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Patented Nov. 8, 1898.

A. CARLSON.
GAGE WHEEL FOR PLOWS.

(Application filed Aug. 30, 1898.)

(No Model.)

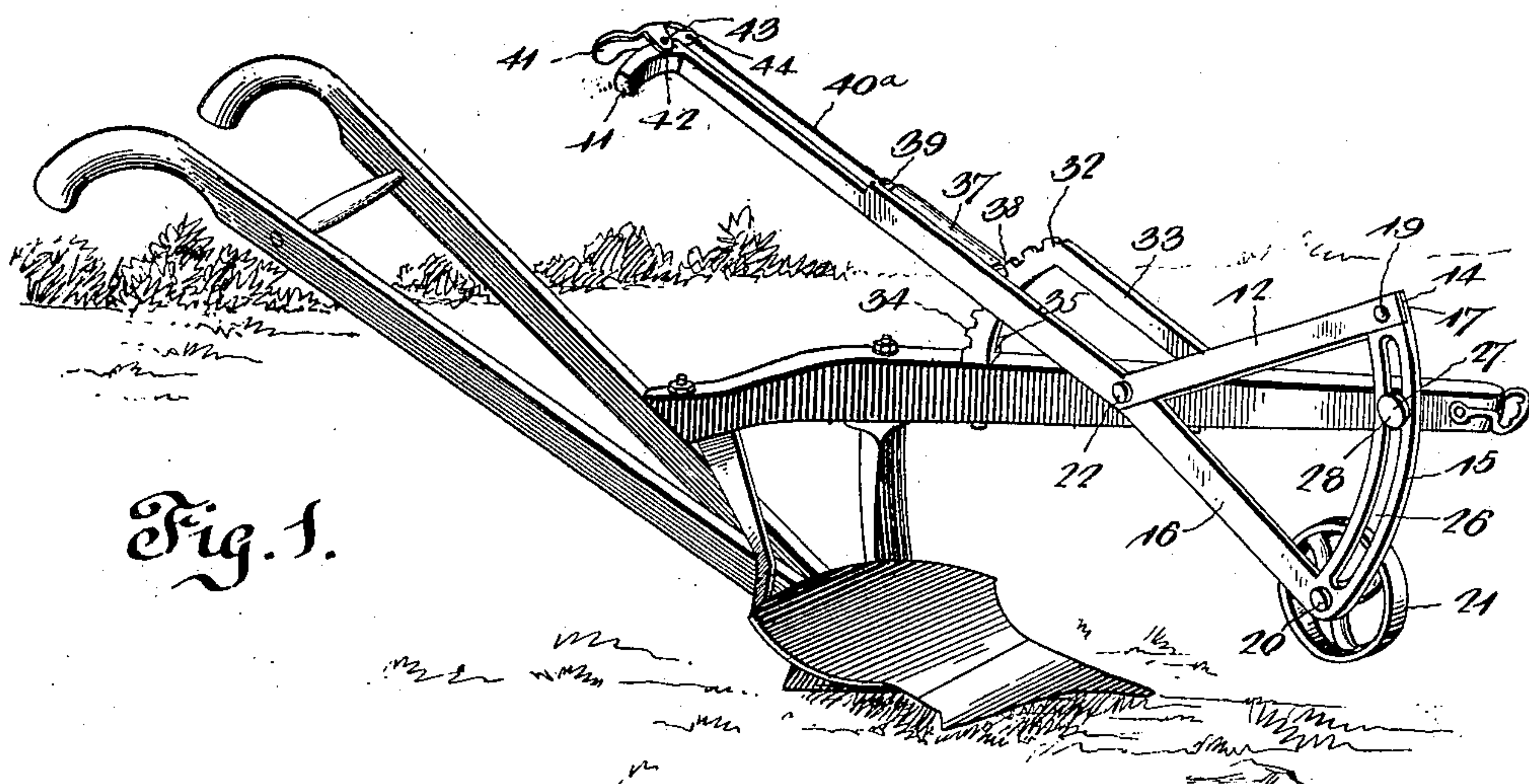


Fig. 1.

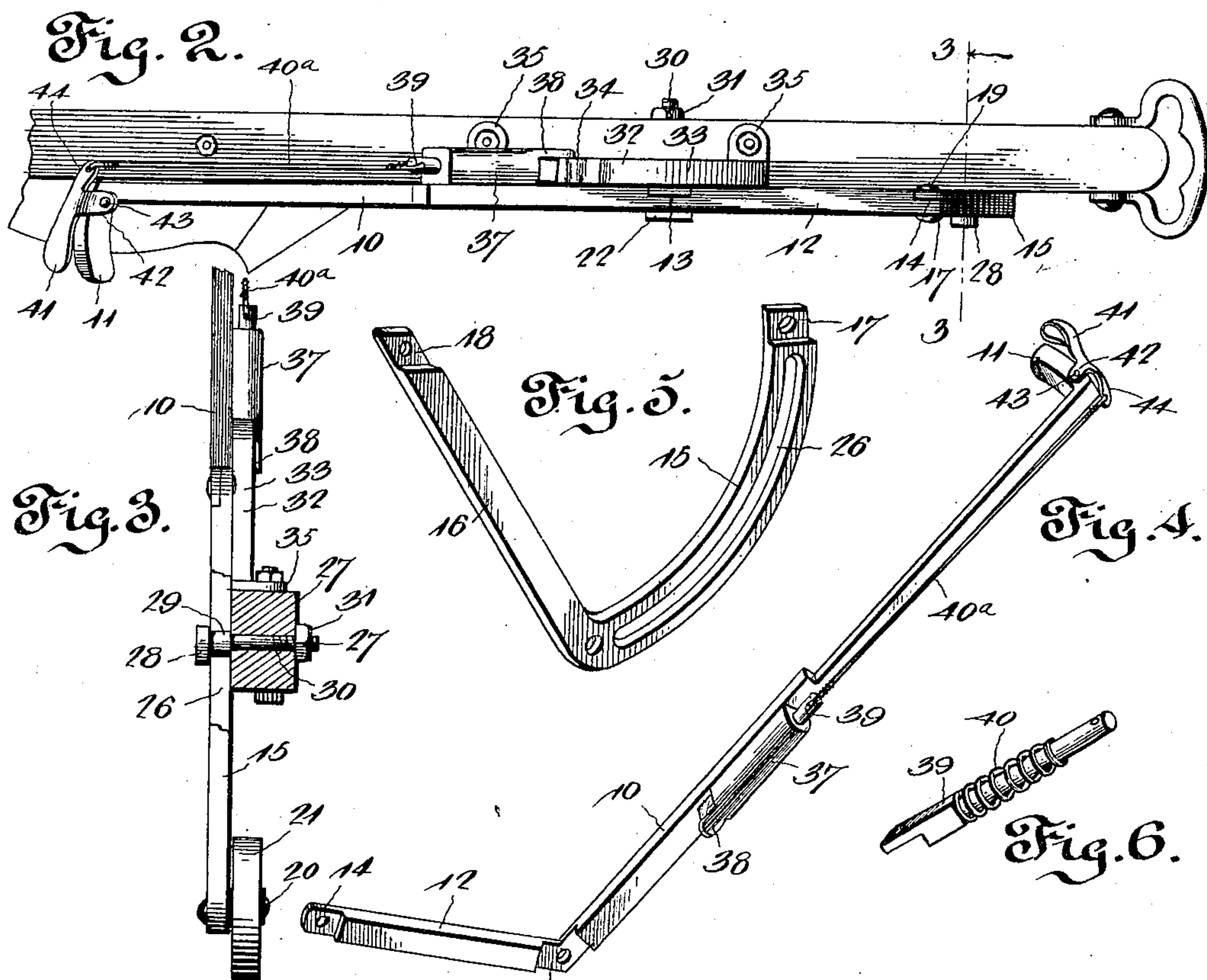


Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

Fig. 6.

Witnesses

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ANTON CARLSON, OF PIERCE CITY, MISSOURI.

GAGE-WHEEL FOR PLOWS.

SPECIFICATION forming part of Letters Patent No. 613,662, dated November 8, 1898.

Application filed August 30, 1898. Serial No. 689,821. (No model.)

To all whom it may concern:

Be it known that I, ANTON CARLSON, a citizen of the United States, residing at Pierce City, in the county of Lawrence and State of Missouri, have invented a new and useful Gage-Wheel for Plows, of which the following is a specification.

My invention is an improvement in gage-wheels for plows; and the object is to provide an improved means by which the gage-wheel may be easily and quickly raised by the driver without leaving his position at the plow-handles, so that when plowing washed-out ground or when the plow encounters obstructions—such as stones, rocks, and stubble in the path of the implement—the gage-wheel may be thrown out of service.

A further object of the invention is to provide an improved construction comprising a small number of parts each of a simple nature and united solidly together to produce a substantial attachment which may be easily applied to ordinary plows, and this attachment is guided to reduce the strain on the working parts and equipped with a latch mechanism adapted to hold the lever and gage-wheel in their adjusted positions.

With these ends in view the invention consists in the novel construction and arrangement of parts, which will be hereinafter fully described and claimed.

To enable others to understand the invention, it is illustrated in the accompanying drawings, forming a part of this specification, and in which—

Figure 1 is a perspective view of a plow with my improved gage attachment applied thereto. Fig. 2 is a plan view of the parts shown by Fig. 1. Fig. 3 is a vertical cross-section on the plane indicated by the dotted line 3 3 of Fig. 2. Fig. 4 is a detail perspective view of the lever. Fig. 5 is a similar view of the guide-sector.

Like numerals of reference denote like and corresponding parts in each of the several figures of the drawings.

In carrying my invention into practice I provide a main or operating lever 10, which is cast in a single piece of metal in the form shown more clearly by Fig. 4 of the drawings. At one end this lever is formed with an an-

gular grip-piece 11, and the other end of the lever has an integral arm 14, which extends at an obtuse angle to the longitudinal axis of the lever. At the angle formed by the end of the lever and its arm 12 a notch 13 is formed in one face of the casting, and a similar notch 14 is produced at the free end of the angular arm 12. In connection with this lever I employ a guide-sector 15, which is cast in a single piece of metal separate from the lever proper and is united substantially to the lever, so as to be rigid therewith. The guide-sector is provided at one end with an arm 16, that lies at an angle to the length of said sector, and at one end the sector is formed with an integral lug 17, while the arm 16 has a similar lug 18. The sector and its arm are assembled in such relation to the lever that the lugs 17 18 will be received in the notches 14 13, respectively, of the lever 10 and its arm 12. This arrangement of the sector with relation to the lever brings the arm 16 in alinement longitudinally with the lever 10, while the free end of the sector is adapted for attachment to the corresponding end of the lever-arm 12. The sector and its arm are thus adapted for union with the lever and the arm 12 thereof by lap-joints, and said sector and the lever-arm are united firmly together by a rivet or bolt 19, which passes through the notched end 14 of the arm and the lug 17 of the sector.

At the angle formed by the juncture of the sector and its arm there is provided a short shaft or journal 20, on which is loosely mounted the gage-wheel 21, which may be of any preferred construction.

The lever is fulcrumed on one side of the plow-beam in a substantial manner by a horizontal bolt 22, which passes through the lever at the angle of its arm 12 and also through the lug 18 of the sector-arm 16, thus confining the sector-arm in the notched angle of the lever by the same bolt which serves as the fulcrum for said lever. The fulcrum-bolt 22 passes through the plow-beam to receive a nut or cap on its threaded protruding end, and the headed end of the bolt bears against the exposed edge or face of the lever.

The lever and the attached sector are movable in a vertical plane on the horizontal ful-

crum-bolt 22, and this play of the lever and its sector is guided by a bolt which plays in a longitudinal slot 26 of the sector 15. The guide-bolt 27 has an enlarged head 28, that
 5 bears against the outside of the slotted sector, and this bolt is reduced to form the shoulder 29 and the stem 30. The shoulder of said bolt bears or abuts against the side of a plow-beam, while the stem passes through the
 10 beam to receive a nut 31, which may be tightened against the beam, so as to draw the shoulder 29 of the bolt firmly against one side of the beam, whereby the guide-bolt may be fastened firmly in place without causing the
 15 head 28 thereof to bind against the face of the guide-sector.

To hold the adjusting-lever and the gage-wheel mounted on the sector in their adjusted positions, I provide a locking-rack 32, which
 20 is cast in a single piece of metal to produce an arm 33 and a notched bar 34, and to provide for the proper application and secure attachment of this locking-rack to a plow-beam the arm and bar are formed with the
 25 integral foot-flanges 35, which are adapted to rest upon the plow-beam and to be secured firmly thereto by the vertical bolts 36. The locking-rack is fastened firmly to the beam, so as to have its segmental notched bar 34 concentric to the fulcrum-bolt 22, and on the swing-
 30 ing operating-lever is mounted a spring-controlled locking-bolt, which is adapted to engage with the notched bar of the locking-rack to maintain the lever and the gage-wheel in
 35 either of their several positions. Secured rigidly to one side of the lever, contiguous to the locking-rack, is the spring-housing 37, which is provided with a forwardly-extended lip 38, that is adapted to lap over and ride
 40 against one side of the notched segmental bar 34 of the locking-rack, thus insuring the proper position of the lever and its housing in relation to the locking-rack. Within this housing is a slidable bolt 39, which is normally pressed toward the rack by a spring
 45 40, and to the heel of this bolt is attached a pitman, cord, or wire 40^a, which extends along the lever to a handpiece 41. This handpiece has the lugs 42 pivoted at 43 to the lever and
 50 its grip-piece 11, and said handpiece is thus mounted on the lever to provide a short arm 44, adapted to contact with the lever and to serve as a stop to limit the movement of the handpiece in relation to the grip 11 of the
 55 lever.

In applying my attachment to a plow-beam the parts or members of such attachment are assembled together and the fulcrum-bolt 22 is passed through the lever to pivotally mount
 60 the same on one side of the beam, thus providing a firm support for the lever and the gage-wheel. The guide-bolt is passed through the slot in the sector for its head to engage with said sector, while the stem of the bolt is
 65 attached firmly to the beam. The locking-nut has its foot-flanges resting upon the beam, to which it is firmly secured by the vertical

bolts, and the notched bar of this rack is in a position for the spring-bolt to engage therewith. To raise the gage-wheel out of contact
 70 with the ground, the driver operates the hand-piece 41 to retract the bolt from the notched bar of the locking-rod, and then the lever is depressed to lift the segment and the gage-wheel, said segment traveling over the headed
 75 guide-bolt. The gage-wheel may be lowered into position by reversing the movement of the lever, and the parts may be held firmly in their adjusted positions by the latch-bolt engaging with the notched bar of the rack. 80
 The sector directs the lever in its vertical adjustment to insure accuracy of presentation of the gage-wheel to the ground and relieves the fulcrum-bolt of undue strain. The locking-rack occupies a compact position on the
 85 beam, and it is of substantial construction, so that it will withstand a great deal of strain. The entire device may be attached easily to any kind of a plow, and it is not liable to break or get out of order. The gage-wheel
 90 may be easily and quickly raised or lowered without requiring the driver to leave his station at the handles of the implement. The attachment consists of a small number of
 95 parts which may be readily assembled together to produce a substantial construction, and each part is simple and cheaply cast in a single piece.

Changes may be made in the form of some of the parts while their essential features are
 100 retained and the spirit of the invention embodied. Hence I do not desire to be limited to the precise form of all the parts as shown, reserving the right to vary therefrom.

Having thus described the invention, what
 105 I claim is—

1. In a gage-wheel attachment for plows, a lever provided with an angular arm and with notches at the angular portion and at the free
 110 end of said arm, and a slotted guide-sector provided with an arm and with lugs at the extremities of said sector and its arm, said lugs adapted to fit in the notch of the lever and its arm to bring the arm of the sector in alinement with the lever, in combination
 115 with a gage-wheel journaled on the sector, and a locking mechanism, substantially as described.

2. A gage-wheel attachment for plows comprising a lever having a sector united rigidly
 120 thereto and said sector provided with a longitudinal slot, a guide-bolt passing through the slot of the sector and having a shouldered stem adapted to be fastened to a plow-beam and with a head to ride against the slotted
 125 sector, and a locking mechanism to hold the lever and the gage-wheel in their adjusted positions, substantially as described.

3. In a gage-wheel attachment for plows, the combination of a lever having an angular
 130 grip at one end and an arm at the other end, a slotted sector fastened to the lever and its arm, a guide-bolt passing through the slot of the sector, a locking-rack provided with the

foot-flanges and with the notched bar, a spring-housing fixed to the lever, a latch-bolt fitted slidably in the housing to engage with the notched bar of the locking-rack, a handpiece
5 pivoted on the lever and connected with the latch-bolt, and a gage-wheel journaled on the sector, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ANTON CARLSON.

Witnesses:

S. P. CARLSON,
PETER MALMGREN.