

(No Model.)

J. W. LEAS.  
PLOW.

No. 411,342.

Patented Sept. 17, 1889.

FIG. 1.

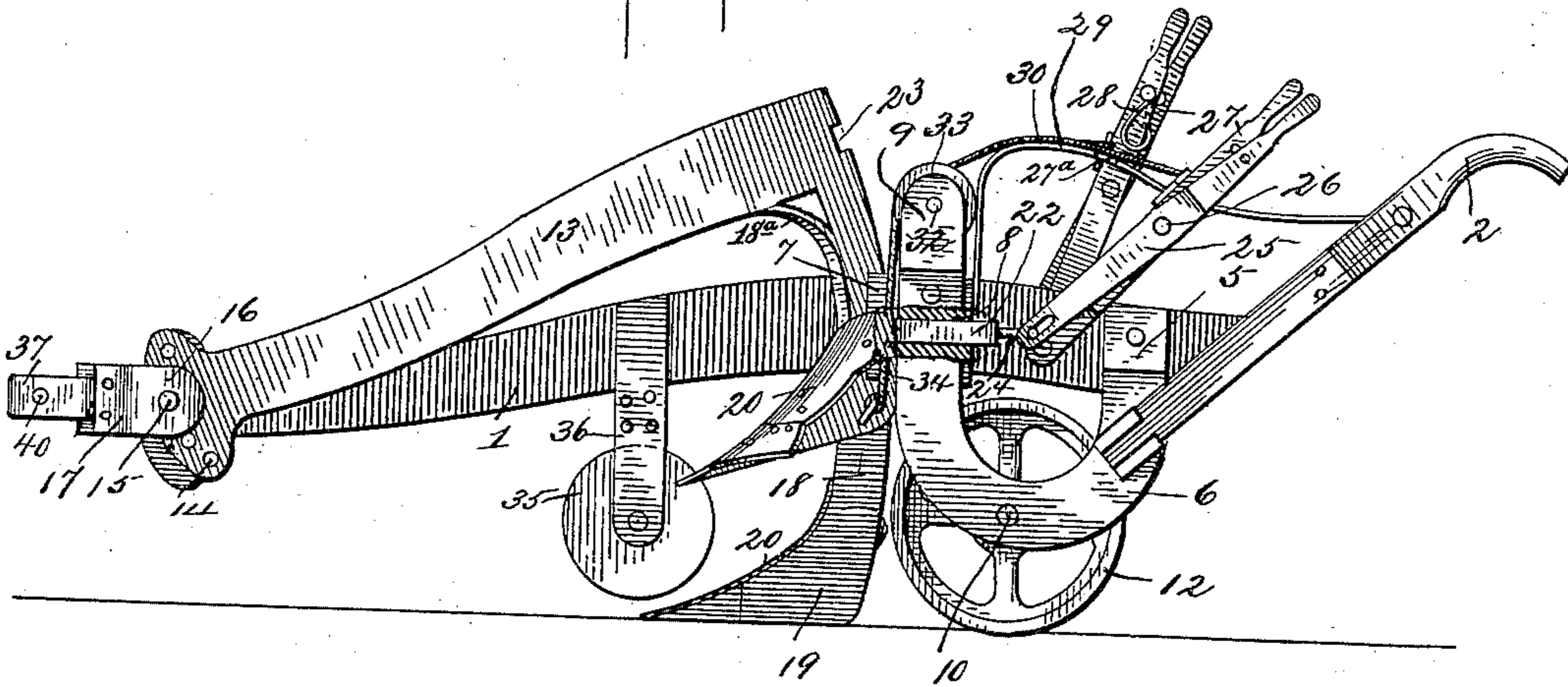


FIG. 2.

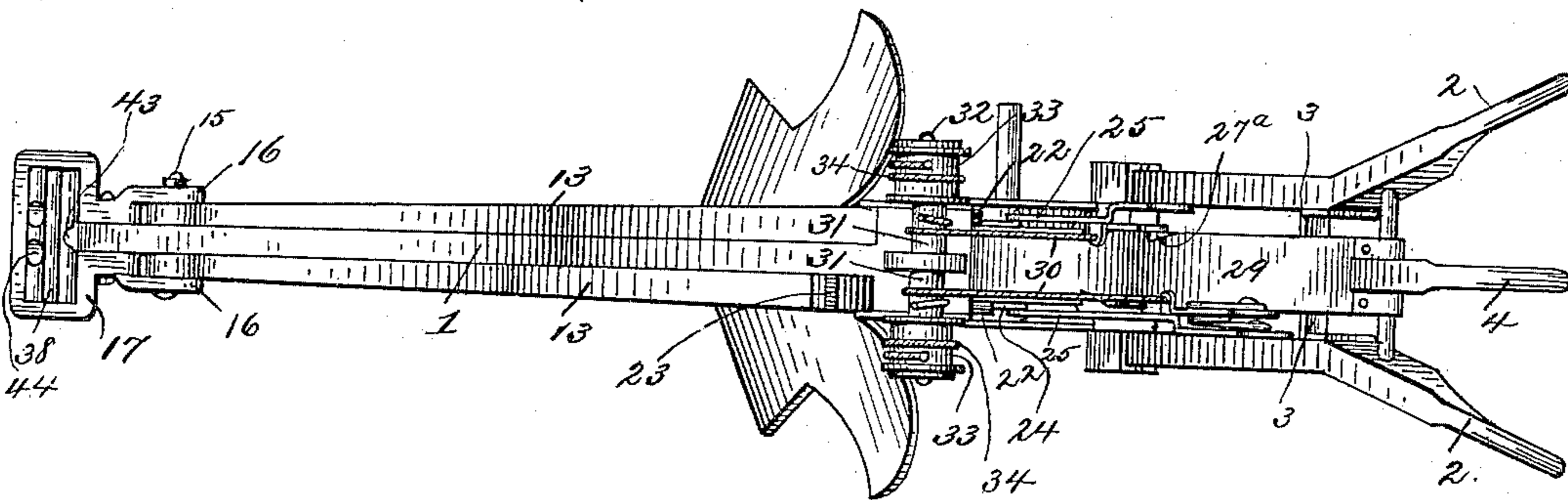


FIG. 3.

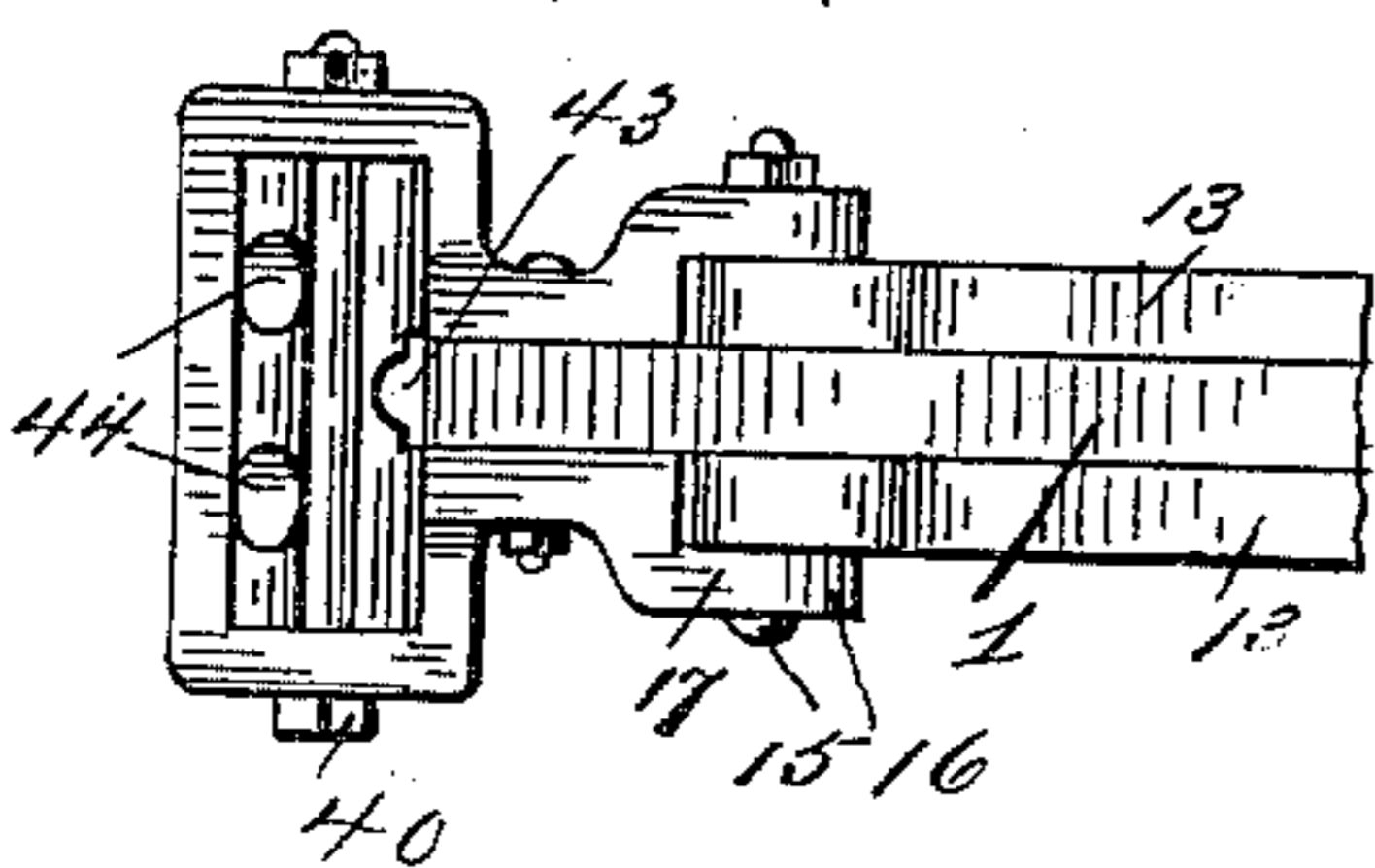
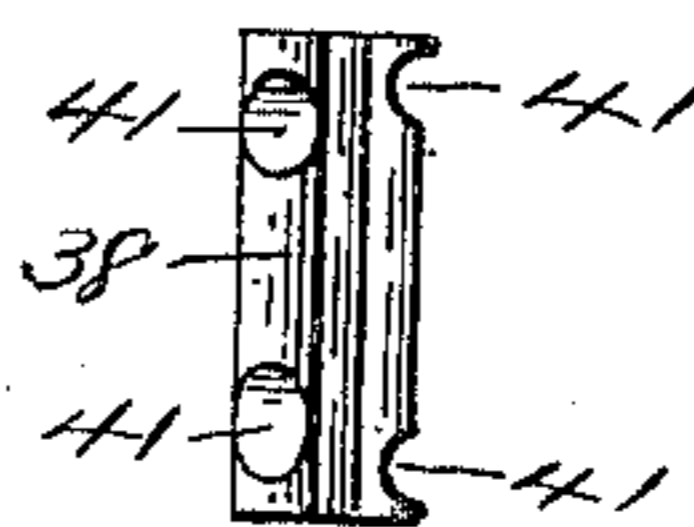


FIG. 4.



Witnesses  
*E. D. Smith*  
*Robert Everett*

Inventor  
*James W. Leas*  
By *James L. Norris*  
Attorney

# UNITED STATES PATENT OFFICE.

JAMES W. LEAS, OF ANGORIA, TEXAS.

## PLOW.

SPECIFICATION forming part of Letters Patent No. 411,342, dated September 17, 1889.

Application filed January 31, 1889. Serial No. 298,265. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES W. LEAS, a citizen of the United States, residing at Angoria, in the county of Palo Pinto and State of Texas, have invented new and useful Improvements in Plows, of which the following is a specification.

My invention relates to that type of plows in which a double share is employed, one of which turns the sod or furrow in one direction and the other in the opposite direction, said plows being capable of being brought alternately into action, each to turn a furrow in the same direction in right or left turn plowing.

It is the purpose of my invention to provide a novel and simple construction whereby the duplex plows may be alternately raised and lowered, and held in either the non-acting or operative positions.

It is a further purpose of my invention to provide novel and simple means for locking the plows in position for operation and for operating the locking devices.

The invention consists to these ends in the several novel features of construction and new combinations of parts, hereinafter fully set forth, and then definitely pointed out in the claims which follow this specification.

Referring to the accompanying drawings, Figure 1 is a side elevation of a plow embodying my invention. Fig. 2 is a plan view of the plow. Fig. 3 is a detail view of the clevis and its immediate connections, showing also one of the interchangeable clevis-bars. Fig. 4 is a detail view of one of the interchangeable clevis-blocks.

In the said drawings, the reference-numeral 1 denotes the plow-beam, which extends from the point where the clevis is attached to the rear, where the handles 2 are connected by means of the metal brackets 3, which embrace a central handle 4, placed between the handles 2, said central handle rising with a rearward inclination from the rearward end of the beam 1. Upon the rearward end of the plow-beam, upon opposite sides thereof, are lapped and bolted the ends of metal brackets 5, which have lateral extensions 6, from which said

brackets are carried downward, passing against the inner faces of the plow-handles 2, to which they are bolted, and thence curved in an arc of somewhat over one hundred and eighty degrees, the upper forward ends of said brackets being bolted to a surrounding plate 7, which incloses a solid block or blocks 8 upon the beam 2, and extending laterally therefrom on both sides. The upper ends of the brackets 5 6 are bent laterally outward from the blocks 8, and their ends are then turned upward, forming parallel brackets 9, for a purpose presently to be explained.

In the curved portion 6 of the metal brackets 5 is journaled a shaft 10, on which is mounted a ground-wheel 12.

Upon the forward end of the plow-beam 1 I pivot the ends of two plow-carriers 13, of similar construction—one lying upon one side and the other upon the opposite side of said plow-beam—the pivoted point of each being independently adjustable by means of a series of separate fulcrum points or apertures 14 in the widened ends of the plow-carriers, which engage with a single bolt 15, passing through the ends 16 of a clevis-plate 17, mounted on the end of the plow-beam 1, and more fully described hereinafter.

Upon the rearward end of each plow-carrier is formed or mounted a downwardly-depend- ing arm or bracket 18, strengthened by a brace 18<sup>a</sup>, and having a forwardly-curved foot 19. Upon this foot is mounted the share 20, which may be of any prepared construction, provided that the inner face of the bracket and arm shall form the landside of the plow. The share may be strengthened in any desired manner by means of braces of any suitable form.

Within an opening in the block 8 is arranged a locking block or bolt 22, which engages a notch 23 in the rear edge of the arm or bracket 18, each of said arms being locked in a similar manner. To the locking-block is attached a wire or rod 24, projecting rearwardly and connected to the lower end of the lever 25. This lever is pivoted or fulcrumed at the point 26 upon an independent lever 27, pivoted by its lower end to the same side of the plow-beam 1, and further connected to

the lever 25 by means of a spring 28, one end of which is attached to one lever and the other end to the other lever, the tension of the spring being such that the lower end of lever 25 will be thrown toward the forward end of the plow-beam. Upon the opposite side of the latter a similar arrangement of parts locks and unlocks the other plow-beam.

A detent-plate 29 is attached at one end to the central plow-handle, and thence curved forward and then downward, its end being attached to the plow-beam. This plate is provided upon its edges with notches 27<sup>a</sup>, to form suitable holdings for the levers 27. To these levers are attached ropes or chains 30, which pass one or more times around pulleys 31, loosely mounted on a shaft 32, which has bearing in the ends or brackets 9, already described. Integral or rigid with these pulleys 31 are larger pulleys 33, having ropes or chains 34, which are attached at their ends to the feet 19, which carry the plows, the arrangement being such that by throwing either one of the levers 27 toward the rear the plow-carrier on that side will be raised by means of a rope or chain 34 and pulley 33, the raising-lever being held by means of the detent-notches 27<sup>a</sup> in the detent-plate 27.

Upon the plow-beam 1, just in advance of the plow, I mount a cutting-disk 35, having bearing in a bracket 36 on the beam.

Upon the outer end of the plow-beam is mounted the clevis 17, already described in part, and of which the plates 16 form part. This clevis consists of a rectangular frame, within which I propose to arrange a clevis block or plate 38, having a longitudinal opening through which passes a bolt or clevis-pin 40. The clevis-block is preferably of triangular form in cross-section, and upon one of its three angles it is provided with notches 41, in which the pin by which the doubletree is held may be placed. These notches lie upon opposite sides of the central draft-line of the plow-beam, and by using two or more interchangeable clevis-blocks 38, having their notches at varying distances from each other, I am able to shift the line of draft from one side to the other of the central draft-line, and thus in a measure to compensate for the lateral drag or thrust of the alternately-operating plows.

The advantages of a plow of this construction are readily apparent. It enables the user to plow in right and left furrows instead of in a marginal continuous row, thereby effecting a great economy in time and avoiding the deep dead-furrow usually formed in the middle, from which deep ditches are frequently formed. The plow may also be used for bedding cotton-land and for various purposes aside from those set forth.

In operating the plow the spring-actuated lever is first thrown forward, retracting its lower end and releasing the lock-bolt, whereupon the plow-raising lever is drawn back,

operating the pulley and drum on that side and raising the corresponding plow, the lever automatically engaging with the notches 27<sup>a</sup> and holding the plow in a raised position. 70

I may use a clevis-lock 42, having one central aperture 43 and two non-central apertures 44, for the attachment of the double-tree, which may thus be placed in the central line of draft or upon either side of said line. 75

What I claim is—

1. The combination of the central plow-beam 1, a vertically-swinging plow-carrier 13 at each side of the beam pivoted at its front to the front end of said beam, and having at its rear end a depending arm 18, to which the plowshare is secured, a bracket 5, the locking-bolts 22, sliding horizontally through the parts of the bracket to engage the depending arms of the plow-carriers and hold them elevated, a pair of levers pivoted at each side of the plow-beam and one of each pair connected with one of the locking-bolts, the pulleys having chains connected with the lower ends of the other levers of the pairs and with the depending arms of the plow-carriers, and a detent-plate for the levers that connect with the chains, substantially as described. 80 85 90 95

2. The combination, with a central plow-beam 1, of a plow-carrier 13 at each side thereof having its front end pivoted to the front end of the beam, the pulleys 31, having pulleys 33, of larger diameter, the chains 30, passing around the small pulleys and connected with the rear ends of the plow-carriers, the pivoted swinging levers 27 at opposite sides of the beam, and the chains 34, passing around the large pulleys and connected with the lower ends of the levers, substantially as described. 100 105

3. The combination, with a central plow-beam, of plow-carriers having broadened forward ends, each provided with a series of openings to receive a pivot-bolt connecting the plow-carrier to the plow-beam, a lever pivoted to the rear of the plow-beam and having a chain actuating a pulley or drum, a pulley on the same shaft by which the plow-carrier is raised, a lever pivoted to the middle portion of the lever raising the plow, a lock-bolt connected to the lower end of the former lever, and a spring having its ends connected to the said levers, respectively, above the point of pivotal attachment, substantially as described. 110 115 120

4. The combination, with a central plow-beam having a sod-cutting wheel in front and a ground-wheel in the rear of the plows, of plow-carriers pivotally connected at their forward ends to the forward end of the plow-beam on opposite sides thereof, a shaft mounted in bearings transversely to the plow-beam and having independent pulleys, levers pivoted on opposite sides of the plow-beam in rear of said shaft and having chains operating said pulleys, each of the latter 125 130

having a drum with a chain connected to the  
plow-carrier, levers pivoted to the middle  
portions of the plow-raising levers and hav-  
ing their lower ends connected to locking-  
5 bolts which engage and hold the plow-carri-  
ers, and springs connected at its ends to each  
lever, substantially as described.

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

JAMES W. LEAS.

Witnesses:

J. B. ZEARING,  
C. H. CLOUD.