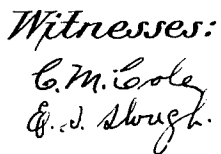


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UNITED STATES PATENT OFFICE.

WILLIAM A. DAWSON, OF IOLA, KANSAS.

MOTOR-PLOW.

982,480.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WILLIAM A. DAWSON, a citizen of the United States, residing at Iola, in the county of Allen and State of Kansas, have invented a new and useful Motor-Plow, of which the following is a specification.

This invention relates to motor propelled machines and more particularly to means whereby the direction of the movement of the machines can be readily controlled, said means being actuated by the driving holder.

Another object is to provide a machine of this type having tilling devices mounted upon the front portion thereof, means being utilized whereby the positions of these devices, with relation to the supporting structure, may be conveniently varied by the operator.

Further objects are to improve upon the construction and increase the efficiency and utility of devices of this character.

With these and other objects in view the invention consists of certain novel details of construction and combination of parts hereinafter more fully described and pointed out in the claim.

In the accompanying drawings the preferred form of the invention has been shown.

In said drawings, Figure 1 is a plan view of the complete machine. Fig. 2 is a side elevation thereof. Fig. 3 is a perspective view of a modified form of extension of frame for use in connection with the machine.

Referring to the figures by characters of reference, A designates a main frame preferably rectangular in outline, and having a longitudinally extending beam C secured along the center thereof, said beam cooperating with a transverse beam B to support the motor K which is of any desired construction.

Alining, transversely extending axles B' are journaled within the sides of the frame A and within the central longitudinally extending beam C, each of these axles being provided with a series of supporting wheels, D, E, F and G. The rims of these wheels are preferably triangular in cross section and formed of segments (see Fig. 2) and if desired, pins H may be extended radially from the periphery of each wheel so as to positively engage the ground and thus prevent the wheels from slipping while the machine is being propelled. In Fig. 1, only

two of the wheels have been shown provided with these pins but it is to be understood that all, or any desired number of wheels may be so provided.

Corner posts *a* are mounted on the frame A and support a top frame 11 on which are arranged longitudinally extending beams 11^a on which are journaled alining shafts A⁵, each of which is provided upon its ends, with sprockets A⁶, designed to transmit motion through chains *a*⁶ to sprockets A⁷ secured to the end portions of the axles. Each shaft A⁵ is provided with a beveled gear A⁴, meshing with a gear A³, this last mentioned gear being secured upon a longitudinally extending shaft A² which is journaled in a supporting frame *a*², located within the top frame 11. A gear A¹ is secured to the shaft A² and meshes with opposed gears W and Z which are loosely mounted on an intermediate shaft Q, which is journaled upon the top frame 11 near the auxiliary frames *a*². A clutch V is feathered on the shaft Q between each pair of gears W and Z and is designed to be actuated by a lever X or Y so as to engage either of the gears W and Z, to cause one or the other of the gears to rotate with the shaft Q.

Gears R and S of different diameters are loosely mounted on the shaft Q and clutch members T are feathered on said shaft and are loosely engaged by a yoke *u* formed at one end of a rod U which is pivotally connected to an actuating lever U'. By manipulating this lever one clutch member T will be brought into engagement with the adjoining gear so as to lock it to the shaft Q. A counter shaft N is journaled on the beams 11^a and has gears O and P secured to it, said gears being of different diameters, the smaller gear P being constantly in mesh with the large gear R, while the gear O is at all times in mesh with the gear S. A pulley M is secured on the shaft N and receives motion through a belt or the like, from a pulley L secured to the engine of the shaft.

It will be understood that motion will be transmitted to the shaft N from the motor through the belt herein referred to, and by securing one of the gears R and S to the shaft Q by means of one of the clutch members T, motion will be transmitted from the shaft N to the shaft Q, the speed of rotation of the last mentioned shaft being regulated by, and dependent upon the gear which is locked to it. If the clutch members V are

out of engagement with the gears W and Z, the shaft Q can freely rotate without causing the machine to move. By shifting the clutch members V in one direction, the gears in the paths thereof will be locked to the shaft Q and will therefore drive the gears A' meshing therewith and cause the shafts A², and A³ to rotate. Motion is thus transmitted through sprockets and chains to the axles B'. By shifting the clutch members V in opposite directions the rotation of the supporting wheels can be reversed and by shifting the two clutch members simultaneously in opposite directions the two sets of wheels can be simultaneously rotated in opposite directions, thus insuring quick turning of the machine.

As herebefore stated, it is the intention to place the tilling devices in front of the main frame so that they will be pushed forward during the operation of the machine and be in full view of the operator. In order to mount a gang of plows in this manner, a substantially triangular auxiliary frame J is secured to the front end of the main frame A and the diagonally disposed side of this auxiliary frame has the plows 2 connected to it.

A caster 3 may be located at the apex of the frame and the shank thereof may have a worm gear 4 attached to it, this worm gear meshing with a worm gear 5' secured to one end of the shaft 5. As shown, especially in Fig. 2, this shaft is journaled upon the frame J and also upon the top frame 11 and has any suitable means such as a hand wheel 6, for actuating it.

A winding shaft A⁹ may be journaled upon standards A⁸ extending from the diagonal side of the frame J, there being flexible connections 1 between the shaft and the standards of the plows 2 so that when the shaft is rotating, the connections 1 will be wound thereon and the standards and plows elevated. The shafts A⁹ may be actuated in any preferred manner, as by means of a shaft a⁹ having a gear a⁸ thereon to mesh with a gear a⁷ which is secured on the shaft A⁹. The shaft a⁹ may be actuated by means

of a wheel 6 or in any other preferred manner.

The auxiliary frame J is preferably provided with a suitable series of braces so as to enable the same to better withstand the excessive strain to which the frame is subjected during the tilling of the soil.

A frame J' such as is shown in detail in Fig. 3 may be secured to the front end of the main frame A when it is desired to carry a self binding harvester, it being understood that this modified form of frame may or may not be used in connection with the auxiliary frame J, as desired. This frame is provided, at one end, with oppositely extending arms J² for attachment to frame A and may be shaped to meet the requirements of a harvester coupling. This frame J' preferably includes heavy parallel bars suitably connected, as at J³, the connections being formed with openings j³, for the reception of securing bolts.

Attention is directed to the fact that the combined widths of the wheels D, E, F and G are substantially equal to the width of the area acted upon by the plows 2, the triangular rims 7 operating to roll the plowed ground and to form ridges.

Various changes may be made in the construction and arrangement of parts without departing from the spirit or sacrificing any of the advantages of the invention.

What is claimed is:—

A machine of the class described including a main frame, spaced series of supporting wheels therefor, all of said wheels constituting furrow forming devices, radial projections upon one wheel of each series for engaging the soil to prevent the wheels from slipping, a motor, and separate means actuated by the motor for rotating the respective series of wheels.

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

WILLIAM A. DAWSON.

Witnesses:

C. M. COLE,

E. S. SLOUGH.