

July 6, 1926.

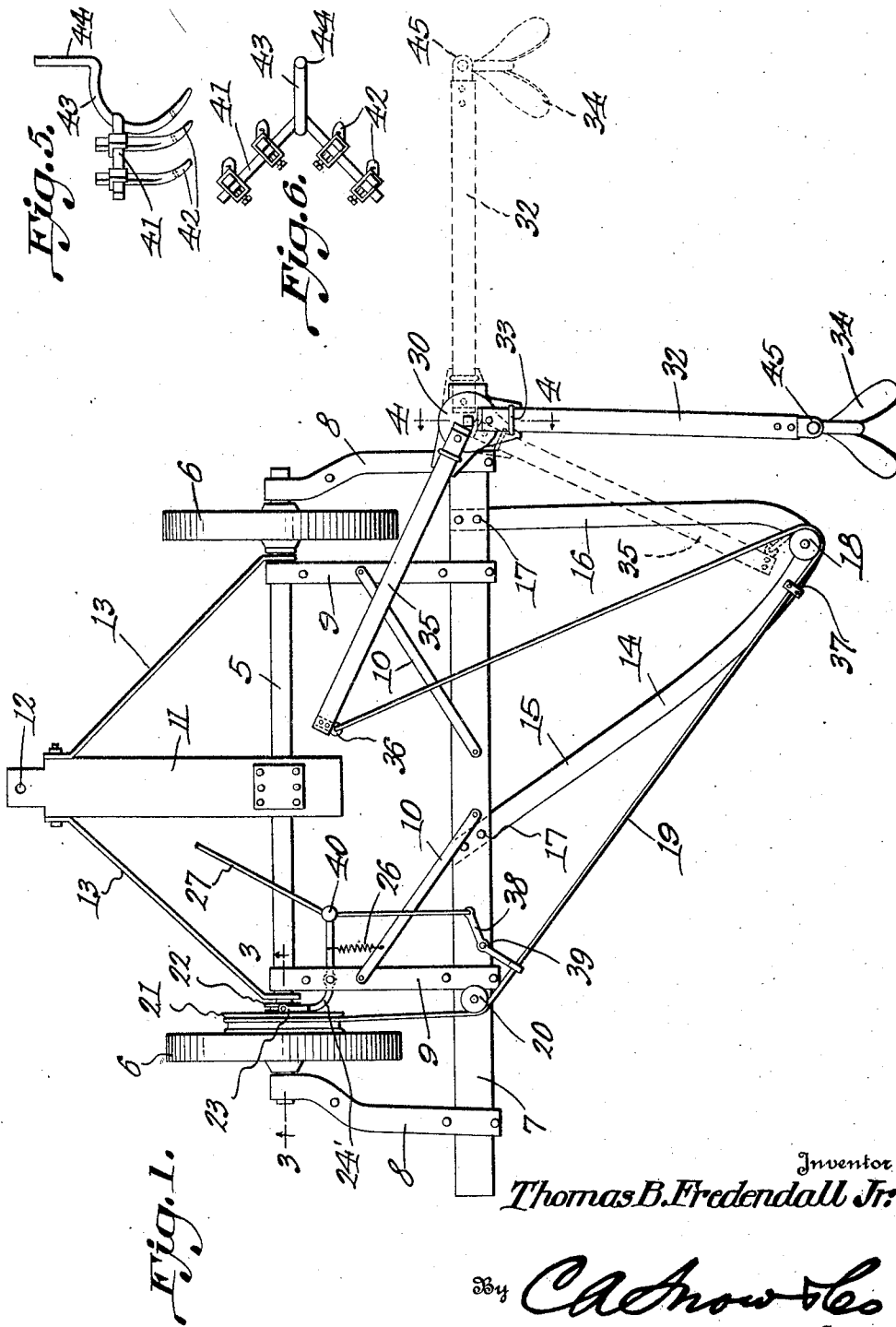
1,591,482

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ATTACHMENT FOR FARMING IMPLEMENTS

Filed May 11, 1925

2 Sheets-Sheet 1



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Fig. 2.

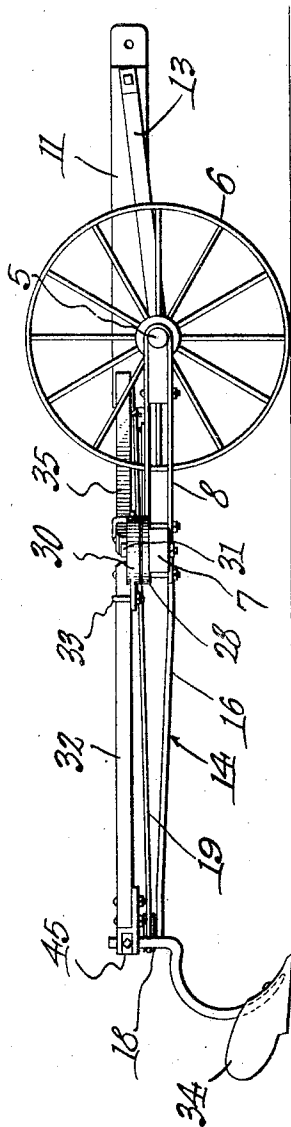


Fig. 4.

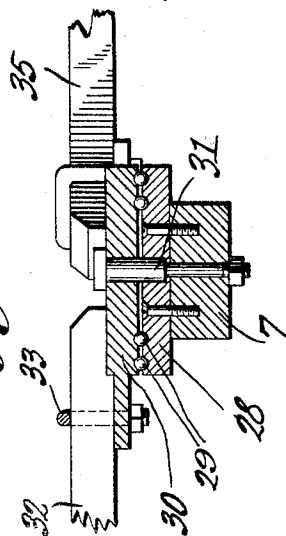
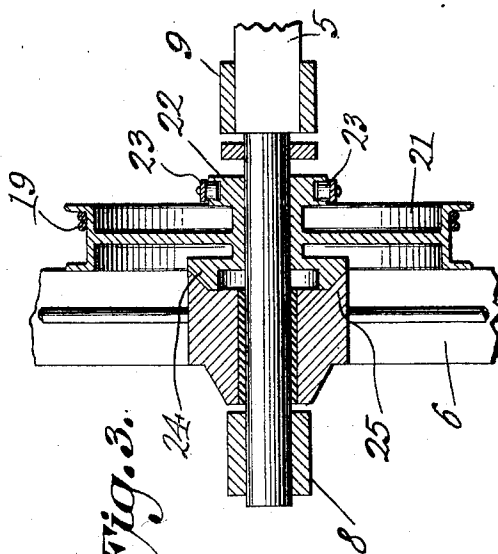


Fig. 3.



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UNITED STATES PATENT OFFICE.

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ATTACHMENT FOR FARMING IMPLEMENTS.

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This invention relates to agricultural machines and aims to provide novel means whereby a plow may be swung laterally to operate between trees planted in rows, novel means being provided for returning the plow to a position to operate in parallel relation with the side rails of the machine to cause the machine to dig a trench adjacent to the trees, for irrigating purposes.

Another object of the invention is to provide means for controlling the movements of the plow beam to and from its lateral position automatically.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawings:

Figure 1 is a plan view of a machine constructed in accordance with the invention, the plow and beam being shown in dotted lines as in its outer position.

Figure 2 is a side elevational view thereof.

Figure 3 is a sectional view taken on line 3—3 of Figure 1.

Figure 4 is a sectional view taken on line 4—4 of Figure 1.

Figure 5 is a side elevational view of a modified form of plow.

Figure 6 is a plan view thereof.

Referring to the drawings in detail, the reference character 5 indicates the supporting axle, the wheels 6 that support the machine being mounted thereon. Arranged in parallel relation with the axle 5, and disposed at the rear thereof, is a bar 7 that constitutes the main supporting beam of the machine. The reference character 8 indicates arms which are secured to the bar 7, adjacent to its ends, the forward ends of the arms 8 being formed with openings to accommodate the axle 5 to support the axle.

Spaced from the arms 8 and secured to the bar 7 are arms 9 which are also secured to the axle 5 by means of a bearing through which the axle extends.

Brace bars 10 extend at oblique angles with respect to the bar 7 and connect with the arms 9 to brace the axle and arms con-

nected therewith against lateral movement. The reference character 11 indicates a relatively short tongue which has connection with the axle 5 in any well known manner, the forward end thereof being supplied with an opening 12 to accommodate a suitable securing pin which may be employed for connecting the machine to a tractor or other suitable power device. Brace bars 13 connect with the axle 5 and with the tongue 11 to insure against swinging movement of the tongue 11 with respect to the axle, when the machine is moved in making a turn.

Supported by the bar 7 and extending rearwardly therefrom, is an auxiliary frame including a length of metal indicated at 14 which is constructed to provide legs 15 and 16 connected to the bar 7 at 17. A pulley indicated at 18 is mounted on the member 14 and accommodates the flexible controlling member 19 which also operates over the pulley 20 secured to the bar 7. The inner end of the flexible controlling member 19 is secured to the pulley 21 that is loosely mounted on the axle 5, as clearly shown by Figure 1 of the drawings, there being provided a clutch collar 22 at one side of the pulley 21 which is engaged by the fingers 23 of the clutch arm 24' so that the pulley may be moved longitudinally of the axle 5 at the will of the operator.

A friction clutch element indicated at 24 forms a part of the pulley 21 and engages within the clutch element 25 which forms a part of the wheel 6 associated therewith so that when the pulley 21 is moved to cause the clutch elements 24 and 25 to be actively engaged, the pulley 21 will be rotated to wind the flexible controlling member 19 thereon.

Associated with the clutch arm 24' is a coiled spring 26 which normally acts to hold the clutch elements 24 and 25 disengaged, permitting the wheel to operate free of the clutch, under normal conditions. Connected with the arm 24' is an operating rod 27 that extends forwardly and has connection with a suitable controlling pedal mounted on the tractor or power device in such a position that it may be conveniently operated by the foot of the operator.

Thus it will be seen that should it be desired to cause the pulley 21 to operate to wind the flexible controlling member 19, it is only necessary for the operator to move the rod 27 against the tension of the coiled

spring 26 to the end that the pulley 21 is moved to bring the clutch element 24 into close engagement with the clutch element of the wheel which in turn imparts rotary movement to the pulley 21 to accomplish the purpose for which it is designed.

Supported laterally of the machine is a bearing member 28 which is formed with circular grooves to accommodate the balls 29 that also engage in circular grooves formed in the upper section 30 of the bearing member. The pivot bolt indicated at 31 provides means whereby the upper bearing section 30 may rotate with respect to the lower bearing section 28 for purposes to be hereinafter more fully specified.

The upper section 30 of the bearing member acts as a support for the forward end of the plow beam 32 which is shown as secured to the member 30 by means of the U-bolt 33, the plow which is indicated at 34 being pivotally mounted at the outer or free end of the plow beam 32, so that the plow may swing as the beam 32 is being swung from a position in parallel relation with the member 14 to a position at right angles thereto.

Secured to the upper bearing member 30 and extending at an oblique angle with respect to the plow beam 32 is an arm 35 which has an eye bolt 36 secured to its outer end, which eye bolt provides means for connecting the flexible member 19 to the arm 35, to the end that movement of the flexible member 19 will result in a relative movement of the arm 35 causing the arm 35 and beam 32 to take positions as indicated in dotted lines in Figure 1 of the drawings.

Secured to the flexible member 19 is an adjustable stop 37 which is designed to move into position against the lever 38 that is pivotally connected to the bar 7 at 39 and which lever is supplied with an opening through which the flexible member 19 moves.

Lever 38 is connected with the arm 24' at 40 and is adapted to move rearwardly, when the stop 37 engages the lever 38 to automatically disengage the clutch elements 24 and 25 and prevent further rotation of the pulley 21.

It is obvious that when the clutch elements 24 and 25 have been disengaged, the drag on the plow beam will operate to return the plow beam 32 and plow carried thereby to a position as shown in full lines in Figure 1, whereupon the plow may pass close to a tree, and after the plow has passed the tree may be moved to a position to

loosen the earth in a line parallel with the trees, of the row, and in a direct line with the tree.

In the modified form of the invention as illustrated by the Figures 5 and 6 of the drawings, the usual furrow forming plow is supplemented by the harrow indicated at 41 which is supplied with a plurality of removable teeth 42 that are supported by the curved arm 43, which has an upstanding portion 44 adapted to be positioned in a suitable opening formed in the securing means indicated at 45 and which is shown as secured to the free end of the beam 32.

I claim:—

1. An agricultural machine including a wheel supported frame, a plow beam mounted for pivotal movement with respect to the frame, a pulley associated with one of the wheels, means for clutching the pulley to the wheel to cause it to rotate therewith, a flexible member adapted to be wound on the pulley, said flexible member adapted to operate to swing the plow beam to a lateral position, and means for automatically unclutching the pulley.

2. An agricultural machine including a wheel supported frame, a plow beam pivotally mounted on the frame and carrying a plow at its outer end, a pulley supported adjacent to one of the wheels, means for clutching the pulley to the wheel to cause it to rotate, a flexible member adapted to be wound on the pulley, said flexible member adapted to operate to swing the plow beam to a lateral position, and means for clutching the pulley to the wheel to cause it to rotate therewith.

3. An agricultural machine including a wheel supported frame, a plow beam mounted for pivotal movement with respect to the frame, a pulley supported adjacent to one of the wheels, a lever having connection with the pulley, means for clutching the pulley to the wheels, said lever adapted to operate to move the pulley into clutched relation with the wheel, a lever, means for connecting the lever to the arm, a flexible member adapted to be wound on the pulley, said flexible member adapted to operate to swing the plow beam laterally of the frame, and means on the flexible member for engaging the lever to automatically disengage the pulley and wheel.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

THOMAS BENTON FREDENDALL, Jr.