

No. 689,206.

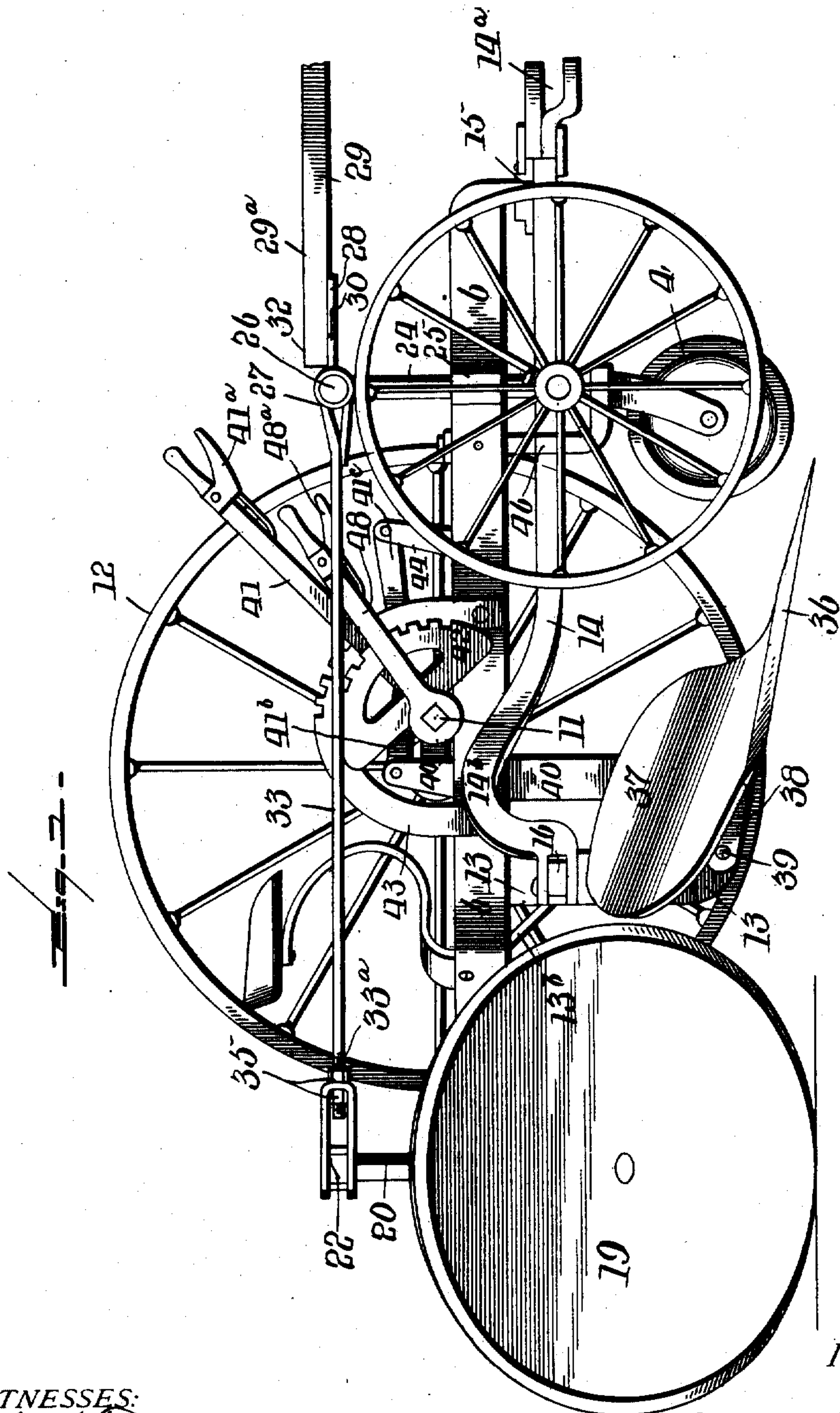
Patented Dec. 17, 1901.

H. MAHLER.
PLOW.

(Application filed Sept. 13, 1901.)

(No Model.)

2 Sheets—Sheet 1.



WITNESSES:

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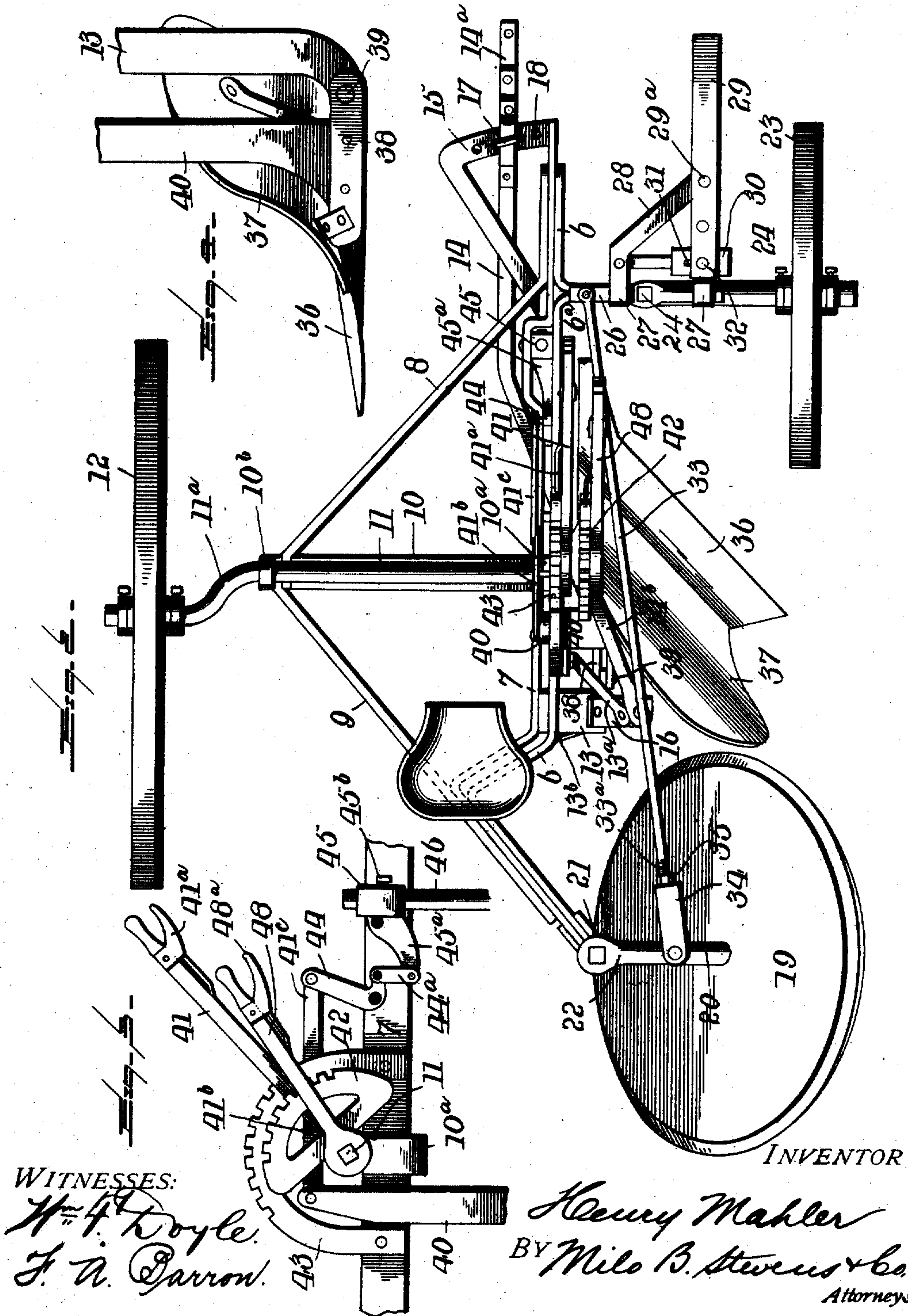
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WITNESSES:

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UNITED STATES PATENT OFFICE.

HENRY MAHLER, OF GRANT TOWNSHIP, NEBRASKA.

PLOW.

SPECIFICATION forming part of Letters Patent No. 689,206, dated December 17, 1901.

Application filed September 13, 1901. Serial No. 75,280. (No model.)

To all whom it may concern:

Be it known that I, HENRY MAHLER, a citizen of the United States, residing in Grant township, in the county of Cuming and State of Nebraska, have invented certain new and useful Improvements in Plows; 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to sulky-plows; and its object is to reduce the draft of the plow by a draft-bar and hitch drawing directly from the center of weight, having no lateral or vertical tendency.

A further object is to provide a draft-bar pivoted to the plow-standard and adjustable laterally at the hitch, so as to regulate the width of the furrow without adjustment of the plow frame or standard. It is desirable that a plow frame and standard or beam be rigidly and strongly connected together to sustain the draft and shock incident to the use. Adjustable arrangements between the plow frame and standard introduce elements of weakness which it is the purpose of my invention to avoid by the provision of independent and adjustable carrying means for the plow and independent and adjustable draft means.

A further object is to so arrange the plow-standard as to avoid clogging in foul land by the provision of a relatively large space between the standard and the moldboard, whereby the plow can clear itself.

A further object is the provision of improved means for attaching the colter and for adjusting the same relative to the plow.

A further object is to provide means for tilting the plow independent of the main plow standard or beam, so that the plow can be adjusted independent of the ordinary raising and lowering mechanism and without lifting the weight of the plow and its standard.

An embodiment of the invention is herein after described and is illustrated in the accompanying drawings.

It is to be understood that the scope of my invention is not limited to the particular form of construction herein delineated, but that changes may be made without departing from the scope and purpose of my invention.

In the drawings, Figure 1 is a side elevation of the plow. Fig. 2 is a top plan view thereof. Fig. 3 is a detail view of the plow and colter adjusting levers and their connections. Fig. 4 is a detail view of the plow proper and its standards.

Referring more particularly to the drawings, the frame of the plow is shown as comprising two longitudinal beams 6 and 7, the lateral angular beams 8 and 9, and the cross-beam 10, all of which beams are securely bolted together. The inner end of the cross-beam 10 rises between the longitudinal beams 6 and 7 and is formed at its end into a boxing 10^a to receive the inner end of the main axle 11. In the outer end of the cross-beam is also formed a boxing 10^b for the outer end of the axle. The axle is bent or offset at 11^a, as is usual, and carries the land-wheel 12.

The main plow-standard is indicated at 13 and is firmly bolted at its upper end between the beams 6 and 7 and is provided with front and rear braces 13^a and 13^b.

The draft-rod is indicated at 14 and is pivoted at its rear end to a bracket 16, secured to the plow-standard 13, whence it extends obliquely under the frame of the plow to the clevis-frame 15, by which it is supported at the front end and in which it is laterally adjustable and held by a double pin 17, adapted to drop into holes 18 in the clevis-frame. The front end of the draft-bar is provided with suitable links 14^a, whereby a draft-tree may be attached. It will be seen that the lateral adjustment of the front end of the draft-rod adjusts the center of draft and regulates the width of the furrow. The rear end of the draft-rod is preferably bowed upward, as at 14^b, so as not to interfere with the clearance of the furrow from the moldboard.

The furrow-wheel 19 is carried by an axle 20 in an inclined position, and the axle is bent to a vertical position and extends through a boxing 21, formed at the rear end of the frame, and is provided at its upper end with a lever 22. The front wheel 23 is supported upon its

axle 24, which is bent to substantially a right angle to extend through a boxing 25, formed in an arm 6^a, projecting laterally from the beam 6. The axles are thus pivoted to turn horizontally relative to the frame. The top of the axle 24 is provided with a lever 26, to which is attached by straps 27 the tongue-bracket 28, at the outer end of which the tongue 29 is pivoted by pin 29^a. The rear end of the tongue is supported and adjustable laterally upon a plate 30, having a slot 31, through which passes the clutch-bolt 32, which also extends through the tongue and permits an adjustment of the longitudinal direction of the tongue, according to the width of furrow desired.

The levers upon the front and rear axles are connected by a rod 33, the rear end of which enters a clevis 34, pivoted to the lever of the rear axle, and the rod is adjustably secured to the clevis by binding-nuts 35 upon the screw-threaded portion 33^a of the rod. The length of each lever from the point where it is pivotally connected to the rod to the point where it is secured to the axle is the same, so that the front and rear wheels in turning a curve are turned to the same angle, but in different directions, as will be understood. By this construction a short turn of the plow in either direction is permitted, and the front and furrow wheels track and follow the same circumferential or curved line without drag.

The plowshare 36 and moldboard 37 are rigidly connected to the landside 38, forming the plow proper, as will be understood. The rear end of the landside is pivotally connected to the main plow-standard 13 by a pivot-pin 39. The tilting standard 40 is bolted to the landside 38 forward of the pivot and extends thence upwardly loosely between the frames 6 and 7 to a short distance above the same. It is by means of this standard that the plow-point is tilted up or down and the throw of the plow regulated by virtue of mechanism now to be described.

The long lever 41 is fulcrumed loosely upon the axle 11, preferably by a collar formed at the lower end of the lever and placed over the axle beside the boxing 10^a. Said lever carries a toothed segment 42, bolted to one side thereof, and has the usual spring-latch 41^a, adapted to engage in the notches of another segment 43, which is bolted at each end to the beams 6 and 7. Said lever is connected rearwardly to the tilting standard 40 by a link 41^b and forwardly by a link 41^c to one arm of the bell-crank 44, which is pivoted between and to the beams 6 and 7. The other arm of the bell-crank is connected by a link 44^a to the arm 45^a of the pivoted socket-piece 45, which is adapted to receive the head or upper end of the colter-standard 46. The colter-standard is vertically adjustable in the socket and is fixed by the set-screw 45^b. The lower end of the standard carries the rolling colter 47.

To tilt the plow downwardly, the long lever

is thrown forward, which has the effect of lowering the plow-point by a downward turn upon its pivot 39. The same action of the lever throws the colter forward and slightly upward, so that it will retain its proper position relative to the land and not enter the same too deep. To cut a shallow furrow or to raise the plow-point, the long lever is thrown backward and the plow and colter correspondingly tilted.

The short lever 48 is the axle-lever, by which the frame is raised or lowered relative to the wheels and the plow put out of or into the land. This lever is fixed to the squared end of the axle 11, and the axle can be turned thereby in the boxings 10^a and 10^b. This lever is also provided with the usual spring-latch 48^a. This latch engages the teeth of the segment 42, which, as heretofore stated, is fixed to the long lever 41. It will be seen that either lever may be moved and the adjustment of its connected parts effected independently of the other; also, that normally—that is, when the latch 48^a is in engagement with the segment 42—the short lever moves with the long lever, the fulcrums of both being concentric, so that the plow is tilted and the frame raised or lowered by manipulation of the long lever alone. The relative or desired depth and tilt of the plow may be predetermined and effected by adjustment of the two levers relative to each other, after which the plow may be put to use and the effect of both levers accomplished by manipulation of the long lever alone. It will be seen that the act of lowering the frame to insert the plow into the land also tips the point downward, as desirable, and that when both levers are thrown back to lift the plow from the land the uptilt given the point of the plow assists the operation. By the construction above described it will be seen that the draft is communicated directly to the standard and independently of the frame, that the adjusting means for the plow are independent of the draft means; also, that the adjusting means are independent of the main plow-standard, which alone receives the thrust-pressure of the plow. It will also be seen that the frame stands the strain of supporting the plow, but not the strain of the draft. The main plow-standard is rigidly connected to the frame, whereby the greatest strength is secured with the least weight.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a sulky-plow, in combination, a frame, a plow-standard rigidly connected thereto, a draft-bar pivotally connected at its rear end to the plow-standard, a bracket supporting the draft-bar, and means to laterally adjust the front end of the draft-bar.

2. In combination with the main frame of a sulky-plow, a plow-standard rigidly connected thereto, a draft-bar pivotally connected at its rear end to the plow-standard and ex-

tending obliquely across the longitudinal reach of the main frame and laterally adjustable relative thereto.

3. In a sulky-plow, a main supporting-
5 frame, a plow-standard rigidly supported thereby, and laterally-adjustable means to transmit the draft to the plow-standard otherwise than through the supporting-frame.

4. In a sulky-plow, in combination with a
10 main frame, a plow-standard supported thereby, draft means, connected to the plow-standard, and means independent of the draft means to vertically adjust the plow, comprising a tilting standard connected to the plow
15 and means supported by the frame to actuate the tilting standard.

5. In a sulky-plow, in combination with the wheels and the main frame, a plow-standard and a colter supported by the main frame,
20 a plowshare pivotally supported upon the standard and means to simultaneously tilt the plowshare and colter and vertically adjust the frame.

6. In a sulky-plow, in combination, a main frame, and wheels, a bent axle supported in
25 the land-wheel and adapted to move the frame vertically, an operating-lever secured to said axle, a plow standard and share supported by the frame, a tilting standard connected to the share, a pivoted colter-standard supported by
30 the frame, and a lever adapted to simultaneously operate the tilting standard, the colter-standard and the axle-operating lever.

7. In a sulky-plow, in combination, a main frame, means carried thereby to simultane-
35 ously raise or lower and tilt the plow, and a laterally-adjustable draft-bar adapted to transmit the draft to the plow otherwise than through the main frame.

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

HENRY MAHLER.

Witnesses:

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J. N. AGAN.