R. C. CAUGHEY.

ENGINE PLOW.

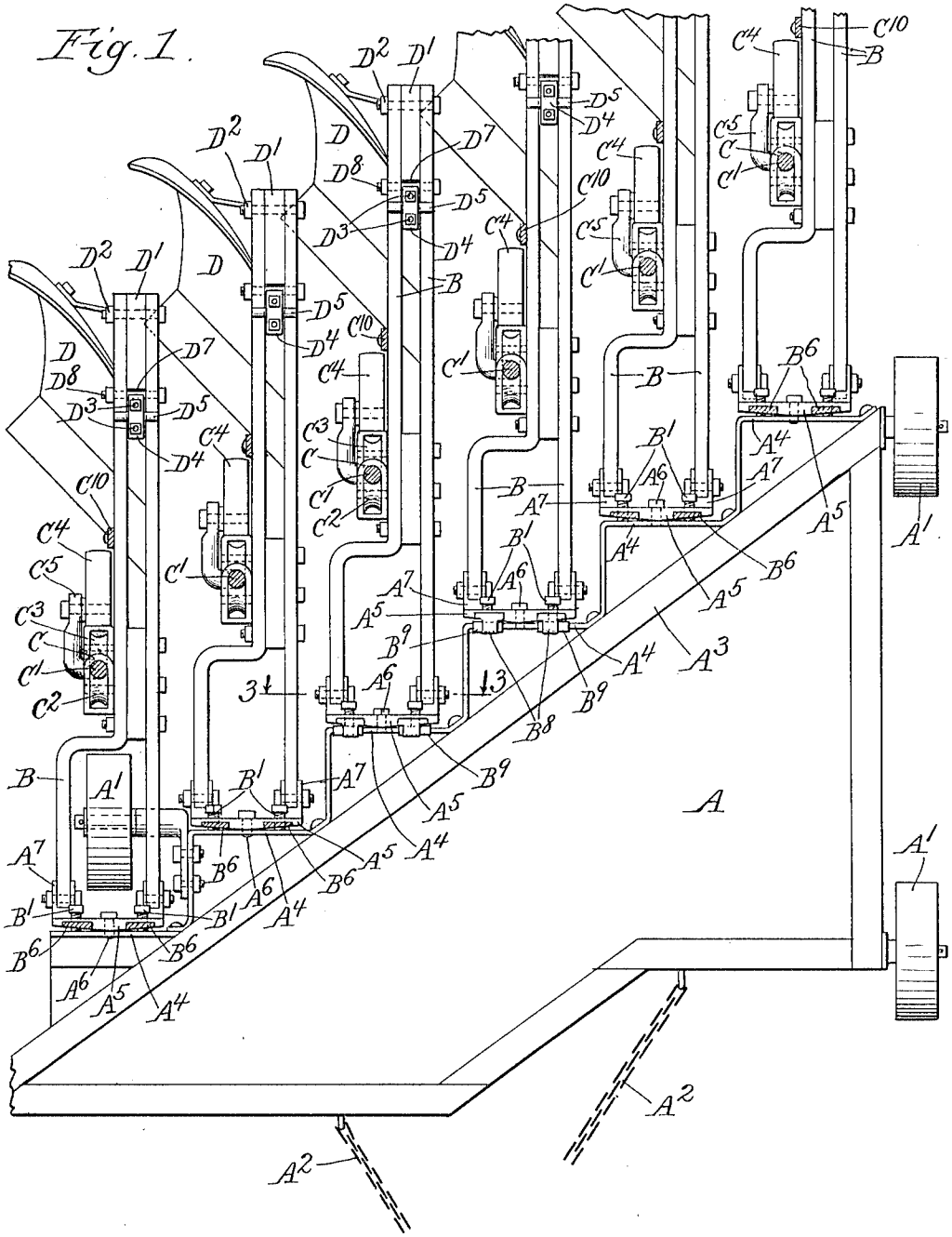
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1,090,133.

Patented Mar. 17, 1914.

2 SHEETS—SHEET 1.

Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 2.

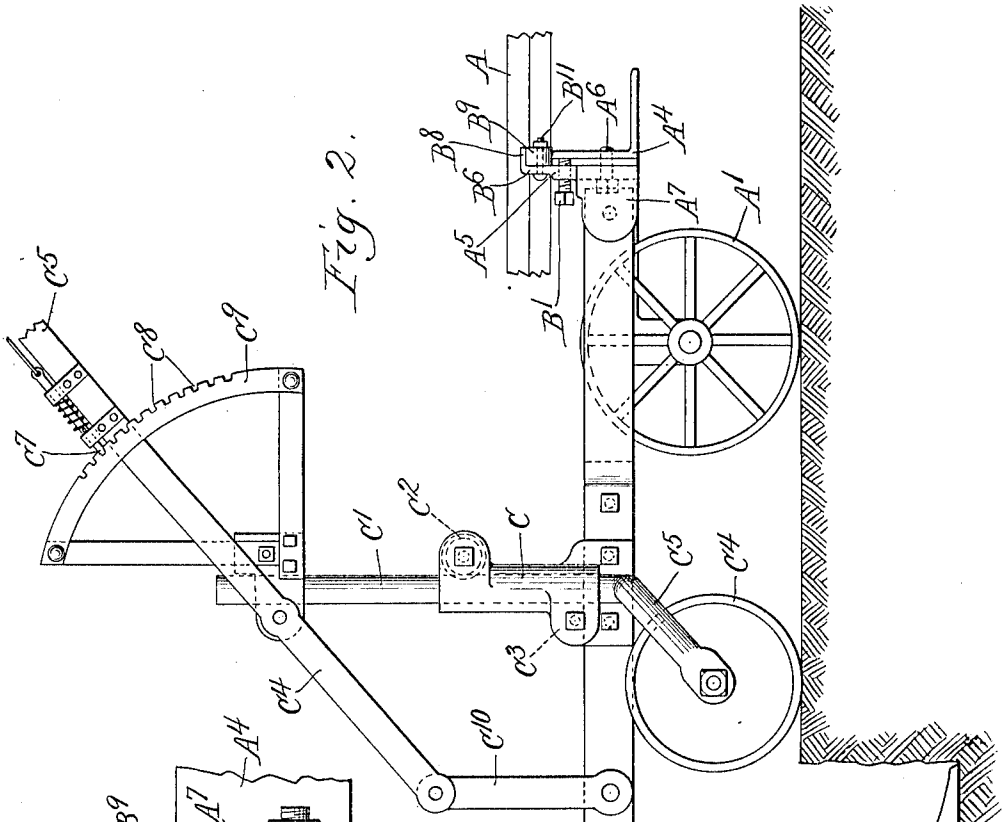
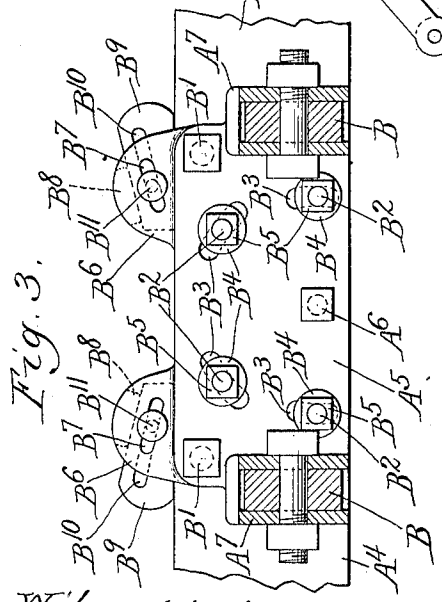


Fig. 3.



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UNITED STATES PATENT OFFICE.

ROBERT C. CAUGHEY, OF DIXON, ILLINOIS, ASSIGNOR TO M. RUMELY COMPANY, OF LAPORTE, INDIANA, A CORPORATION OF INDIANA.

ENGINE-PLOW.

1,090,133. Specification of Letters Patent. Patented Mar. 17, 1914.

Application filed February 17, 1913. Serial No. 748,849.

To all whom it may concern:

Be it known that I, ROBERT C. CAUGHEY, a citizen of the United States, residing at Dixon, in the county of Lee and State of Illinois, have invented a certain new and useful Improvement in Engine-Plows, of which the following is a specification.

My invention relates to improvements in plows, particularly gang plows, such as are adapted to being drawn by some kind of a power traction device.

It is illustrated diagrammatically in one form in the accompanying drawings, wherein—

Figure 1 is a plan view; Fig. 2 is a side elevation showing one plow, the remainder being omitted for the sake of clearness; Fig. 3 is a section along the line 3—3 of Fig. 1.

Like parts are indicated by like letters throughout the several figures.

The conventional form of triangular frame A is mounted upon the supporting wheels A^1 and adapted to be drawn by any suitable tractor not shown, connected thereto by means of the chains A^2. The rear inclined member A^3 of the plow frame carries projecting rearwardly therefrom the steps or yokes A^4. The rocker plates A^5 are each pivotally mounted by means of the pivot bolts A^6 on one of the steps A^4. The slotted lugs A^7 project rearwardly from either side of the rocker plates A^5 and have pivoted thereto the plow beams B. The set of adjusting screws B^1 are screw threaded in the rocker plates A^5 and abut against the smooth surface of the plates A^4. The locking or holding pins B^2 are screw threaded in the steps A^4 and ride in the curved slots B^3 concentric about A^6 in the rocker plates A^5, being provided with the washers B^4 and nuts B^5. The ears B^6 slotted at B^7 and provided with the forwardly extending lugs B^8 adjacent their upper extremities project upwardly from the rocker plates A^5. The wedges B^9 slotted at B^{10} ride upon the upper edge of the yoke or step A^4 and are adapted to be wedged between it and the lugs B^8. The bolts B^{11} pass through the slots in the lugs and the wedges, and are intended to enable the wedges and lugs to be held firmly in position after the plow has been adjusted by the movement of the wedges.

The plow beam B carries the sleeve C in which is slidably mounted the shaft C^1. The rollers C^2 C^3 are located at either extremity of the sleeve C and bear against the shaft C^1 to steady it. The caster wheel C^4 is pivotally mounted on the forks C^5 at the lower extremity of the rod C^1. The rod C^1 has pivoted at the upper extremity thereof the lever C^4 terminating at one end in the handle member C^5 having a lock C^7 in opposition to the teeth C^8 of the quadrant C^9 mounted on the upper end of the rod C^1. The link C^{10} is pivotally mounted on the plow beam B and on the end of the lever C^4 to permit raising of the beam when the lever is rotated.

The plow D is rigidly mounted on the standard D^1 which is pivoted at its upper rear extremity on the bolt D^2 in the plow beam B. The U-shaped link D^3 passes through the upper forward corner of the frame D^1 and carries at its upper extremity the metal block D^4 through which passes the pin D^5 of wood or some other yielding material. The pin D^5 projects outwardly from the side of the block D^4 and rests on the two side members of the beams. The block D^4 is held upon the U-shaped link D^3 by the nuts D^6. The standard D^1 is slotted at D^7 to engage the bolt D^8 in the plow beam to hold the plow frame against upward rotation.

It will be evident that while I have shown in my drawings an operative device, still many changes might be made both in size, shape and arrangement of parts without departing materially from the spirit of my invention, and I wish therefore that my drawings be regarded as in a sense diagrammatic.

The use and operation of my invention are as follows: When the operator wishes to adjust the plows on the plow frame, he operates in the following manner: He first loosens both the pivotal bolt, the two set screws, the four holding bolts between the rocker plate and step, and the two bolts between the wedges and the lugs. This leaves the rocker plate and the plow beam pivoted thereon free to move in any direction about the pivotal point. The two set screws will be manipulated to swing the plates so as to bring the plow beams into parallelism. The two wedges on each rocker plate interposed between the ears or lugs on the plates and frame will be moved

in or out as the case may be to bodily rotate the plow beam about its longitudinal axis so as to bring the plow to the proper position. When one wedge is driven, the other will of course be driven out the usual distance in the well-known manner. After these adjustments have been made, the plow will be found in the proper position both as regards parallelism of the plow beams and as regards angular position of the plows. The four holding or clamping bolts will then be tightened up, the pivot bolt will be tightened up, and the two bolts holding the wedges and ears or lugs will be tightened, thus holding the rocker plate rigidly and firmly in the desired position on the plow frame.

In the operation of the plow, it frequently becomes desirable to raise one of the plow shares off the ground. This of course is done by the operator, who by depressing the upper end of the lever exerts a downward pressure on the end of the caster rod and an upward tension on the pivotal link. This causes the plow beam to rotate about its pivotal point on the rocker plate as it is raised, and causes it to slide along the caster rod, the weight being thus supported by the caster wheel. The plows can be lowered into the ground by the reverse of this movement, and their depth in the ground can be adjusted by locking the lever in position in the quadrant as indicated, so that the caster wheel which operates to raise the plows completely from the ground also operates as a gage to control their depth in the ground during their cut. If by any chance the plow should strike an impassable obstruction, it will tend to rotate about its pivotal point on the plow beam, and if the obstruction is impassable, the tendency to rotate will be so great that the wooden or other yielding safety pin will be sheared off and the plow standard will swing down out of its position in alinement with the plow beam into the position indicated in dotted lines in Fig. 2. The plow can then be raised by the operator, returned to its proper position and the broken pin replaced by a new one without any harm being done to the plow itself, the frame, or any other part of the apparatus except the easily replaceable pin.

I claim:

1. In a gang plow a plow frame, a rocker plate pivoted thereon, a plow beam pivoted to said plate, said plate free to rock in a horizontal plane and to rotate about an axis in a horizontal plane.

2. In a gang plow a plow frame, a rocker plate pivoted thereon, a plow beam pivoted to said plate, said plate free to rock in a horizontal plane and to rotate about an axis in a horizontal plane, and means for locking said plate in position.

3. The combination with a plow frame of a plate pivotally mounted thereon, a plow beam pivoted on said plate and means for rotating said plate about its pivotal point to adjust the plow beam, said means comprising adjustable wedges interposed between said plate and said beam.

4. The combination with a plow frame of a rocker plate pivoted thereon, said plate being free to rock in a horizontal plane and means for rotating said plate about its pivotal point independently of its rocking movement.

5. The combination with a plow frame of a rocker plate pivoted thereon, said plate being free to rock in a horizontal plane, means for rotating said plate about its pivotal point independently of its rocking movement and means for positively locking said plate in position.

6. The combination with a plow frame of a plate pivotally and loosely mounted thereon, the bearing surface of said plate on said plow frame being curved, a plow beam pivoted on said plate, and means for rocking said plate to rotate the plow beam about its axis and also to swing the axis of the plow beam about the pivotal point of the plate.

7. The combination with a plow frame of a plate pivotally and loosely mounted thereon, the bearing surface of said plate on said plow frame being curved, a plow beam pivoted on said plate, and means for rocking said plate to rotate the plow beam about its axis and also to swing the axis of the plow beam about the pivotal point of the plate, said means comprising wedges interposed between said plow beam and said plate and adjustable bolts holding said plow beam and said plate together.

In testimony whereof, I affix my signature in the presence of two witnesses this 28th day of January 1913.

ROBERT C. CAUGHEY.

Witnesses:
W. B. BRINTON,
BRADFORD BRINTON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."