No. 820,057. PATENTED MAY 8, 1906.

M. LUNDIN.

DISK PLOW.

APPLICATION FILED MAY 4, 1905.

3 SHEETS—SHEET 1.

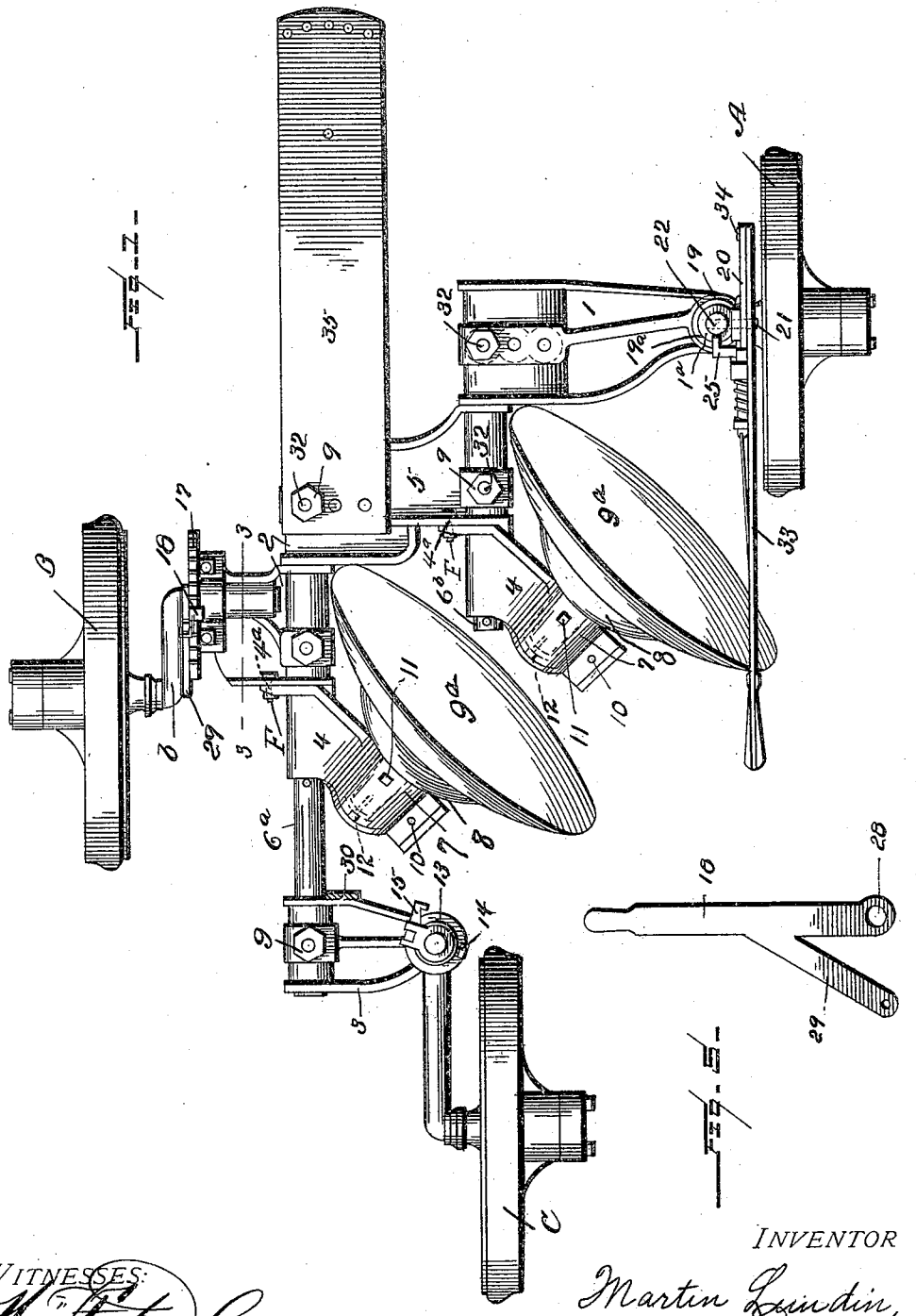


Fig. 2.

Fig. 5.

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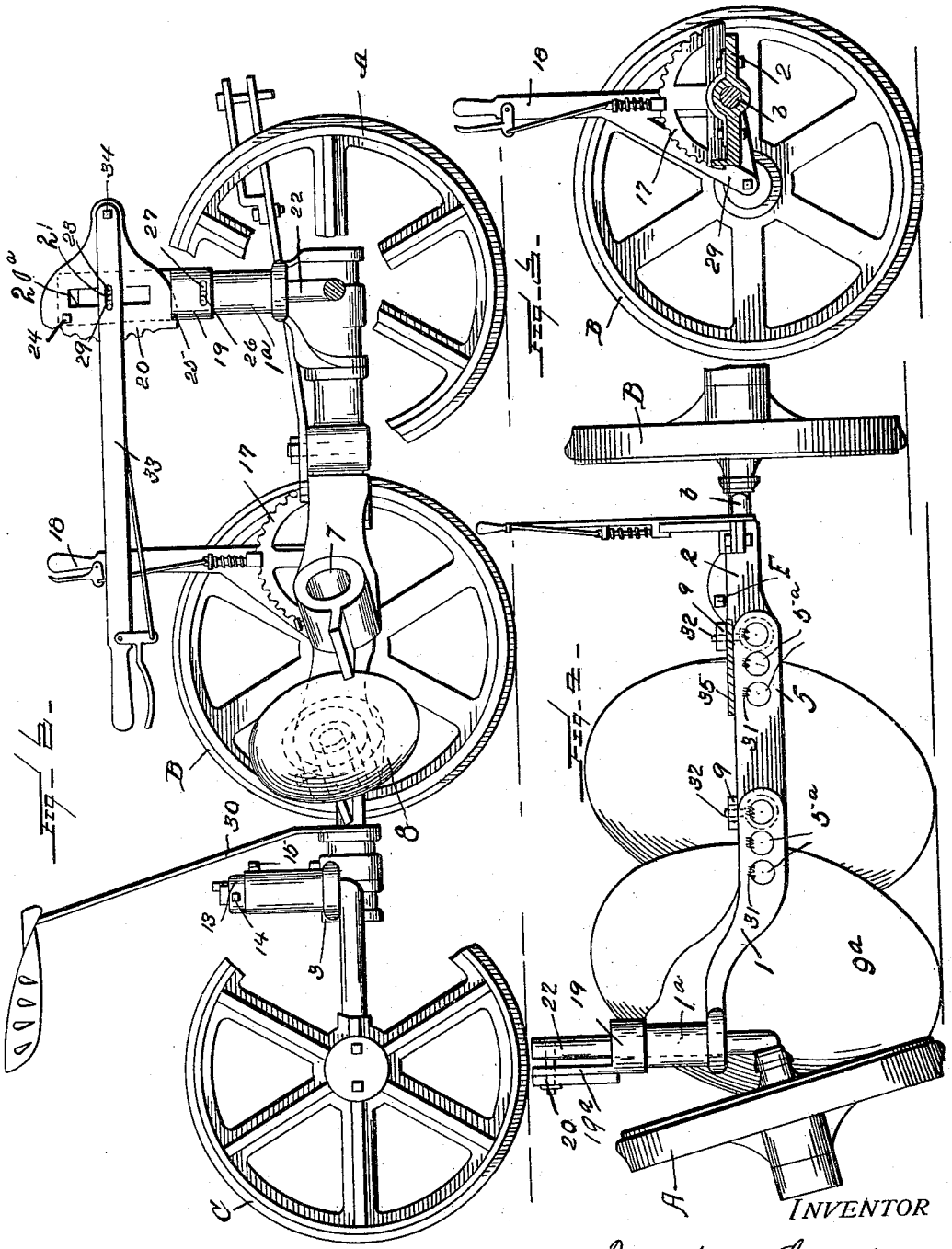
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3 SHEETS—SHEET 2.



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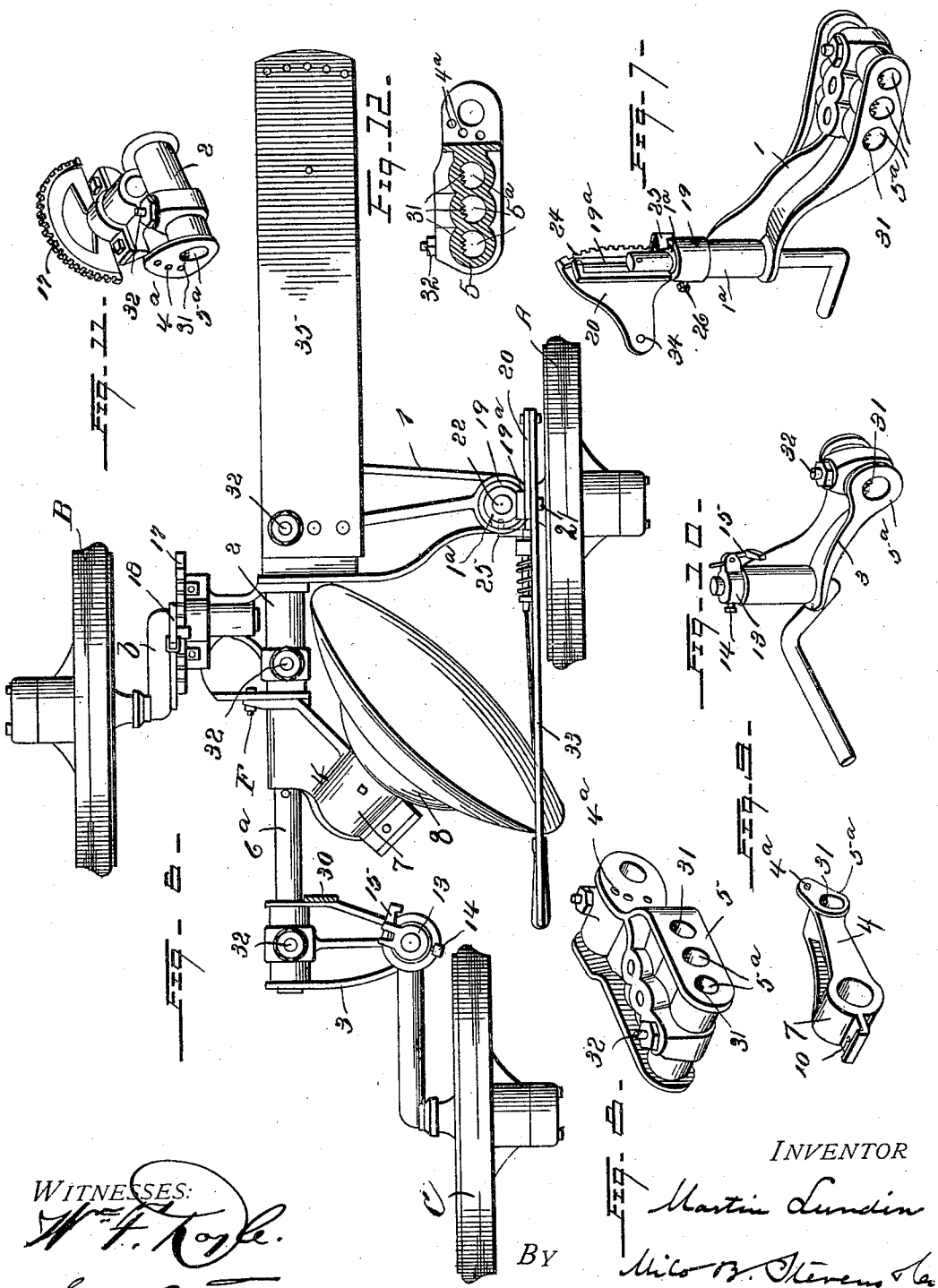
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3 SHEETS—SHEET 3.



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DISK PLOW.

No. 820,057. Specification of Letters Patent. Patented May 8, 1906.

Application filed May 4, 1905. Serial No. 258,817.

To all whom it may concern:

Be it known that I, MARTIN LUNDIN, a citizen of the United States, residing at Chattanooga, in the county of Hamilton and State of Tennessee, have invented new and useful Improvements in Disk Plows, of which the following is a specification.

This invention relates particularly to disk plows in which one or more disks may be used to cut one or more furrows.

The object of the invention is to produce a plow containing sections which may be added or removed to increase or decrease the number of disks used. This is effected by means of universal couplings, as more fully described hereinafter.

A further object of the invention is to provide means for independently varying the adjustment of the height and slope of the several disks.

A further object of the invention is to provide an improved land-wheel adjustment for controlling the depth of the plow.

A further object of the invention is the provision of improved means for supporting and connecting the various parts of the plow.

Other objects and advantages will be apparent from the following description and the accompanying drawings.

In the drawings, Figure 1 is a plan view of the plow provided with two disks. Fig. 2 is a side elevation thereof. Fig. 3 is a detail in section on the line 3 3 of Fig. 1. Fig. 4 is a front elevation of the plow. Fig. 5 is a side elevation of the land-wheel lever. Fig. 6 is a plan view of the plow arranged as a single-disk plow. Figs. 7, 8, 9, 10, and 11 are details in perspective of brackets used in the plow. Fig. 12 is a detail in section.

Referring specifically to the drawings, 1 indicates the front furrow-wheel bracket; 2, the land-wheel bracket; 3, the rear-wheel bracket; 4, disk-holder brackets; 5, a body or spacing block; 6^a, a main coupling-bar, and 6^b is a short coupling-bar to be used in adding extra disks.

The front end of the coupling-bar 6^a fits in one of a series of longitudinal tubes (indicated at 5^a) formed in the spacing-block 5, and the land-wheel bracket 2, the rear disk-holder bracket 4, and the rear-wheel bracket 3 are sleeved over the bar 6^a in the order named behind the spacing-block 5. The spacing-block 5, land-wheel bracket 2, and rear-wheel bracket 3 are secured to the coupling-bar 6^a by means of heavy eyebolts 32, which fit in slots or grooves in the sleeves of said brackets and serve to tightly bind the parts together when the nuts 9 on the bolts are tightened. To assist in holding the parts together, the bracket-sleeves have corrugations or teeth 31 in the top thereof which bite upon the coupling-bar when the bolts are tightened.

7 indicates the disk-holder box, 8 the disk-holder, and 9^a the disk.

10 is a hole in the brackets 4 for attaching scraper-standards. (Not shown.) 11 and 12 are screws for holding the disk-holder in the box 7.

The rear wheel C is carried upon a spindle supported by the bracket 3, and 13 is a set ring or collar fastened to the top of the rear-wheel axle by a set-screw 14. 15 is a latch hinged in a slot in the set-ring 13, and it holds the rear wheel in the line of draft by striking a rib or stop on the bracket 3. The rear-wheel casters to the left without raising the latch. To caster to the right, the latch is raised by the foot until it passes over the rib. When the plow is started after turning, the wheel automatically assumes its proper position.

B indicates the land-wheel.

17 is a sector bolted to the casting 2, as shown in Fig. 3, and the land-wheel is held at adjustment by means of a lever 18, working beside the segment. The lever has a hole 28, through which the axle *b*, which is of the crank type, extends, and the lever also has an angular arm 29 extending to and fastened at the elbow of the crank-wheel axle. This makes the plow much easier to lift than when the lever is fastened to the axle at the sector only, because the arm 29 gives a fixed and rigid fulcrum at the axis of the wheel-spindle.

The front furrow-wheel is indicated at A. 19 is a swiveling collar which encircles the top of the tubular portion 1^a of the front-wheel bracket 1, through which the axle 22 extends, and this collar is prevented from vertical movement upon said tube by a pin or stud 26, which is inserted into said tubular portion through a slot 27 in the collar 19. 20 is a sector which is hinged to a vertical extension 19^a on the collar 19 at the pin 24, and this sector has at its lower edge a catch 25,

which works through a notch in the upper rim of the collar 19 and is engageable in a small registering notch in the top edge of the tubular portion 1^a of the bracket 1. 33 indicates the front-wheel lever, which is pivoted at 34 to the sector 20 and connected to the top of the axle 22 by a pin 21, which extends through a vertical slot 20^a in the sector and which also works in the horizontal slot 23 in the lever 33. The catch 25 may be released from the slot in the top of the tube 1^a by slightly raising the lever 33 without releasing its latch. This turns the sector 20 on its pivot 24 and pulls the catch 25 out of the notch in the tube 1^a. This frees or unlocks the collar 19 from the tube and allows the collar to turn thereon, consequently turning the front wheel. When turned back to straight position, gravity causes the catch 25 to slip back into the notch and holds the parts as set.

The seat-standard is indicated at 30 fastened to the rear-wheel bracket 3, and the tongue is indicated at 35, fastened to the spacing-block 5 by one of the eyebolts 32.

The tubes or sleeves in the wheel-brackets 1, 2, and 3, the disk-brackets 4, and the coupling-block 5 are all the same size, and the coupling-bars 6 are the same size. This allows a plow to be built up of one or more units by the addition of extra coupling-blocks, bars, and brackets. The plow has no rigid beam or frame, which is characteristic of many other plows.

To make a single plow, the rear-wheel bracket 3, the rear disk-holder bracket 4, the land-wheel bracket 2, and the front-wheel bracket 1 are all fastened to the coupling-bar 6^a, the spacing-block 5 being removed and the tongue being attached to the front-wheel bracket 1. A plurality of sleeves are provided in the front-wheel bracket 1 and the spacing-block 5, so that the width of the furrow can be set as desired.

The coupling-bars and sleeves being round, the various brackets can be adjusted to various heights or angles, since either the brackets or the bars can be turned to the desired extent. The disk-holder brackets 4 are held in position by means of bolts F, which are put in one of series of holes 4^a in flanges projecting laterally from the brackets 4 and which bind said flanges to the spacing-block 5 and bracket 2, respectively. This allows the disk to be set at different slopes or inclinations and also allows the disk to be turned up entirely out of the ground, which is advantageous when the plow is on the road or not in use. The disk scrapers partake of the same adjustment as the disks, because, as said before, they are fastened to the plow-brackets at 10, and consequently move with the disks to any position in which they may be placed.

A double plow is made in the manner indicated in the drawings—that is, the bracket 1 is removed from the bar 6^a and the spacing-block 5 is put in its place. The bar 6^b is then inserted through the sleeve in the spacing-block and the front bracket fastened in place, and the front disk and disk-bracket are added. Additional spacing-blocks 5 may be added to the extent desired, allowing a plow to be built up to form a gang of any desired number, and the tongue 35 may be bolted to any one of the spacing-blocks 5 as they are added, so that the draft may always be at the proper place.

With the universal couplings above described a gang-plow may use some old or worn disks and some new ones of full size at the same time, because the worn disks can be swung down independently to cut the same depth as the new one.

What I claim as new, and desire to secure by Letters Patent, is—

1. A gang-plow comprising a plurality of bars detachably connected together and having plow-brackets and wheel-brackets mounted thereon, all of the brackets having sleeves in which the bars fit, and changeable from one bar to another.

2. A gang-plow built up of a plurality of units the number of which may be increased or diminished, each unit having a bar and a tubular plow-bracket sleeved thereon, the bars being similar in shape and the brackets being interchangeable thereon, and tubular wheel-brackets interchangeably sleeved on the bars.

3. In a plow, in combination, a bar, and a plow-bracket and furrow and land-wheel brackets having sleeves fitting over the bar and adjustably secured thereto.

4. In a gang-plow, in combination, a plurality of similar round bars connected together, and a plurality of plow-brackets and wheel-brackets having sleeves fitting and interchangeable upon said bars and adjustable thereon to vary the inclination of the plows and the land and furrow wheels.

5. In a plow, in combination, a wheel-bracket, an axle having a vertical portion extending through the bracket, a collar rotatably mounted on the bracket, a notched segment pivotally supported on the collar and having a projection engageable with the bracket to prevent relative rotation of the collar thereon, and a lever connected to the axle and pivoted to the segment and having a latch engageable therewith.

6. In a plow, in combination, a wheel-bracket, an axle having a vertical portion extending through the bracket, a collar rotatably mounted on the bracket and having an extension extending vertically beside the axle, a segment pivoted to said extension, and a lever pivoted to the segment and connected to the axle.

7. In a plow, in combination, a longitudinal bar of circular cross-section, land and furrow wheel brackets and a plow-bracket hav-

ing sleeves which fit over the bar and are adjustable thereon, and clamps holding the brackets on the bar.

8. In a gang-plow, in combination, longitudinal bars of similar circular cross-section, wheel-brackets and plow-brackets attached to the respective bars, a spacing-block between the bars, said brackets and block having sleeves fitting over the bars and changeable from one to another and adjustable to vary the angles of inclination of the brackets, and clamps holding the sleeves and bars together.

9. In a plow, in combination, a longitudinal bar having circular cross-section, wheel-brackets mounted thereon, and a plow-bracket having a sleeve which fits over the bar and may be turned thereon to adjust the plow, and a clamp between the plow-bracket and one of the wheel-brackets to hold the former at adjustment.

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

MARTIN LUNDIN.

Witnesses:
O. P. STEWART,
J. L. WATSON.