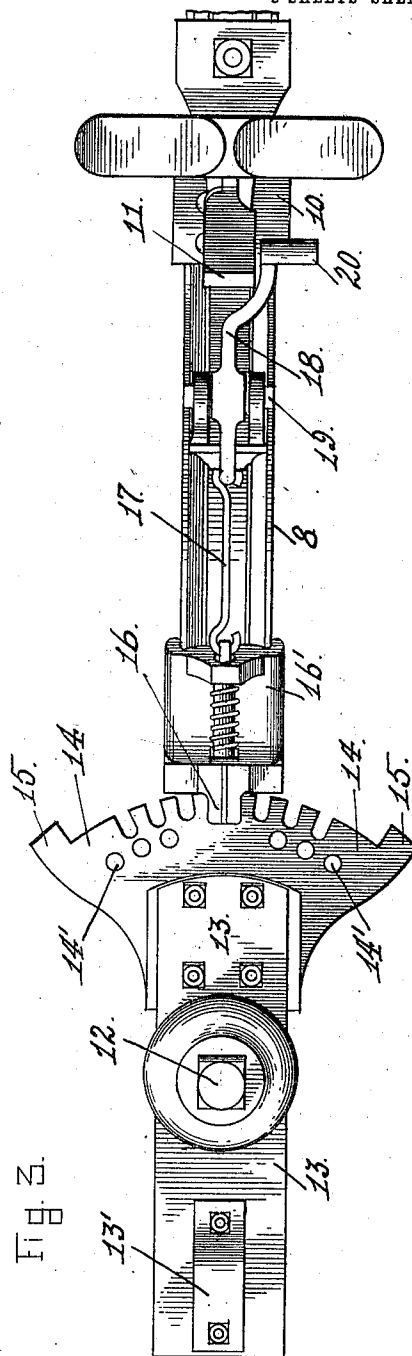


Fig. 3.

Inventor
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UNITED STATES PATENT OFFICE

EDWARD CARL BANK, OF BERKELEY, CALIFORNIA, ASSIGNOR TO BENICIA IRON WORKS, OF SAN FRANCISCO, CALIFORNIA, A CORPORATION OF NEVADA.

ADJUSTABLE PLOW-TONGUE.

1,030,450.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed February 15, 1911. Serial No. 693,760.

To all whom it may concern:

Be it known that I, EDWARD CARL BANK, a citizen of the United States, residing at Berkeley, in the county of Alameda and State of California, have invented certain new and useful Improvements in Adjustable Plow-Tongues, of which the following is a specification.

My invention relates to that class of plow-tongues in which the forward end of the tongue is provided with a pivotally connected draft extension, the movement and position of which is under the control of the driver; the object of such a draft extension being to insure the plow running close up to the land.

My invention consists in connection with a plow-tongue of a novel adjustable draft extension at its forward end, and in the novel connection by which its movement and adjustment are controlled and regulated, as I shall hereinafter fully describe by reference to the accompanying drawings in which—

Figure 1 is a plan view of a reversible disk-plow showing the application of my adjustable tongue. Fig. 2 is a side view, enlarged, of the adjustable tongue. Fig. 3 is a plan view, enlarged, of the same.

Though my invention may be applied to any plow, I have, for illustration, shown it in connection with a well known type of reversible-disk plow which will require but a brief description.

In Fig. 1, 1 is the plow frame which is supported upon the land-wheel 2, and the furrow-wheels 3. The height of the furrow-wheels is regulated by the levers 4, and their angle to the line of travel is controlled by the main controlling lever 5 through the connecting rods 6. 7 is the disk, the reversal of which is effected by the pivotally connected reversible tongue 8, through the segment gears 9. The tongue 8 is held against swinging movement and is released in order to permit its reversal, by a latch, which is more clearly shown in Fig. 2, said latch comprising a spring controlled clutch 10 slidable on the tongue and adapted to engage the plow frame, and a trip lever 11;

adapted to operate the clutch. These are all parts of a familiar construction, as heretofore stated.

In applying my improvement, the tongue proper is shortened up and to its extremity is pivoted by the bolt 12, an extension plate 13, which is adapted to be turned to an angle with the tongue, as shown in dotted lines in Fig. 1. The front end of the extension plate is provided with the necessary strap 13' for the clevis of the draft attachment. The rear end of the extension plate projects beyond its pivotal bolt and is provided with a locking segment 14 said segment having its arc-face formed with a series of notches and with terminal stops 15. A spring controlled shidable locking latch 16 is mounted on the tongue in a guide 16' and is connected by a link 17 with the forward end of a trip lever 18 pivoted on the tongue at 19, the rear end of the lever having a foot pin 20 to enable the driver to readily operate it. In the locking segment 14 are made a series of holes 14', seen in Fig. 3, the purpose of which will be presently described.

In plows of this class, the furrow wheels are set at an angle toward the land in order to counteract the tendency of the plow to slip down toward the plowed ground. This expedient when the tongue is held straight ahead, and even when the draft is central, as where three horses are used, is not entirely sufficient to overcome the tendency of the plow to slip from the land, especially on a side-hill. Moreover this tendency is increased if two horses are used, for then the draft is not central and the plow will not keep close up to the land. By my invention, these difficulties are overcome, and the plow will keep up to the land, even with two horses. Moreover, the plowman is able to nicely adjust and regulate the line of draft to the slope of the ground, and thus keep the plow close up on any land.

The operation is as follows:—In Fig. 1 the tongue and its extension are lined up and the furrow wheels set to keep the plow close up to the land. Now, if it be found that the plow is not running close up, the plowman presses his foot on the pedal pin

20, and withdraws the latch 16 from the segment 14, thus freeing the draft extension 13 for a swinging movement. By then turning the team over to the right, the draft extension 13 is moved over to the right, as shown in dotted lines in Fig. 1, such a distance as may be necessary to break the line of draft and to cause the pull to hold the plow strongly up to the left. When this point is reached the plowman allows the latch 16 to return to the segment 14, thereby locking the draft extension 13 at the desired angle. When the end of the furrow is reached the plowman first releases the draft extension 13 and the horses turn said extension over to the left to the desired angle on the other side of the tongue whereupon the plowman locks the extension in this position by allowing the latch 16 to again engage the segment. Then he releases the tongue itself and the horses reverse said tongue. As the operator knows in any given case about what angle he desires on either side, he may, if he chooses, drop a pin down through one of the holes 14' in the segment 14, one pin on each side. These will serve as stops against the sides of the forward end of the tongue to define the desired angle and also serve to relieve the latch 16 and the teeth of the segment of much strain.

It will be observed that the guide member 16' is of a construction to overlie the sides of the tongue, thereby forming abutment members which contact with the stops 15 when the draft bar is swung to its limit of movement. It is also noted that this guide member has an overlying part at its forward end extending over the segment 14, thereby constituting a guide for the segment in its movement and also retaining means acting in connection with the bolt 12 for the draft extension 13.

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

1. In a plow in combination with its tongue, a draft extension pivotally connected with the forward end of the tongue and adapted to be turned out of line therewith, a locking segment carried by the draft extension behind its pivotal connection, said segment having a series of notches in its arc face and end projections extending rearwardly beyond said notched face and constituting stops, a spring held slidable latch on the tongue, a guide member for the latch, said guide member overlying at its sides the sides of the tongue and constituting abutment members to engage said stops, and said guide also having a forward extension overlying the upper surface of the segment, a lever pivoted to the tongue, and an arm having a pivotal connection at

one end with the lever and at its opposite end with said latch.

2. In a plow, a tongue, a draft extension plate positioned upon the tongue adjacent its end and projecting therebeyond, a pivot bolt projecting through the plate and tongue, a locking segment secured directly to the rear end of said plate, the segment having in its arc face a series of closely associated notches and terminal extensions projecting rearwardly beyond said arc face, a guide member on the tongue to the rear of said segment having upwardly projecting apertured ends, a sliding bolt extending between said upward projections and loosely fitting in said recesses, one end of the bolt terminating in a latch to engage any of said notches, a spring secured to the bolt at one end and engaging at its opposite end one of said upward projections, a link connected to the rear end of the bolt at a point beyond said guide, and a trip lever pivoted to the tongue and connected to said link.

3. In a plow, a tongue, a draft extension plate positioned upon the tongue adjacent its end and projecting therebeyond, a pivot bolt projecting through the plate and tongue, a locking segment secured directly to the rear end of said plate, the segment having in its arc face, a series of closely associated notches and terminal extensions projecting rearwardly beyond said arc face, a guide member on the tongue to the rear of said segment having upwardly projecting apertured ends, a sliding bolt extending between said upward projections and loosely fitting in said recesses, one end of the bolt terminating in a latch to engage any of said notches, a spring secured to the bolt at one end and engaging at its opposite end one of said upward projections, a link connected to the rear end of the bolt at a point beyond said guide, a trip lever pivoted to the tongue and connected to said link, and an auxiliary locking means associated with said segment.

4. In a plow, a tongue, a draft extension plate positioned upon the tongue adjacent its end and projecting therebeyond, a pivot bolt projecting through the plate and tongue, a locking segment having in its arc face a series of closely associated notches and terminal extensions projecting rearwardly beyond said arc face, a guide member on the tongue to the rear of said segment having upwardly projecting apertured ends, a sliding bolt extending between said upward projections and loosely fitting in said recesses, one end of the bolt terminating in a latch to engage any of said notches, a spring secured to the bolt at one end and engaging at its opposite end one of said upward projections, a link connected

to the rear end of the bolt at a point beyond
said guide, a trip lever pivoted to the tongue
and connected to said link, and the said seg-
ment having a series of holes extending
5 therethrough to the rear of said notches,
substantially as and for the purpose de-
scribed.

In testimony whereof I have signed my
name to this specification in the presence of
two subscribing witnesses.

EDWARD CARL BANK.

Witnesses:

WM. F. BOOTH,
D. B. RICHARDS.